FIVE-YEAR (2000-2005) ASSESSMENT OF THE IMPLEMENTATION OF THE PROTOCOL TO THE CARTAGENA CONVENTION CONCERNING SPECIALLY PROTECTED AREAS AND WILDLIFE (SPAW), WITH A SPECIAL FOCUS ON ANNEX II LISTED SEA TURTLES

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ABSTRACT

The Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention) and its Protocol concerning Specially Protected Areas and Wildlife (SPAW) provide a unique framework, with pragmatic measures, through which nations are encouraged to work together to protect shared marine resources.

In an effort to gauge the efficacy of the SPAW Protocol during the five years (2000-2005) since it entered into force, I conducted the first review of enabling legislation among the Protocol's 12 Parties. To focus the endeavor, I evaluated the progress Parties have made in developing legislation to implement Articles 10, 1l, 13 and 14, with a specific focus on six species of endangered sea turtles protected under Annex II. As regionally depleted, high-profile, and relatively well-studied species, sea turtles are a useful proxy to assess the degree to which the Parties have met their obligation to ensure the protection and recovery of shared species and critical habitat.

After developing a normative list of legal criteria addressed by each of the targeted Articles, reviewing ca. 130 legislative texts and published analyses, and comparing existing laws with my criteria to characterize strengths, weaknesses, and gaps in each Party's national regulatory framework, I concluded that a majority of Parties have at least partially met the mandates of Articles 10 and 11, while a minority have met the mandates of Article 13. Two States appear to have chosen to invoke exemptions (for subsistence or traditional use) provided by Article 14.

In seeking to fulfill the mandates of the SPAW Protocol, Parties have made substantial progress in modernizing and harmonizing their approaches to managing migratory marine species. Significant legislative gaps remain both within and among States; the study highlights the challenges inherent in biodiversity conservation at multilateral scales.

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LIST OF ACRONYMS

APCEP	Action Plan for the Caribbean Environment Programme
CBD	Convention on Biological Diversity
CARIFORUM	Caribbean Forum
CARICOM	Caribbean Community
CBD	Convention on Biological Diversity
CEP	Caribbean Environment Programme
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Convention on Migratory Species (Bonn Convention)
CNPWH	Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere
CZM	Coastal Zone Management
ECLA	Economic Commission for Latin America
EIA	Environmental Impact Assessment
IAC	Inter-American Convention for the Protection and Conservation of Sea Turtles
ILO 169	International Labour Organization Convention No. 169 Convention concerning Indigenous and Tribal Peoples in Independent Countries
ISTAC	Interim Scientific and Technical Advisory Committee
MARPOL	Convention for the Prevention of Pollution from Ships
NAF	International Convention for the Northwest Atlantic Fisheries, 1949 (Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries, 1979)
OECS	Organization of Eastern Caribbean States
Ramsar	Convention on Wetlands of International Importance
SIDS	Small Island Developing States
SPAW	Specially Protected Areas and Wildlife (SPAW Protocol)
STAC	Scientific and Technical Advisory Committee
STRAP	Sea Turtle Recovery Action Plan
TED	Turtle Excluder Device [Trawler Efficiency Device]
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
WCR	Wider Caribbean Region
WHC	World Heritage Convention
WIDECAST	Wider Caribbean Sea Turtle Conservation Network

EXECUTIVE SUMMARY

A five-year (2000-2005) review was conducted of enabling legislation adopted by Parties to the Protocol concerning Specially Protected Areas and Wildlife (SPAW Protocol) to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention). The review focused primarily on legislation associated with Articles 10 and 1l, and secondarily Articles 13 and 14 of the Protocol, and used six species of sea turtle as a proxy for the more than 100 species listed in Annex II. The emphasis on sea turtles was deliberate. Migratory sea turtles are regionally depleted, occur in (and are shared among) all Party jurisdictions, are relatively well-studied and have been the focus of more than two decades of intergovernmental dialogue in the Wider Caribbean Region (WCR), thereby providing a useful opportunity to gauge the degree to which Parties have responded to the obligation "to adopt co-operative measures to ensure the protection and recovery of endangered and threatened species" (Art. 11).

The objective of Article 10 is to "identify endangered or threatened species of flora and fauna [and] accord protected status to such species", as well as to "regulate or prohibit … activities having adverse effects on such species or their habitats and ecosystems, and carry out species recovery, management, planning and other measures to effect the survival of such species." Article 11 emphasizes the importance of a cooperative and collaborative (multilateral) approach and calls for the protection of listed species. Article 13 addresses the need for decisions about "industrial and other projects and activities" to be made after taking into consideration the "possible direct and indirect impacts, including cumulative impacts", of the proposed project or activity. Article 14 recognizes the need "to meet traditional subsistence and cultural needs [without causing] substantial risk to … migratory species and threatened, endangered or endemic species", and calls upon Parties to take such needs into account and to provide for appropriate exemptions to statutes designed to protect endangered species.

I reviewed the legislative frameworks of the 12 States currently Party to the SPAW Protocol – Barbados, Colombia, Cuba, Dominican Republic, France (including French Guiana, Guadeloupe, Martinique, Saint Martin and Saint Barthélémy), the Kingdom of the Netherlands (including Aruba and the Netherlands Antilles: Bonaire, Curaçao, Saba, Sint Maarten, Saint Eustatius), Panama, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, the United States of America (including Puerto Rico and the U.S. Virgin Islands), and Venezuela – with an aim to assess their capacity to fulfill the Protocol's mandate to

"take the necessary measures to protect, preserve and manage in a sustainable way … threatened or endangered species of flora and fauna" (Art. 3).

To this end, my specific objectives were to:

- Document each Party's current legislation governing exploitation, trade and management of sea turtles and the habitats upon which they rely;
- Develop criteria for identifying and categorizing enabling legislation, based on the mandates of Articles 10, 11, 13 and 14 of the SPAW Protocol;
- Systematically compare the content of each Party's legislation against these criteria, assessing the degree to which the relevant mandates had been met;
- Provide recommendations for improving the development of enabling legislation; and
- Provide recommendations for enhancing participation in the SPAW Protocol at the State and regional levels.

Methods

This was primarily a desk study of information obtained from the UNEP Caribbean Environment Programme (CEP) library in Kingston, Jamaica, during a 12-week internship arranged by the Wider Caribbean Sea Turtle Conservation Network (WIDECAST). An extensive review of archival documents was conducted, including meeting notes of various UNEP sessions and inter-sessional proceedings, the UNEP Regional Seas Programme, and the UNEP Caribbean Environment Programme. More specific information was taken from UNEP reports on the adoption of the Cartagena Convention and the Protocol concerning Oil Spills in the Marine Environment, along with subsequent meetings regarding the development and adoption of the SPAW Protocol and its Annexes. These references include reports of the Interim Scientific and Technical Advisory Committee (ISTAC), Scientific and Technical Advisory Committee (STAC), Monitoring Committee, Plenipotentiary, and Conferences of Parties. Other materials reviewed include national reports and National Biodiversity Strategy Action Plans submitted to the Convention on Biological Diversity and national Sea Turtle Recovery Action Plans (STRAPs) developed by individual Parties in collaboration with WIDECAST.

A questionnaire was sent to the SPAW Regional Programme Focal Point for each Party, and information was also gathered from other government and non-government sources, including published reviews relating to legislation and management, readily available Government documents, official and unofficial

translations of legislation text, and personal communication with in-country experts, primarily sea turtle resource managers and WIDECAST Country Coordinators. Comprehensive regional reviews, such as those published by TRAFFIC[1], were especially helpful as secondary sources in rare cases when original legal texts could not be obtained. Finally, useful background information regarding the formulation of enabling legislation was gathered from a 1993 workshop report designed to assist Parties in this regard[2].

Information specific to Article 14 of the SPAW Protocol, which calls for Parties to take into consideration any *bona fide* subsistence and cultural use of listed species of fauna and flora, was sought primarily through government sources (e.g. national constitutions) and through determination of each Party's status with regard to the International Labour Organization (ILO) Convention No. 169 Concerning Indigenous and Tribal Peoples in Independent Countries.

Following a careful review of Articles 10, 11, 13 and 14, a normative list of legal characteristics and relevant sectors addressed by each Article was developed. With specific reference to Annex II listed sea turtles, relevant fisheries, human rights, environmental, and trade and commerce laws, as well as other sector-specific policies, were evaluated to identify progress made, including strengths, weaknesses and gaps, in the national regulatory framework of each Party since its ratification of (or accession to) the SPAW Protocol.

Conclusions

A majority of Parties achieve the mandate of Articles 10 and 11 to protect sea turtles through the establishment of temporary or permanent moratoria on the exploitation and sale of sea turtles and their products. To assess the extent to which Parties achieve the mandate of Article 10 to regulate "activities having adverse effects on … habitats and ecosystems", I compared coastal zone management legislation against a checklist of criteria that included *inter alia* provision for habitat conservation areas, buffer zones, construction set-backs, and beachfront lighting ordinances. A minority of Parties meet any or all of these criteria, and there are significant gaps in relevant legislation. While not the focus of this review, it is noteworthy that while a majority of Parties have legislation in place to address the mandates embodied by Articles 4 through 7 to "establish protected areas … in order to conserve, maintain and

[1] 2001. Swimming Against the Tide: Recent Surveys of Exploitation, Trade, and Management of Marine Turtles in the Northern Caribbean, by Elizabeth Fleming. TRAFFIC North America. Wash. D.C.
2006. Turning the Tide: Exploitation, Trade and Management of Marine Turtles in the Lesser Antilles, Central America, Colombia and Venezuela, by Amie Bräutigam and Karen L. Eckert. TRAFFIC International, Cambridge, UK.

[2] "Workshop to Assist with the Formulation of National Legislation to Implement the SPAW Protocol in the Common Law Countries of the Wider Caribbean Region." Ocho Rios, Jamaica, 6-9 December 1993. UNEP(OCA)/CAR WG.13/4

restore … ecosystems critical to the survival and recovery of endangered, threatened or endemic species", very few have established protected areas specifically designed to protect local populations of sea turtles.

With regard to Articles 13 and 14, a minority of Parties appear to have legislation in place requiring independent environmental impact assessments sufficient to determine whether "projects and activities" might be expected to "significantly affect areas or species that have been afforded special protection under [the] Protocol", or to make provisions for the *bona fide* indigenous or traditional use of sea turtles. Of those that do have provisions relating to the mandate of Article 14, the degree to which these provisions have been invoked or implemented is unclear.

The review points to the need for the Caribbean Environment Programme (CEP) of UNEP, through its Regional Programme for Specially Protected Areas and Wildlife, to actively support Parties in the development of policies sufficient to facilitate implementation of SPAW mandates, particularly those associated with the protection and management of critical ecosystems and habitats. To this end, UNEP should consider reviving an earlier series of regional workshops and collaborate with interested Parties in building capacity to enact (and implement) relevant policies that might serve as a model for other States to emulate. The review also concludes that inadequate enforcement of existing policies is a significant and unmet challenge that reduces the capacity of Parties to discharge SPAW mandates. To better meet these needs, it is recommended at the SPAW Programme encourage the collaboration of Parties to share their management options and to partner with NGOs that have effective activities to support national monitoring capabilities.

To increase participation in the SPAW Protocol, UNEP should seek to identify and publicize 'success stories' where a Party has developed the appropriate legislation and suffused the process with adequate human and financial resources. Though the aim of the SPAW Protocol is to ensure the protection and recovery of endangered and threatened species of regional import, UNEP also acknowledges the importance of successful fisheries and tourism industries in the WCR. The ideal success story may, therefore, be of a Party that both has sufficient policies in place and has reaped tangible benefits through their implementation, such as economic gains (e.g. reduced electric costs) associated with hoteliers complying with coastal lighting ordinances or the indication of tourist support for the Party's efforts.

Finally, the review recommends that SPAW Parties take all appropriate measures to ensure that enabling legislation is clear in its language and intent, that citizens are aware of the nature of all relevant legislation, that greater efforts to harmonize legislation among neighboring States be

undertaken, and that any traditional or subsistence exploitation of sea turtles be defined, regulated and monitored as provided for under Article 14. Considering the unique governing structures of all Parties, UNEP should also promote a harmonized legal framework throughout the region with new international systems of governance that support cooperative management efforts, which is the essence of the Cartagena Convention's intent.

INTRODUCTION

The Cartagena Convention, adopted in 1983 and in force as of October 1986, is the first and only legally binding environmental treaty exclusively serving the Wider Caribbean Region (WCR) (UNEP 1983[3], CEP News 2001[4]), a region in which there are limited international waters owing to the close proximity of dozens of national Exclusive Economic Zones (Sullivan Sealey and Bustamante 1999). The Convention, the result of recognition among its Parties of the dependency and interdependency of each sovereign State on the resources of the Caribbean Sea and Gulf of Mexico, promotes cooperation among its members in order to advance the region's economy and quality of life in a sustainable way, without compromising its natural heritage. The Convention was negotiated under the auspices of the United Nations Environment Programme (UNEP) and was the sixth such convention to be concluded[5].

In tandem with the adoption of the Cartagena Convention, the Protocol concerning Co-operation in Combating Oil Spills in the Wider Caribbean Region was also adopted. Upon review of inter-governmental meeting reports and in acknowledgement of the available technologies of the late 1970s and 1980s, during the time of the development of the Cartagena Convention, it is clear that oil spills were perceived as a major threat to the region (UNEP 1981[6], 1983[7,8]). Reflecting similarly widespread concern for the loss of wildlife and habitat, greenhouse gas emissions and declining forest cover (Hunter, Salzman

[3] UNEP 1983. Action Plan for the Caribbean environment programme. UNEP Regional Seas Reports and Studies No. 26.
[4] UNEP-CEP 2001. "Editorial". CEPNEWS Vol. 15. No. 4. Last Quarter 2000.
[5] Regional Seas Conventions developed prior to Cartagena: The Mediterranean (Barcelona Convention) of 1976, Kuwait Convention of 1978, West and Central African Region (Abidjan Convention) of 1981, South-East Pacific (Lima Convention) of 1981, and the Red Sea and Gulf of Aden (Jeddah Convention) of 1982.
[6] Second Meeting of Government-Nominated Experts to Review the Draft Action Plan for the Wider Caribbean Region in Managua, 23-27 February 1981 (UNEP/CEPAL/WG.48/4 and UNEP/CEPAL/WG.48/4.Add.1, APCEP 8/4 and 9.
[7] Report of the Second Intergovernmental Meeting on the Action Plan for the Caribbean Environment Programme in Cartagena e Indies, 24-26 March 1983 (UNEP/IG.42/3). Annex II Section III. "Priority Programme" states that highest priority is to be given to APCEP 9/1 (oil spills), APCEP 2 (Environmental Impact Assessment), APCEP35/1 (Environmental Health) and APCEP 36/3 (Environmental Education and Public Awareness).
[8] Action Plan for the Caribbean Environment Programme. UNEP Regional Seas Reports and Studies No. 26. UNEP, 1983. See Annex Section II paragraph 16 Pollution control and Programme Priorities for the Action Plan paragraph 2 calling for the immediate implementation of, among three other projects, APCEP 9/1 add 1, implementation of a regional oil spill contingency plan for the States and Territories of the Wider Caribbean Region.

and Zaelke 2002), the development of a second Protocol – concerning Specially Protected Areas and Wildlife (SPAW) – was under discussion by May 1987 (UNEP 1987[9]). In October 1987, one year after the Cartagena Convention entered into force, the SPAW Protocol was in the form of its first draft (UNEP 1987[10]). The SPAW Protocol was sequentially revised and ultimately adopted in January 1990 (UNEP 1990[11]). Annexes I and II, specifying protected flora and fauna, respectively, were developed by November of 1990 and adopted in June 1991 (UNEP 1991[12]). The SPAW Protocol entered into force on 18 June 2000, after discussions over necessary actions, funding, and "constructive debate" on the initial listing of species[13].

Unique to the development of the SPAW Protocol were two unofficial preparatory meetings, the Wider Caribbean Eastern Preparatory Workshop in Antigua and Barbuda (20-22 July 1988) and the Preliminary Latin American Meeting in Panama (4-6 August 1988), held prior to the first negotiating session (Freestone 1990). From these preparatory meetings, national experts came to the negotiating table prepared with more developed agendas than in previous models. As a result, this Protocol experienced a longer negotiations process than for similar UNEP Regional Seas Programme protocols, such as those of the Mediterranean and East Africa. At the same time, the outcome of this more extensive process was a regional wildlife convention that "incorporates modern conservation thinking" and represented an advanced model for future regional seas and marine conservation protocols (Freestone 1991). The SPAW Protocol addresses the causes of threats to WCR biodiversity and obliges legal action to mitigate, if not remedy, the impacts of these threats.

It has been recognized that international agreements are only as effective as Parties make them (Weiss and Jacobson 1998), and so the success of any international environmental agreement depends on two main components. First, the agreement must be well-developed; that is, it must sufficiently address the problem it attempts to resolve and establish an appropriate framework for changing causal behaviors at appropriate scales (in this case local, national and regional). Secondly, there must be compliance

[9] Report of the Fifth Meeting of the Monitoring Committee on the Action Plan for the Caribbean Environment Programme in Kingston, 11-13 May 1987 (UNEP/IG.67/5). See Introduction paragraph 4(c) Conference of Plenipotentiaries on the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena, 21-24 March 1983 and Annex I paragraph 17 recommending UNEP and the Caribbean Action Plan Governments to take necessary steps in order to move forward in preparing protocols on land-based sources of pollution and specially protected areas and wildlife.

[10] Report of the Sixth Meeting of the Monitoring Committee on the Action Plan for the Caribbean Environment Programme in Guadeloupe, 21-23 October 1987 (UNEP(OCA)/CAR IG. 1/5). See Annex IV. Reference Document submitted by the NGO Coalition for Wider Caribbean Protected Areas and Wildlife 1987, "Draft Protocol concerning Specially Protected Areas and Wildlife to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region.

[11] Eighth Meeting of the Monitoring Committee on the Action Plan for the Caribbean Environment Programme and Special Meeting of the Bureau of Contracting Parties to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region in Kingston, Jamaica, 10-13, January 1990 (UNEP(OCA)/CAR IG.4/4, Annex IV "Recommendations of the Meeting".

[12] Final Act of the Conference of Plenipotentiaries for the Adoption of the Annexes to the Protocol Concerning Specially Protected Areas and Wildlife in the Wider Caribbean Region (Kingston, 10-11 June 1991).

[13] UNEP(OCA)/CAR WG.4/4 page 5, paragraph 16, line 3.

(Simmons 1998), defined for the purpose of this assessment as the implementation of enabling legislation by member States. Without enabling legislation granting authority to implement and/or enforce laws designed to facilitate a State's discharge of its obligations under the international agreement, little progress can be expected toward meeting collective objectives.

The extent to which the SPAW Protocol can achieve its stated objective to "protect, preserve and manage in a sustainable way … areas that require protection to safeguard their special value; and threatened or endangered species of flora and fauna" (Art. 3) relies solely on the commitment and co-operative action of its Parties. Compliance requires that each sovereign Party to the SPAW Protocol develop or adopt appropriate implementing legislation that will support or generate a change in local behavior (Chayes 1993). If backed by the necessary political will and sufficient resources to accomplish the task, the SPAW Protocol will achieve success as an essential tool for "manag[ing] in a sustainable way" – and at local, national and regional scales – its specially protected fauna and flora.

The aim of this study is to use sea turtles as a proxy to evaluate the extent to which Parties to the SPAW Protocol have developed implementing legislation sufficient to facilitate compliance with mandates associated with Annex II listed species. This report provides a five-year (July 2000 - September 2005) review of the adoption of enabling legislation among SPAW Parties, with a primary focus on legislation and implementing action associated with Articles 10 and 1l, and secondarily Articles 13 and 14, with regard to six species of sea turtles listed on Annex II. The emphasis on sea turtles was deliberate. Sea turtles are regionally depleted (see Appendix I), occur in all Party jurisdictions, are relatively well studied, and have served as a flagship species within the CEP since its inception (Eckert and Hemphill 2006). With this in mind, sea turtles provide a useful opportunity to gauge the degree to which Parties have responded to the obligation "to adopt co-operative measures to ensure the protection and recovery of endangered and threatened species" (Art. 11).

The objective of Article 10 is to "identify endangered or threatened species of flora and fauna [and] accord protected status to such species", as well as to "regulate or prohibit … activities having adverse effects on such species or their habitats and ecosystems, and carry out species recovery, management, planning and other measures to effect the survival of such species." Article 11 emphasizes the importance of a cooperative and collaborative (multilateral) approach and accords complete protection to the species listed in the Protocol's Annexes. Article 13 addresses the need for decisions about "industrial and other projects and activities" to be made after taking into consideration the "possible direct and indirect impacts, including cumulative impacts", of the proposed project or activity. Article 14

recognizes traditional and indigenous activities, and calls upon Parties to take such activities into account and to provide for appropriate exemptions. The full text of these Articles is presented in Appendix II of this report. My review focuses on the degree to which enabling legislation, sufficient to discharge these obligations, has been adopted at the national level for 12 States Party to the SPAW Protocol as of 1 September 2005 (Table 1).

Table 1. Parties to the Protocol concerning Specially Protected Areas and Wildlife (SPAW Protocol) to the Convention on the Protection and Development of the Marine Environment of the Wider Caribbean Region, as of 1 September 2005.

NATION	SIGNED	RATIFIED/ACCEDED
BARBADOS		Nov-02
COLOMBIA	18-Jan-90	5-Jan-98
CUBA	18-Jan-90	4-Aug-98
DOMINICAN REPUBLIC		24-Nov-98
FRANCE (on behalf of French Guiana, Guadeloupe, St. Barthélemy, St. Martin, Martinique)	18-Jan-90	5-Apr-02
KINGDOM OF THE NETHERLANDS (on behalf of Aruba and the Netherlands Antilles: Bonaire, Curaçao, Saba, Sint Maarten, and St. Eustatius)	18-Jan-90	2-Mar-92
PANAMA	16-Jan-91	27-Sep-96
SAINT LUCIA	18-Jan-90	25-Apr-00
SAINT VINCENT & THE GRENADINES	26-Jul-91	26-Jul-91
TRINIDAD & TOBAGO	18-Jan-90	10-Aug-99
UNITED STATES OF AMERICA (on behalf of Puerto Rico and U.S. Virgin Islands)	18-Jan-90	16-Apr-03
VENEZUELA	18-Jan-90	28-Jan-97

BACKGROUND AND ANTECEDENTS

Regional Seas Programme

The Wider Caribbean Region (Figure 1) is defined as comprising the States and territories of the insular Caribbean (including the Bahamas), the north-eastern sector of South America (Colombia, Venezuela, and the Guianas), Central America, Mexico and the United States of America to 30ºN latitude, including the waters of the Caribbean Sea, the Gulf of Mexico, and the Atlantic Ocean adjacent to these States and territories[14].

[14] Preface, para. 1 & 2, page i. UNEP: Action Plan for the Caribbean Environment Programme. UNEP Regional Seas Reports and Studies No. 26. UNEP, 1983

Figure 1. Map of the Wider Caribbean Region.

WCR nations have long recognized the economic, ecological and cultural significance of their shared marine environment, as well as the challenges – legal and operational – inherent in pursuing common interests and exploiting common resources in the world's second largest semi-enclosed sea. It is clear that successful economic development and sustainable natural resource management relies on co-operative and collaborative efforts at multilateral scales[15,16].

To assist and enable governments, such as those in the WCR, seeking to define and implement co-operative and collaborative efforts on behalf of shared natural assets, the United Nations Environment Programme (UNEP) initiated its Regional Seas Programme in 1974, upon the Governing Council's decision to prioritize "Oceans" as one of the areas in which it would focus efforts to "'[undertake and co-ordinate] programmes with regard to international environmental problems' (General Assembly resolution (XXVII) of 15 December 1972)" and to achieve the "largest possible degree of co-operation and co-ordination".[17]

[15] Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, 1983
[16] Preface. Second Meeting of Government-Nominate Experts to Review the Draft Action Plan for the Wider Caribbean Region: Co-Operative Projects Proposed As Part of the Caribbean Environment Programme. Managua, 23-27 February 1981. (UNEP/CEPAL/WG.48/4.Add.1)
[17] Preface, para. 1 & 2, page ii. UNEP: Action Plan for the Caribbean Environment Programme. UNEP Regional Seas Reports and Studies No. 26. UNEP, 1983.

On the initiative of several Caribbean States, the Governing Council of UNEP decided in 1974 that "UNEP should concentrate … on the protection of the marine environment" and stressed "the importance of activities in the Caribbean" (Decision 8/11). To this end an early association was sought by UNEP with the Economic Commission for Latin America (ECLA), and in 1977 a joint UNEP/ECLA project team was established to co-ordinate the preparations for the development of an Action Plan for the Wider Caribbean Region[18] (ECLAC/UNEP 1979), which later became the Action Plan for the Caribbean Environment Programme[19] (APCEP).

Action Plan for the Caribbean Environment Programme (APCEP)

Government-nominated experts met in 1980[20], where they "recognized the Wider Caribbean Region as 'a geographical entity made up of States and Territories with diverse economic and political structures, natural resources, social systems, environmental characteristics and potential development capabilities,' and that 'the island countries of the Region have special needs owing to the fragility of their ecosystems and their particularly limited carrying capacities,'" (UNEP/ECLA 1981[21] [22]). As such, the Governing Council of UNEP acknowledges the Wider Caribbean Region as a concentration area in which UNEP, as the "focal point for environmental action and co-ordination within the United Nations system"[23], should attempt to fulfill its catalytic role in assisting constituent States in developing and implementing, in a consistent manner, an Action Plan for the protection and development of the marine environment and the coastal areas of the Region. A holistic framework was (and is) especially important because WCR nations are not all equally embraced by or active in regional organizations such as the Caribbean Forum of ACP States (CARIFORUM), Caribbean Community (CARICOM) States or the Organization of Eastern Caribbean States (OECS) (Breton et al. 2006).

In developing the APCEP, the Meeting of Government-nominated Experts to Review the Draft Action Plan (Caracas, Venezuela, 28 January – 1 February 1980) recognized that "the principle objectives of the Action Plan are to assist the Governments of the Region in minimizing environmental problems in the Wider Caribbean through assessment of the environment and development activities in environmental

[18] ECLAC/UNEP. Meeting of Government-Nominated Experts to Review the Draft Action Plan for the Wider Caribbean Region, Caracas, Venezuela, 28 January – 1 Fabruary, 1979.
[19] Preface, para. 4, page ii. UNEP: Action Plan for the Caribbean Environment Programme. UNEP Regional Seas Reports and Studies No. 26. UNEP, 1983.
[20] The Meeting of the Government-nominated Experts to Review the Draft Action Plan for the Wider Caribbean Region (Caracas, Venezuela, 28 January – 1 February 1980)
[21] Reference to UNEP/ECLA-WG.48/INF.3 and E/CEPAL/PROY.3/L.6 in UNEP/CEPAL/WG.48/4.Add.1. 6 February 1981.
[22] UNEP/CEPAL/WG.48/4 Page 1, Preface. Para. 1-3. Second Meeting of Government-Nominated Experts to Review the Draft Action Plan for the Wider Caribbean Region. Managua, 23-27 February 1981
[23] Resolution 2997 (XXVII) of the General Assembly, 1972

management. Furthermore the Action Plan was to establish a framework for activities requiring regional co-operation in order to strengthen the capability of the States and Territories of the Wider Caribbean Region for implementing sound environmental management practices and thus achieve the development of the Region on a sustainable basis."[24]

The Meeting of Government-Nominated Experts also recognized that "the island countries of the Region have special needs owing to the fragility of their ecosystems and their particularly limited carrying capacities" (UNEP/ECLA-WG.48/INF.3)[25]. The characteristics that shape the sustainable development concerns of Small Island Developing States (SIDS) - small populations, remoteness, prevalence to natural disasters and extreme weather events, the openness and small base of their economies – conspire to rank SIDS amongst the most vulnerable States and a special case for sustainable development (UNEP 1994[26]). The health of the ocean and coastal zones, and the conservation and sustainable use of these resources are a critical concern of SIDS, which comprise 23 of the 28 sovereign nations of the WCR (Eckert and Hemphill 2005).

Cartagena Convention

In an effort to achieve the goals set forth by APCEP, the Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region, known as the Cartagena Convention, was adopted in Cartagena de Indias, Colombia, on 24 March 1983. On 11 October 1986, with the requisite "ninth instrument of ratification, acceptance or approval of, or accession to[27], those agreements by the States referred to in article 25" having been certified, the Cartagena Convention came into force[28].

Reflecting the Action Plan's focus *inter alia* on protected natural areas and pollution control, as well as its integrated approach involving coastal areas, tourism, fisheries, human settlements, watersheds, environmental health, energy and natural disasters (UNEP 1983)[29], the Cartagena Convention serves as a

[24] UNEP/CEPAL/WG.48/4 Page 1, Preface. Para. 4. Second Meeting of Government-Nominated Experts to Review the Draft Action Plan for the Wider Caribbean Region. Managua, 23-27 February 1981
[25] UNEP/CEPAL/WG.48/4 Page 1, Preface. Para. 1-3. Second Meeting of Government-Nominated Experts to Review the Draft Action Plan for the Wider Caribbean Region. Managua, 23-27 February 1981
[26] UNEP 1994. Report of the Global Conference on the Sustainable Development of Small Island Developing States. Annex II. Programme of Action for the Sustainable Development of Small Island Developing States. Bridgetown, Barbados, 25 April – 6 May. http://www.un.org/documents/ga/conf167/aconf167-9.htm.
[27] Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region. Article 28. Entry into Force. 24 March 1983.
[28] Convention and Protocols Status Page. http://www.cep.unep.org/pubs/legislation/cartstatus.html
[29] Action Plan for the Caribbean Environment Programme UNEP Regional Seas Reports and Studies No. 26, UNEP 1983

culmination of the Action Plan and a binding agreement of all Parties to both protect the marine environment and the developing economies of the region[30].

Prior to the Cartagena Convention, few multilateral environmental agreements were relevant in their geographic scope to the WCR (Table 2), and none had heretofore emphasized, exclusively and collectively, constituent States' commitment to "co-operation amongst themselves and with competent international organizations in order to ensure co-ordinated and comprehensive development without environmental damage" (*Preamble*).

[30] Full text of the Cartagena Convention is available at http://www.cep.unep.org/pubs/legislation/cartxt.html

Table 2. Treaties relevant to the 12 SPAW Parties at the time the Cartagena Convention entered into force in 1986, along with the status of two more recently negotiated international instruments (CBD, IAC). Dates indicate when a particular treaty entered into force, as well as each nation's date of ratification/ accession. All are Party to MARPOL; any ratified Annexes are shown in parentheses.

NATION	CNPWH (1942)	NAF (1949, 1979)	RAMSAR (1971)	CITES (1975)	WHC (1975)	MARPOL (1973, 1978)	CMS (1979)	UNCLOS (1982)	ILO 169 (1989)	CBD (1993)	IAC (1996)
BARBADOS			12-Apr-06	9-Dec-92	9-Apr-02	√ (I-VI)		12-Oct-93		10-Dec-93	
COLOMBIA			18-Oct-98	31-Aug-81	24-May-83	√ (I-V)			7-Aug-02	28-Nov-94	
CUBA		22-Dec-78	12-Aug-01	20-Apr-90°	24-Mar-81	√ (I-II, V)		15-Aug-84		8-Mar-94	
DOMINICAN REPUBLIC	3-Jun-92		15-Sep-02	17-Dec-86	12-Feb-85	√ (I-V)				25-Nov-96	
FRANCE			1-Dec-86	11-May-78	27-Jun-75	√ (I-VI)	1-Jul-90*	11-Apr-96		1-Jul-94	
KINGDOM OF THE NETHERLANDS			23-Sep-80	19-Apr-84	26-Aug-92†	√ (I-V)	1-Nov-83	28-Jun-96	2-Feb-98	12-Jul-94	2-May-01†
PANAMA	16-Jun-72		26-Nov-90	17-Aug-78	3-Mar-78	√ (I-VI)	1-May-89	1-Jul-96		17-Jan-95	
SAINT LUCIA			19-Jun-02	15-Dec-82	14-Oct-91	√ (I-V)		27-Mar-85		28-Jul-93	
SAINT VINCENT & THE GRENADINES				30-Nov-88	3-Feb-03	√ (I-V)		1-Oct-93		3-Jun-96	
TRINIDAD & TOBAGO	24-Jul-69		21-Apr-93	19-Jan-84	16-Feb-05	√ (I-VI)		25-Apr-86		1-Aug-96	
USA	1-May-42	29-Nov-95	18-Apr-87	14-Jan-74	7-Dec-73	√ (I-IV, VI)					21-Feb-01
VENEZUELA	1-May-42		23-Nov-88	24-Oct-77	30-Oct-90	√ (I-VI)			22-May-02	13-Sep-94	20-Aug-98

° Reservations on *C. mydas* and *E. imbricata*

* Reservation on *C. mydas*

† On behalf of Netherlands Antilles

As with all Regional Seas Conventions, the Cartagena Convention is a legal framework intended to be implemented through negotiated instruments known as protocols, whereby States ratifying (or acceding to) the Cartagena Convention must also accept any pre-existing protocol(s) (Freestone 1990). In light of projects proposed by the Action Plan that stress the need for assessing and protecting the coastal and marine ecosystem through international co-operation among States, and "Article 10 of the Cartagena Convention, which calls for Parties to take 'all appropriate measures' to protect and preserve 'rare of fragile ecosystems', as well as the 'habitats of depleted, threatened or endangered species' and to this end, establish protected areas"[31], the SPAW Protocol was developed.[32]

With an aim "to identify those basic policies, institutional structures and authorities that will address the requirements of the SPAW Protocol", a workshop focusing on the formulation of enabling national legislation convened in December 1993[33]. The recommendations of that workshop included proposed national measures applicable to implementing the Protocol[34]. Further discussion of these recommendations as they relate to the protection of sea turtles of the WCR is presented under "Enabling National Legislation: *Overview*".

Sea Turtles and the SPAW Protocol

The SPAW Protocol brings recognition and conservation attention to the marine and coastal environment. As sea turtles depend on both marine and terrestrial habitats for survival, they serve as an appropriate indicator of the habitats and ecosystems that the Protocol was developed to protect. The WCR is known for its tropical shallow marine ecosystems and species as well as political diversity (Miller 1996; Eckert and Hemphill 2005). While values toward sea turtles vary with the cultural and economic diversity of the region, sea turtles are widely considered flagship species for stimulating and motivating a conservation ethic for endangered and threatened wildlife and ecosystems in the region. In such a role, sea turtles have proven to motivate public efforts to achieve conservation goals such as those outlined in the SPAW Protocol, which include general use of the species, protected areas, national and intergovernmental policy, and tourism (Eckert and Hemphill 2005).

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[31] Article 10 of the Cartagena Convention is on Specially Protected Areas:
"The Contracting Parties shall, individually or jointly, take all appropriate measures to protect and preserve rare or fragile ecosystems, as well as the habitat of depleted, threatened or endangered species, in the Convention area. To this end, the Contracting Parties shall endeavour to establish protected areas. The establishment of such areas shall not affect the rights of other Contracting Parties and third States. In addition, the Contracting Parties shall exchange information concerning the administration and management of such areas." (Cartagena Convention text 1983)
[32] Specially Protected Areas and Wildlife in the Wider Caribbean Region – A regional Protocol on biodiversity. January 2003. UNEP/CEP
[33] Workshop to Assist with the Formulation of National Legislation to Implement the SPAW Protocol in the Common Law Countries of the Wider Caribbean Region, Ocho Rios, Jamaica, 6-9 December 1993. UNEP(OCA)/CAR WG.13/4, Assessment of the S.P.A.W. Protocol for the Development of Relevant National Legislation. UNEP(OCA)/CAR WG.13/4 – Introduction
[34] Illustrations of Legislative Language for National Implementation of the SPAW Protocol in the Wider Caribbean Region. Environmental Solutions International 1995.

The six species of sea turtles that occur in the WCR, where they have experienced a long history of exploitation and are generally considered severely depleted from historical levels (Fleming 2001, Bräutigam and Eckert 2006), are the Green (*Chelonia mydas)*, Hawksbill (*Eretmochelys imbricata*), Kemp's Ridley (*Lepidochelys kempii*), Leatherback (*Dermochelys coriacea*), Loggerhead (*Caretta caretta*), and Olive Ridley (*Lepidochelys olivacea*) (see Appendix I).

As charismatic megafauna, sea turtles are considered popular by a broad range of constituents, from conservationists to industries that directly threaten the species' survival. With such an inclusive group of stakeholders coming together through a shared interest in sea turtles, these species can serve as symbols for numerous fields including policy, economics, marketing, and public outreach. As such, sea turtles are a suitable species with which to attract public support for initiatives that address the complex socio-economic and ecosystem-based concerns surrounding resource management and development plans (Eckert and Hemphill 2005).

METHODS

I reviewed the legislative frameworks of the 12 States currently Party to the SPAW Protocol – Barbados, Colombia, Cuba, Dominican Republic, France (including French Guiana, Guadeloupe, Martinique, Saint Martin and Saint Barthélémy), the Kingdom of the Netherlands (including Aruba and the Netherlands Antilles: Bonaire, Curaçao, Saba, Sint Maarten, St. Eustatius), Panama, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, the United States of America (including Puerto Rico and the U.S. Virgin Islands), and Venezuela – with an aim to assess their capacity to fulfill the Protocol's mandate to "take the necessary measures to protect, preserve and manage in a sustainable way … threatened or endangered species of flora and fauna" (Art. 3).

To this end, my specific objectives were to:

- Develop criteria for identifying and categorizing enabling legislation, based on the mandates of Articles 10, 11, 13 and 14 of the SPAW Protocol;
- Document each Party's current legislation governing exploitation, trade and management of sea turtles and the habitats upon which they rely;

- Systematically compare the content of each Party's legislation against these criteria, assessing the degree to which the relevant mandates had been met;
- Provide recommendations for improving the development of enabling legislation; and
- Provide recommendations for enhancing participation in the SPAW Protocol at the State and regional levels.

This was primarily a desk study of information obtained from the UNEP Caribbean Environment Programme (CEP) library in Kingston, Jamaica, during a 12-week internship arranged by the Wider Caribbean Sea Turtle Conservation Network (WIDECAST). An extensive review of archival documents was conducted, including meeting notes of various UNEP sessions and intersessional proceedings, the UNEP Regional Seas Programme, and the UNEP Caribbean Environment Programme. More specific information was taken from UNEP reports on the adoption of the Cartagena Convention and the Protocol concerning Oil Spills in the Marine Environment, along with subsequent meetings regarding the development and adoption of the SPAW Protocol and its Annexes. These references include reports of the Interim Scientific and Technical Advisory Committee (ISTAC), Scientific and Technical Advisory Committee (STAC), Monitoring Committee, Plenipotentiary, and Conferences of Parties. Other materials reviewed include national reports and National Biodiversity Strategy Action Plans submitted to the Convention on Biological Diversity and national Sea Turtle Recovery Action Plans (STRAPs) developed by individual Parties in collaboration with WIDECAST.

A questionnaire was sent to the SPAW Regional Programme Focal Point for each Party, and information was also gathered from other government and non-government sources, including published reviews relating to legislation and management, readily available Government documents, official and unofficial translations of legislation text, and personal communication with in-country experts, primarily sea turtle resource managers and WIDECAST Country Coordinators. Further information regarding the development and criteria of appropriate legislation was gathered from a workshop that took place in December 1993 and was designed to assist SPAW Parties in formulating national legislation to implement the SPAW Protocol, "Workshop to Assist with the Formulation of National Legislation to Implement the SPAW Protocol in the Common Law Countries of the Wider Caribbean Region"[35]. The final qualitative checklist of legislative criteria for SPAW-enabling legislation to protect sea turtles of the WCR used in conducting this assessment is presented in Table 3.

[35] Ocho Rios, Jamaica, 6-9 December 1993. UNEP(OCA)/CAR WG.13/4

In the end I identified and evaluated approximately 130 relevant fisheries, human rights, environmental, and trade/commerce laws and sector-specific policies of each Party that enable the Protocol's mandate to achieve recovery for endangered Caribbean sea turtles. By comparing existing legislative mandates with a checklist of criteria developed specifically for this purpose, I characterized strengths, weaknesses, and gaps in the national regulatory framework of each Party. Among my conclusions are that a majority of Parties have at least partially met the mandates of Articles 10 and 11, while a minority have met the mandates of Articles 13 and 14.

This study faced challenges in obtaining insight into the details of relevant legislation at the national level. For example, the questionnaire was sent out to all SPAW Regional Programme Focal Points met with little response. As such, information was gathered primarily from other government and non-government sources, including published reviews relating to legislation and management, readily available Government documents, official and unofficial translations of legislation text, and personal communication with in-country experts, primarily WIDECAST Country Coordinators. Comprehensive regional reviews (e.g. Fleming 2001, Bräutigam and Eckert 2006) were especially helpful as secondary sources in cases when the full legal language for appropriate laws could not be obtained.

Information specific to Article 14 of the SPAW Protocol, which calls for Parties to take into consideration any *bona fide* subsistence and cultural use of listed species of fauna and flora, was sought primarily through government sources (e.g. national constitutions) and through determination of each Party's status with regard to the International Labour Organization (ILO) Convention No. 169 Concerning Indigenous and Tribal Peoples in Independent Countries. ILO Convention No. 169 (ILO 169) accords certain rights and protections to the social, cultural, religious and spiritual values and practices of indigenous and tribal peoples in "independent countries whose social, cultural and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partially by their own customs or traditions or by special laws or regulations." Moreover, Article 14.1 states that: "The rights of ownership and possession of the peoples concerned over the lands which they traditionally occupy shall be recognised. In addition, measures shall be taken in appropriate cases to safeguard the right of the peoples concerned to use lands not exclusively occupied by them, but to which they have traditionally had access for their subsistence and traditional activities."

Full text of ILO 169 is available at the ILO Database of International Labour Standards[36].

[36] http://www.ilo.org/ilolex/english/convdisp1.htm

Table 3. Criteria for enabling legislation with informing data from the text of the SPAW Protocol and the *Workshop to Assist with the Formulation of National Legislation to Implement the SPAW Protocol in the Common Law Countries of the Wider Caribbean Region* (Ocho Rios, Jamaica, 6-9 December 1993). See also Appendix II.

LEGISLATIVE SECTOR	SPAW ARTICLE REFERENCE	WORKSHOP RECOMMENDATION (SPAW Article / Recommendation No.)
Fisheries Law	**Article 10-1** regulates and prohibits, where appropriate, activities having an adverse affect on endangered or threatened species; **Article 11-1b** ensures total protection and recovery to species listed in Annex II by prohibiting the take, possession, or killing (including incidental) in such species, their eggs, parts or products	**Art. 11/Rec. 5** prohibits taking, possession or killing of, or commercial trade in, species listed under Annex II; **Art. 11/Rec. 8** regarding destruction or disturbance that is authorized, require that intentional take is done by permit only; permits should impose conditions on amounts, time and places, equipment and harvest methods; non-selective means of capture, or killing, hunting and fishing be monitored and regulated; closed hunting and fishing season be declared as necessary; activities that result in the disturbance of species be regulated and monitored
Fishery management areas (e.g. no-take zones, multiple use areas)	**Article 10-1** regulates and prohibits, where appropriate, activities that adversely affect habitats/ ecosystems of endangered/threatened species	**Art. 11/Rec. 8** regarding destruction or disturbance that is authorized, require that closed hunting and fishing season be declared as necessary; activities that result in the disturbance of species be regulated and monitored
Fishing gear regulations to address sea turtle bycatch	**Article 10-3a** regulates if not prohibits take, possession or killing, including incidental; **Article 11-1b-i** ensures total protection & recovery to Annex II listed species by the prohibitions of Article 10-3a	**Art. 11/Rec. 8** regarding destruction or disturbance that is authorized, require that non-selective means of capture, or killing, hunting and fishing be monitored and regulated
Status of Exploitation (illegal/legal)	**Article 10-2/3a** regulates and prohibits, where appropriate, all forms of destruction and disturbance, including the picking and collecting, as well as take, possession and killing of endangered and threatened species; **Article 11-1b-i** ensures total protection and recovery to species listed in Annex II by prohibiting the take, possession, or killing (including incidental) of such species, their eggs, parts or products	**Art. 11/Rec. 5** prohibits taking, possession or killing of, or commercial trade in, species listed under Annex II; Art. 11/Rec. 8 regarding destruction or disturbance that is authorized, require that intentional take is done by permit only; permits should impose conditions on amounts, time and places, equipment and harvest methods; non-selective means of capture, or killing, hunting and fishing be monitored and regulated; closed hunting and fishing season be declared as necessary; activities that result in the disturbance of species be regulated and monitored
Exploitation is illegal: Complete protection (indefinite), Moratorium (fixed period)	**Article 11-1b-i** ensures total protection & recovery to Annex II listed species by prohibiting take, possession, or killing (including incidental) of such species, their eggs, parts or products	
Exploitation is legal	**Article 10-2/3a** regulates all forms of destruction and disturbance, including picking and collecting, as well as take, possession and killing of endangered and threatened species; **Article 11-1a** extends this stipulation to Annex II species; **Article 10-3b** regulates and, where appropriate, prohibits to the extent possible, the disturbance of wild fauna during the period of breeding, incubation, aestivation or migration, as well as other periods of "biological stress"; **Article 11-1b-ii** extends this stipulation to Annex II species	**Art. 11/Rec. 8** regarding authorized destruction or disturbance, require that intentional take is done by permit only; permits should impose conditions on amounts, time and places, equipment and harvest methods; non-selective means of capture, or killing, hunting and fishing be monitored and regulated; closed hunting and fishing season be declared as necessary; activities that result in the disturbance of species be regulated and monitored; **Rec. 9** requires permits for import, export or possession of protected species; prohibits trade and transport of unlawfully imported or acquired specimens
Local possession and sales– (il)legal; regulated		
Total catch quotas		
Turtle size/weight restrictions		
Time/Area closures		
Exemption for traditional subsistence and cultural needs	**Article 14-1** provides exemptions, as necessary, to meet "traditional subsistence and cultural needs" without "substantial risk" to protected areas, supporting ecological processes, or "migratory…threatened, endangered or endemic species"	**Art. 14/Rec. 1** requires consideration of traditional subsistence & cultural needs when formulating management & protective measures; make necessary exemptions, which remain subject to limitations in Article 14-1
Exemption for traditional subsistence and cultural needs	**Article 11-2** provides for exemptions for scientific, educational or management purposes necessary to ensure the survival of Annex II species; exemptions must not jeopardize the species	**Art. 11/Rec. 6** requires permits for taking Annex II species be limited to the exemptions specified in Article 11-2; permits be denied when they would jeopardize the species; monitoring and reporting are conditions of the permit

Environmental Law	**Article 10-1** regulates and prohibits, where appropriate, activities having an adverse affect on species' habitat; **Article 11-1a** extends this stipulation to Annex II species	**Art. 10/Rec. 1** identifies and designates agency responsible for the ecosystem-based management of protected species; **Rec. 4** provides for the implementation of regional recovery programs; **Rec. 9**; provide mechanisms to prevent threats to species from becoming threatened or endangered; **Rec. 11**; authorize agency to promote and create partnerships with other national and municipal, state, or private agencies and organizations, as well as conservation and local communities, including users
Management areas (e.g. parks, reserves, multiple use areas)	**Article 10-1** protects endangered and threatened species' habitat and ecosystems; **Article 10-1/2** prohibits all forms of destruction and disturbance; **Article 11-1a** extends this stipulation to Annex II species	**Art. 11/Rec. 10** calls for *inter alia* integrated coastal management, designation of critical habitat, and zoning and land use planning
Species identification (e.g. define 'endangered', maintain a list)	**Article 10-1** requires Party to identify endangered or threatened species	**Art. 10/Rec. 3** specifies criteria for the identification of threatened and endangered species
Species research and conservation	**Article 10-1** accords protected status to such species and mandates "appropriate" action(s) to prevent species from becoming endangered or threatened	**Art. 10/Rec. 3** specifies criteria for identifying threatened and endangered species; **Rec. 7**; provide for interim protective measures following the nomination/designation of species; **Rec. 8**; require a designated agency to develop and implement species recovery, management, planning and other necessary measures; **Art. 11/Rec.7** authorizes the designated agency to recommend, review/revise regulations for protected species, their habitats and associated ecosystem, including prohibitions or restrictions on destruction or disturbance trade, activities having adverse effects, application to all individuals and private/public entities
Pollution Controls	**Article 10-1** regulates and prohibits, where appropriate, activities having an adverse affect on species' habitat	
Coastal Zone Management Planning	**Article 10-1 & Article 11-1a** regulates and prohibits, where appropriate, activities having an adverse affect on endangered species and species' habitat, including those listed in Annex II	**Art. 11/Rec. 10** calls for *inter alia* integrated coastal management, designation of critical habitat, and zoning and land use planning; **Rec.7** authorizes the designated agency to recommend, review and revise regulations for protected species, their habitats and associated ecosystem, including prohibitions or restrictions on activities having adverse effects, application to all individuals and private and public entities
Distance from nesting beaches (e.g. buffer zones)		
Distance from shore (e.g. setbacks)		
Restricted recreational activities (e.g. beach driving, boating/anchoring, diving)		
Beachfront lighting restrictions		
Time/area closures	**Article 10-3b & Article 11-1a** protects endangered species and those listed on Annex II during nesting, breeding or other time of biological stress	
Environmental Impact Assessment	**Article 13** requires Party to evaluate and take into consideration the possible direct and indirect impacts, including cumulative impacts, of proposed development projects	**Art. 11/Rec. 10** calls for *inter alia* integrated coastal management, environmental impact assessments, designation of critical habitat, and zoning & land use planning; **Art. 13/Rec. 1** requires EIAs be prepared for all projects & activities that would negatively impact and significantly affect areas or species listed under SPAW; EIAs should be considered during the planning process so that the project/activity may be modified if necessary
Trade & Commerce Law	**Article 10-3a** regulates, if not prohibits, the commercial trade in endangered or threatened species, their parts or products; **Article 10-7** makes provision for the repatriation of protected species exported illegally; **Article 11-1a** prohibits commercial trade in Annex II species, their parts or products	**Art. 11/Rec.7** authorizes designated agency to recommend, review & revise regulations for protected species, their habitats & associated ecosystem, including prohibitions/ restrictions on commercial trade & application to all individuals & private & public entities; **Rec. 9** requires permits for import, export or possession of protected species; prohibit trade & transport of unlawfully imported or acquired specimens

Export/Import Regulations (cf. CITES)	**Article 10-3a** regulates, if not prohibits, the commercial trade of protected species; **Article 10-5** coordinates actions through bilateral or multilateral agreement; **Article 10-7** makes provision for the repatriation of protected species exported illegally; **Article 11-1a** prohibits commercial trade in Annex II species, their parts or products	**Art. 10/Rec. 13** requires the repatriation of protected species exported illegally; **Art. 11/Rec. 1**; authorize designated agency to participate in bilateral, regional and global programmes for the protection and recovery of endangered and threatened species; **Rec. 3** requires the designated agency to implement the requirements and prohibitions of Article 11 for Annex-listed species; **Rec. 9** requires permits for the import, export or possession of protected species; prohibits trade and transport of unlawfully imported or acquired specimens
Human & Public Rights		
Consideration given to traditional subsistence and cultural practices (e.g. ILO 169)	**Article 14-1** provides exemptions as necessary to meet traditional subsistence and cultural needs without endangering the maintenance of areas protected under SPAW or causing the extinction or substantial reduction of migratory, endangered or threatened species	**Art. 14/Rec. 1** requires consideration of traditional subsistence and cultural needs when formulating management and protective measures; make exemptions to management and protective measures when necessary, though subject to limitations in Article 14-1
Right to "sustainable environment" (e.g. Constitution)	**Article 10-1** regulates and prohibits, where appropriate, activities having an adverse affect on species' habitat and their ecosystems	
International Co-operation * * see Table 2 for membership in other treaties/conventions	**Article 10-5** co-ordinates actions through bilateral or multilateral actions, including treaties for the protection and recovery of migratory species; **Article 10-6** consults with non-SPAW range States to co-ordinate efforts to manage and protect endangered species; **Article 11** adopts co-operative measures to ensure the protection and recovery of species listed on Annexes I, II and III	**Art. 11/Rec. 1** authorizes designated agency to participate in bilateral, regional and global programmes for the protection and recovery of endangered and threatened species

REGIONAL OVERVIEW

While the Caribbean Sea is the second largest sea in the world, covering approximately 2,648,000 km^2 (Breton et al. 2006), the close proximity of constituent States and their shared demand for coastal resources and development produces a number of challenges. Tourism and fisheries are the region's two main industries[37], and both depend on coastal areas increasingly characterized by depleted and declining fish and wildlife populations, increasing pollution, and the destruction of important habitats and ecosystems including mangroves and seagrasses (Miller 1996; Breton et. al. 2006). With over 30 million people, the region's high density is particularly acute in some small island States, where there may be over 300 people/km^2 (Breton et al. 2006). The Cartagena Convention and its SPAW Protocol provide a unique framework, with pragmatic measures, through which nations are encouraged to work together to revive the coastal ecosystems upon which they so heavily rely.

The coastal areas of the Wider Caribbean Region are both critically important and endangered. Tourism and fisheries are the two main industries for the region and both rely heavily on the health of the region's coastal areas. Unfortunately, these areas are increasingly faced with problems of a decline in fish and wildlife populations, an increase in pollution of coastal bays, and the destruction of important habitats and ecosystems including mangroves and seagrasses (Breton et al. 2006). Though the Caribbean Sea is a shared resource for all nations of the WCR, these countries are not all equally part of or active in regional organizations (Breton et. al. 2006). A primary purpose the Cartagena Convention is to resolve this conflict and unite all nations of the WCR in an agreement to protect and sustainably manage the shared Caribbean Sea. Further, the SPAW Protocol brings practical mandates, which may serve to bring a systematic approach to the management of endangered and threatened species and their habitats to the Region, complicated with diverse socio-political structures. Particularly, SPAW bridges the management of terrestrial and coastal areas, a *de facto* concern especially for the SIDS of the Caribbean.

Articles 10, 11, 13 and 14 provide practical mandates that speak directly to the measures that Parties should take to ensure the protection of their resources. Considering that SPAW lists nearly 500 species of fauna and flora in its three Annexes, the use of sea turtles as a proxy for the degree of implementation achieved in the five years since the Protocol has been in force is a pragmatic method to simplify the analysis. In their role as charismatic marine megafauna, sea turtles are an appropriate flagship species for which much international sympathy has been awarded (Eckert and Hemphill 2005). Aside from local and

[37] The number of people actively involved in fisheries increased from 194,278 in the 1970s to 504,910 in the 1990s, equivalent to the number of jobs produced by tourism (Breton et al. 2006)

regional recognition of the species' depletion, many environmental and animal welfare interest groups, among others, worldwide are actively involved in promoting the conservation and protection of these species. As a result, there are strong global market pressures for the species' protection and a reduced market for sea turtle exploitation and products, especially since they were listed on CITES.

Unlike species with large consumptive demands and limited public pressure for their protection (e.g. conch, shark), sea turtles bear a greater influence in the political arena. Conch trade, for example, is so important to Jamaica's economy that compliance with international trade agreements is complicated by inherent financial interests (Anderson 2001). When financial interests are absent, linking efforts to protect species (or habitats) with economic incentives may assist in reaching conservation goals. In the case of St. Eustatius, economic incentives to protect sea turtle habitat are addressed in St. Eustatius' Explanatory Memorandum Marine Environment Ordinance (A.B. 1996, No. 05). The ordinance outlines a depth contour of 30 m for the marine park, offering maximum biodiversity protection, and explains that the park's establishment "has positive commercial effects towards international diving enthusiasts. The park's operation – in a protective manner – provides the funds for the upkeep of the marine park" (Art. 2).

The SPAW Protocol was developed to represent the interest of the WCR and Cartagena Parties to cooperate in managing, protecting and promoting the recovery these shared resources, for which there has been only limited collaboration (Breton et al. 2006). Active involvement and participation on the part of local and regional co-management institutions is increasingly recognized as essential to resolving the problems that face the WCR ecosystems. In his discussion of France's sea turtle recovery plan, Chevalier raises a point that emphasizes the need for regional collaboration and cooperation. Virtually all of the sea turtles of Guadeloupe and Martinique are likely to spend a significant amount of their life, or the crucial reproductive period of their life outside of French territory, where they may be subject to a range of threats. Acknowledging this challenge, the Plan suggests that the major factors limiting sea turtle recovery within its jurisdiction are now localized elsewhere (Chevalier 2003 in Bräutigam and Eckert 2006). And so, in order for France to realize the achievements of its efforts to protect sea turtles, other Parties must also be actively involved. Such collaboration would ideally build upon the 'strengths of various stakeholders at various institutional levels' (Sick 2002 *in* Breton et al. 2006) immediately filling, at least to some degree, the limited capacities of each Party.

The impact of the SPAW Protocol can only be measured by the actions of its Parties, and it is in this context that national-level legislation is herein reviewed and evaluated with an aim to identify strengths, weaknesses and gaps in the national regulatory framework of the Protocol's 12 Parties.

Table 4. Regional summary of sector-specific legislation in place to implement Articles 10, 11, 13 and 14 in each Party to the SPAW Protocol, with a focus on Annex II listed species.

NATION / TERRITORY	FISHERIES LAW							ENVIRONMENTAL LAW							TRADE LAW	ILO / C LAW[10]
	Mgmt Areas[1]	Gear Regs[2]	EXPLOITATION PROHIBITED			EXPLOITATION LEGAL		Mgmt Areas[1]	Species Recovery Plan[6]	Pol'tion control	Set-backs	Restricted Activities[7]	EIA	CZM[8]	Int'l Trade[9]	
			Indefinite	Fixed Period	Take Provi-sions[3]	Catch Regs[4]	Local Possession and Sale[5]									
ARUBA (NL)			√						WC	√		V			C, T	
BARBADOS	FP MU	B, E, N, T	√					**MU**	O WC	√	√	V, SM	√	√ B, L	C, T	
BONAIRE (AN)		B, C, E, N, T, S	√		Sc/Ed			**FP** **MU**	WC	√	√†	NA, FP, SF, B/A			C, T	I
COLOMBIA	FP	BC, N, T	√		S			**FP** MU	O		√				C, T	I, C
CUBA	**MU**					Q, S/W, T/A; EG, NT, N, H		**FP**	O		√	FP			C, T	
CURAÇAO (AN)		B, C, E, N, T	√					**MU**	WC			SF			C, T	I
DOMINICAN REPUBLIC	FP				T°	T/A (hawk) S/W, EG	T (eggs) S (hawk)	**FP** MU	O						C, T	
FRENCH GUIANA (FR)			√						O						C, T	
GUADELOUP\E (FR)			√					**FP** **MU**	O						C, T	
MARTINIQUE (FR)			√					**FP** **MU**	O						C	
PANAMA		T	√*		S, Sc^	T/A, H	S (eggs)	**MU**	O WC			FP, SM, M		√	C, T	
PUERTO RICO (US)		N, LP, T	√		Sc/Ed			**FP**	O		√		√	√	C, T	
SABA (AN)		B, C, E, N, T	√					MU	WC						C, T	I
SINT MAARTEN (AN)		B, C, E, N, T	√					MU¥	WC						C, T	I
ST. BARTHÉLEMY (FR)			√						O						C, T	
ST. EUSTATIUS (AN)		B, C, E, N, T	√					MU	WC			SM, V			C, T	I
SAINT LUCIA	**FP**					S/W, EG, NT, N, T/A	T (eggs) S (S/W)	**FP**	WC O		√		√	√	C, T	
ST. MARTIN (FR)			√						O						C, T	
SAINT VINCENT & THE GRENADINES	FP	B, C, E, N, T				L, N, EG, T/A, S/W	T (eggs) S (S/W)	**FP**	WC	√		F, FP		√	C, T	
TRINIDAD & TOBAGO	FP	N, T				S/W & T/A° (mandate)		**FP** **MU**	WC			V, FR, G			C	
US V. I. (US)		N, LP, T	√		Sc			**FP**	O				√	√	C, T	
VENEZUELA		T	√		Sc			**FP** **MU**	WC				√	√	C, T	I

Notes:

1 FP – Fully Protected; MU – Multiple Use **bold** font indicates that area(s) of interest to sea turtles has been designated
2 B – ban on nets (e.g. seine, trawl); BC – specific prohibition on retaining bycatch of sea turtles; C – chemical (toxic/poison/noxious) substances prohibitions; E – explosives; H – hook type; L – longline, N – net or mesh size restrictions; P – permit requirement; S – hand spears and spearguns; T – TED or "escape panel" requirements
3 EG – prohibition on take of sea turtle eggs; H – prohibition on take of hatchlings; L – licensing or permit required; N – prohibition on disturbance of nests; NT – prohibition on take/disturbance of nesting turtles; S/W – size/weight restrictions; T/A – time/area closures; Q – total catch quotas
4 S – seasonally prohibited; S/W – size and weight restrictions; T – local sales and possession prohibited at all times
5 I/S/T– traditional/subsistence/indigenous take/possession/sale; Sc/Ed – science, education or management purposes
6 O – other; WC – WIDECAST Sea Turtle Recovery Action Plan
7 B/A – boat or anchoring restrictions; F – fishing; FP – fishing without permit; FR – fires; G – group size limits; NA – no access; M – oil, gas, forestry mining; S – SCUBA diving restrictions; SF – spearfishing; SM – sand mining; V – vehicular access
8 B – buffer zones; L – lighting ordinance
9 C – Party to CITES; T – trade and commercialization prohibited
10 I – Party to ILO Convention No. 169; C – public right to a "sustainable environment"

† Access only allowed for vessels traveling through the reserves or fishing using traditional fishing methods, not including fish traps
* Legislation is unclear
° Artisanal collection and workmanship allowed with permit during the 5-year ban, which ended in 2001.
^ Provision for take also for captive breeding purposes (1986 Resolución No. DIR 003-86).
¥ Zoning approved and implementation underway.

ENABLING NATIONAL LEGISLATION

Overview

In recognition of the need for national enabling legislation[38] in order for nations to meet the mandates of the SPAW Protocol and the limited institutional capacity and resources available to the States and Territories of the Wider Caribbean Region, UNEP organized the Workshop to Assist with the Formulation of National Legislation to Implement the SPAW Protocol in the Common Law Countries of the Wider Caribbean Region (Ocho Rios, Jamaica, 6-9 December 1993), with an aim to guide the development of effective legislation to adopt the SPAW Protocol[39]. The Workshop delivered a working document, "Assessment of the SPAW Protocol for the Development of Relevant National Legislation", describing enabling legislation to implement each Article to the Protocol[40]. The recommendations embodied in the working document were used along with the original text of Articles 10, 11, 13 and 14 of the SPAW Protocol, to develop a checklist of criteria (Table 3) against which to evaluate the degree to which each SPAW Party (Table 1) has achieved compliance with these articles. The full text of these articles and workshop recommendations are provided in Appendix II.

NATIONAL REVIEWS AND ASSESSMENT

With specific reference to six species of sea turtle listed on Annex II of the SPAW Protocol, relevant fisheries, human rights, environmental, and trade and commerce laws and other sector-specific policies were reviewed to assess the extent to which Parties have the necessary legislation in place to implement Articles 10, 11, 13 and 14 of the Protocol. The mandates of these Articles are to identify and protect threatened or endangered species and to encourage collaborative approaches among range States (Articles 10 and 11), to address the need to consider "possible direct and indirect impacts, including cumulative impacts" associated with proposed "industrial and other projects and activities" in order to inform or reform the planning and development process (Article 13), and to take into account any "traditional subsistence and cultural needs" through the provision of appropriate exemptions (Article 14).

[38] First Meeting of the Interim Scientific and Technical Advisory Committee (ISTAC) to the Protocol Concerning Specially Protected Areas and Wildlife in the Wider Caribbean Region (SPAW). 4-8 May 1992. Kingston, Jamaica. UNEP(OCA)/CAR WG.5/1
[39] Revised Draft Legislative Guide to Implement the SPAW Protocol. 9 December 1993. UNEP(OCA)/CAR WG.13/4
[40] Workshop to Assist with the Formulation of National Legislation to Implement the SPAW Protocol in the Common Law Countries of the Wider Caribbean Region, Ocho Rios, Jamaica, 6-9 December 1993. UNEP(OCA)/CAR WG.13/4

While the development and use of a systematic checklist for enabling national legislation is worthwhile, each nation is recognized as unique in its culture and values concerning sea turtles. As such, laws may be more or less appropriate, or considered to have a higher or lower priority, depending on the situation within each Party's jurisdiction. This report attempts to take these unique differences into consideration. The following section focuses on the degree to which each SPAW Party has met the criteria for implementing legislation, briefly addresses the contemporary national culture with regard to sea turtles (e.g. exploitation or existence value), and proposes priority legislative actions going forward. Table 4 offers a regional summary, while Tables 5-16 review the legislative portfolios of each Party in turn.

Barbados

Barbados ratified the Cartagena Convention in May 1985. At the time it ratified the SPAW Protocol (November 2002), Barbados had a comprehensive national Sea Turtle Recovery Action Plan (Horrocks 1992) and legislation banning exploitation of sea turtles: Fisheries (Management) Regulations Article 7 states, "No person shall: [possess, sell, or purchase] any turtle or part thereof or turtle eggs." Further, "no person shall: [take] any turtle [nor shall any person] disturb or endanger any turtle nest or remove from a nest any turtle eggs." Article 17 provides for the only exemption of these regulations, for the "purpose of fisheries research, and [where permission has been officially granted] and the operations are carried out in accordance with any condition stipulated in the permission." A suite of legislative instruments were also in place to provide for the preservation and protection of coastal and marine areas, thus offering a variety of mechanisms to safeguard critical habitat (Table 5).

Since ratification, the country has continued to assess annually the status of sea turtles within its jurisdiction through the efforts of the Barbados Sea Turtle Project, a WIDECAST-affiliated project based at the University of the West Indies, and Government is currently in the process of drafting regulations to fill gaps in the nation's capacity to regulate activities that may potentially disturb sea turtles or their habitats (e.g. Draft Recreational Diving Operations Regulations, 1998, which will form part of the Shipping Act and are being developed under the International Transport Division of the Ministry of Foreign Affairs, Tourism and International Transport; Draft Guidelines for designation of a restricted area for sea turtles on the south coast under Section 15 of the Coastal Zone Management Act, 1998-39). In

February 2006, Barbados passed legislation (International Trade in Endangered Species of Wild Fauna and Flora Act, 2006-3) regulating issues associated with trafficking in protected species.

Barbados' environmental and fisheries legislation is generally under the authority the Ministry of Agriculture and Rural Development (e.g. Fisheries Division) and the Ministry of Energy and Environment (e.g. Environment and Coastal Zone Management units). Enforcement is primarily by the nation's Police Force, Coast Guard and Defense Force.

Four species of sea turtles are found within Barbados' jurisdiction: the *Caretta caretta* (rarely), *Chelonia mydas, Dermochelys coriacea,* and *Eretmochelys imbricata* (see Appendix I).

Table 5. An evaluation of sector-specific legislation to enable implementation of the SPAW Protocol and its mandate to protect sea turtles in Barbados.

LEGISLATIVE SECTOR	ENABLING LEGISLATION
Fisheries Law	**Fisheries Act, 1993** – covers formulating and reviewing fisheries management and developed schemes; the establishment of a fisheries advisory committee; fisheries access agreements; local and foreign fishing licensing; sport fishing; registration of fishing vessels; construction and alteration of fishing vessels; fisheries research; fisheries enforcement and the obligation to supply information. Also specifies conservation measures such as prohibiting use of any explosive, poison or other noxious substance; closed seasons, gear restrictions. It gives the Minister responsible for fisheries the authority to create new regulations for the management of fisheries as and when necessary. **Fisheries (Management) Regulations, 1998** – establishes a complete and indefinite ban on the exploitation of sea turtles and also prohibits the possession, purchase and sale of sea turtles and products
Fishery management areas (e.g. no-take zones, multiple use areas)	**Fisheries Act, 1993** – specifies conservation measures; e.g. closed season **Fisheries (Management) Regulations, 1998** – indicates that the "Minister shall designate [species of fish which may not be harvested during the closed season and in the closed areas] by Notice published in the Official Gazette; prohibits the damage, destruction or take of corals without written permission of the Chief Fisheries Officer; also regulates the sea egg (white sea urchin) fishery through the designation of closed seasons and closed areas
Fishing gear regulations to address sea turtle bycatch	**Fisheries Act, 1993** –prohibits the use of any explosive, poison or other noxious substance and specifies conservation measures such as gear restrictions **Fisheries (Management) Regulations, 1998** – Para. 4, "No person shall use a trammel or entangling net, or any net that is so hung and deployed as to catch fish primarily by entanglement. Para. 5, "No person shall use for fishing: a) a seine net, the smallest mesh size of which when stretched is

	less than 3.81 cm, in dimension; b) a pelagic drift net of a size greater than 2.5 km in length; or c) a fish trap the mesh of which is less than 3.18 cm in dimension...Every fish trap shall be fitted with an escape panel of a size and design approved by the Chief Fisheries Officer…Every fish trap shall be marked for identification in a manner approved by the Chief Fisheries Officer."
Exploitation Prohibited	
Complete Protection (indefinite)	**Fisheries (Management) Regulations, 1998** – prohibits the capture, possession, or sale of turtles, turtle eggs and turtle parts. This regulation will "remain in place until the Government is satisfied that population recovery has occurred and that a sustainable harvest quota has been determined."[41]
Moratorium (fixed period)	
Exploitation is Legal: Regulations	N/A
Local possession and sales	
Total catch quotas	
Turtle size/weight restrictions	
Time/Area closures	
Provision for traditional/subsistence/indigenous possession and sale	N/A
Provision for scientific/educational/management purposes	**Fisheries (Management) Regulations, 1998** – establishes a complete and indefinite ban on the exploitation of sea turtles and also prohibits the possession, purchase and sale of sea turtles and products, with the exception for research/scientific purposes only

[41] Barbados National Report to the First CITES Wider Caribbean Hawksbill Dialogue Meeting (Mexico City, 15-17 May 2001).

Environmental Law	**Marine Areas (Preservation and Enhancement) Act, 1976** – provides for the preservation and protection of coastal and marine areas, while permitting recreational and scientific activities. **Barbados Territorial Waters Act, 1977** – defines territorial and internal waters **Defense Act, 1979** – multi-purpose control and surveillance in EEZ and territorial waters **Marine Boundaries and Jurisdiction Act, 1979** – defines waters of the EEZ and identifies marine conservation officers to serve as police, Fisheries and Coast Guard personnel and the Defense Force **National Development Plan, 1983, Physical Development Plan, 1983, with amendments in 1986, and the Barbados report to the UN Conference on Environment and Development, 1992** – government articulates commitment to environmental conservation, including plans for a system of parks and protected areas throughout the island incorporating both terrestrial and marine systems[42] **Town and Country Planning Act, 1985** – defines coastal setback lines for construction and establishes all planning requirements for development **Coastal Zone and Management Act, 1998 –** provides a statutory basis for coastal zone management and planning in Barbados and makes provision for the protection of coral and other marine resources, the creation of marine reserves and the identification of critical areas of concern not covered by current legislation. **Section 39** includes specific provisions for protection of resources, such as corals and the foreshore, and for the designation of marine protected areas and marine parks **Marine Pollution Control Act, 1998** – 'makes provision for the prevention, reduction and control of pollution of the marine environment in Barbados from whatever source'.
Management Areas (e.g. Parks, multiple use areas)	**Designation of Restricted Areas Order, 1981** established boundaries of the underwater **Barbados Marine Reserve.** The **Marine Areas (Preservation an Enhancement) (Barbados Marine Reserve) Regulation, 1981** created four zones within the park: scientific, two water sports, recreational). **Harrison's Cave** also protected by legislation
Species Identification	
Species research and conservation	**Barbados Sea Turtle Project (UWI)** conducts research and assessments to inform policy
Pollution controls	**Marine Pollution Control Act, 1998** – 'makes provision for the prevention, reduction and control of pollution of the marine environment in Barbados from whatever source'.
Distance from nesting beaches (e.g. buffer zones)	
Distance from shore (e.g. setbacks)	**Town and Country Planning Act, 1985** – defines coastal setback lines for construction and establishes all planning requirements for development **Integrated Coastal Management Plan (ICZM) & Coastal Zone Management Act (CZMA), 1998** – provide support through several statutory and policy mechanisms for the management of turtle nesting sites on the island, including

[42] CEP Technical Report No. 36, 1996: Status of Protected Area Systems in the Wider Caribbean Region. Country Profiles. Barbados.

	elements of beach management in relation to setbacks, enclosures and fences, in addition to replanting and protection of littoral vegetation.
Restricted recreational activities	**Draft Recreational Diving Operations Regulations 1998** – will form part of the 1994 Shipping Act, which regulates the registration and inspection of large vessels, to govern dive operations for hire and reward in order to ensure the safety of operators and their clients and the preservation of fragile marine ecosystems **Integrated Coastal Management Plan (ICZM) & Coastal Zone Management Act, 1998** – provide support through several statutory and policy mechanisms for the management of turtle nesting sites on the island, including elements of beach management in relation to sand mining and vehicular beach access
Time/Area closures	
EIA	**Coastal Zone Management Act, 1998**
CZM Plan	**Integrated Coastal Management Plan (ICZM) & Coastal Zone Management Act (CZMA)**
Lighting restrictions	**Integrated Coastal Management Plan (ICZM) & Coastal Zone Management Act (CZMA)** – the Coastal Zone Management Unit carefully reviews any application that proposes lighting for upper beach areas, and recommends appropriate adjustments in lighting arrangements to prevent possible disorientation of nesting and hatching turtles
Trade & Commerce Law	**Fisheries (Management) Regulations, 1998** **International Trade in Endangered Species of Wild Fauna and Flora Act, 2006-3**
Export/Import regulations	**Fisheries (Management) Regulations, 1998** prohibits the sale of turtles, turtle eggs and turtle parts **International Trade in Endangered Species of Wild Fauna and Flora Act, 2006-3** provides for the implementation of the provisions of the Convention on
Human & Public Rights Law	**Constitution 1966 – Chapter III Protection of Fundamental Rights and Freedoms of the Individual** – Protection from deprivation of property International Trade in Endangered Species of Wild Fauna and flora and for related matters. The legislation has five (5) schedules, the First schedule refers to the text of the Convention on International Trade in Endangered Species of Wild Fauna and Flora; the Second scheduled consists of Appendices I, II and III as adopted by the conference of the Parties; the Third schedule addresses species belonging to Barbados that may be adversely affected by trade; the Fourth schedule consists of information on the constitution and procedure of the scientific Authority and the Fifth schedule shows a sample of the permit for international trade. The Act applies to all animal and plant species listed in the Second and Third Schedules. The Act also makes provision for the establishment of a Management Authority and a Scientific Authority for the purpose of establishing control over the International Trade in any specimens of species listed in the Second Schedule.
Traditional/Subsistence/Indigenous practice	
Right to “sustainable environment” (Constitution)	

Barbados has legislation in place that appears to meet the majority of criteria established for implementing Articles 10, 11 and 13 of the SPAW Protocol. There is no provision for exemptions dealing with *bona fide* indigenous or traditional use of sea turtles (Article 14), there being no evidence of such practices (Horrocks 1992).

The nation has an indefinite ban on the exploitation of sea turtles and regulations in place to manage fisheries and fishing gear to minimize harm to and the incidental catch of sea turtles. Comprehensive environmental legislation is in place to prohibit or regulate activities that threaten or harm sea turtles; e.g. mandates for pollution controls, construction set-backs, environmental impact assessments, and a coastal management plan that includes buffer zones and provisions for beachfront lighting regulations. The nation's extensive research, education and conservation activities, ongoing under the aegis of the Barbados Sea Turtle Project, have been successful in discouraging poaching of sea turtles and in increasing knowledge of the status and distribution of populations and important habitats.

Still, gaps exist in environmental regulations to restrict activities that are harmful to sea turtles, such as shore and sea-based activities that have been identified through research and, in accordance with Article 11, should be regulated and monitored, if not prohibited. For example, Barbados does not prohibit dynamite fishing or address maritime traffic that could potentially result in an at-sea collision with sea turtles (STRAP 1992[43]). Further, Barbados does not restrict pedestrian access to important nesting beaches during the nesting season, a deliberate allowance for historical reasons (Horrocks in litt. 17 Oct. 2006).

The most serious threats to sea turtles in Barbados are artificial shore-based lighting (Horrocks 1992; Eckert and Horrocks 2002; Bräutigam and Eckert 2006), and the destruction of, or risks to, sea turtle nesting sites and foraging areas caused by erosion and accretion derived from natural phenomena and beachfront development[44]. Lighting restrictions are done on a case-by-case basis and may not adequately address the problem of artificial lighting on a national scale.

No sea turtle nesting sites or foraging areas are protected as reserves or parks. Habitat protection is largely addressed by advances in the regulatory framework (e.g. Coastal Zone Management Act, 1998),

[43] WIDECAST, 1992. CEP Technical Report 12. Sea Turtle Recovery and Action Plan.

[44] The effects of artificial lighting and habitat destruction and modification occur to the greatest extent on the developed west and south coasts of Barbados, where the majority of hatchlings from nests are negatively impacted. The west and south coastlines are subject to erosion caused by the rising sea-level and the effects of beach-front development, including loss of stabilizing beach vegetation. Construction of seawalls and boulders to protect sea-front properties may also promote beach erosion while hotels and less significantly, houses, modify nesting areas with their lighting, removal of beach vegetation, and heavy pedestrian use (Horrocks 1992).

by ongoing research and conservation efforts led by the Barbados Sea Turtle Project of the University of the West Indies in collaboration with the Coastal Zone Management Unit, and workshops with local hoteliers to adopt and "implement 'turtle friendly' lighting on all beaches," (Bräutigam and Eckert 2006).

The priority for Barbados at this point would seem to be enacting legislation to enforce the implementation of "turtle-friendly" lighting, to establish restrictions on recreational activities, to formalize plans to designate the main nesting beach under the CZMA, and to follow this designation with a national lighting ordinance (cf. Witherington and Martin 2000). The Draft Recreational Diving Operations Regulations may address some of the necessary restrictions on recreational activities affecting foraging areas, though these regulations have not been made available and so my analysis is based on inference alone.

Colombia

Colombia ratified the Cartagena Convention in March 1988, and the SPAW Protocol a decade later (January 1998). At the time of ratification of the SPAW Protocol, Colombia had legislation in place that established a National Parks system prohibiting fishing in areas important to sea turtles. Colombia also had legislation in place that restricted fishing gear and established a regional prohibition on the exploitation of sea turtles. Since ratification, the country has broadened the use of Turtle Excluder Devices (TEDs) in the trawl fishing industry, developed a Draft Action Plan for the Conservation of Marine Turtles in the Colombian Caribbean (Córdoba et. al. 2000), implemented the *Programa Nacional para la Conservación de las Tortugas Marinas y Continentales de Colombia* (National Program for the Conservation of Marine and Continental Turtles of Colombia) (MMA 2002) under the auspices of a collaborative effort of the *Ministerio del Medio Ambiente* (MMA – Ministry of the Environment) and a number of regional autonomous environmental corporations (CARs – *Corporaciones Autónomas Regionales)*, and established (in 2002) the *Proyecto Tortugas Marinas* to monitor and assess the status of sea turtles (Bräutigam and Eckert 2006). Natural resources legislation in Colombia is under the authority of more than "20 regional, autonomous corporations established as part of the *Sistema Nacional ambiental* (SINA – the National Environment System)," (Bräutigam and Eckert 2006). Enforcement is the responsibility of other government authorities, including the police and the *Departmento Administrativo de Seguridad* (DAS – the Department of Security).

The four sea turtle species that regularly inhabit the territory of Colombia are *Caretta caretta, Chelonia mydas, Dermochelys coriacea,* and *Eretmochelys imbricata. Lepidochelys olivacea* is also found in Colombia, though infrequently (see Appendix I).

Table 6. An evaluation of sector-specific legislation to enable implementation of the SPAW Protocol and its mandate to protect sea turtles in Colombia.

LEGISLATIVE SECTOR	ENABLING LEGISLATION
Fisheries Law	**1978 - Decreto Nº 1681** - regulates the exploitation of living aquatic resources such as through capture, extraction or collection. Article 149 of this law indirectly protects sea turtle foraging areas **1990** - **Ley de Pesca Nº 13 (General Fishing Law)** - Article 47, stipulates that subsistence fishing, defined as that undertaken without intent to profit and for providing food for the fisherman and his family, is unrestricted throughout national territory (Córdoba *et al.* 2002). *It is important here for the definition of "subsistence take" to be made clear.* **Acuerdo Nº 021 (INDERENA), 1991** - establishes specific protection measures for all sea turtle species, as well as for nesting beaches and foraging areas **1992 - Resolución Nº 108 (Instituto Nacional Para la Pesca y Acuicultúra (INPA)), 1992** – prohibits the exploitation of sea turtles incidentally captured in shrimp trawls and requires the use of Turtle Excluder Devices (TEDs) throughout the Colombian Caribbean (revised in 1994, Resolución Nº 148) **Resolución Nº 157, 1993** - requires the use of TEDs by the shrimp trawl fleet operating in the Colombian Caribbean **Resolución Nº 148, 1994** - requires the use of a hard-type TED **1995 - Resolución Nº 2879 (Corporación Autónoma Regional (CAR) of la Guajira (CORPOGUAJIRA))** - establishes a regional prohibition on the exploitation of sea turtles **1996 - Resolución Nº 107**- requires the use of TEDs by the shrimp fleet operating on the Pacific Coast **1999 - Resolución Nº 68** - amends Resolucións 148 and 157 to broaden the use of TEDs and regulates other materials used in their construction
Fishery management areas (e.g. no-take zones, multiple use areas)	
Fishing gear regulations to address sea turtle bycatch	**1966 - Resolución Nº 167 by INDERENA (now the Ministry of Environment –MMA)** - establishes gear restrictions on trawl nets in fisheries on both the Atlantic and Pacific coasts, prohibiting their use within distances less than one nautical mile from all coasts, islands and keys on national territory **Resoluciones Nº 726 (1974) and Nº 709 (1981) and Acuerdos Nº 24 (1983) and Nº 54 (1988)** - prohibits "trawling in areas with large concentrations of sea turtles," including the Golfo de Morrosquillo, San Bernardo Archipelago, Golfo de Urabá, and Guajira coast (Bräutigam and Eckert 2006) **Pesca y Acuicultúra (INPA), 1992** – prohibits the exploitation of sea turtles incidentally captured in shrimp trawls and requires the use of Turtle Excluder Devices (TEDs) throughout the Colombian Caribbean

	Resolución Nº 157, 1993 - requires the use of TEDs by the shrimp trawl fleet operating in the Colombian Caribbean **Resolución Nº 148, 1994** - requires the use of a hard-type TED **Resolución Nº 107, 1996** - requires the use of TEDs by the shrimp fleet operating on the Pacific Coast **Resolución Nº 68, 1999** - amends Resoluciones 148 and 157 to broaden the use of TEDs and regulates other materials used in their construction
Exploitation Prohibited	
Complete Protection (indefinite)	**Decreto Nº 1608, 1978** - establishes regulations for the Natural Resources Code (Código Nacional de los Recursos Naturales y Protección del Medio Ambiente, Decreto Nº 2811 of 1974), prohibits the capture and commercialization of individuals and products of wild fauna, including the collection of eggs or neonates and the destruction or alteration of wildlife breeding areas **Resolución Nº 1032 (INDERENA), 1977** - prohibits the capture of *Eretmochelys imbricata* across all of national territory **Acuerdo Nº 021 (INDERENA), 1991** - establishes specific protection measures for all sea turtle species, as well as for nesting beaches and foraging areas **Resolución Nº 2879 (Corporación Autónoma Regional (CAR) of la Guajira (CORPOGUAJIRA)), 1995** - establishes a regional prohibition on the exploitation of sea turtles
Moratorium (fixed period)	
Exploitation is Legal: Regulations	N/A
Local possession and sales	
Total catch quotas	
Turtle size/weight restrictions	
Time/Area closures	
Provision for traditional/subsistence/indigenous possession and sale	**Ley de Pesca Nº 13 (General Fishing Law), 1990** - Article 47, stipulates that subsistence fishing, defined as that undertaken without intent to profit and for providing food for the fisherman and his family, is unrestricted throughout national territory (Córdoba *et al.* 2002).
Provision for scientific/educational/management purposes	

Environmental Law	**1966 - Resolución Nº 167 by INDERENA (now the Ministry of Environment –MMA)** - establishes gear restrictions on trawl nets in fisheries on both the Atlantic and Pacific coasts, prohibiting their use within distances less than one nautical mile from all coasts, islands and keys on national territory **1974, 1981 and 1988 - Resoluciones Nº 726 and Nº 709 (1981) and Acuerdos Nº 24 (1983) and Nº 54 (1988)** - prohibits "trawling in areas with large concentrations of sea turtles," including the Golfo de Morrosquillo, San Bernardo Archipelago, Golfo de Urabá, and Guajira coast (Bräutigam and Eckert 2006) **1978 - Decreto Nº 1608, 1978** - establishes regulations for the Natural Resources Code (Código Nacional de los Recursos Naturales y Protección del Medio Ambiente, Decreto Nº 2811 of 1974), prohibits the capture and commercialization of individuals and products of wild fauna, including the collection of eggs or neonates and destruction or alteration of wildlife breeding areas **1977 - Decreto Nº 622** - established the National Parks system, and bans fishing in areas important to turtles for nesting, foraging, or migration. These areas coincide with areas designated as national parks, such as Corales del Rosario and San Bernardo, Tayrona, Sanquianga, Gorgona, Ensenada de Utría and certain areas in San Andrés and Providencia (Seaflower Biosphere Reserve) **1977 - Resolución Nº 1032 (INDERENA)** - prohibits the capture of *Eretmochelys imbricata* across all of national territory **1991 – Acuerdo Nº 021 (INDERENA)** - establishes specific protection measures for all sea turtle species, as well as for nesting beaches and foraging areas **2000 - Ley Nº 599** - the current Penal Code (Código penal)
Management Areas (e.g. Parks, multiple use areas)	**Decreto Nº 622, 1977** - established the National Parks system, and prohibits fishing in areas important for turtles, for nesting, foraging, or migration routes. These areas coincide with areas designated as national parks. **Decreto Nº 1608, 1978** - establishes regulations for the Natural Resources Code (Código Nacional de los Recursos Naturales y Protección del Medio Ambiente, Decreto Nº 2811 of 1974), prohibits the capture and commercialization of individuals and products of wild fauna, including the collection of eggs or neonates and the destruction or alteration of wildlife breeding areas. **Seaflower Biosphere Reserve** in the San Andrés Archipelago was designated by UNESCO in 2000; encompasses ca. 300,000km² of land and sea – the islands of San Andrés, Old Providence and Santa Catalina and surrounding atolls, banks, cays, and coral reef complexes, and the waters around them; ncludes at least 2,200km² of reef environments, with 826km² of coral reefs, as well as the mangroves and seagrass beds around the major islands. **Four multiple-use MPAs** were formally designated in 2004 within the Biosphere Reserve in order to preserve particularly sensitive areas and provide the framework for sustainable use of marine resources and biodiversity conservation.

Species Identification	**Acuerdo Nº 021 (INDERENA), 1991** - establishes specific protection measures for all sea turtle species
Species research and conservation	Draft Action Plan for the Conservation of Marine Turtles of the Colombian Caribbean (2000); National Program for the Conservation of Marine and Continental Turtles of Colombia (2002); Proyecto Tortugas Marinas (2002)
Pollution controls	
Distance from nesting beaches (e.g. buffer zones)	**Acuerdo Nº 021 (INDERENA), 1991** - establishes specific protection measures for all sea turtle species, as well as for nesting beaches and foraging areas (summary translation does not specify "buffer" or "setbacks")
Distance from shore (e.g. setbacks)	**Acuerdo Nº 021 (INDERENA), 1991** - establishes specific protection measures for all sea turtle species, as well as for nesting beaches and foraging areas
Restricted recreational activities	
Time/Area closures	
EIA	
CZM Plan	
Lighting restrictions	
Trade & Commerce Law	**1981 - Ley Nº 17** - the instrument through which Colombia ratified CITES, prohibits the export and import of sea turtles and their products
Export/Import regulations	**Decreto Nº 1608, 1978** - establishes regulations for the Natural Resources Code (Código Nacional de los Recursos Naturales y Protección del Medio Ambiente, Decreto Nº 2811 of 1974), prohibits the capture and commercialization of individuals and products of wild fauna, including the collection of eggs or neonates and the destruction or alteration of wildlife breeding areas.
Human & Public Rights Law	Constitution 1991-Title I, Fundamental Principles – Article 8: Obligation of State and people to protect "cultural and natural wealth" of the Nation
Traditional/Subsistence/Indigenous practice	**Ley de Pesca Nº 13 (General Fishing Law), 1990** - Article 47, stipulates that subsistence fishing, defined as that undertaken without intent to profit and for providing food for the fisherman and his family, is unrestricted throughout national territory (Córdoba *et al.* 2002). **Party to ILO 169**
Right to "sustainable environment" (Constitution)	Obligation of State and people to protect "cultural and natural wealth" of the Nation

Colombia's legislation meeting the criteria established to implement Articles 10, 11, 13 and 14 of the SPAW Protocol are mainly focused in the fisheries and human (public) rights sectors. The nation has a complete ban on the exploitation of sea turtles and fisheries regulations that provide for the establishment of fully protected management areas, as well as gear restrictions to minimize the bycatch of sea turtles. More recently, Colombia has achieved major advances its research and conservation efforts exemplified by the establishment of the National Programme for the Conservation of Marine and Continental Turtles of Colombia (2002) and the *Proyecto Tortugas Marina* (2002), the efforts of which have resulted in the identification of priority areas for turtle nesting and foraging activity.

Colombia recognizes the segments of its society have a culture of consuming sea turtles and makes provisions for the subsistence take of these species, which enables the International Labour Organization Convention No. 169 on human rights. However, there are particular gaps in the environmental sector and in the provisional regulations. For example, Colombia has no legislation in place to regulate the allowance of subsistence take, to allow or regulate the take for scientific or management purposes, to restrict or otherwise address marine pollution, to regulate or prohibit activities that pose a threat to sea turtles, that requires environmental impact assessments (Article 13), nor a coastal zone management mandate.

The most serious threats to sea turtles in Colombia, specifically in the Colombian Caribbean, according Bräutigam and Eckert (2006), are over-exploitation in the form of legal, 'subsistence', and illegal take, and the degradation and loss of nesting and foraging habitats. Sea turtles[45] are generally taken opportunistically and are an important resource for coastal communities with few economic options. Over-exploitation may be addressed by establishing regulations on the subsistence take of sea turtles – defined as take without intent to profit and for providing food for the fisher and his family (Córdoba et al. 2002) – which is, at present, unrestricted. The definition would seem to prohibit the commercial use of sea turtle products taken in a subsistence fishery, but Ceballos (in litt. 27 February 2004 in Bräutigam and Eckert 2006) cautions "that there may be a difference of interpretation on this and that commercial use of marine turtles at the local level, such as to purchase foodstuffs for one's family, may be considered part of 'subsistence take'."

Although Colombia has designated protected areas, more than 75% of the most important sea turtle nesting beaches fall outside of these protected areas. The priority for Colombia at this point would seem to be enacting legislation to restrict and regulate Article 47 of Ley de Pesca No. 13 on subsistence take, to expand or adjust its management areas to include more nesting beaches, and to incorporate the findings of its research efforts in developing a coastal zone management scheme and environmental impact assessments mandate.

Cuba

Cuba ratified the Cartagena Convention in September 1988, and the SPAW Protocol a decade later (August 1998). At that time, Cuba enforced a closed season on harvesting sea turtles from 1 May through

[45] Sea turtle eggs and green turtles (for their meat) have been taken and sold both locally and regionally in coastal restaurants, where the market exists. Hawksbill turtles are taken for their shells.

31 July each year, regulated the number of boats involved, and established catch quotas for each species during the open season. Cuba also had a ban on the collection of sea turtle eggs and hatchlings along with the disturbance of nesting females and the destruction of nests, and had adopted legislation to restrict activities of the general public, including the taking of sea turtles, and unauthorized sports and recreational fishing in Doce Leguas Keys (Fleming 2001). All of Cuba's fisheries are open only to cooperative fisheries centers, managed by the Ministry of Fishing Industries (MIP). Four MIP boards[46] and a Consultative Commission are responsible for the development and updating of regulations regarding sea turtles. The Ministry of Science, Technology and the Environment is the nation's CITES Management Authority.

The four species of sea turtles that occur in Cuba are *Caretta caretta*, *Chelonia mydas*, *Eretmochelys imbricata*, and, less commonly, *Dermochelys coriacea* (see Appendix I).

[46] Centro Investigaciónes Pesqueras (CIP – Center for Fisheries Research) is responsible for fisheries research and recommends regulations to MIP. Dirección de Regulatciónes Pesqueras (DRP – Directorate of Fisheries Regulation) provides advice on MIP regulations and policies. Dirección Ramal de Impresas Extractivas (Branch Directorate of Fishing Enterprises) oversees the government fisheries centers and harvest plans. Oficina Nacional Inspecciónes Pesqueras (ONIP – National Office for Fishing Inspections) monitors compliance with fisheries regulations.

Table 7. An evaluation of sector-specific legislation to enable implementation of the SPAW Protocol and its mandate to protect sea turtles in Cuba.

LEGISLATIVE SECTOR	ENABLING LEGISLATION
Fisheries Law	*Former laws adapted into current legislation:* **1936 Decree-Law No. 704, General Law of Fisheries** – established a closed season on taking sea turtles during their reproductive period **1956 Decree-Law No. 2724** – regulations for the use of marine resources, including turtles **1982 Decree No. 103** – prohibits the take of sea turtles by noncommercial interests (exceptions made for state organizations and cooperatives), as well as the possession or capture of females on nesting beaches, destruction of nests and juveniles, and collection, commercialization, and consumption of turtle eggs. Collection and keeping of sea turtles for research require permits issued by the MIP's Fisheries Regulation Directorate. **1983 MIP Resolution 109** – set minimum size of 50-cm straight carapace length and requires the release of undersized turtles *Currently in force:* **1961 MIP Resolutions 16-VI –** prohibits the taking and consumption of marine turtle eggs and the disturbance of nesting females **1977 MIP Resolution 317** - establish total bans on the collection of sea turtle eggs, hatchlings, and the destruction of nests **1994 - MIP Resolution 298** - establishes a permanent closed season for harvesting sea turtles **1994 & 1995 - MIP Resolutions 300 and 3** - establish regulations for harvesting hawksbill, green, and loggerhead turtles at Cocodrilo, the traditional harvest site on the Isle of Pines (Isla de la Juventud), and four sites at Nuevitias (Los Pinos, Cayo Guajaba, Cayo Romano, and Punta de Ganado) **1996 - Decree Law 164** - consolidates the provisions of Decree Law 704 (1936), Decree No. 2724 (1956), and Decree No. 103 (1982) with updated fisheries legislation, the creation of an advisory commission for fisheries, and strengthening restrictions on the taking of all species of sea turtles and their eggs by unauthorized persons by establishing severe penalties for those violators (fines, gear and boat confiscation, suspension of licenses) **1996 - MIP Resolution 561 -** establishes a minimum turtle size of 65 SCL. Any live turtles under this size must be released; dead turtles may be used **1996 MIP Resolution 562** – Doce Leguas Keys, important hawksbill nesting areas, declared as special use and protected areas. Made commercial fishing in the area subject to consent by the Directorate of Fishing Regulations and prohibited sport and recreational fishing, unless authorized by permit. **1997 - MIP Resolution 83** - establishes a closed season from 1 May through 31 July, and the number of boats and catch quotas for each species. Numbers are allocated to specific harvest sites based on previous capture data. The fishery is closed once the targets are met.
Fishery management areas (e.g. no-take zones, multiple use areas)	**1994 & 1995 - MIP Resolutions 300 and 3** - establish regulations for the traditional harvest site on the Isle of Pines (Isla de la Juventud), and four sites at Nuevitias (Los Pinos, Cayo Guajaba, Cayo Romano, and Punta de Ganado) **1996 MIP Resolution 562** – Doce Leguas Keys, important

	hawksbill nesting areas, declared as special use and protected areas. Made commercial fishing in the area subject to consent by the Directorate of Fishing Regulations and prohibited sport and recreational fishing, unless authorized by permit.
Fishing gear regulations to address sea turtle bycatch	
Exploitation Prohibited	
Complete Protection (indefinite)	
Moratorium (fixed period)	
Exploitation is Legal: Regulations	**1961 MIP Resolutions 16-VI –** prohibits the taking and consumption of marine turtle eggs and the disturbance of nesting females **1977 MIP Resolution 317** - establish total bans on the collection of sea turtle eggs, hatchlings, and the destruction of nests
Local possession and sales	
Total catch quotas	**1997 - MIP Resolution 83** - establishes the number of boats and catch quotas for each species. Quotas in 2000: 500 hawksbills, 280 green, 90 loggerhead
Turtle size/weight restrictions	**1996 - MIP Resolution 561 -** establishes a minimum turtle size of 65 SCL
Time/Area closures	**1994 - MIP Resolution 298** - establishes a permanent closed season for harvesting sea turtles **1997 - MIP Resolution 83** - establishes a closed season from 1 May through 31 July
Provision for traditional/subsistence/indigenous possession and sale	
Provision for scientific/educational/management purposes	

Environmental Law	
Management Areas (e.g. Parks, multiple use areas)	**National System of Protected Areas (El Sistema Nacional de Areas Protegidas):** 14 national parks, 22 ecological reserves, 4 biosphere reserves. **1987** Guanahacabibes Peninsula; 1,015 sq. km.; nesting habitat for green and loggerhead turtles; declared UNESCO Biosphere Reserve **Other marine reserves:** Cabo Cruz, Cayo Largo del Sur, Punta Frences, Cabo de San Antonio, Cienaga de Zapata
Species Identification	**1994 & 1995 - MIP Resolutions 300 and 3** - establish regulations for harvesting hawksbill, green, and loggerhead turtles **1997 - MIP Resolution 83** - establishes the number of boats and catch quotas for each species. Quotas in 2000: 500 hawksbills, 280 green, 90 loggerhead
Species research and conservation	Green DNA (1995-present); Hawksbill DNA (1995-present); Hawksbill growth (1991-present). Hawksbill aging (1994-present); Hawksbill, green, and loggerhead migration (1989-present); Hawksbill, green, and loggerhead nesting surveys (1996-present); Green nesting surveys (1982-present, 1996-present, 1981-present); Loggerhead nesting surveys (1982-present); Hawksbill nesting surveys (1982-present, 1988-present); Hawksbill and green turtle ranching (1968-present); Loggerhead nesting surveys (1982-present); Hawksbill nesting surveys (1982-present, 1988-present); Hawksbill and green turtle ranching (1968-present); Fisheries studies for hawksbill, green and loggerhead turtles (1980-present); Nutritional aspects/artificial diet of hawksbills (1990-present); Chemical studies of hawksbill shell (1994-present); Sexual maturation of hawksbills (1992-present) (Fleming 2001).
Pollution controls	
Distance from nesting beaches (e.g. buffer zones)	
Distance from shore (e.g. setbacks)	
Restricted recreational activities	1973 – prohibited the taking of sea turtles by the general public **1996 MIP Resolution 562** – prohibits sport and recreational fishing in Doce Leguas Keys, unless authorized by permit.
Time/Area closures	
EIA	
CZM Plan	
Lighting restrictions	
Trade & Commerce Law	CITES entered into force in 1990
Export/Import regulations	Reservations for hawksbill and green turtles **1996 Ministry of Science, Technology and Environment Resolution 87** – regulations to comply with CITES obligations
Human & Public Rights Law	
Traditional/Subsistence/Indigenous practice	
Right to “sustainable environment” (Constitution)	

Cuba has a number of restrictions in place that would appear to implement a number of the mandates of Articles 10 and 13, specifically through the establishment of fisheries management and protected areas. The law prohibits the take of eggs and hatchlings, regulates the size, season and number of sea turtles harvested, and establishes an annual closed season during most of the nesting season.

Cuba exhibited significant research initiatives that began in the 1980s and early 1990s, the majority of which are currently ongoing[47]. Particularly notable is a three-year project the Center for Marine Research at the University of Havana began in 1998 in the Guanahacabibes Peninsula Biosphere Reserve with the aim to generate student interest in conserving sea turtles and their habitats (Fleming 2001). Still, gaps exist primarily in Cuba's legislation to enable Articles 10 and 11 of the SPAW Protocol. Cuba maintains a legal sea turtle fishery and does not have environmental regulations in place to control coastal or marine pollution, to restrict activities (potentially harmful to sea turtles) beyond fishing, to require environmental impact assessments, or to establish a coastal zone management scheme. MIP Resolution 561 of 1996 establishes a minimum sea turtle size (which does not reflect best management science for long-lived species) and allows for the use of dead turtles that are incidentally caught. Both of these loopholes compromise the nation's ability to implement the SPAW Protocol, and because a market for turtle products and meat already exists, the latter provision may offer incentives for the continued bycatch of the species rather than motivation to utilize alternative fishing methods that might reduce incidental catch.

Major threats to sea turtles according to Fleming (2001) are the incidental catch and illegal harvest, such as the take of eggs in the Guanahacabibes Peninsula Biosphere Reserve. Hatchlings are also particularly threatened during natural weather phenomena and predators, such as feral dogs. These threats may be addressed by the development of fishing gear regulations, particularly that requires the use of TEDs, and of environmental regulations that restrict recreational activities including pedestrian and animal access. SPAW Articles 10 and 11 specifically call for a prohibition on the take of species of fauna listed in Annex II of the Protocol. As such, a priority for Cuba at this point would be to establish a ban on the take of sea turtles and to consider managed provisions for subsistence and scientific purposes allowed under Article 14. Further, increased research activities may help to increase Cuba's understanding of sea turtle activity within its jurisdiction, as well as the degree to which a regulated fishery could be sustainable.

Dominican Republic

The Dominican Republic ratified the Cartagena Convention in November 1998, and the SPAW Protocol in November 1998. At the time of ratification, the Dominican Republic had legislation in place that prohibited the use of hawksbill shell products in cockfighting events and a five-year (1996-2001) ban on the capture, killing, collection, and commerce of green, hawksbill, loggerhead, and leatherback turtles,

[47] Sexual maturation of greens (1989-1992), and loggerheads (1989-1992); Hawksbill shell polymorphism (1980); Green nesting surveys (June-August 1998-2000, 1968-1972); Hawksbill stomach contents (1992-1998); Loggerhead stomach contents (1978-1980).

their eggs, and parts thereof (Fleming 2001). This ban had provisions to allow the "collection and artisanal workmanship" of sea turtles found to have died of "natural causes" on a permit basis (Fleming 2001). Since the ban ended in 2001, the laws that previously applied to sea turtles are back in effect; i.e. fishing regulations that include minimum size restrictions, and the protection of eggs against capture or possession, as well as special protections to hawksbill turtles.

Since ratifying the SPAW Protocol, the country has created a Ministry of the Environment and Natural Resources (*Secretaria de Medio Ambiente y Recursos Naturales*) and restructured the regulatory framework governing wildlife conservation, use, and trade. Since 2000, with the new framework for environment and natural resources, enforcement is under the control of the Ministry of the Environment and Natural Resources. The Department of Coastal Marine Conservation (*Departmento de Conservacion Costero Marina*) is responsible for the conservation and management of sea turtles (Fleming 2001).

The four species of sea turtles that occur in the Dominican Republic are *Chelonia mydas, Dermochelys coriacea, Eretmochelys imbricata,* and, less commonly, *Caretta caretta* (see Appendix I).

Table 8. An evaluation of sector-specific legislation to enable implementation of the SPAW Protocol and its mandate to protect sea turtles in the Dominican Republic.

LEGISLATIVE SECTOR	ENABLING LEGISLATION
Fisheries Law	**1962 - Fisheries Law, Ley de Pesca No. 5914,m Article 6h -** prohibits the capture or killing of any sea turtle on a beach (nesting or preparing to nest) **1975 Decree No. 600** – prohibits the capture of any sea turtle with a carapace length less than 50cm within territorial waters **1977 Decree No. 1580** – prohibits the collection and sale of turtle eggs at all times; prohibits the capture or possession of hawksbill turtles during the month of May, July, September, and October; requires a permit to export turtle products **1996 - Decree No. 34-96, Article 1 -** establishes a five-year ban from 1996-2001 on the capture, killing, collection, and commerce of green, hawksbill, loggerhead, and leatherback turtles, their eggs, and parts. **Article 2** allows the collection and artisanal workmanship of sea turtles found to have died of natural causes, when a permit that verifies that the animal dies of natural causes is obtained from an inspector or representative of the Department of Fisheries Resources or Department of Wildlife, which are authorized in Article 3 to proceed with undertaking inventories in handicraft or commercial establishments using or selling parts of sea turtles
Fishery management areas (e.g. no-take zones, multiple use areas)	
Fishing gear regulations to address sea turtle bycatch	
Exploitation Prohibited	
Complete Protection (indefinite)	

Moratorium (fixed period)	**1996 - Decree No. 34-96, Article 1 -** establishes a five-year ban from 1996-2001 on the capture, killing, collection, and commerce of green, hawksbill, loggerhead, and leatherback turtles, their eggs, and parts.
Exploitation is Legal: Regulations	
Local possession and sales	**1977 Decree No. 1580** – prohibits the collection and sale of turtle eggs at all times; prohibits the capture or possession of hawksbill turtles during the months of May, July, September, and October; requires a permit to export turtle products
Total catch quotas	
Turtle size/weight restrictions	**1975 Decree No. 600** – prohibits the capture of any sea turtle with a carapace length less than 50cm within territorial waters
Time/Area closures	
Provision for traditional/subsistence/indigenous possession and sale	**1996 - Decree No. 34-96, Article 2** allows the collection and artisanal workmanship of sea turtles found to have died of natural causes, when a permit that verifies that the animal dies of natural causes is obtained from an inspector or representative of the Department of Fisheries Resources or Department of Wildlife, which are authorized in Article 3 to proceed with undertaking inventories in handicraft or commercial establishments using or selling parts of sea turtles
Provision for scientific/educational/management purposes	

Environmental Law	**1974 Parks Law No. 67, Article 13**- prohibits the taking of sea turtle eggs in protected areas **2000 - Framework Law for Environment and Natural Resources, Law No. 64-00 -** creates a new Ministry of Environment and Natural Resources (Secretaria de Medio Ambiente y Recursos Naturales) and overhauled the regulatory framework governing wildlife conservation, use, and trade. Authorities responsible for implementing this law are in the process of settling in to new agencies and developing implementing regulations (Fleming 2001)
Management Areas (e.g. Parks, multiple use areas)	9 coastal parks – "some provide nesting and foraging habitat for sea turtles" **East National Park** (Parque Nacional del Este) provides nesting areas for the four species **Jaragua National Park** – guards are trained to patrol beaches, count turtles and protect nests (Fleming 2001)
Species Identification	
Species research and conservation	Foraging ecology of juvenile hawksbill turtles (1996-present); Ecological aspects and population structure of hawksbill turtles (1995-present) (Fleming 2001)
Pollution controls	
Distance from nesting beaches (e.g. buffer zones)	
Distance from shore (e.g. setbacks)	
Restricted recreational activities	
Time/Area closures	
EIA	
CZM Plan	
Lighting restrictions	
Trade & Commerce Law	**1967 Law No. 95** – prohibits the export of whole or unworked hawksbill turtle shell **1977 Decree No. 1580** – prohibits the collection and sale of turtle eggs at all times; prohibits the capture or possession of hawksbill turtles during the month of May, July, September, and October; requires a permit to export turtle products **1997 - Resolution No. 2-97 –** entered into effect after the 1996-1997 cockfighting season and prohibits the use of cockfighting spurs (*espuelas*) made of hawksbill shell. Judges, owners, renters, and managers of cockfighting rings or clubs are responsible, according to Article 3, for implementing the resolution and its provisions and must inform the National Commission of Rooster Breeders in the event of any violation **2000 - Framework Law for Environment and Natural Resources, Law No. 64-00 -** creates a new Ministry of Environment and Natural Resources (Secretaria de Medio Ambiente y Recursos Naturales) and overhauled the regulatory framework governing wildlife conservation, use, and trade. Authorities responsible for implementing this law are in the process of settling in to new agencies and developing implementing regulations (Fleming 2001)
Export/Import regulations	**1977 Decree No. 1580** – requires a permit to export turtle products
Human & Public Rights Law	
Traditional/Subsistence/Indigenous practice	
Right to "sustainable environment" (Constitution)	

The Dominican Republic's legislation has provisions in it for the establishment of fisheries and habitat management areas, which meets a number of the criteria for enabling Articles 10 and 11 of the protocol. During the five-year moratorium on the exploitation of sea turtles, the Dominican Republic made provisions for the traditional take of sea turtles. Since the expiration of this moratorium, the nation has reinforced minimum turtle size regulations in place, a ban on the take of sea turtle eggs and seasonal restrictions for the harvest of hawksbill turtles. Gaps in the nation's legislation are specific to Articles 11 and 13. The Dominican Republic currently maintains a legal sea turtle fishery and does not have regulations in place for pollution controls, restrictions on recreational activities, or to mandate environmental impact assessments or coastal zone management. Further, the nation is encouraged to increase its research activities in order to increase its understanding of sea turtle activity within its jurisdiction, which would better inform conservation measures going forward.

According to Fleming 2001 there is still market for the widespread use of various sea turtle parts and products and major threats to sea turtles in the Dominican Republic[48] are the incidental catch of sea turtles in seine and gill nets and the opportunistic take of nesting females and their eggs. These threats may be addressed by the development of fishing gear regulations, particularly that bans or mandates mesh size restrictions for seine and gill nets and that requires the use of TEDs. SPAW Article 11 specifically calls for a prohibition on the take of species of fauna listed in Annex II of the Protocol. As such, a priority for the Dominican Republic at this point would be to establish a complete ban on the take of sea turtles and to consider provisions for subsistence and scientific purposes.

France

France ratified the Cartagena Convention in November 1985. At the time of ratification of the SPAW Protocol (April 2002), France had legislation in place that provided for the protection of flora and fauna, the regulation of hunting and fishing in freshwater, and the protection of natural spaces and of coastal ecosystems. Both Guadeloupe (consisting of the island territories Guadeloupe, St. Barthélemy, and St. Martin) and Martinique had legislation in place that provides complete protection of sea turtles, their parts and products, from exploitation. Since ratification, the ongoing research and conservation efforts of Guadeloupe and Martinique led to the development of a marine turtle recovery plan for the French Antilles (*Plan de restauration des tortues marines des Antilles Françaises*) intended to begin implementation in 2005. Implementation and enforcement of laws in the French West Indies is under the

[48] Fleming 2001 states, "Historically abundant populations of sea turtles in the Dominican Republic have been reduced to a remnant of their former size…no concentrated nesting occurs today."

authority of a number of government agencies, including the police, Customs and the *Office National de la Chasse et de la Faune Souvage* (ONCFS – National Office for Hunting and Wildlife) of the *Direction Régionale de l'Environnement* (DIREN – Regional Directorate for the Environment). In some areas, Guards in nature reserves and staff at the *Office National des Forêts* (Office of National Forests) also have enforcement authority.

Five species of sea turtles occur among the nations of Guadeloupe. They are the foraging *Chelonia mydas* and *Eretmochelys imbricata*. *Caretta caretta* and *Dermochelys coriacea* also forage but are less frequently observed, while *Lepidochelys olivacea* is seen only rarely. Four sea turtle species nest in Martinique: *Caretta caretta, Chelonia mydas, Dermochelys coriacea,* and *Eretmochelys imbricata* (see Appendix I).

Table 9. An evaluation of sector-specific legislation to enable implementation of the SPAW Protocol and its mandate to protect sea turtles in the French West Indies territories of Guadeloupe and Martinique.

LEGISLATIVE SECTOR	ENABLING LEGISLATION
Fisheries Law	**GUADELOUPE** **1960 - l'Arrêté préfectoral No. 60-2067 -** prohibits the collection and sale of turtle eggs and the capture and sale of females turtles during an annual four-month closed season from 5 May to 15 September **1979 - l'Arrêté préfectoral no. 79-6 AD/3/3 portant réglementation de l'exercice de la pêche maritime cotière dans les eaux du département de la Guadeloupe -** prohibits the capture or collection, sale, purchase, import/export, transport, and use of eggs of all species of sea turtle, the leatherback *Dermochelys coriacea,* green *Chelonia mydas* and hawksbill *Eretmochelys imbricata* turtles less than 60cm in carapace length. The law also establishes a four-month closed season on the take of hawksbill and green turtles of all sizes from 15 May to 15 September. A modification adopted on 17 August 1983 extended the closed season to six months, from 15 April to 15 October. **MARTINIQUE** **1983 - l'Arrêté Préfectoral Martinique (No. 496/PMc) portant réglementation de l'exercice de la pêche cotière dans les eaux du département de la Martinique et de la protection des tortues marines -** establishes a prohibition to take, sell, purchase, consume, or use of any turtle eggs, leatherback turtles, green turtles, any sea turtle smaller than 60cm in length during the open season. Also establishes a prohibition to take, sell, purchase, consume, or use of any turtle eggs, leatherback turtles, green turtles, any sea turtle smaller than 60cm in length during the open season, or any other sea turtle of any size during a closed season from 15 April to 15 October
Fishery management areas (e.g. no-take zones, multiple use areas)	
Fishing gear regulations to address sea turtle bycatch	

Exploitation Prohibited	
Complete Protection (indefinite)	**Guadeloupe 1991, Martinique 1993 - l'Arrêté fixant la liste des tortues marines protégées dans le département de la Guadeloupe -** prohibits at all times the destruction or collection of turtle eggs and nests, the mutilation, destruction, capture or take, taxidermy, transport, transformation, use, sale, or purchase of either live or dead sea turtles or specimens thereof of all six Caribbean species
Moratorium (fixed period)	
Exploitation is Legal: Regulations	N/A
Local possession and sales	
Total catch quotas	
Turtle size/weight restrictions	
Time/Area closures	
Provision for traditional/subsistence/indigenous possession and sale	
Provision for scientific/educational/management purposes	

Environmental Law	**1976 - Nature Protection Law, Loi sur la protection de la nature -** provides for the protection of flora and fauna, regulation of hunting and fishing in freshwater, and the protection of natural spaces (national parks and nature reserves) **1986 - Coastal Zone Law, Loi littoral -** provides for the protection and management of coastal ecosystems **Guadeloupe** **1991 - l'Arrêté fixant la liste des tortues marines protégées dans le département de la Guadeloupe -** prohibits at all times the destruction or collection of turtle eggs and nests, the mutilation, destruction, capture or take, taxidermy, transport, transformation, use, sale, or purchase of either live or dead sea turtles or specimens thereof of all six Caribbean species **Martinique** **1993 - L'Arrêté fixant la liste des tortues marines protégées dans le département de la Martinique -** prohibits at all times the destruction or taking of eggs or nests, mutilation, destruction, capture or take, taxidermy, transport, transformation, utilization, offer for sale, sale, or purchase of either live or dead turtles or specimens thereof, of all six Caribbean sea turtle species
Management Areas (e.g. Parks, multiple use areas)	**Guadeloupe** Four designated nature reserves – Petite Terre, Grand Cul de Sac Marin, St. Martin and St. Barthélémy (J. Chevalier, in litt. 27 August 2004, in Bräutigam and Eckert 2006) – include marine turtle nesting beaches and, along with a fifth in progress, incorporate an important extent of marine habitat Ramsar site and biosphere reserve Ilet Pigeon in Côte-sous-le-Vent – a no-take marine reserve **Martinique** Numerous sites of interest to marine turtles have been protected to different degrees, including no-take zones, beaches designated as nature reserves and purchased by coastal conservators or managed by the Office National des Forêts.(Bräutigam and Eckert 2006). No MPAs have been established.
Species Identification	**Guadeloupe** **1979 - l'Arrêté préfectoral no. 79-6 AD/3/3 portant réglementation de l'exercice de la pêche maritime cotière dans les eaux du département de la Guadeloupe -** prohibits the capture or collection, sale, purchase, import/export, transport, and use of eggs of all species of sea turtle, the leatherback *Dermochelys coriacea,* green *Chelonia mydas* and hawksbill *Eretmochelys imbricata* turtles less than 60cm in carapace length.
Species research and conservation	**2005** – Recovery Action Plan implementation begins. An important component of this plan, especially important for Martinique, is the development of scientific protocols for population monitoring, designation of Index beaches, and implementation of systematic population monitoring so as to establish and monitor population trends and confirm the effectiveness of existing and proposed management measures. **Guadeloupe** **1998** Sea turtle conservation program

	Martinique **1994-1997** Sea turtle conservation program **2002-present** SEPANMAR[49] NGO
Pollution controls	
Distance from nesting beaches (e.g. buffer zones)	
Distance from shore (e.g. setbacks)	
Restricted recreational activities	
Time/Area closures	
EIA	
CZM Plan	**1986 - Coastal Zone Law, Loi littoral -** provides for the protection and management of coastal ecosystems
Lighting restrictions	
Trade & Commerce Law	**Guadeloupe** **1979 - l'Arrêté préfectoral no. 79-6 AD/3/3 portant réglementation de l'exercice de la pêche maritime cotière dans les eaux du département de la Guadeloupe -** prohibits the capture or collection, sale, purchase, import/export, transport, and use of eggs of all species of sea turtle, the leatherback *Dermochelys coriacea,* green *Chelonia mydas* and hawksbill *Eretmochelys imbricata* turtles less than 60cm in carapace length.
Export/Import regulations	
Human & Public Rights Law	
Traditional/Subsistence/Indigenous practice	
Right to "sustainable environment" (Constitution)	

The French overseas territories in the Caribbean have developed a recovery plan for sea turtles of the French Antilles, which is expected to begin implementation in 2005 (Chevalier 2003). This plan states that virtually all of the marine turtles of Guadeloupe and Martinique are likely to spend either the major part of their life or the crucial reproductive period of their life outside of French territory, where they may be subject to quite different threats. As such, the Plan suggests that if the French Antilles are considered a region of highest mortalities during the 1970s and 80s, it is possible that the major factors limiting the recovery of these animals in the area are now localized elsewhere, such as in those countries where exploitation of these species is still permitted (Chevalier 2003 in Bräutigam and Eckert 2006).

Guadeloupe, including St. Barthélemy and St. Martin

The French overseas department of Guadeloupe has legislation in place to implement Article 10 and selected mandates of Article 11; i.e. a complete ban on the exploitation of sea turtles and provisions for habitat management areas. Fully protected and multiple use conservation areas that have been established do include some areas that are important to sea turtles. Despite these actions, the department's legislation does not fully enable Articles 11, 13 and 14. For example, Guadeloupe does not have legislation that

[49] *Société pour l'Etude, la Protection et l'Amémagement de La Nature à la Martinique* (SEPANMAR—Society for the Study, Protection and Managment of Nature in Martinique)

establishes fisheries management areas and gear restrictions, and does not require environmental impact assessments or coastal zone management, address pollution control, or restrict or regulate a wide range of activities that pose harm to sea turtles (see Table 9). With regard to the measures provided in Article 14, the islands of Guadeloupe do not have provisions for scientific or subsistence and traditional take of sea turtles. Though the French Antilles has a cultural history of using sea turtles, it appears as though the islands of Guadeloupe have decided not to allow traditional take of sea turtles.

Bräutigam and Eckert in 2006 describe the major threats impacting sea turtles in the archipelago are incidental capture and poaching[50] on beaches as well as the destruction of nesting and foraging habitat. These threats may be addressed through the research and conservation efforts of the government, non-governmental organizations and other interested parties, which have determined important new information on marine turtle nesting sites, leading to the draft marine turtle recovery plan for the French Antilles. This plan was primarily created under the collaborative efforts of the Regional Directorate for the Environment, Association for the Study and Protection of Vertebrates of the Lesser Antilles and Kap Natirel and is expected to begin implementation in 2005.

The priority for the Guadeloupe territories at this point would be to establish gear restrictions, specifically to address the incidental take of sea turtles, to establish mechanisms to protect important sea turtle habitat through protected (and/or other managed) areas, and coastal zone management regulations that more effectively safeguard the coastal zone.

Martinique

Martinique has a complete ban on the exploitation of sea turtles and has established fully protected and multiple use areas that include habitat important to sea turtles, provisions that meet the fundamental criteria to implement Articles 10 and 11. Though it does not have fisheries management areas, Bräutigam and Eckert (2006) state that season and area regulations are proving successful in reducing the incidental take of sea turtles. Martinique does not have legislation that requires environmental impact assessments or coastal zone management, or that addresses pollution control or the restriction or regulation of activities that pose a threat to sea turtles and their habitats. Such provisions are essential to more fully enable Article 11 and to implement Article 13. Despite some degree of historical use[51], Martinique does not make provision for subsistence or traditional use under Article 14.

[50] Though reduced, poaching of eggs, nesting females, juveniles and adults at sea is still a significant problem, according to Brautigam and Eckert 2005. This illegal exploitation appears to be for local consumption of meat and eggs, while illegal trade seems "very limited to meat and virtually non-existent for eggs".

[51] Though the tradition to consume turtles is still maintained in some rural communities and among certain fishermen, Brautigam and Eckert (2005) state that consumption is considered to have reduced significantly among younger generations and in urbanized areas.

Bräutigam and Eckert (2006) report that the major threats facing marine turtles in Martinique are incidental mortality as bycatch, illegal exploitation, and the degradation of habitat. Some of these threats are addressed in the sea turtle recovery plan for the French Antilles, specifically in that it develops scientific protocols for population monitoring, designation of Index beaches and implementation of systematic measures to assess the effectiveness of existing and proposed management efforts.

The priority for Martinique at this point would be to establish gear restrictions, specifically to address the incidental take of sea turtles, and to establish mechanisms to protect important sea turtle habitat through protected areas and coastal zone management regulations.

Kingdom of the Netherlands

The Kingdom of the Netherlands ratified the Cartagena Convention in April 1984 for the Netherlands Antilles (Bonaire, Curaçao, Saba, St. Maarten, and St. Eustatius) and in January 1986 for Aruba, and the SPAW Protocol in March 1992. At the time of its ratification to the SPAW Protocol, the islands had legislation in place to protect sea turtles year-round and had developed comprehensive national Sea Turtle Recovery Action Plans (Aruba: Barmes et al. 1993; Netherlands Antilles: Sybesma 1992). Aruba also had a number of restrictions on fishing gear and provisions for the Minister to set closed season and minimum size standards for its fisheries. Since ratification, both Aruba and the Netherlands Antilles have developed a Nature Conservation Ordinance and a Marine Conservation Ordinance. Netherlands Antilles legislation also implements provisions for other international treaties to which it is a Party.

In Aruba, LVV (within the Ministry of Labour, Culture and Sports) is the primary authority for conservation and management of sea turtles and also manages protected areas in partnership with FANAPA (Aruba Foundation for Nature and Parks) and StimAruba, two local non-governmental organizations (Bräutigam and Eckert 2006). In the Netherlands Antilles, individual island governments are responsible for managing sea turtles. Local police and authorized individuals, such as managers and rangers associated with marine parks in Bonaire, Curaçao, and Saba), enforce relevant regulations.

All six species of sea turtles that are found in the Wider Caribbean Region inhabit the territorial seas of Aruba and the Netherlands Antilles; namely, *Caretta caretta*, *Chelonia mydas*, *Eretmochelys imbricata*, *Dermochelys coriacea*, *Lepidochelys kempii*, and *L. olivacea* (see Appendix I).

Table 10. An evaluation of sector-specific legislation to enable implementation of the SPAW Protocol and its mandate to protect sea turtles in the Netherlands Antilles and Aruba.

LEGISLATIVE SECTOR	Enabling Legislation
Fisheries Law	**Aruba:** **1990 Fisheries Ordinance** – Article 2 prohibits, for vessels with more than four fishing rods or lines, supplied with more than three hooks each, fishing, or having fishing tackle ready for use in the territorial waters, situated beyond the first forty metre isobath and in the fishing zone without a permit. Article 4 makes provision for a closed season and minimum fish size, which may differ for different kinds of fish, to be determined by the Minister by ministerial regulation **Netherlands Antilles:** **1991 National Fisheries Ordinance** – prohibits fishing in the territorial sea and in the fisheries zone without a permit (Art. 2, para 1) **1992 National Fisheries Decree** (implementing National Fisheries Ordinance 1991) – prohibits fishing of sea turtles, establishes gear restrictions and fees for certain fishing activities/gear **Saba** **1996 Fisheries Resolution** – implements the Island Fisheries Ordinance, modeled on the National Fisheries Ordinance and Decree, and its regulations regarding: a) permitted fishing gear; b) the fish that are allowed to be caught as well as the regulations established in the National Fisheries Resolution regarding the information that permit holders must record and the manner in which this should be done. Prohibits fishing in the territorial sea with a boat of less than 6 gross registered tons or with a length less than 12m without a permit from the Executive Committee, which can grant an exemptions a) for the purpose of scientific research under the condition that results are made available to the Island Territory of Saba and the Netherlands Antilles; and b) so that fishing competitions can be held (Art. 2)
Fishery management areas (e.g. no-take zones, multiple use areas)	**Saba**: Marine Park conservation and sustainable use zones **Sint Eustatius**: Jenkins Bay, and Gallows Bay **Sint Maarten**: Marine Park Conservation Zones
Fishing gear regulations to address sea turtle bycatch	**Netherlands Antilles:** **National Fisheries Ordinance 1992** – fishers are forbidden to use dredge nets; fish traps with a mesh size less than 38mm; fish traps not fitted with an escape opening, covered by a panel made of biologically degradable material, which disintegrates after use so that, after 20 days, an opening of at least 15cm by 15cm is created in one side of the fish traps; chemical substances with the exception of Quinaldine used in catching aquarium fish; explosive substances; bait composed of the flesh of marine mammals; gill nets longer than 2.5km. (Article 2)

	Bonaire - Marine Environment Ordinance (Verordening Marien Milieu A.B. 1991 Nr. 8) – Article 10 states that it is prohibited to have one of more spearguns or to hunt or catch marine animals using a hand spear in the Marine Park. Also prohibits: the possession, sale, take, delivery or transport of marine animals that have been caught using a speargun or hand spear; the transport of spearguns across public ground or open water; the sale of spearguns or parts thereof also to advertise their sale or to have them in a shop or room adjacent to a shop. Spearguns are defined as Article 11 prohibits the use of fish traps to collect marine animals in areas designated by EBHAM, or that o not conform to rules established by EBHAM, or to use more than EBHAM permits. Article 12 prohibits the use of nets where the mesh of the upper 2/5ths of the net is smaller than 3cm or the rest is smaller than 2cm, or the use of nets under the piers in Krelandijk or within 20m of the outside edge of those piers. **Sint Eustatius** **Marine Environment Regulation Sint Eustatius (Marien Milieu verordening Sint Eustatius AB 1996/03)** prohibits spearfishing in the park, defined as "the hunting or killing of marine animals using spears, harpoons and spear guns, either mechanically are pneumatically powered, and including spear guns which would fall under the law on firearms" (Art. 1).
Exploitation Prohibited	
Complete Protection (indefinite)	**Aruba** **1980 – Marien Milieuverordening Aruba (Marine Environment Ordinance) AB 1980, No. 18 & 1987 - Decree No. 51** – it is prohibited to kill all species of sea turtle the occur in Aruba's jurisdiction **Netherlands Antilles** **National Fisheries Ordinance 1992** (Art. 3) – it is forbidden to fish for all species of turtle in the fisheries zone and in the territorial sea, if at all permitted to fish in this zone (vessels over 12m). **National Nature Ordinance 1996 and adapted 2001** – Art. 8 prohibits any activities such as listed under Art. 11.1.b of the SPAW protocol (i.e. taking, possession, killing (including incidental) and commercial trade with regards to animals listed on Annex II of the SPAW protocol (i.e. sea turtles), including their eggs, parts or products.) **Bonaire** **Marine Environment Ordinance, 1991 (Verordening Marien Milieu A.B. 1991 Nr. 8)** – Article 14: it is prohibited to take, destroy, disturb, possess, sell, transport, purchase, trade, deliver, or offer as a gift, the eggs or nests of sea turtles or turtle meat or other turtle byproducts; prohibited to kill, catch or possess sea

	turtles. Turtles include *Chelonia mydas, Caretta Caretta, Eretmochelys imbricata, Dermochelys coriacea,* and *Lepidochelys kempii*. This prohibition may only be lifted for a maximum period of 1 year under the condition that the turtle populations can be sustained. EBHAM will determine this allowance and relate regulations including gear used, the species to target, season, quota and maximum and minimums sizes for catches. **Curaçao** **Island Decree including sea turtles under the Reef Management Ordinance, 1998 (Rifbeheersverordening Curaçao A.B. 1976, no. 48.) –** Art. 3.1: It is prohibited to kill, to possess live or dead, to trade, exchange, deliver, transport, or process sea turtles **Sint Maarten** **Sint Maarten Island Nature Ordinance –** implements National Nature Ordinance
Moratorium (fixed period)	
Exploitation is Legal: Regulations	N/A
Local possession and sales	
Total catch quotas	
Turtle size/weight restrictions	
Time/Area closures	
Provision for traditional/subsistence/indigenous possession and sale	
Provision for scientific/educational/management purposes	**Netherlands Antilles:** **Saba** **1996 Fisheries Ordinance** –Prohibits fishing in the territorial sea with a boat of less than 6 gross registeres tons or with a length less than 12m without a permit from the Executive Committee, which can grant an exemptions for the purpose of scientific research under the condition that results are made available to the Island Territory of Saba and the Netherlands Antilles (Art. 2)

Environmental Law	**Aruba:** **1980 – Marien Milieuverordening Aruba (Marine Environment Ordinance) AB 1980, No. 18** – Article IV prohibits the disturbance of marine turtle nests, the removal, destruction, possession, delivery, transport, purchase or sale of marine turtle eggs. Article V stipulates that it is prohibited to kill animals and/or plants from the waters of Aruba if such animals and/or plants are listed by subsequent decree. It is prohibited to sell, purchase, work (as in fashioning earrings from tortoiseshell), deliver, import, export, or possess such animals and/or their parts or products (living or dead). **1987 - Landsverordening openbare wateren en stranden (Public Waters and Beaches Ordinance), AB 1987, No. 123** – prohibits *inter alia* driving on beaches and disposal of solid waste materials on beaches and in public waters. **AB 1987 no 124** – details rules about the use of public waters and beaches. **1987 - Decree No. 51** – lists all Atlantic/Caribbean species of marine turtle (*Caretta caretta*, *Chelonia mydas*, *Dermochelys coriacea*, *Eretmochelys imbricata*, *Lepidochelys olivacea* and *Lepidochelys kempii)* **1995 Natuur Beschermingsverordening (Nature Conservation Ordinance) AB1995 No. 2** - protect indigenous fauna and flora; designate nature reserves; and prohibit trade, import, export, possession (dead or alive), killing or wounding of species listed in the Appendices of CITES or the SPAW Protocol **Netherlands Antilles:** **2001 The National Nature Conservation Ordinance** - provides for biodiversity protection on land and in territorial waters and implements all CITES regulations, as well as the provisions of other international treaties to which the Netherlands Antilles is a Party (Netherlands Antilles – Bonaire, Curaçao, Saba, Sint Maaeren, St. Eustatius) **2001 Marine Environment Ordinance –** completely protects sea turtles prohibiting the import and export of sea turtles and their products, except under the exemptions permitted under CITES, the ordinance completely protects all CITES Appendix I animals **Bonaire** **1961 Eilandsverordening tot bescherming van de zeeschildpadden en kreeften** – protects sea turtle nests and eggs **1991, Bonaire - Marine Environment Ordinance (Verordening Marien Milieu A.B. 1991 Nr. 8) Art. 14** 1. It is prohibited to disturb or destroy sea turtle nests or to remove eggs from the nests; it is prohibited to be in possession of, to have for sale or delivery, to offer for sale, to see, buy, trade in, donate or transport eggs of sea turtles. 2. It is prohibited to kill, catch or be in possession of sea turtles.

	3. It is prohibited to offer for sale, sell, buy, trade in, donate, or offer as a dish in any way in public, sea turtles, sea turtle meat or other products of sea turtles. 4. Sea turtles are understood to comprise the following species: *Chelonia mydas* (Tortuga blanku), *Caretta caretta* (Kawama), *Eretmochelys imbricata* (Karet), *Dermochelys coriacea* (Drikil), and *Lepidochelys kempii.* **Curaçao** **1976, Curaçao Reef Management Ordinance, A.B. 1976 no. 48 (Rifbeheerverordening Curaçao)** – prohibits spearfishing and the breaking and removal of live coral in the reef zone, defined as waters up to 60m depth **1996, Curaçao - Eilandsbesluit bescherming zeeschildpadden** – Under the Reef Management Orginance, provides complete protection on all marine turtles occurring in Curaçao **Saba** **1987, Saba - Marine Environmental Ordinance (MEO) Article 5 –** prohibits the capture of sea turtles by foreigners, restricts the catch of turtles to two animals per person per year, prohibits the capture of female turtles from April-November, prohibits the disturbance of nests and the removal of eggs, and requires that all turtles caught be reported to the Saba Marine Park Authorities (superseded in 2001 by the updated Nature Conservation Ordinance) **Sint Eustatius** **St. Eustatius Explanatory Memorandum Marine Environment Ordinance (A.B. 1996, No. 05)** – A compilation of the Marine Park Ordinances from Saba and Bonaire. Outlines a depth of 30 meters for the marine park, offering the optimal protection of the underwater flora and fauna. "The establishment of a park has positive commercial effect towards international diving enthusiasts. The park's operation – in a protective manner – provides the funds for the upkeep of the marine park" (Art. 2). "Statians are in part given the opportunity to continue certain old fishing methods" (Art. 4) "The article refers to a prohibition on spearfishing using SCUBA or Hookah equipment. The 'old' method [would therefore] be spearfishing without SCUBA or Hookah," (Paul Hoetjes, Policy Advisor, Nature and Environment Section, Department of Health and Environmental Hygiene, Government of the Netherlands, in litt. 3 Nov. 2006). "The catching and killing of turtles is forbidden by international law through the U.N…but because the National Nature Conservation Framework has not been dealt with yet in the General Council of the Netherlands Antilles, it was decided to include this separately in this text" (Art. 6). Offers professional

	Statian fishermen the opportunity to continue their profession, under certain conditions – if they can prove that they are almost entirely dependent for their income on fish in the territorial waters of the Netherlands Antilles. (Art. 7 and 21). Establishes "anchor zones" to "protect existing reefs (Art. 10). Requires an Environmental Impact Assessment in "[situations where coastal changes (artificial reef, breakwaters, pipelines, piers, dams, jetties)] have an effect on the underwater environment of the Statia Marine Park" (Art. 13). Permit system to control activities in the Park (Art. 14). Appoints STENAPA (Sint Eustatius National Parks) as the manager in the General Island Resolution Art. 10 (Art. 23). **Marine Environment Regulation Sint Eustatius (Marien Milieu verordening Sint Eustatius AB 1996/03)** – limits take of marine turtles: two turtles per person per year; a 7.5 month closed season (1 April – 10 November) for female turtles; and a requirement to report turtle catches to the manager of the Statia Marine Park prior to being allowed to kill them. Regulation also protected turtle nests and eggs at all times (superseded in 2001 by the updated Nature Conservation Ordinance) (Art. 6). "It is forbidden to commit acts within the Statia Marine Park that damage or can damage the underwater environment" (Art. 8). **Sint Maarten** **2003, Sint Maarten - Island Ordinance (Eilandsverordering Natuurbeheer and Bescherming, AB2003, nr. 25)** – framework legislation that invokes the commitments of the Netherlands Antilles in relation to the SPAW Protocol, CITES and other international obligations, thus protects marine turtles and other species covered in those agreements**.** – Establishes framework for the island's nature plan to implement the 2001 National Nature Conservation Ordinance and for the establishment of nature parks. Article 2: each person has a duty to minimize, or where possible, avoid, any negative effects caused to nature by his actions or negligence. **Sint Maarten Marine Park Ordinance (draft)**

Management Areas (e.g. Parks, multiple use areas)	**Aruba** **Landsbesluit Parke Marino Aruba and Parke Natural Spaans Lagoen (Draft)** are intended to designate the waters entirely surrounding Aruba as a marine park (using the Bonaire Marine Park as a model) and, independently, to confer protection to the unique ecosystem of Spaans Lagoon, a designated Ramsar Convention site since 1980. These decrees also provide a national coastal zone management framework, including a Coastal Zone Management Authority. Decrees are in draft and have been approved by the Council of Ministers. **Netherlands Antilles:** **Bonaire** **Bonaire National Marine Park, 1979** - coasts of Bonaire and Klein Bonaire and surrounding waters to 60m in depth. Protected areas (No Name beach on the fully protected, undeveloped island of Klein Bonaire; Playa Benge and Playa Chikitu in Washington Slagbaai National Park) host the island's primary marine turtle nesting sites **1991, Bonaire - Marine Environment Ordinance (Verordening Marien Milieu A.B. 1991 Nr. 8)** – prohibits entering the Reserve without permission from Bestuurscollege, except for vessels traveling through the reserves or fishing using traditional fishing methods not including fish traps (Art. 5). **Curaçao: Curaçao Underwater Park, 1983** **Shete Boca ("Seven Inlets" in Papiamentu) National Park** - protects nesting beaches in northern Curaçao **Saba: Saba National Marine Park, 1986** - surrounding the island from the high-water mark to 60m **Sint Eustatius: Sint Eustatius Marine Park, 1996** – surrounding the island from the high-water mark to 30m **St. Maarten: St. Maarten Marine Park** – zoning approved in 1999, development underway; encompasses the entire coast of St Maarten from Oyster Pond to Cupecoy Bay, stretching from the coastal waters and beaches to 200 ft. Purpose is to balance nature conservation with continued traditional use through zoning (Conservation, Industrial, Anchor, Traffic/ Shipping Lanes, other)
Species Identification	**Netherlands Antilles:** **Sint Eustatius: Flora and Fauna Protection Ordinance 1996** – "It is forbidden [to]: a) pluck, cut, transplant, collect, destroy, disturb, damage or directly or indirectly omit those acts that result in the destruction of disturbance of the flora; b) capture, keep, pick up, kill, harm or directly or indirectly disturb the environment resulting in physical threat or damage to the fauna" (Art. 3). Includes a number of native species as well as sea turtles (in part to comply with international law).

Species research and conservation	
Pollution controls	**Aruba** **Landsverordening openbare wateren en stranden Public Waters and Beaches Ordinance AB 1987 No. 123** **Netherlands Antilles** **1991, Bonaire - Marine Environment Ordinance (Verordening Marien Milieu A.B. 1991 Nr. 8)** – prohibits the dumping or use of biological or chemical substances that may cause damage to the marine environment in the waters around Bonaire. These substances may be determined by EHAM (Art. 4) **St. Maarten** **Waste Ordinance (A.B. 1993, No. 03)** "it is forbidden to place, to dump, to throw, to pour, to drop, to flow or to keep liquid waste or another similar substance that can lead to pollution, damage or insufficient drainage of the roads or that can lea to hindering or negatively effecting the environment on or in the soil" (Art. 15). "It is forbidden to throw, put down or leave behind trash or remnants of provisions, paper, cans, bottles or other packaging on or by the road that is open to the public or a place nearby" (Art. 31). **Wastewater Ordinance (A.B. 2002, No. 05)** "Everyone is obliged to take care of the…ground water, surface water and the marine environment such that negative effects for the environment that could be caused by their actions or emissions are in as far as that can reasonably be required, prevented or, if that is not possible, limited as much as possible" (Art. 3); "It is forbidden to discharge waste water: into the sewage system that contains substances that have been cut or ground by cutting or grinding apparatuses or that by means of any other activity endanger the proper wordking of the public sewage system and purification technical works" (Art. 7); "It is forbidden to discharge waste water without a permit" (Art. 9); "A General Island Resolution can establish water quality goals with regards to the surface water and the marine environment that should be met within the periods of time as indicated" (Art. 18).
Distance from nesting beaches (e.g. buffer zones)	
Distance from shore (e.g. setbacks)	
Restricted recreational activities	**Sint Eustatius** has more than 30 protected dive sites, no sand mining (2001), no joyriding (2003) – activities within the Statia Marine Park are restricted and regulated so as not to damage the underwater environment
Time/Area closures	
EIA	**Netherlands Antilles** **St. Maarten** **Development Planning Ordinance (A.B. 1993, No. 13, and provisions of the Island Ordinance (A.B. 2000, No. 03))** – Implies a requirement for a "development plan" though there is no statement that "obliges" a

	development plan. "Until January 8, 2009, for areas for which no preparatory decision…has been made, no draft development plan has been made available for public review or no development plan has been determined, prior written permission from the Executive Committee's is required for the following works: a) digging, raising or leveling ground; b) placing roads and other hardening of terrain; c) works that can influence the water management and ground water level; d) uprooting trees or pruning that leads to uprooting of other shrubbery; e) demolishing of structures; f) filling-in of water" (Art. 28A para. 1). "The Executive Committee can withhold its decision regarding the request if the proposed workds would create a serious objection from the perspective of the general interest: a) due to non repairable damage to nature, the environment or the current use of the ground and surrounding grounds, or b) due to non repairable infringement of the expected development of the ground and the surrounding grounds" (Art. 28A para. 3)

CZM Plan	**Netherlands Antilles** **St. Maarten** **Development Planning Ordinance (A.B. 1993, No. 13, and provisions of the Island Ordinance (A.B. 2000, No. 03))** – Provides for zoning regulations (though "nothing has been implemented" (Paul Mooij in translations)). "Regulations include provisions concerning the preservation of existing structures and the continuation of the existing use of the land and the structures…" (Art. 17).
Lighting restrictions	
Trade & Commerce Law	
Export/Import regulations	**Aruba** **1995 Nature Conservation Ordinance** - protect indigenous fauna and flora; designate nature reserves; and prohibit trade, import, export, possession (dead or alive), killing or wounding of species listed in the Appendices of CITES or the SPAW Protocol **Netherlands Antilles** **2001 - The National Nature Conservation Ordinance** - provides for biodiversity protection on land and in territorial waters and implements all CITES regulations, as well as the provisions of other international treaties to which the Netherlands Antilles is a Party **Sint Maarten** **2003,Island Nature Ordinance (Eilandsverordering Natuurbeheer and Bescherming, nr. 25)** – Section IV: framework legislation that invokes the commitments of the Netherlands Antilles in relation to the SPAW Protocol, CITES and other international obligations, thus protects marine turtles and other species covered in those agreements. Currently in finalization and intended to enter in effect in November 2006.
Human & Public Rights Law	
Traditional/Subsistence/Indigenous practice	**Netherlands Antilles** **Party to ILO 169** **Sint Eustatius** **Sint Eustatius Explanatory Memorandum Marine Environment Ordinance (A.B. 1996, No. 05)** – "Statians are in part given the opportunity to continue certain old fishing methods" (Art. 4). These practices, which are "fish traps, lobster traps, and diving for conch using snorkel or SCUBA," are allowed to "continue in the Marine Park general use zone, but not in the two reserves (that are no-take)… Fishing of sea turtles is not allowed... Sint Eustatius has no records of turtles fished since the park was established in 1996," (Nicole Esteban, Manager, St. Eustatius National Parks Office, Gallows Bay, in litt. 6 Oct. 2006)
Right to "sustainable environment" (Constitution)	

Aruba

Aruba has provided the complete protection of sea turtles with an indefinite ban on exploitation, restrictions on vehicular beach access, pollution controls, and a sea turtle recovery action plan. These initiatives specifically support the implementation of Articles 10 and 11. However, Aruba's fisheries laws do not include fisheries management areas or gear restrictions to minimize the bycatch of sea turtles. Other gaps are in Aruba's environmental sector, which does not have regulations to include habitat protection in the form of protected areas, environmental impact assessments or a coastal zone management plans ("Assessment" Table 17). Further, Aruba does not have legislation in place to enable Articles 13 and 14 as it does not require environmental impact assessments nor does it address provisions for traditional or scientific uses of sea turtles.

The major threats to sea turtles in Aruba, according to their national Sea Turtle Recovery Action Plan (Barmes et al. 1993) and updated by Bräutigam and Eckert (2006), are associated with habitat and tourism development including loss and degradation of nesting habitat from the increasing tourism infrastructure, specifically beach-front lighting and motorized vehicles driving on the beaches, the accumulation of inorganic waste on coast, and an increasing number of non-removable parasols for shade which cause obstruction for nesting females and alteration of the sun-exposure of these parts of nesting beaches (van der Wal in litt. 8 Nov. 2006). The priority for Aruba at this point is to ensure the enactment of its decrees to establish a marine park in all the waters that surround the State and to develop coastal zone management plans that pay particular attention to beach-front lighting and require it to be "turtle friendly". Further, Aruba should consider strengthening its existing regulations for waste management and restrictions against motor-vehicle activities on the beach.

Netherlands Antilles: Bonaire, Curaçao, Saba, Sint Eustatius, Sint Maarten

Though each territory is a unique case, the Netherlands Antilles' umbrella legislation that establishes a complete ban on the exploitation of sea turtles serves to enable Articles 10 and 11. All territories have restrictions on specific, harmful activities, habitat management areas that cover areas important to sea turtles and, with the exception of Curaçao, all have fisheries management areas. Bonaire also has legislation that mandates pollution controls, and environmental impact assessments. Despite these advances, there are gaps in the islands' fisheries management and environmental laws. More specifically, the territories of the Netherlands Antilles do not have a mandate that requires environmental impact assessments or coastal zone management. With the exception of Bonaire, most of the territories have restrictions in place for limited forms of recreational activity, namely fishing. None of the territories of the Netherlands Antilles make provisions for the traditional use of sea turtles, which may be of particular

import to Bonaire, Saba and St. Eustatius, while only Bonaire makes provision for scientific and educational purposes.

The major threats to sea turtles in the Netherlands Antilles according to the 1992 Sea Turtle Recovery Action Plan (Sybesma 1992) and updated by Bräutigam and Eckert (2006) is illegal exploitation, inadequate law enforcement in all the territories and habitat issues, which include sand removal for development, beach-front lighting, and pedestrian traffic on potential nesting sights. Additional threats include domestic pollution and waste disposal at sea as well as unregulated fisheries and tourism operations, namely anchoring, line fishing and the touching and trampling of corals by divers, which destroy marine and coral habitat. Another, overarching challenge, is the lack of funding for the marine parks of the Netherlands Antilles and the NGOs that manage them[52]. These issues are addressed with the 2004 launch of the Dutch Caribbean Nature Alliance, which serves as an umbrella organization for the six park organizations of the Netherlands Antilles and Aruba, and is successfully fundraising for the Sint Eustatius and Sint Maarten organizations.

The priority for the Netherlands Antilles at this point is to mandate environmental impact assessments and coastal zone management and to increase restrictions on recreational activities that threaten sea turtles and their habitats. Though a Party to the ILO 169, the Netherlands Antilles made a choice to abolish traditional sea turtle use. Here, "traditional use" is not for subsistence or of any cultural significance and so the mandate of Article 14 to make exemptions where appropriate would not appear to apply. The Party may consider developing mandates for provisions to allow for scientific use of sea turtles, if considered relevant.

Panama

Panama ratified the Cartagena Convention in November 1987, and the SPAW Protocol in September 1996. At the time of ratification of the SPAW Protocol, Panama had legislation in place that identifies all 5 species of sea turtle occurring in Panama's jurisdiction as threatened with extinction, protecting them from exploitation and trade. The collection of eggs appears not to have been included in this law, leaving the activity restricted by a six-month closed season that includes most of the nesting season (Bräutigam and Eckert 2006). In 1995 Panama established its Wildlife Law (1995), which allows for subsistence hunting and fishing while at the same time prohibits hunting and fishing of declared threatened species; it

[52] Bräutigam and Eckert (2006) state, "These agencies are, if not solely, at the least the most active in marine turtle conservation activities and, thus, fundamental to the continuation and expansion of these efforts".

is unclear whether or not any of the legislation in place prior to the Wildlife Law is still in effect. Panama also had fishing gear regulations in place to reduce sea turtle bycatch. Since ratification, Panama increased its fishing regulations to require the use of TEDs in shrimp and trawl fisheries, has expanded it sea turtle research programs to connect the local community with the research, and is currently developing a Sea Turtle Recovery Action Plan (Bräutigam and Eckert 2006) in partnership with WIDECAST. Enforcement is under the authority of ANAM (*Autoridad Nacional de Ambiente*), successor to INRENARE (*Instituto Nacional de Recursos Naturales Renovables*), in co-ordination with AMP (*Autoridad Maritima de Panamá*).

Five species of sea turtles found in the Wider Caribbean region occur in Panama's jurisdiction: *Caretta caretta, Chelonia mydas, Eretmochelys imbricata, Dermochelys coriacea,* and *Lepidochelys olivacea* (see Appendix I).

Table 11. An evaluation of sector-specific legislation to enable implementation of the SPAW Protocol and its mandate to protect sea turtles in Panama.

LEGISLATIVE SECTOR	ENABLING LEGISLATION
Fisheries Law	**1992 - Decreto Ejecutivo Nº 4 -** sets forth measures to reduce incidental mortality of sea turtles in the shrimp trawls in the Caribbean **1995 - Wildlife Law, Ley de Vida Silvestre No. 24*** – It is prohibited to collect products or subproducts, parts or derivatives of wildlife without the necessary permits, as well as to destroy *inter alia* eggs, nests, and feeding sites or any other action impinging on the conservation of wildlife (Art. 40) **1999 - Decreto Ejecutivo Nº 16 -** dictates other measures to reduce incidental mortality in the shrimp fishery and regulates the use of TEDs **2004 - Resolución NºAG-0172-2004** – prohibits the national or international trade of specimens or products specified in the law, which includes marine turtles **2005 - Decreto Ejecutivo Nº 82** – requires the deployment of TEDs in all trawl fisheries in Panamanian waters; also requires *inter alia* all trawl fisheries to land their catch in ports that have been accredited to inspect and control TEDs and that a captain's license for operating a trawler will only be issued on the basis of the individual's having completed an accredited course in the installation and use of TEDs.
Fishery management areas (e.g. no-take zones, multiple use areas)	
Fishing gear regulations to address sea turtle bycatch	**1992 - Decreto Ejecutivo Nº 4 -** sets forth measures to reduce incidental mortality of sea turtles in the shrimp trawls in the Caribbean **1993 - Decreto Ejecutivo Nº 20 –** makes the use of TEDs mandatory **1999 - Decreto Ejecutivo Nº 16 -** dictates other measures to reduce incidental mortality in the shrimp fishery and regulates use of TEDs **2005 - Decreto Ejecutivo Nº 82** – requires the deployment of TEDs in all trawl fisheries in Panamanian waters; also requires *inter alia* all trawl fisheries to land their catch in ports that have been accredited to

	inspect and control TEDs and that a captain's license for operating a trawler will only be issued on the basis of the individual's having completed an accredited course in the installation and use of TEDs.
Exploitation Prohibited	
Complete Protection (indefinite)	**1980 - Resolución Nº DIR 002-80 –** prohibits the hunting of all 5 species of sea turtle that occur in Panama's jurisdiction **1995 - Wildlife Law, Ley de Vida Silvestre No. 24** – prohibits hunting and fishing of species included in the national list of threatened or endangered species (elaborated as mandated by this law), as is the hunting or fishing during closed seasons as declared by the Dirección Nacional de Areas Protegidas y Vida Silvestre of INRENARE [the natural resource agency at the time of enactment] (Art. 58)
Moratorium (fixed period)	
Exploitation is Legal: Regulations	
Local possession and sales	
Total catch quotas	
Turtle size/weight restrictions	
Time/Area closures	**1974 - Decreto Ejecutivo Nº 104 –** extends the protections of 1967, No. 23 for *C. mydas* to *C. caretta* and *L. olivacea*. Established a five-month closed season, from 1 May to 30 September, during which it was prohibited to collect and sell the eggs of any sea turtle species and prohibited at all the times the capture of hatchling turtles.
Provision for traditional/subsistence/indigenous possession and sale	**1986 - Resolución Nº DIR 003-86** – prohibits hunting, purchase and sale, as well as any commercial activity involving wildlife, with the exception of hunting for scientific purposes, captive breeding, and subsistence **1995 - Wildlife Law, Ley de Vida Silvestre No. 24*** – individuals conducting hunting of fishing for their own subsistence or that of their family may do so without a permit, but INRENARE [the natural resource agency at the time of enactment] reserves the right to regulate the "specimens" that are subject to those activities (Art.39)
Provision for scientific/educational/management purposes	**1986 - Resolución Nº DIR 003-86** – prohibits hunting, purchase and sale, as well as any commercial activity involving wildlife, with the exception of hunting for scientific purposes, captive breeding, and subsistence

Environmental Law	**1967 - Decreto Ejecutivo Nº 23** – lists *Chelonia mydas* as one of several species identified as threatened with extinction and establishes absolute, indefinite protection for these species against hunting and the sale or use of meat throughout national territory (abolished in 1995 when Wildlife Law was enacted) **1974 - Decreto Ejecutivo Nº 104 –** added *C. caretta* and *L. olivacea* to the threatened species list and established a six-month closed season, from 1 May to 30 September, during which time it was prohibited to collect and sell the eggs of these species and at all times, the capture of hatchlings. **1976 - Presendential Decree Nº 18** – prohibits trade in wildlife and wildlife products and hunting, commerce, imports and exports of indigenous wildlife **1980 - Resolución Nº DIR 002-80 –** declares all 5 species of sea turtle occurring in Panama's jurisdiction as threatened with extinction and in urgent need of protection and prohibits the hunting, purchase, sale and export of these species. Resolution does not include the eggs of these species, which remained subject to the open-season defined by 1974 Decreto. (Resolution was republished in - *Gaceta Oficial* Nº24,850 on 23 July 2003, reaffirming these protections.) **1986 - Resolución Nº DIR 003-86** – prohibits hunting, purchase and sale, as well as any commercial activity involving wildlife, with the exception of hunting for scientific purposes, captive breeding, and subsistence **1994 - Resolución NºJD-09-94** – establishes the national system of protected areas (SINAP) and the different management categories within SINAP **Ley No. 91 of 1996** – created Parque Nacional Portobelo **1998 - Environment Law, Ley General de Ambiente No. 41**** – formalizes the operation of SINAP, includes provisions to foster the development and management of the system; provides framework law for environmental protection and management
Management Areas (e.g. Parks, multiple use areas)	Two MPAs are classified as national parks and provide protection for Panama's marine turtles and their habitat **1976** - Parque Nacional Portobelo in the province of Colón, covers 34,846ha and a narrow band of coast of ca. 70km that comprises bays, coral reefs, islets, mangroves and swamps. Hunting, fishing, oil and gas and mining exploration and extraction, forestry, and the exploitation or damage of any wildlife within the park is prohibited. A management plan for the park, which included a zoning plan was adopted in 1994, and other rules are established that inter alia prohibit construction on the beach, mining of sand **1988** - the Parque Nacional Marino Isla de Bastimentos in Bocas del Toro province covers 13,226ha of which 11,586ha are marine, includes the island of Bastimentos, its neighboring cays, and the coral reef platform of the Costa de Bocas del Toro as well as the Damani wetland site that includes Chiriqui Beach. Also included are Playa Larga and the Cayos Zapatillas which are important nesting areas for hawksbills, leatherbacks and the occasional green turtle. Various prohibitions were established (hunting, forestry) **1998 - Environment Law, Ley General de Ambiente No. 41** – the Autoridad Maritima de Panama to coordinate with ANAM in developing a strategic plan for aquatic resources and ensuring strict compliance with the plans adopted to conserve, recover and sustainable use these resources (Art. 85)

Species Identification	**1974 - Decreto Ejecutivo Nº 104 –** prohibits the collection and sale of *C. caretta* and *L. olivacea* eggs **1980 - Resolución Nº DIR 002-80 –** includes remaining sea turtle species, *D. coriacea* and *E. imbricata* in the ban
Species research and conservation	"Ecology and Migrations of Marine Turtles of Bocas del Toro Province, Panama," has been conducted in Panama since 1979 Various local groups have been involved in marine turtle research and conservation. The most notable of the projects on the Caribbean coast has been conducted by MOPAWI (NGO) since 1992, with the support of the *Dirección General de Pesca y Acuicultura* (DIGEPESCA), which has management authority for marine turtles and other aquatic resources. This project mainly works to engage local indigenous communities in the protection of marine turtles and turtle nests during the nesting season as an alternative to the consumption of marine turtles and turtle eggs, which are part of thetraditional diet of the indigenous communities living in the area. (Bräutigam and Eckert 2006)
Pollution controls	
Distance from nesting beaches (e.g. buffer zones)	
Distance from shore (e.g. setbacks)	
Restricted recreational activities	**1995 - Wildlife Law, Ley de Vida Silvestre No. 24** – It is prohibited to collect products or subproducts, parts or derivatives of wildlife without the necessary permits, as well as to destroy *inter alia* eggs, nests, and feeding sites or any other action impinging on the conservation of wildlife (Art. 40)
Time/Area closures	
EIA	
CZM Plan	**1998 - Environment Law, Ley General de Ambiente No. 41** – exploitation for industrial or commercial purposes of resources in community or indigenous lands requires issuance of a permit by the competent authority (Art.101)
Lighting restrictions	
Trade & Commerce Law	**1977 - Ley Nº 14 -** the instrument through which Panama ratified CITES **1980 - Resolución Nº DIR 002-80 –** prohibits the purchase, sale and export of all 5 species of sea turtle occurring in Panama's jurisdiction
Export/Import regulations	**1976 - Presendential Decree Nº 18** – prohibits trade in wildlife and wildlife products and hunting, commerce, imports and exports of indigenous wildlife **1986 - Resolución Nº DIR 003-86** – prohibits hunting, purchase and sale, as well as any commercial activity involving wildlife, with the exception of hunting for scientific purposes, captive breeding, and subsistence
Human & Public Rights Law	
Traditional/Subsistence/Indigenous practice	**1986 - Resolución Nº DIR 003-86** – prohibits hunting, purchase and sale, as well as any commercial activity involving wildlife, with the exception of hunting for scientific purposes, captive breeding, and subsistence **1995 - Wildlife Law, Ley de Vida Silvestre No. 24*** – individuals conducting hunting of fishing for their own subsistence or that of their family may do so without a permit, but INRENARE [the natural resource agency at the time of enactment] reserves the right to regulate the "specimens" that are subject to those activities (Art.39) **1998 - Environment Law, Ley General de Ambiente No. 41** –

	recognizes the rights of the comarcas and indigenous peoples in relation to the use, management and "traditional, sustainable exploitation" of renewable natural resources within legally created comarcas and indigenous reserves, and these will be utilized within the framework of environmental protection and conservation as set forth in the Constitution, the current law and other national laws (Art. 98) **2004 - Resolución NºAG-0172-2004** – prohibits the national or international trade of specimens or products specified in the law, which includes marine turtles
Right to "sustainable environment" (Constitution)	

* The Wildlife Law repeals Decreto Nº 23. This law includes marine and aquatic species and a requirement that the natural resource agency, ANAM (*Autoridad Nacional de Ambiente*) coordinate with the Ministry of Commerce and Industry (*Dirección de Recursos Marinos*) in conservation, research, trade and management. The law also provides for specific penalties for different types of offenses.

** The Environmental Law establishes the principles and basic rules for the protection, conservation and recovery of the environment, promoting sustainable use of natural resources and calling for environmental management that is integrated into social and economic objectives to achieve sustainable human development.

Panama's legislation appears to meet the criteria to enable Articles 10, 11 and 14, in that there is an apparent ban on the exploitation of sea turtles. (Although noteworthy is the fact is that there is confusion over the degree to which the 1995 Wildlife Law – which restricts exploitation to a permitted take for subsistence purposes – replaces earlier legislation specifying an open season. If the 1995 Wildlife Law does not replace earlier legislation, a regulated harvest remains and should be considered a priority to address (Bräutigam and Eckert 2006). Panama legislation has implemented other mandates of Articles 10 and 11 with the establishment of habitat management areas that include some areas of import to sea turtles, the development of a Sea Turtle Recovery and Action Plan (in final review, Ruiz et. al.), fisheries gear regulations to minimize bycatch, and the designation of a number of restricted activities that are harmful to sea turtles. Without fisheries management areas, mandates for pollution control or more regulations to implement its coastal zone management mandate, there is room for the development of legislation to more fully implement Articles 10, 11 and 14 and to address Article 13.

The newly enacted laws do not specify which, if any of the previously established measures they replace[53]. Moreover, because the five *comarcas* of Panama are administered with some autonomy from the country's central government, it is unclear which, if any, of these laws apply. Further addressing the

[53] All sea turtles that occur in Panama's jurisdiction are listed as threatened and are therefore legally protected from exploitation and trade, though the collection of eggs has been restricted by a closed season that includes most of the nesting season. 1995 Wildlife Law prohibits the hunting and fishing of formally declared threatened species and prohibits the un-permitted destruction of wildlife eggs and nests, with the exception of permitted substance take. It is unclear how the laws of 1995 and 1998 relate to preceding measures, including commercial use of sea turtles and their products (apparently in contravention of "subsistence" privileges), and the collection of sea turtle eggs, which was illegal during a five-month closed season, but appears to be completely prohibited by the 1995 Wildlife Law (Bräutigam and Eckert 2005). Interpretation also plays a role in the clarifying the intentions of these laws.

need for legislative clarification, provisions in the 1998 national Environmental Law recognize traditional natural resource rights in the *comarcas* and establish and implement a six-month closed season on fishing and trade of marine turtles in the Comarca de Kuna Yala, the population of which depends on the meat, eggs and fat of sea turtles for subsistence and as a source of protein.

The major threats to sea turtles in Panama, according to Bräutigam and Eckert (2006), are impacts on habitat from intensive tourism, including cruise-ship and yacht operations, transport of petroleum and shipping in general, destruction of coral reefs, and contamination from solid and toxic wastes. The priority for Panama at this point would be to clarify the application of its laws and to establish regulations for pollution control and restrictions on habitat-damaging activities.

Saint Lucia

Saint Lucia ratified the Cartagena Convention in November 1984, and the SPAW Protocol in April 2000. At the time of ratification of the SPAW Protocol, Saint Lucia had legislation in place that prohibited interference with turtle nesting activities and a moratorium that made it unlawful to catch, trade or keep sea turtles. The Wildlife Protection Act of 1980 and the Animal Diseases and Importation Act No. 41 of 1956 (as amended by Act No. 15 of 1994) were in place to control the importation and treatment of wildlife suffering from disease, and a comprehensive national Sea Turtle Recovery Action Plan had been published (d'Auvergne and Eckert 1993). Since ratification, the moratorium was extended through September 2004 (Cabinet Conclusion No. 480 of 2000, Bräutigam and Eckert 2006), at which point it was allowed to expire, and Government enacted legislation requiring environmental impact assessments. In 2004, Saint Lucia adopted a Coastal Zone Management (CZM) Policy and is currently developing a Coastal Zone Management Strategy and Action Plan (CZMSAP). Further, a CITES Legislative Working Group has been overseeing the development of CITES-enabling legislation in Saint Lucia since 2001. This legislation is expected to include the designation of management and scientific authorities, prohibition of trade in specimens in violation of the Convention, penalties for prohibited trade, and provision for the confiscation of unlawfully traded or possessed specimens. It is expected that this legislation with be enacted the end of 2006. Presently, the nation's 1994 Fisheries Regulations are in effect, reinforcing a 7-month closed season on sea turtle fisheries.

Development and management of the fisheries sector, including sea turtles, is under the authority of the Department of Fisheries of the Ministry of Agriculture, Forestry and Fisheries. Fisheries authorities include "any fisheries officer, customs officer or police officer and any other person or category of

persons designated as an authorized officer by the Minister under Section 26" (Part I, Section 2 of the Fisheries Act (No. 2)).

The sea turtles found in Saint Lucia are *Caretta caretta, Chelonia mydas, Eretmochelys imbricata,* and *Dermochelys coriacea* (see Appendix I).

Table 12. An evaluation of sector-specific legislation to enable implementation of the SPAW Protocol and its mandate to protect sea turtles in Saint Lucia.

LEGISLATIVE SECTOR	ENABLING LEGISLATION
Fisheries Law	**1911 Turtle and Fish Protection Ordinance (Cap 45)** **1971 Turtle, Lobster and Fish Protection Act (No. 13) –** established a four-month closed season of 1 May – 31 August, during which it was prohibited to fish for, kill, collect, slaughter, sell, purchase, or possess turtles and their eggs or meat; prohibited the setting of nets and other gear with the intent to catch turtles within 100yd of the shore; prohibited the take of turtles or their eggs on land; and prohibited the take, sale, purchase, and possession of turtles under a minimum size limit of 15lb **1984 Fisheries Act No. 10 & 1994 Fisheries Regulations No. 9 -** restricts the legal exploitation of sea turtles within its jurisdiction*. Act calls for the development of a Fisheries Management Plan (FMP), which includes management strategies and Acts for Turtles. The FMP (2000-2005) is currently being revised. **1987 Fisheries (Turtle, Lobster an Fish) Protection Regulations No. 67** – Sec. 4 prohibits the sale and possession of turtle eggs; interfering with turtle nesting or its nest; setting within 100meters of the shore for intension for catching or taking turtle; taking turtles or having in possession or purchase turtle in the closed season. **1996 - 2004 – Moratorium -** made it unlawful to interfere with the nesting activities of turtles, catch, trade, keep turtles as pets or for eggs, or for use in any other form. All turtles caught accidentally during the period of the moratorium were to be released in the marine environment or handed over to the Department of Fisheries for its release** **Draft Fisheries Regulations** – Currently with the Attorney Generals Office for finalization.
Fishery management areas (e.g. no-take zones, multiple use areas)	**1971 Turtle, Lobster and Fish Protection Act (No. 13) –** prohibited the setting of nets and other gear with the intent to catch turtles within 100yd of the shore **1984 Fisheries Act No. 10 (No. 22)** - states that any person who, in any marine reserve, without permission granted under subsection (3) fishes or attempts to fish, etc. is guilty of an offense and shall be liable on summary of conviction to a fine not exceeing five thousand dollars. **1994 Fisheries Regulations No. 9** - no person shall set within 100 metres of the shores of Saint Lucia. (No. 46) places restrictions on the use of Marine Reserves and states that no person shall use a Marine Reserve for recreational or other purposes except with the written permission of the Chief

	Fisheries Officer an in accordance with any such conditions as the Chief Fisheries Officer may specify.
Fishing gear regulations to address sea turtle bycatch	**Fisheries Regulations 1994 No. 9 (No. 41 (g))** – mandates a limitation on soak time for all fishing nets to prevent drowning **SMMA** – prohibits the use of bottom gillnets in the SMMA. **Fisheries Regulations 1994 No. 9 (No. 33)** - mandates the prohibition against disturbing, removing form fishery waters or being in possession of turtles.
Exploitation Prohibited	
Complete Protection (indefinite)	
Moratorium (fixed period)	**1996 - 2004 – Moratorium** **Post – Moratorium** – indefinite protection of nesting turtles and their eggs
Exploitation is Legal: Regulations	
Local possession and sales	**1994 Fisheries Regulations No. 9** – make it unlawful to disturb, remove from fishery waters, expose for sale, sell, purchase, or possess at any time of any turtle eggs; to interfere with any nesting turtle, or the nest of a turtle; and to remove from the fishery waters, expose for sale, sell, purchase, or possess at any time any *undersized turtle**. **Draft legislation** – would prohibit possession of turtles as pets and spearing turtles
Total catch quotas	
Turtle size/weight restrictions	**1984 Fisheries Act No. 10 & 1994 Fisheries Regulations No. 9** – make it unlawful to expose for sale, sell, purchase, or possess at any time any *undersized turtle**. **Draft legislation –** would establish maximum size limit
Time/Area closures	**1994 Fisheries Regulations No. 9 (*current*)** – no person shall fish for, remove from the fishery waters, or at any time have in his possession, expose for sale, sell, or purchase any turtle between the 28th day of February to the 1st day of October in every year or as otherwise stated by the Minister by notice published in the Gazette and in a newspaper which is printed or circulated in the State.
Provision for traditional/subsistence/indigenous possession and sale	
Provision for scientific/educational/management purposes	

Environmental Law	**1946 – Forest, Soil and Water Conservation -** an Ordinance to make Provision for the Conservation of the Forest, Soil and Water resources of the Colony **1980 Wildlife Protection Act, No. 9 & 1988 Plant Protection Act, No. 21** 1999 National Conservation Authority Act, No. 16 **2001 - Physical Planning and Development Act No. 29** – sets the basis for addressing environment impact assessment
Management Areas (e.g. Parks, multiple use areas)	**1986** - Soufrière Marine Management Area (SMMA) and Canaries and Anse-La-Raye Marine Management Area (CAMMA) were established to: (i) conserve coastal and marine resources within their respective geographical limits; (ii) promote the sustainable use of these marine resources while enhancing their economic, social and cultural benefits; and (iii) manage conflicts that may occur among users of these resources. Marine turtle nesting beaches: Grande Anse beach was designated a marine reserve in 1986 and reconfirmed in 2000, as was Fond D'or
Species Identification	
Species research and conservation	Government and NGO monitoring and assessment programs began in 1983, and 2001. Especially on Grand Anse Beach on the Northeast coast.
Pollution controls	**Section 22 of 1984 Fisheries Act No. 10** – mandates Marine Reserves **Section 45 of 1994 Fisheries Regulations No. 9** – prohibits pollution in the marine environment **Public Health Act No. 8 of 1975** established standards for effluent
Distance from nesting beaches (e.g. buffer zones)	
Distance from shore (e.g. setbacks)	**Fisheries Regulations No. 9 of 1994 Section 33(d)** -states that no person shall set within 100 metres of the shores of Saint Lucia any net or seine or any other artifice for the purpose of or with the intension of fishing for, catching or taking any turtle
Restricted recreational activities	**Fisheries Regulations No.9 of 1994: Section 27 (a) and (b)** - state that a person shall fish by the traditional method of angling with a hook or lure attached to a line held in the hand or attached to a pole, rod or reel; a person unless otherwise authorized by the relevant licence, shall not use a spear, fish trap, or a net other than a cast net or a landing net. IN ADDITION: **Section 27(e)** states that no vessel shall have on board any turtle. Department of Fisheries is currently drafting relevant amendments to the fisheries legislation (Fisheries Act of 1984 and Regulations of 1994) to enable a greater measure of control on activities in these areas (e.g. proposed regulation on artificial beachfront lighting in reference to adult nesting and hatchling survival).
Time/Area closures	
EIA	**2001 - Physical Planning and Development Act No. 29 -** sets the basis for addressing environmental impact assessment; draft EIA Regulations under this Act are currently under way.

CZM Plan	**CZM Policy, April 2004** **CZM Strategy and Action Plan** in development
Lighting restrictions	**Draft amendments to the fisheries legislation** (Fisheries Act of 1984 and Regulations of 1994) propose regulation on artificial beachfront lighting in reference to adult nesting and hatchling survival
Trade & Commerce Law	**1956 – Animals (Diseases and Importation) -** an Ordinance to Control the Importation of Animals, Birds, Reptiles and Insects, and to Regulate the Treatment and Disposal of Animals which are Suffering or are Suspected to be Suffering from any Disease and for any other Matters Related Thereto or Connected Therewith **1994 Animals (Diseases and Importation) Ordinance (Amendment) Act, No. 15** **1994 Fisheries Regulations No. 9** – makes it unlawful for any person to remove from the fishery waters, expose for sale, sell, purchase or at any time have in his possession any turtle eggs or any *undersized turtle**. **1996 External Trade (Restricted Imports) Order, Statutory Instrument, No. 31**
Export/Import regulations	**Customs (Control and Management) Act No. 23 of 1990 & CITES-enabling legislation** in the process of being enacted, regulations are to be developed External Trade Act No. 5 (1968)
Human & Public Rights Law	
Traditional/Subsistence/Indigenous practice	
Right to "sustainable environment" (Constitution)	

***** The Fisheries Act No. 10 & Fisheries Regulations No. 9 of 1984 and 1994, respectively, make it is unlawful to:

- disturb, remove from fishery waters, expose for sale, sell, purchase, or possess at any time of any turtle eggs.
- interfere with any nesting turtle, or the nest of a turtle.
- remove from the fishery waters, expose for sale, sell, purchase, or possess at any time any *undersized turtle.*

The term, "*undersized turtle*" is defined as the following, according to species:

Species	**Minimum Size**
Eretmochelys imbricata (Hawksbill)	27.22kg
Chelonia mydas and *Caretta caretta* (Green and Loggerhead, respectively)	34.02kg
Dermochelys coriacea (Leatherback)	298.4kg

** The Moratorium of 1996 –2004 entered into force on 1 March 1996, was relaxed for a one-month restricted fishing period in December of 1999 and was continued until June 2003 by Cabinet Conclusion No. 480 of 2000, which called for an assessment of stocks in 2002. The assessment was not conducted due to a lack of funding. Cabinet Conclusion No. 748 of 2003 continued the moratorium until 30 September 2004.

Saint Lucia's legislation is strongest in the protection of sea turtle habitats, with mandates for fully protected fisheries and habitat management areas, environmental impact assessments, and coastal zone management. The State is widely recognized for its network of marine reserves and other marine management areas (Bräutigam and Eckert 2006), and has developed national research and recovery action

plans. Thus, Saint Lucia shows a degree of SPAW implementation, specifically for Articles 10 and 13. However, since the expiration of its eight-year moratorium on sea turtle harvest in 2004, Saint Lucia has re-opened a sea turtle fishery, thus falling short of the requirements of Articles 10 and 11 that Annex II listed species receive full protection. There are a number of gear regulations in place under one marine reserve, the Soufriere Marine Management Area (SMMA), and limited restrictions on harmful activities on the island, including recreational fishing and pollution controls. However, there are no regulations to address vehicular beach access. Further, though Saint Lucia has a mandate for coastal zone management, there are no enacting regulations, specifically in the form of lighting ordinances.

The major threats affecting sea turtles in Saint Lucia, according to a Sea Turtle Recovery Action Plan (d'Auvergne and Eckert 1993) and updated by Bräutigam and Eckert (2006) are habitat transformation, pollution and over-harvesting of sea turtles and eggs. Coastal tourism development and mining of beach sand for construction are recognized for damaging nesting beaches. Commercial and recreational practices, including the fishing technique of siltation, are also noted as activities damaging sea turtle foraging habitat. Other fishing methods using dynamite and anchoring have been noted, though they are no longer common practice (Department of Fisheries, comments to draft 26 October 2006). These threats appear to be addressed in the revised Plan for Managing the Fisheries of Saint Lucia (2001-2005). This plan includes a Management Plan for Marine Turtles, which prioritizes the research of local stocks to determine their distribution and abundance as well as the effect of the moratorium and other management efforts on their status. Further, this plan addresses "over-exploitation", proposing, *inter alia*, increased law enforcement, the protection of critical areas of habitat, sustained research and monitoring, and public education. Government has particularly emphasized the need to end the illegal take of turtle eggs and nesting females, and though anchoring and sand mining activities have been reduced, motor vehicle access on shore, and beachfront lighting continue to threaten sea turtles and their habitats. Saint Lucia has also involved the tourism industry in conservation and monitoring efforts, specifically through the distribution of informative "data forms" that identify local sea turtle species to hotels and beachfront properties (Department of Fisheries in litt.26 Oct. 2006)

The priority for Saint Lucia at this point is to revise fisheries regulations to mandate "turtle-friendly" lighting and to restrict fishing, including destructive fishing techniques, and to address siltation, while remaining cognizant of the nation's topography (Department of Fisheries in litt.26 Oct. 2006). Further, the nation should restrict development and recreational activities (i.e. vehicular beach access). In recent years, more attention has been given to traditional fishers. Following this trend, draft legislation that is in the process of approval proposes the following regulations, among others: restricting the fishery to

traditional fishers with limited gear, maximum size limits, short open periods, limited target species, and off-limit areas. SPAW Article 11 specifically calls for a prohibition on the take of species of fauna listed in Annex II of the Protocol; as such, Saint Lucia should consider closing its sea turtle fishery and adopting, as it deems necessary, defined exemptions for bona fide subsistence purposes as allowed under Article 14. Where appropriate, the Party should also consider establishing provisions for scientific purposes.

Saint Vincent and the Grenadines

Saint Vincent and the Grenadines ratified the Cartagena Convention in July 1990. At the time of its ratification to the SPAW Protocol (July 1991), Saint Vincent and the Grenadines had legislation in place that restricted the legal exploitation of sea turtles with regulations on *inter alia* access and gear and that provided for the designation of wildlife reserves and fisheries management areas, such as no-take zones. Since ratification, the country has passed comprehensive coastal zone management legislation and developed a comprehensive national Sea Turtle Recovery Action Plan (Scott and Horrocks 1993).

Saint Vincent and the Grenadines hosts species *Caretta caretta, Chelonia mydas, Eretmochelys imbricata,* and *Dermochelys coriacea* (see Appendix I).

Table 13. An evaluation of sector-specific legislation to enable implementation of the SPAW Protocol and its mandate to protect sea turtles in Saint Vincent and the Grenadines.

LEGISLATIVE SECTOR	ENABLING LEGISLATION
Fisheries Law	**1986 – Fisheries Act No. 8 -** Addresses fisheries access agreements, local and foreign fishing licensing, fish processing establishments, fisheries research, fisheries enforcement and the registration of fishing vessels, as well as establishes provision for conservation measures*. Also provides for the Minister to make regulations for any of a number of purposes including *inter alia* prescribing fisheries management and conservation measures, including mesh sizes, gear standards, minimum species size, closed seasons, closed areas, prohibited fishing methods or gear, and schemes for limiting entry into all or any specified fishery; regulating the catching and utilization of fish taken incidentally when fishing for a species for which a license has been issued; organizing and regulating sport fishing in fishery waters; regulating the use of scuba gear; regulating or prohibiting the use of spear guns or other similar device; regulating the protection and management of marine reserves and fishing priority areas; and prescribing measures for the protection of turtles **1987 – Fisheries Regulations Section 17 and Schedule 10 -** Restricts the legal exploitation of sea turtles within its jurisdiction**
Fishery management areas (e.g. no-take zones, multiple use areas)	**1986 Fisheries Act No. 8** – **Para. 18** provides for the Minister to designate an area as a local fisheries management areas **Ten** designated marine conservation areas (fisheries conservation zones) that include whole islands, island groups, or coastal segments where fishing is prohibited. **Para. 22** provides for the Minister to declare any area of the fishery waters and, as appropriate, any adjacent or surrounding land, to be a marine reserve in order to *inter alia* afford special protection to the flora and fauna of such areas and to protect and preserve the natural breeding grounds and habitats of aquatic life, with particular regard to flora and fauna in danger of extinction
Fishing gear regulations to address sea turtle bycatch	**1986 Fisheries Act No. 8** – Para 24 prohibits the use or attempt to use, or the possession of any explosive, poison or other noxious substance for the purpose of killing, stunning, disabling or catching fish, or in any way rendering fish more easily caught. Para. 25 prohibits the use of any net the mesh size of which does not conform to the prescribed minimum mesh size for that type of net; any type or other fishing gear which does not conform to any standards prescribed for that type of trap or other fishing gear; or any other net or fishing gear which is prohibited by the Act.
Exploitation Prohibited	
Complete Protection (indefinite)	
Moratorium (fixed period)	
Exploitation is Legal: Regulations	**1986 – Fisheries Act No. 8** – Paragraph 11 requires all fishing vessels be licensed **1987 – Fisheries Regulations Section 17 and Schedule 10** – prohibit interference with any turtle nest and disturbance, take, sale, purchase or possession of turtle eggs; take, sale, purchase

	or possession of any turtle or part thereof during a six-month closed season between 1 March – 31 July; take, sale, purchase or possession of any *under-sized* turtle or the shell of any under-sized turtle**.
Local possession and sales	
Total catch quotas	
Turtle size/weight restrictions	**1987 – Fisheries Regulations Section 17 and Schedule 10** – prohibit take, sale, purchase or possession of any *under-sized* turtle or the shell of any under-sized turtle**.
Time/Area closures	**1987 – Fisheries Regulations Section 17 and Schedule 10** – prohibit take, sale, purchase or possession of any turtle or part thereof during a six-month closed season between 1 March – 31 July **Ten** designated marine conservation areas (fisheries conservation zones) that include whole islands, island groups, or coastal segments where fishing is prohibited.
Provision for traditional/subsistence/indigenous possession and sale	
Provision for scientific/educational/management purposes	

Environmental Law	**1945 – Forestry Act -** Mangrove protection **1978 Central Water and Sewage Authority Act -** control of land-based pollution **1986 Fisheries Act No. 8** –for the establishment of marine reserves **1987 Wildlife Protection Act No. 16 -** Provides for the designation of wildlife reserves, in which hunting, disturbance of nests, eggs, fry or young of any animal as well as the damage of trees, cultivation or clearance of land or the introduction of livestock is all prohibited **1992 – Town and Country Planning Act -** Coastal zone management (CZM) **1997** – Legislation on Marine Parks enacted
Management Areas (e.g. Parks, multiple use areas)	**1987 Wildlife Protection Act No. 16 -** Provides for the designation of wildlife reserves **1997 –** legislation providing for the establishment of marine parks was enacted and regulations were "gazetted" in 1998 **Twenty** wildlife reserves designated under the Wildlife Protection Act of 1987, of which several encompass sea turtle nesting beaches. **1987** - government designated a Conservation Area in the Southern Grenadines which included the Tobago Cays, Mayreau and their surrounding waters. In **1995**, the government approved a proposal submitted by the Ministry of Agriculture and Labour for the establishment of the Tobago Cays as a National Marine Park, Tobago Cays Marine Park - the first officially designed Marine Park in the country – with a stated mission to "protect, conserve and improve" the natural resources of the area.
Species Identification	
Species research and conservation	**2005** - Monitoring program initiated
Pollution controls	**1978 Central Water and Sewage Authority Act -** control of land-based pollution
Distance from nesting beaches (e.g. buffer zones)	
Distance from shore (e.g. setbacks)	
Restricted recreational activities	
Time/Area closures	
EIA	
CZM Plan	**1992 – Town and Country Planning Act -** Coastal zone management (CZM)
Lighting restrictions	
Trade & Commerce Law[54]	
Export/Import regulations	
Human & Public Rights Law	
Traditional/Subsistence/Indigenous practice	
Right to "sustainable environment" (Constitution)	

*Fisheries Act No. 8 (1986) makes provision for conservation measures such as the following:

[54] The CITES National Legislation Project determined that Saint Vincent and the Grenadines fails to generally meet all requirements for the implementation of CITES. The country was assigned with a 31 December 2003 deadline, which was extended, for the government to enact adequate legislation. By October of 2005, Saint Vincent and the Grenadines had submitted a CITES Legislation Plan to the CITES Secretariat, but had not yet submitted draft legislation for review.

- prohibiting the catching of fish
- closed seasons
- gear restrictions
- dredging, extracting sand or gravel, or constructing or erecting any buildings or other structures on or over any land or waters within a reserve

Further, this Act

"provides for the establishment of marine reserves and conservation measures by the Minister responsible for fisheries in order to afford special protection to the flora and fauna of such areas and preserve the natural breeding grounds and habitats of aquatic life, with particular attention to flora and fauna in danger of extinction; and to allow for the natural regeneration of aquatic life in areas where such life has been depleted" (Bräutigam and Eckert 2006).

**Fisheries Regulations Section 17 and Schedule 10 prohibit:

- interference with any turtle nest and disturbance, take, sale, purchase or possession of turtle eggs
- take, sale, purchase or possession of any turtle or part thereof during a six-month closed season between 1 March – 31 July.
- take, sale, purchase or possession of any *under-sized* turtle or the shell of any under-sized turtle.

The term, "*under-sized*", is defined by the following minimum weights, according to species:

Species	**Minimum Size**
Eretmochelys imbricata (Hawksbill)	38kg
Chelonia mydas and (Green)	81kg
Caretta caretta (Loggerhead)	72kg
Dermochelys coriacea (Leatherback)	158kg

Saint Vincent and the Grenadines has a number of mandates in place to protect habitat for sea turtles, including fully protected habitat management areas that encompass areas in which sea turtles occur, and pollution controls. The Party's fisheries laws provide a mandate for fully protected fisheries management areas and restricts a variety of fishing gear that are significant in reducing the incidental take or regulating the targeted harvest of sea turtles. Further, with restrictions on recreational fishing, a Sea Turtle Recovery Action Plan and a mandate for coastal zone management, Saint Vincent and the Grenadines appears to have appropriate legislation to implement many of the criteria associated with Articles 10, 11 and 13. However, a legal sea turtle fishery operates for 7 months out of the year with minimum size restrictions that targets large juvenile and adult turtles with high reproductive value and is a major limitation in the State's ability to implement Article 11. Further, there is no mandate to require environmental impact assessments, nor regulations to enact the coastal zone management mandate. It is also important to note that a lack of research on the status of sea turtles within its jurisdiction complicates any effort for Government to protect or support the recovery of the species.

According to a Sea Turtle Recovery Action Plan (Scott and Horrocks 1993), and updates by Bräutigam and Eckert (2006), major threats effecting sea turtles remain habitat issues the involve beach lighting, coastal development, recreational activities and more immediately, domestic, agricultural, recreational,

and industrial pollution, that also impacts negatively upon foraging coral and sea grass habitats. Over-exploitation is also a major threat, especially considering that the minimum size restrictions render the juvenile and sub-adult turtles most vulnerable, despite their higher reproductive value, and that the current closed season that does no coincide with the peak nesting periods. A priority for Saint Vincent and the Grenadines going forward will be to establish restrictions on recreational activities, to strengthen its pollution controls and modernize its sea turtle fisheries management regulations, including offering full protection to these species and appropriate provisions for scientific and traditional or subsistence use.

Trinidad and Tobago

Trinidad and Tobago ratified the Cartagena Convention in January 1986, and the SPAW Protocol in August 1999. At the time of ratification of the SPAW Protocol, Trinidad and Tobago had legislation in place to protect sea turtle eggs and female sea turtles within a defined distance from shore. Other existing legislation established fishing gear regulations including the required use of TEDs on all semi-industrial and industrial trawl fleets, and that provides for the designation of marine protected areas (Bräutigam and Eckert 2006). Since ratification, Trinidad has designated Index beaches and implemented annual monitoring programmes. Tobago continues to monitor nesting activity throughout the nesting season and on three Index beaches. The nation has developed a comprehensive national Sea Turtle Recovery Action Plan (Fournillier and Eckert 2001), which is nearing completion, and bill is pending before Parliament revising the Fisheries Act to provide for full protection to sea turtles (Bräutigam and Eckert 2006).

The Forestry Division (Wildlife Section) of the Ministry of Public Utilities and the Environment and the Fisheries Division of the Ministry of Agriculture, Land and Marine Resources share the responsibility of managing sea turtles in Trinidad and Tobago. Exploitation is currently regulated under the Fisheries Division though the Forestry Division generally covers law enforcement. The Fisheries Division intends to establish a Fisheries Monitoring, Surveillance and Enforcement Unit, which may take over the management and enforcement (Bräutigam and Eckert 2006).

The species found in Trinidad and Tobago are *Caretta caretta, Chelonia mydas, Eretmochelys imbricata, Dermochelys coriacea* (the largest nesting colony in the insular Caribbean), and *Lepidochelys olivacea* (see Appendix I).

Table 14. An evaluation of sector-specific legislation to enable implementation of the SPAW Protocol and its mandate to protect sea turtles in Trinidad and Tobago.

LEGISLATIVE SECTOR	ENABLING LEGISLATION
Fisheries Law	**1916, 1966, 1975 – Fisheries Act and amendments -** Accords the Minister responsible for fisheries the right [and responsibility] to prescribe mesh size of nests, to restrict the size of fish, shrimp, crabs and turtles caught, and to prohibit their sale or prevent either the absolute or seasonal or area-limited catching of these species **1955 – Fishing Industry (Assistance) Act -** Makes provisions for the granting of financial assistance to the fishing industry by means such as fuel rebates, tax waivers and subsidies on fishing equipment **1975 – Protection of Sea Turtle and Turtle Eggs Regulations -** Restricts the legal exploitation of sea turtles within its jurisdiction**;** **Section 4** stipulates that: 1. no person shall kill, harpoon, catch or otherwise take possession of any female turtle in the sea within any reef or within one thousand yards from the high water mark of the foreshore where there is no reef; take or remove or cause to be removed any turtle eggs after they have been laid and buried by a female turtle or after they have been buried by any person; purchase, sell, offer or expose for sale or cause to be sold or offered or exposed for sale, or be in possession of, any turtle eggs; 2. no person shall, between 1 March and 30 September, kill, harpoon, catch or otherwise take possession of or purchase, sell, offer or expose for sale or cause to be sold or offered or exposed for sale any turtle meat. **1994 – Fisheries (Conservation of Sea turtles) Regulations -** Sets fishing gear requirements, namely that all semi-industrial and industrial trawl fleets use Turtle Excluder Devices (TEDs) on their nets. Other regulations provide for the specification of TEDs in use and resuscitation of sea turtles incidentally captured. These regulations are export driven - annual certification of the national sea turtle protection program by the US Department of State is required for continued access of locally caught shrimp to US markets **1995 Draft Marine Fisheries Management Act**, on finalization will repeal the Fisheries Act of 1916 and the relevant sections of the Archipelagic Waters and Exclusive Economic Zone Act of 1986. The Marine Fisheries Management Act will provide for the preparation of fishery management plans and will, in accordance with these plans, control and limit access to fish resources through the establishment of a licensing system for both local and foreign fishing vessels
Fishery management areas (e.g. no-take zones, multiple use areas)	
Fishing gear regulations to address sea turtle bycatch	**1916, 1966, 1975 – Fisheries Act and amendments -** Accords the Minister responsible for fisheries the right [and responsibility] to prescribe mesh size of nests, to restrict the size of fish, shrimp, crabs and turtles caught, and to prohibit their sale or prevent either the absolute or seasonal or area-limited catching of these species **1994 – Fisheries (Conservation of Sea turtles) Regulations -** Sets fishing gear requirements, namely that all semi-industrial and industrial trawl fleets use Turtle Excluder Devices (TEDs) on their nets. Other regulations provide for the specification of TEDs in use and resuscitation of sea turtles incidentally captured. These

	regulations are export driven - annual certification of the national sea turtle protection program by the US Department of State is required for continued access of locally caught shrimp to US markets
Exploitation Prohibited	
Complete Protection (indefinite)	
Moratorium (fixed period)	
Exploitation is Legal: Regulations	**1975 – Protection of Sea Turtle and Turtle Eggs Regulations - Section 4** stipulates that no person shall take or remove or cause to be removed any turtle eggs after they have been laid and buried by a female turtle or after they have been buried by any person **1995 Draft Marine Fisheries Management Act**, on finalization will repeal the Fisheries Act of 1916 and the relevant sections of the Archipelagic Waters and Exclusive Economic Zone Act of 1986. The Marine Fisheries Management Act will provide for the preparation of fishery management plans and will, in accordance with these plans, control and limit access to fish resources through the establishment of a licensing system for both local and foreign fishing vessels
Local possession and sales	**1975 – Protection of Sea Turtle and Turtle Eggs Regulations - Section 4** stipulates that no person shall purchase, sell, offer or expose for sale or cause to be sold or offered or exposed for sale, or be in possession of, any turtle eggs
Total catch quotas	
Turtle size/weight restrictions	
Time/Area closures	**1975 – Protection of Sea Turtle and Turtle Eggs Regulations -** Restricts the legal exploitation of sea turtles within its jurisdiction**; Section 4** stipulates that no person shall kill, harpoon, catch or otherwise take possession of any female turtle in the sea within any reef or within one thousand yards from the high water mark of the foreshore where there is no reef; and that between 1 March and 30 September, no person shall kill, harpoon, catch or otherwise take possession of or purchase, sell, offer or expose for sale or cause to be sold or offered or exposed for sale any turtle meat
Provision for traditional/subsistence/indigenous possession and sale	
Provision for scientific/educational/management purposes	

Environmental Law	**1958 & 1963 – Conservation of Wild Life Act (Act 16 & Act 14) -** Provides complete protection (against wounding, killing, and acts of harassment) during all life stages for "protected animals" **1970 & 1973 – Marine Areas (Preservation and Enhancement) Act -** Provides for marine areas to be protected as restricted areas so as to preserve natural beauty, protect flora and fauna, promote enjoyment of the area, and promote scientific research. These areas are to be set as no-fishing zones. At present, this Act is only applied to the management of coral reefs **1995 – Environmental Management Act -** Provides for an Environmental Management Authority (EMA) to set environmental standards, regulate activities that impact on the environment, protect vulnerable habitats and species and institutionalize national environmental policy **Forests Act, Section 2 -** Provides authority for restricting access to certain areas designated as Prohibited Areas. Entry is allowed only by permits issued from the Forestry Division, which are issued with a set of mandatory conditions
Management Areas (e.g. Parks, multiple use areas)	**1970 & 1973 – Marine Areas (Preservation and Enhancement) Act -** Provides for marine areas to be protected as restricted areas so as to preserve natural beauty, protect flora and fauna, promote enjoyment of the area, and promote scientific research. These areas are to be set as no-fishing zones. At present, this Act is only applied to the management of coral reefs **Trinidad** 1990 Matura and Fishing Pond, 1997 Grande Riviere, on the northeast and north coasts are "Prohibited areas" under the Forests Act and are designated Index beaches, where systematic annual monitoring programs have been established; they are the three major sea turtle nesting beaches in Trinidad, which harbor some of the highest-density leatherback nesting in the Western Hemisphere. Hence, every year from 1 March through 31 August, access to these beaches is only possible by permit from the Forestry Division. This permit system enables access on numerous conditions, including limits on group sizes and behavior, such as prohibiting driving of vehicles on the beach, making of fires, and the use of high-powered artificial lights, and allows guides to charge a fee for their services. **Tobago** One MPA, Buccoo Reef, a no-fishing zone, affords a certain level of protection to sea turtles.
Species Identification	
Species research and conservation	**1965** - Field Naturalists' Club (FNC) of Trinidad and Tobago initiated a formal program of beach monitoring and conservation, which continued at least through the 1970s. These efforts have been taken up and expanded through a range of government and non-government agencies and organizations, including collaborative efforts with the Forestry Division-Wildlife Section, Institute of Marine Affairs, and numerous foreign scientists. **Recently**, monitoring and conservation activities have been conducted primarily by community-based organizations. **Trinidad** systematic annual monitoring programs have been established on Index beaches

Pollution controls	
Distance from nesting beaches (e.g. buffer zones)	
Distance from shore (e.g. setbacks)	
Restricted recreational activities	"Prohibited areas" - every year from 1 March through 31 August, access to these beaches is only possible by permit from the Forestry Division. This permit system enables access on numerous conditions, including limits on group sizes and behavior, such as prohibiting driving of vehicles on the beach, making of fires, and the use of high-powered artificial lights, and allows guides to charge a fee for their services.
Time/Area closures	
EIA	**1995 – Environmental Management Act -** Provides for an EMA to set environmental standards, regulate activities that impact on the environment, protect vulnerable habitats and species and institutionalize national environmental policy
CZM Plan	
Lighting restrictions	**Trinidad** "Prohibited areas" - every year from 1 March through 31 August, permit system including limits on the use of high-powered artificial lights
Trade & Commerce Law	
Export/Import regulations	
Human & Public Rights Law	
Traditional/Subsistence/Indigenous practice	
Right to "sustainable environment" (Constitution)	

The islands of Trinidad and Tobago have a number of regulations in place that meet the criteria to implement the SPAW Protocol, and particularly with its habitat management areas that include important sea turtle habitats, the activity and fishing gear restrictions that are in place, and the provision that allows for fisheries management areas, all of which support the implementation of Articles 10 and 11. Still, there are gaps in the islands' ability to fully implement these and the other two Articles specific to this report. Specifically, a legal fishery exists, regulated only with seasonal and size conditions, and although the Environmental Management Act exists, there seems to be no legislation in place enacting mandates for environmental impact assessments, pollution controls, or coastal zone management.

Levels of sea turtle exploitation are unknown, as there has been no consistent effort to record fisheries statistics. It is also important to note that there is confusion over the current legislation. Though the 1958 Conservation of Wildlife Act appears to prohibit the capture of nesting turtles, major provisions were abolished with the 1975 Fisheries Regulations that established a five-month open season on marine turtles. This legal conflict, along with the illegal hunting of nesting Leatherback turtles are considered major management challenges, according to Bräutigam and Eckert (2006). These have been somewhat addressed with the initiation of nesting beach protection and community-based conservation efforts. While Trinidad is recognized as a "pioneer in developing co-management for main turtles," exemplified

by its initiatives for nesting turtles at Matura Beach, which have engaged local businesses in marine turtle conservation, similar efforts have not been replicated in Tobago.

Major threats to sea turtles in the territory of Trinidad and Tobago include the illegal take of turtles during the closed season and on unprotected nesting beaches, and primarily, the incidental take of Leatherback turtles. Priorities for Trinidad and Tobago at this point would be to establish bans on gill nets that are known to incidentally take sea turtles, to clarify the current legal framework, and to develop habitat protection mechanisms, including coastal zone management and environmental impact assessments. SPAW Article 11 specifically calls for a prohibition on the take of species of fauna listed in Annex II of the Protocol. As such, Trinidad and Tobago should consider the establishing a complete ban on the take of sea turtles along with appropriate provisions for subsistence (Article 14) and scientific purposes.

United States of America

The United States of America ratified the Cartagena Convention in October 1984 and the SPAW Protocol in April 2003, with reservations on Articles 11 and 13 and on six species of fauna and flora listed on Annexes II and III[55]. At the time of ratification of the SPAW Protocol, the United States of America had legislation in place that provides for the conservation of all six species of sea turtle found in the WCR, which are listed as either "endangered" or "threatened", as well as recovery plans for all six sea turtle species that occur within its jurisdiction, including the U.S. Virgin Islands and Puerto Rico. Since ratification, the United States of America has increased its regulations on fishing gear to minimize bycatch[56] and continues to update its recovery plans[57].

Management on the federal level is generally shared by the United States Fish and Wildlife Service and National Marine Fisheries Services and in cooperation with the Commonwealth of Puerto Rico and the U.S. Virgin Islands.

[55] The United States of America also "understands that the Protocol does not apply to non-native species…Therefore, in the United States, certain exotic species, such as the muscovy duck (*Carina moschata*) and the common iguana (*Iguana iguana*), are not covered by the obligation of the Protocol" (United States of America instrument of ratification to the SPAW Protocol, 31 January 2003).
[56] NOAA Fisheries Office of Protected Resources. Recent Regulations to Protect Marine Turtles. http://www.nmfs.noaa.gov/pr/species/turtles/regulations.htm
[57] NOAA Fisheries Office of Protected Resources. Recovery Plans for Endangered and Threatened Species. http://www.nmfs.noaa.gov/pr/recovery/plans.htm#turtles

All six species of sea turtles found in the WCR occur in the United State of America, five in the U.S. Caribbean. The five that occur in Puerto Rico are *Chelonia mydas, Eretmochelys imbricata, Dermochelys coriacea,* and less commonly, *Caretta caretta* and *Lepidochelys olivacea.* Four occur in the U.S. Virgin Islands: *Chelonia mydas, Eretmochelys imbricata, Dermochelys coriacea,* and less commonly, *Caretta caretta* (see Appendix I).

Table 15. An evaluation of sector-specific legislation to enable implementation of the SPAW Protocol and its mandate to protect sea turtles in United States of America and its Caribbean territories.

LEGISLATIVE SECTOR	ENABLING LEGISLATION
Fisheries Law	**Endangered Species Act (ESA),** 16 U.S.C. 1531 et seq. authorizes listing of animals as threatened or endangered. Pursuant to implementing regulations, all species of sea turtles found in the Caribbean as endangered or threatened. No exploitation of listed animals is allowed, except pursuant to a permit for scientific research or enhancement of survival. Incidental take of sea turtles is also prohibited, absent a specific exception. Under the ESA, the U.S. may impose restrictions on use of certain types of fishing gear, such as the mandatory use of the Turtle Excluder Device in shrimp fisheries in the Gulf of Mexico (50 C.F.R. 223.206). Recovery plans must also be prepared for listed species. The recovery plans for Atlantic sea turtles are in the process of being updated. **Magnuson Stevens Fishery Conservation and Management Act (MSFCMA),** 16 U.S.C. 1801 et seq., authorizes the U.S. to manage commercial fisheries. Pursuant to this law, the U.S. can prohibit certain types of fishing, can prohibit fishing in specific areas, can prohibit use of certain types of gear, and can require specific types of fishery gear as a requirement of participation in a commercial fishery, such as use of circle hooks in the pelagic longline fisheries to reduce sea turtle bycatch. **National Parks legislation,** 16 U.S.C. 1 through 460lll, authorizes setting aside and management of specific areas as national parks, national monuments, national recreation areas, national conservation areas, and national seashores. There are several of these in the Caribbean region of the U.S., including Dry Tortugas, Biscayne, and Virgin Islands National Parks, and the Gulf Islands National Seashore. Within the parks, activities can be prohibited or restricted, and access can be limited. **Marine Protection, Research and Sanctuaries Act of 1972** (MPRSA) and the **National Marine Sanctuaries Preservation Act**, 16 U.S.C. 1431 et seq., (NMSA) authorizes setting aside of unique marine areas. Within these areas, activities can be prohibited or restricted. The U.S. has established certain zones as no fishing zones in the Florida Keys National Marine Sanctuaries.
Fishery management areas (e.g. no-take zones, multiple use areas)	**National Parks legislation,** 16 U.S.C. 1 through 460lll, authorizes setting aside and management of specific areas as national parks, national monuments, national recreation areas,

	national conservation areas, and national seashores. There are several of these in the Caribbean region of the U.S., including Dry Tortugas, Biscayne, and Virgin Islands National Parks, and the Gulf Islands National Seashore. Within the parks, activities can be prohibited or restricted, and access can be limited.
Fishing gear regulations to address sea turtle bycatch	**Endangered Species Act (ESA),** 16 U.S.C. 1531 et seq. authorizes listing of animals as threatened or endangered. Pursuant to implementing regulations, all species of sea turtles found in the Caribbean as endangered or threatened. No exploitation of listed animals is allowed, except pursuant to a permit for scientific research or enhancement of survival. Incidental take of sea turtles is also prohibited, absent a specific exception. Under the ESA, the U.S. may impose restrictions on use of certain types of fishing gear, such as the mandatory use of the Turtle Excluder Device in shrimp fisheries in the Gulf of Mexico (50 C.F.R. 223.206). Recovery plans must also be prepared for listed species. The recovery plans for Atlantic sea turtles are in the process of being updated. **Magnuson Stevens Fishery Conservation and Management Act (MSFCMA),** 16 U.S.C. 1801 et seq., authorizes the U.S. to manage commercial fisheries. Pursuant to this law, the U.S. can prohibit certain types of fishing, can prohibit fishing in specific areas, can prohibit use of certain types of gear, and can require specific types of fishery gear as a requirement of participation in a commercial fishery, such as use of circle hooks in the pelagic longline fisheries to reduce sea turtle bycatch.
Exploitation Prohibited	
Complete Protection (indefinite)	**1973 Endangered Species Act -** lists all five species of sea turtles found in the Caribbean as either "endangered" or "threatened". National Marine Fisheries Service (NMFS) is required, according to section 4, to publish recovery plans for species listed as threatened or endangered
Moratorium (fixed period)	
Exploitation is Legal: Regulations	N/A
Local possession and sales	
Total catch quotas	
Turtle size/weight restrictions	
Time/Area closures	
Provision for traditional/subsistence/indigenous possession and sale	
Provision for scientific/educational/management purposes	**ESA** provides for permits for take of sea turtles for scientific research and enhancement of survival, but not for educational, display, or management purposes unless the connection to enhancement of survival can be made. **50 C.F.R. 223.206** provides the criteria for scientific research on sea turtles, including required sea turtle handling procedures and protocols. **The Fish and Wildlife Improvement Act of 1978**, 16 U.S.C. 742a - 754c, requires the U.S. to conduct continuing investigations and prepare reports on the abundance and the biological requirements of fish and wildlife resources.

Environmental Law	**1970 National Environmental Policy Act (NEPA)** – establishes national environmental policy and goals for the protection, maintenance, and enhancement of the environment, and provides a process for implementing these goals within the federal agencies. Requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. Federal agencies prepare environmental impact assessments (EIAs) in order to meet this requirement. EIAs are reviewed by the Environmental Protection Agency (EPA). **1973 Endangered Species Act –** provides for the conservation of species (species, subspecies, or, a distinct population of vertebrates) in danger of becoming endangered or extinct throughout all or a significant portion of their range, and for the conservation of ecosystems on which they depend (Fleming 2001). The ESA makes it illegal for any person subject to U.S. jurisdiction to import, export, deliver, receive, carry, transport, ship, sell, or offer for sale in interstate commerce and in the course of a commercial activity, any species of plant or animal that has been listed as endangered or threatened. It also makes it unlawful to take ("harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct") any listed species within the United States or its territorial seas. Exceptions may only be authorized by permit**.** National Marine Fisheries Service (NMFS) is authorized to designate "critical habitat". Section 7 provides authority to use land and water conservation funds to conserve listed species through the acquisition of habitat **2004 - 50 CFR 223.205** applies prohibitions of 16 U.S.C. 1538 Act section 9 relating to endangered species to sea turtles; it is unlawful for any person to own, operate, or be on board a vessel that is not in compliance with all applicable provisions of **50 CFR 223.206**; fish for, catch, take, harvest or possess, fish or wildlife while on board a [non-compliant] vessel; fail to follow any of the sea turtle handling and resuscitation requirements specified in **50 CFR 223.206**; possess a sea turtle in any manner contrary to the handling and resuscitation requirements; fail or refuse to comply immediately with enforcement and enforcing authorities **50 CFR 223.206** – Assistant Administrator may issue permits authorizing activities that would otherwise be prohibited for scientific or educational purposes, for zoo-logical exhibition, or to enhance the propagation or survival of threatened species of sea turtles if any sea turtle is found injured, dead or stranded, any NMFS, FWS, U.S. Coast Guard, or other Federal agency may take such specimens if it is necessary to aid or dispose of that specimen, or to salvage it for scientific study. A person aboard a vessel in the [Caribbean Sea] that has pelagic longline gear on board is required to have a limited access permit for highly migratory species under **50 CFR 635.21**. Any bycatch much not be consumed, sold, landed, offloaded, transshipped, or kept below deck; equires approved TEDs be used on all shrimp and summer flounder trawls (except for specific exemptions defined in the legislation. Allows for the Assistant

	Administrator to impose other such restrictions upon summer flounder trawlers as (s)he deems necessary to protect sea turtles. Includes mesh size regulations for gill nets ***Puerto Rico*** **1985 – Regulation for the Management of Threatened and Endangered Species in the Commonwealth of Puerto Rico (Reglamento Departamento Recursos Naturales (DRN) Especies Vulnerables y en Peligro de Extincion 08/85) -** Makes it illegal to catch, kill, possess, sell, transport, or export any endangered species. Local, interstate and international trade is prohibited. Exemptions may be granted to DRN personnel for specific purposes, for specimens born in captivity, and for scientific or conservation purposes. *E. imbricat*a, *C. myda*s, *D. coriacea,* and *L..kempii* are designated as being both locally and federally endangered. *C. caretta* is designated as threatened. ***US Virgin Islands*** **1990 – Act No. 5665, Indigenous and Endangered Species Act (IES) -** Provides protection of all territorial and federal endangered and threatened species. This Act establishes requirements for all collection of and research on indigenous species and fines and punishment for offenses **1990 – Act No. 5665, Indigenous and Endangered Species Act (IES) -** Provides protection of all territorial and federal endangered and threatened species. Also provides for the creation of a territorial endangered species list. This Act establishes requirements for all collection of and research on indigenous species and fines and punishment for offenses

Management Areas (e.g. Parks, multiple use areas)	**ESA** authorizes NMFS to designate "critical habitat" **National Parks legislation,** 16 U.S.C. 1 through 460lll, authorizes setting aside and management of specific areas as national parks, national monuments, national recreation areas, national conservation areas, and national seashores. There are several of these in the Caribbean region of the U.S., including Dry Tortugas, Biscayne, and Virgin Islands National Parks, and the Gulf Islands National Seashore. Within the parks, activities can be prohibited or restricted, and access can be limited. **Marine Protection, Research and Sanctuaries Act of 1972** (MPRSA) and the **National Marine Sanctuaries Preservation Act**, 16 U.S.C. 1431 et seq., (NMSA) authorizes setting aside of unique marine areas. Within these areas, activities can be prohibited or restricted. US has established certain zones as no fishing zones in the Florida Keys National Marine Sanctuaries. **1990 US Code Title 16 Chapter 33 § 1455b Protecting Coastal Waters** each State for which a management program has been approved pursuant to section 306 of the Coastal Zone Management Act of 1972 [16 U.S.C. 1455] shall prepare and submit to the Secretary and the Administrator a Coastal Nonpoint Pollution Control Program for approval pursuant to this section. The purpose of the program shall be to develop and implement management measures for nonpoint source pollution to restore and protect coastal waters, working in close conjunction with other State and local authorities **Puerto Rico** *Critical Habitat Designation* **1982** – Mona Island, Culebra Island, Cayo Norte, and Isla Culebrita, beachfront areas in Puerto Rico from the mean high tide inland to 150m from shore, critical for hawksbill **1998** – waters surrounding Culebra Island from mean high water line seaward to 3 nautical miles, critical for green turtle and include outlying keys: Cayo Norte, Cayo Ballena, Cayos Geniqui, Isla Culebrita, Arrecife Culebrita, Alcarraza, Los Gemelos, and Piedra Steven **U.S. Virgin Islands** **1956** - Virgin Islands National Park, St. John, 56% of St. John's total area, provides nesting habitat for hawksbill turtles. **1962** – Buck Island Reef National Monument, 2km northeast of St. Croix, important nesting and juvenile developmental habitat for hawksbill, green, and leatherback turtles. **1978** – nearshore waters around Sandy Point National Wildlife Refuge as "critical habitat" for nesting leatherback turtles. **1984** – Sandy Point's beach and surrounding waters became part of the USFWS's Caribbean Islands National Wildlife Refuge System. "Supports largest and best-studied population of nesting leatherback turtles in the U.S. and northern Caribbean" (Fleming 2001). **1999** – Nature Conservancy purchases Jack's Bay on the East End of St. Croix. Least developed nesting beaches on the island.

Species Identification	**1973 Endangered Species Act -** lists all six species of sea turtles found in the Caribbean as either "endangered" or "threatened". **U.S. Virgin Islands** **1972 – Amendment of U.S. Virgin Islands Code, Chapter 9A, Title 12, Section 318, Protection of sea turtles, nests and eggs –** Prohibits the import, trade, sale or any deal in young sea turtles, except under permit for display purposes. Prohibits the taking, killing, possession, or mutilation or any destruction of any loggerhead, leatherback, hawksbill, ridley or green turtle or other sea turtle on the beaches.
Species research and conservation	Federal government continually reports on the status of the species and updates species' recovery plans (NMFS 1991-1993, 2003; US Fish & Wildlife 1992). **Puerto Rico** Nesting ecology and population biology of leatherbacks (1984-present), Leatherback and hawksbill nest monitoring (1984-present, 1991-present), Green and hawksbill nest monitoring (1984-present, 1992-present), Population dynamics and ecology of hawksbill turtles (1992-present) (Fleming 2001) **U.S. Virgin Islands** Records of reported sea turtle strandings (1982-present), Leatherback turtle research and conservation (1981-present), Hawksbill, green and leatherback nesting surveys (1980-present, 1994-present), Juvenile hawksbill foraging surveys, tagging, and genetic work (1994-present), Hawksbill and green nesting surveys (1994-present, 1997-present), (1980-1983, 1991, 1993-1995, 1997) (Fleming 2001)
Pollution controls	**Clean Water Act,** 33 U.S.C. 1251 et seq., contains a comprehensive program authorizing the U.S. to control water pollution, including a program with states to manage coastal nonpoint source pollution also included in the CZMA, 16 U.S.C. 1455b. **Ocean Dumping Act**, 33 U.S.C. 1401 et seq., authorizes the U.S. to prohibit and manage disposal of wastes in the ocean. **Oil Pollution Act**, 33 U.S.C. 2702 to 2761, establishes a trust fund to enable the U.S. to respond quickly to oil spills.
Distance from nesting beaches (e.g. buffer zones)	
Distance from shore (e.g. setbacks)	
Restricted recreational activities	
Time/Area closures	
EIA	**1969 42 U.S.C. ßß 4321-4347** - National Environmental Policy Act (NEPA) requires all federal agencies to consider the impacts of their major federal activities on the environment
CZM Plan	**1996 - 15 CFR 923 Coastal Zone Management Act –** guidelines for management plans to be developed by states and to give particular attention and concern to shorefront access, protection planning, areas of special concern including essential wildlife habitat

Lighting restrictions	
Trade & Commerce Law	**1972 – Amendment of U.S. Virgin Islands Code, Chapter 9A, Title 12, Section 318, Protection of sea turtles, nests and eggs -** It is prohibited to import, trade, sell or in any way deal in young sea turtles, except under permit for display purposes. No person may take, possess, destroy, or sell any sea turtle eggs, or disturb any sea turtle nest, at any time (US Virgin Islands) **1973 Endangered Species Act -** ESA Section 9(c) makes it unlawful to engage in the trade of any specimens of wildlife or plants contrary to the provisions of CITES, or to possess any specimens "traded contrary to the provisions of the Convention." It is illegal to possess unlawfully imported wildlife specimens **1900 Lacey Act and Amendments of 1981 -** prohibition of interstate and international trafficking in protected wildlife **Puerto Rico** **1985 – Regulation for the Management of Threatened and Endangered Species in the Commonwealth of Puerto Rico (Reglamento Departamento Recursos Naturales (DRN) Especies Vulnerables y en Peligro de Extincion 08/85) -** Makes it illegal to catch, kill, possess, sell, transport, or export any endangered species. Local, interstate and international trade is prohibited. Exemptions may be granted to DRN personnel for specific purposes, for specimens born in captivity, and for scientific or conservation purposes. *E. imbricat*a, *C. mydas*, *D. coriacea,* and *L..kempii* are designated as being both locally and federally endangered. *C. caretta* is designated as threatened.
Export/Import regulations	**1973 Endangered Species Act -** ESA Section 9(c) makes it unlawful to engage in the trade of any specimens of wildlife or plants contrary to the provisions of CITES, or to possess any specimens "traded contrary to the provisions of the Convention." It is illegal to possess unlawfully imported wildlife specimens **1900 Lacey Act and Amendments of 1981 -** prohibition of interstate and international trafficking in protected wildlife
Human & Public Rights Law	
Traditional/Subsistence/Indigenous practice	
Right to "sustainable environment" (Constitution)	

The United States of America has many laws and authorities that implement the provisions of the SPAW Protocol; accordingly, only the most relevant are listed. The Endangered Species Act of 1973 (ESA) imposes a complete ban on the exploitation of all sea turtles at the federal level. The United States has many other laws and regulations to conserve sea turtle habitat, establish no fishing zones, and impose fishing gear restrictions. Federal laws also mandate environmental impact assessments and pollution controls, and provide many research opportunities. The ESA also establishes mechanisms for the designation of critical habitat, fisheries gear regulations and research and management of sea turtles.

Puerto Rico

With the United States' federal laws enforced, Puerto Rico has legislation in place to implement a majority of the criteria to implement Articles 10, 11 and 13. Particularly, Puerto Rico has a complete ban on the exploitation of sea turtles, which is significant to enabling Article 11, fishing gear restrictions and requirements to reduce bycatch, and sea turtle recovery plans, particular to Articles 10 and 11. However, Puerto Rico does not have a great deal of restrictions on harmful activities, particularly those associated with habitat, and there is no provision for traditional and subsistence use of sea turtles. As a territory with a history of exploitation, Article 14 is significant. The major threats to sea turtles in Puerto Rico's jurisdiction include coastal and upland development, the incidental take in fisheries and illegal harvest of adults and eggs (Fleming 2001).

Since the harvest and use of turtle meat and eggs was outlawed in 1970, a persistent demand remains and fishers are known to opportunistically take turtles to sell to friends or restaurants, or to keep for personal use. Sea turtles are "taken incidentally in sport or artisanal fishing, or targeted with nets, harpoons, or by hand," (Fleming 2001). Gill net use has decreased but is still known to occur in green and hawksbill turtle foraging and resting sites around Culebra. Females and nests are also targeted; females are killed on nesting beaches for their eggs and meat, and nests are robbed on a number of beaches around the state. According to Fleming (2001), egg and turtle poaching in coastal communities may be conducted by individuals who have also been involved in other illegal activities such as dealing in narcotics, in order to obtain an immediate source of cash. This reality draws a direct link to the state's economy and environment.

Priorities for Puerto Rico to further implement the SPAW Protocol are to address poaching and to ensure the protection of habitat.

U.S. Virgin Islands

The U.S. Virgin Islands is under the authority of the United States' federal laws. As such, the U.S. Virgin Islands has legislation in place to implement a majority of the criteria to implement Articles 10, 11 and 13. Specifically, the islands have a complete ban on the exploitation of sea turtles, which is significant to enabling Article 11, and sea turtle recovery plans, particular to Articles 10 and 11. The U.S. Virgin Islands has legislation in place that appears to implement Articles 10, 11 and 13 of the SPAW Protocol. Fleming (2001) references records of sea turtle strandings in the U.S. Virgin Islands, which suggest that boat strikes are a most common threat to sea turtles within the Islands' jurisdiction, while poaching and fishing gear entanglement cases combined comprise another major threat. Longlining activity is

apparently increasing around St. Croix, entangling or scarring leatherback females. On St. Thomas, habitat modification for the development of beaches is considered the cause for a shift in nesting behavior of green and hawksbill turtles. Demand for sea turtle meat and eggs and for their domestic use varies from island to island and for various purposes including consumption, a sign of stature, or sale.

Priorities for the U.S. Virgin Islands at this point are to establish fishing gear regulations to minimize sea turtle bycatch and to develop regulations to enact the coastal zone management mandate.

Venezuela

Venezuela ratified the Cartagena Convention in December 1986, and the SPAW Protocol in January 1997, at which time, the nation had designated the five species of sea turtle that occur in its territory as Official Game Species and provided for their protection. Venezuela also had legislation in place that provides for the establishment of protected areas within the zoning plans of the National Parks and Natural Monuments and that set standards for environmental assessment of proposed activities in the zone used for nesting sea turtles (Bräutigam and Eckert 2006). Since ratification the country developed a comprehensive national Sea Turtle Recovery Action Plan (Guada and Solé 2000)

A number of government agencies have responsibility for aspects of sea turtle management and conservation and law enforcement, including, among others: the *Oficina Nacional de Diversidad Biológica* (ONDB), the *Dirección de Vigilancia y Control of the Ministerio del Ambiente* (MINAMB – Ministry of the Environment), the *Dirección de Guarderia Nacional* (DGN – Environmental Enforcement Division of the National Guard), *Instituto Nacional de Parques* (INPARQUES – National Parks Institute), *Comandos, Destacamentos y Estaciones de Vigilancia Costera de la Guardia nacional* (Naional Guard), *Comando y Estaciones de Guarda Costas de la Armada de la República* (Coast Guard), the *Instituto Nacional de Pesca y Acuicultura* (INAPESCA – National Institute of Fisheries and Aquaculture), and the *Instituto Nacional de los Espacios Acuáticos* (National Wetlands Institute).

The five species of sea turtles that occur in Venezuela's jurisdiction are: *Caretta caretta, Chelonia mydas, Dermochelys coriacea, Eretmochelys imbricata,* and *Lepidochelys olivacea* (see Appendix I).

Table 16. An evaluation of sector-specific legislation to enable implementation of the SPAW Protocol and its mandate to protect sea turtles in Venezuela.

LEGISLATIVE SECTOR	ENABLING LEGISLATION
Fisheries Law	**1970 – Ley de Protección a la Fauna Silvestre (Gaceta Oficial Nº 29.289) and its Regulations -** Lists the five sea turtle species that occur in Venezuela in the "Lista Oficial de Animales de Caza" (Official List of Game Species) in a Resolution issued in 1970. A subsequent resolution of 1979 prohibits the capture and hunting of these sea turtles without permit. Permits are only authorized under this regulation for scientific and wildlife management purposes **1995 – Resolucion del Ministerio de Agricultura y Cría sobre el Uso Obligatorio de los Dispositivos Excluyentes de Tortugas Marinas (Providencia Administrativa Nº 1, Gaceta Oficial Nº 35.678) -** Mandates the required use of TEDs **1996 – Resolución declarando una veda total de las especies incluidas en la lista de especies en peligro de extinción (Decreto Nº 1.485, Gaceta Oficial Nº 36.059); and Lista Oficial de Especies en Peligro de Extinción (Decreto Nº 1.486, Gaceta Oficial Nº 36.062) -** A ban on species included in the list of endangered species, which includes all species of sea turtles **2003 – Ley de Pesca y Acuicultura (Gaceta Oficial Nº 37.727) -** Defines "responsible fishing," sets measures for the conservation and protection of fisheries resources and associated ecosystems, and mandates the Instituto Nacional de Pesca y Acuicultura (INAPESCA) to adopt available, emerging technologies to reduce the effect of fishing on associated species, such as through bycatch
Fishery management areas (e.g. no-take zones, multiple use areas)	
Fishing gear regulations to address sea turtle bycatch	**1995 – Resolucion del Ministerio de Agricultura y Cría sobre el Uso Obligatorio de los Dispositivos Excluyentes de Tortugas Marinas (Providencia Administrativa Nº 1, Gaceta Oficial Nº 35.678) -** Mandates the required use of TEDs
Exploitation Prohibited	
Complete Protection (indefinite)	**1996 – Resolución declarando una veda total de las especies incluidas en la lista de especies en peligro de extinción (Decreto Nº 1.485, Gaceta Oficial Nº 36.059); and Lista Oficial de Especies en Peligro de Extinción (Decreto Nº 1.486, Gaceta Oficial Nº 36.062) -** A ban on species included in the list of endangered species, which includes all species of sea turtles
Moratorium (fixed period)	
Exploitation is Legal: Regulations	N/A
Local possession and sales	
Total catch quotas	
Turtle size/weight restrictions	
Time/Area closures	
Provision for traditional/subsistence/indigenous possession and sale	
Provision for scientific/educational/management purposes	**1970 – Ley de Protección a la Fauna Silvestre (Gaceta Oficial Nº 29.289) and its Regulations -** Permits for the capture and hunting of listed sea turtles are only authorized under this regulation for scientific and wildlife management purposes

Environmental Law	**1989 – Reglamento Parcial de la Ley Orgánica para la Ordenación del Territorio, sobre Administración y Manejo de Parques Nacionales y Monumentos Naturales (Gaceta Oficial Nº 4.106) -** Provides the basis for the establishment of protected areas within the zoning plans of the National Parks and Natural Monuments **1989 – Decreto que declara Zona Protectora el espacio territorio próximo a la costa en una franja de 80 metros (Decreto Nº 623, Gaceta Oficial Nº 4.158) -** Prohibits the unauthorized use of the zone used for sea turtles' nesting and sets standards for environmental assessment of proposed activities in the zone **1991 Reglamento de Guarderia Ambiental (Gaceta Oficial Nº 34.678)** – provides for environmental law enforcement. **1998 – Ley Aprobatoria de la Convención Interamericana para la Protección y Conservación de las Tortugas Marinas (Gaceta Oficial Nº 5.247) -** Serves as the instrument through which Venezuela ratified the Inter-American Convention for the Protection and Conservation of Sea Turtles (IAC) **2001 – Ley Orgánica de Espacios Acuáticos e Insulares (Gaceta Oficial Nº 37.330) and the Decreto con Fuerza de Ley de Zonas Costeras (Gaceta Oficial Nº 37.319) -** Provide for management measures for marine species and marine and coastal environments, including areas and periods closed to fishing
Management Areas (e.g. Parks, multiple use areas)	**1972** - The Aves Island Wildlife Refuge was established to protect the important marine turtle populations that nest there **Eleven** national parks, two natural monuments, and three wildlife refuges incorporate coastal marine zones relevant to marine turtles, four of these are MPAs: Laguna de Tacarigua, Laguna de La Restinga, Morrocoy National Park along the continental coast, and Los Roques National Park. In addition to two wildlife refuges, Ciénaga de los Olivitos and Cuare, cover 450,000ha.
Species Identification	**1970 – Ley de Protección a la Fauna Silvestre (Gaceta Oficial Nº 29.289) and its Regulations -** Lists the five sea turtle species that occur in Venezuela in the "Lista Oficial de Animales de Caza" (Official List of Game Species)
Species research and conservation	NGOs such as Grupo de Trabajo en Tortugas Marinas de Venezuela, tagging, monitoring, outreach
Pollution controls	
Distance from nesting beaches (e.g. buffer zones)	
Distance from shore (e.g. setbacks)	
Restricted recreational activities	
Time/Area closures	**1989 – Decreto que declara Zona Protectora el espacio territorio próximo a la costa en una franja de 80 metros (Decreto Nº 623, Gaceta Oficial Nº 4.158) -** Prohibits the use of the zone used for sea turtles' nesting
EIA	**1989 – Decreto que declara Zona Protectora el espacio territorio próximo a la costa en una franja de 80 metros (Decreto Nº 623, Gaceta Oficial Nº 4.158) -** Prohibits the use of the zone used for sea turtles' nesting and sets standards for environmental assessment of proposed activities in the zone
CZM Plan	**2001 – Ley Orgánica de Espacios Acuáticos e Insulares (Gaceta Oficial Nº 37.330) & Decreto con Fuerza de Ley de Zonas Costeras (Gaceta Oficial Nº 37.319) -** Provide for management of marine species & marine/ coastal environments

Lighting restrictions	
Trade & Commerce Law	**1977 – Ley Aprobatoria de la Convención sobre el Comercio Internacional de Especies Amenazadas de Flora y Fauna Silvestre (Gaceta Oficial Nº 2.053) -** Serves as the instrument through which Venezuela ratifies CITES
Export/Import regulations	
Human & Public Rights Law	
Traditional/Subsistence/Indigenous practice	**Party to ILO 169**
Right to "sustainable environment" (Constitution)	

Venezuela has legislation in place that appears to implement Articles 10, 11 and 13 of the SPAW Protocol. The nation has a complete ban on the exploitation of sea turtles, as well as mandates that provide for the establishment of habitat management areas, require environmental impact assessments, require the use of TEDs, and regulate coastal zone management. Venezuela has is also Party to the ILO 169 and has developed a Sea Turtle Recovery Action Plan (Guada and Solé 2000). However, it does not have fisheries management areas or legislation for pollution controls or to regulate and restrict activities that pose a threat to sea turtles. Further, while Venezuela has a mandate for coastal zone management, it does not have regulations to put the mandate in effect.

The major threats to sea turtles in Venezuela according to its Sea Turtle Recovery Action Plan (Guada and Solé 2000) and updated by Bräutigam and Eckert (2006) are the "uncontrolled capture" of adult turtles, the widespread collection of turtle eggs, destruction of coral and seagrass habitats by shipping and development, contamination from ships and land-based sources of pollution, and incidental mortality in artisanal fisheries, which are not required to use TEDs. Priorities for Venezuela at this point are to consider expanding its requirement for TEDs in industrial fisheries to also mandate bycatch reducing gear on artisanal fishing boats. Venezuela should also develop pollution control regulations and measures to enact its coastal zone management mandate.

CONCLUSIONS AND RECOMMENDATIONS

The degree to which all Parties to the SPAW Protocol have implemented Articles 10, 11, 13 and 14 has been assessed through a systematic approach (see Methods) of comparing national policies and regulations to a list of SPAW-enabling legislation criteria (Table 17).

Table 17. Summary of criteria for enabling legislation relating to Articles 10, 11, 13 and 14 of the Protocol concerning Specially Protected Areas and Wildlife (SPAW).

SPAW REFERENCE	LEGISLATIVE SECTOR	ENABLING LEGISLATION
Articles 10, 11 and 14	Fisheries Law	Fisheries Management Areas Ban on Exploitation Gear Regulations Catch Quotas Provisions on take
Articles 10, 11, and 13	Environmental Law	Management Areas Environmental Impact Assessment Species Identification Research & Recovery Plans Coastal Zone Management
Articles 10 and 11	Trade & Commerce Law	Trade Restrictions Possession and Sales
Article 14	Human & Public Rights Law	Traditional, Subsistence, Indigenous Practice Public Right to "sustainable environment"
Articles 10 and 11 (addressed in Table 2)	International Cooperation/ Membership in other MEAs	e.g. CITES; ILO No. 169

With regard to Articles 10 and 11, most SPAW Parties have met the criteria associated with the fisheries sector. Half of the Parties (Barbados, Colombia, France, Kingdom of the Netherlands, the United States of America, and Venezuela) have met the mandate to implement an indefinite ban on the exploitation of sea turtles. Panama's legislation may meet this criterion, as well, but its legislation is unclear. All Parties with a legal sea turtle fishery (Cuba, Dominican Republic, Panama[58], Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago) have regulations on take that include combinations of catch quotas, size/weight restrictions, seasonal (time/area) closures, and other regulations that selectively protect small juveniles, nesting females and/or their eggs. A majority of Parties have also implemented legislation to regulate activities that may threaten or harm sea turtles. Eight Parties (Barbados, Colombia, Panama, the United States of America, Saint Vincent and the Grenadines, Trinidad and Tobago, and Venezuela) have mandates for gear restrictions to address bycatch. The Netherlands Antilles (an overseas territory of the Kingdom of the Netherlands) has also defined gear regulations to minimize sea turtle bycatch, enacting its autonomous rights. Of the seven Parties (Barbados, Colombia, Cuba, Dominican Republic, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago) that have legislation to enable fisheries management areas, Cuba and Saint Lucia have established such areas in places that are important to sea turtles.

[58] Legislation is unclear. Panama has catch regulations in place though it may also have an indefinite ban on the exploitation of sea turtles. See the national review on Panama.

With respect to the environmental sector, nearly all Parties (Barbados, Colombia, Cuba, Dominican Republic, France (with the exception of St. Berthélemy and St. Martin), Panama, the United States of America, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, and Venezuela) have legislation in place allowing for management areas. Here again, the Netherlands Antilles has also established laws to enable management areas, enacting its autonomous rights. All of these Parties and territories (with the exception of Saba, Sint Maarten and St. Eustatius in the Netherlands Antilles) have established management areas important to sea turtles. All Parties have met the criteria for research and recovery plans; all have WIDECAST Sea Turtle Recovery Action Plans, except for France and the United States of America, which have developed their own plans. A handful of Parties and territories (Barbados, Cuba, Panama, Saint Vincent and the Grenadines, Trinidad and Tobago, and the Kingdom of the Netherlands' overseas territories of Aruba, Bonaire, Curaçao, and St. Eustatius) have legislation in place to restrict recreational activities (e.g. driving on beaches, spearfishing, or boating and anchoring in important habitat areas) that may pose harm to sea turtles. Seven of the Parties and territories (Barbados, Panama, the United States of America, Saint Lucia, Saint Vincent and the Grenadines, Venezuela, and the French Department of Martinique) have legislation in place to enable coastal zone management plans and six (Barbados, Colombia, Cuba, Saint Lucia, Puerto Rico of the United States of America, and Bonaire of the Netherlands Antilles) have legislation in place to mandate coastal construction set-backs.

With regard to trade and commerce laws, all SPAW Parties have met the criteria of Articles 10 and 11 for international cooperation and for restricting activities that harm sea turtles. These criteria are largely met by the Parties' membership in CITES, and all but Trinidad and Tobago and the French Department of Martinique have CITES enabling trade regulations in place, though Saint Lucia's trade regulations are currently under review. Further, four of the six Parties that maintain a legal sea turtle fishery (Dominican Republic, Panama, Saint Lucia, and Saint Vincent and the Grenadines) have legislation in place that also restricts possession and sale of sea turtle parts and products.

Major gaps in the implementation of SPAW Articles 10 and 11 are in the degree to which Parties have legislation in place to ensure the protection of habitat important to sea turtles. While seven Parties have legislation to enable coastal zone management, only Barbados has also enacted buffer zones and "turtle friendly" beach-front lighting ordinances. Less than half of the Parties (Barbados, Saint Lucia, Saint Vincent and the Grenadines, and the Kingdom of the Netherlands' overseas territories of Aruba and Bonaire) have measures in place to minimize or manage marine or coastal pollution. Further, less than half of the Parties have regulations in place to restrict recreational activities, and they serve to regulate only a limited variety of activities. On a similar note, although there are many marine protected areas

throughout the WCR and specifically among SPAW Parties, many of them have no management arrangements, without which effective protection cannot be realized (Miller 1996, Cicin-Sain and Knecht 1998).

There is limited implementation of SPAW Article 13. Only four of the 12 SPAW Parties (Barbados, the United States of America, Saint Lucia and Venezuela) have met the criteria to enable Article 13 and mandate environmental impact assessments to be completed prior to industrial and development activities that potentially affect sea turtles or their habitats.

Under Article 14, SPAW Parties may define exemptions on take, where appropriate, to accommodate subsistence or traditional practices that involve the harvest of sea turtles. Colombia and Panama are the only two Parties that have chosen to implement this Article and have established provisions on the take of sea turtles for subsistence purposes. Other SPAW Parties which are also Party to ILO 169 (providing autonomy to indigenous peoples to use natural resources in their natural habitat) have chosen not to define such exemptions, and some have done so based on a conscious decision on the part of policy makers that the provisions in Article 14 were not applicable (Hoetjes in litt. 7 Nov. 2006). In other cases, the lack of attention given to Article 14 may be indicative of the challenges that come with providing autonomy to communities within a national regulatory framework. Noteworthy is the fact that any exemptions articulated under Article 14 must not "endanger the maintenance or areas protected under the terms of this Protocol, including the ecological processes contributing to the maintenance of those protected areas; or cause … substantial risk to … migratory species and threatened, endangered or endemic species."

For the three SPAW Parties where sea turtles are an important resource for indigenous peoples (Colombia, Venezuela and Panama), the unique regulatory frameworks that address indigenous practices in each nation are noteworthy. In Colombia, a nation that is Party to ILO 169 and has both a Constitutional mandate (Constitution 1991 - Title I of the Fundamental Principles - Article 8: Obligation of the State and people to protect "cultural and natural wealth" of the Nation) and a legal provision for the subsistence take of sea turtles, exemptions are not clearly defined or limited on a scientific basis, nor are they effectively enforced, effectively threatening the success of protective measures (Bräutigam and Eckert 2006). Though a Party to ILO 169, Venezuela makes no legal exemption for indigenous or subsistence take of sea turtles. However, exploitation by indigenous Wayúu and others is extensive and there appears to be only limited efforts to regulate this activity (Bräutigam and Eckert 2006). In Panama, as aforementioned, legislation is unclear and appears conflicting. This situation is further complicated with the five semi-autonomous *comarcas*, where it is uncertain which national laws apply. Whether

autonomy is established de facto through ratification of ILO 169 or through a national regulation (e.g. *comarcas*), it appears to have created a constitutional conflict and a de facto exemption to prevailing marine turtle protective legislation in these countries where "exploitation continues in the absence of specific management measures and effective controls" (Bräutigam and Eckert 2006).

As with any effort to implement enabling legislation, relevant laws are only as strong as their governments make them (Weiss and Jacobson 1998). Considering many of the SPAW Parties are low-income, developing countries, which include small island developing states, their limited capacity to enforce and monitor relevant legislation remains a significant concern.

Along the same lines, a lack of coordination is apparent within Parties' own regulatory and institutional systems (Anderson 2001). As this assessment reveals, the legislative frameworks of a number of the SPAW Parties is diffused through a range of laws and responsible authorities[59]. At present, the fragmented nature of national frameworks complicates State capacities for implementing, enforcing and monitoring relevant laws. As a result, relevant SPAW-enabling laws are not fully administered and so their impacts on the ground are limited. These effects are also reflected at the international and regional levels.

While regional support for the SPAW Programme is the responsibility of the CEP Regional Coordinating Unit in Kingston, Jamaica, the State-focused governing structures and capacities of all SPAW Parties lend themselves to fragmented and often unilateral conservation efforts. SPAW Parties have made limited progress towards cooperatively protecting species and their habitats (Miller 1996), ultimately complicating the goals of the SPAW Protocol and the Cartagena Convention for the nations of the WCR to work together in managing shared marine resources.

Another major challenge with specific regard to the status of sea turtles in the WCR, is the changing landscape of threats to these species. Consumptive and material demand for sea turtles and their products appears to have declined throughout the region, especially in recent years, whereas demand for coastal habitats that are important to the species is ever-increasing (Bräutigam and Eckert 2006, Breton et al. 2006, and Richardson et al. 2006). These changes (which also apply pressure on other SPAW protected

[59] Miller (1996) hypothesizes that the current lack of coordination within national legislative and regulatory frameworks is the result of lingering legislation from colonial times that has not been modernized and adapted to fit current situations, or a purposeful aversion from the costs of enacting appropriate changes. These causes may be important for the CEP to consider as it seeks to promote harmonized conservation efforts within and among Parties.

species) highlight the urgency for Parties to move forward in adopting measures to ensure the protection of important habitats, such as through mandates for environmental impact assessments and comprehensive coastal zone management.

In summary, there appear to be four main challenges to implementation of the SPAW Protocol: 1) fragmented regulatory frameworks within and among Parties; 2) changing threats to sea turtles in the WCR; 3) limited local capacity for monitoring and enforcing relevant legislation; and 4) limited participation in the Protocol.

This review reveals the need for SPAW Programme to continue efforts to assist Parties in implementing the Protocol, and primarily through activities designed to address these challenges. General recommendations are to promote harmonized legal frameworks within and among Parties to support and strengthen current regulations, as well as the further implementation of SPAW with regard to Annex II listed species. It is recommended that Parties ensure their legislation is clear and that exempted traditional and/or subsistence harvest be defined, regulated and monitored as provided for under Article 14. It is particularly important to clarify where there may be any traditional use of sea turtles, specifically in nations where a local demand is present and where current legislation is ambiguous (Trinidad and Tobago, Panama). Similarly, efforts should be made to encourage a harmonized international framework among all the SPAW Parties and neighboring States, which would better accommodate cooperative measures to support national conservation efforts. To this end, the SPAW Programme may revive its earlier series of workshops and collaborate with interested Parties in building capacity to enact (and implement) relevant policies.

One option is for UNEP to support relevant workshops and other training venues. Workshops nourish co-operation, promote a greater awareness of the interdependence between Parties, and encourage Parties to seek to achieve success in invoking the SPAW Protocol in protecting endangered, highly migratory species. By sharing these interests, and working together to set forth common regulations, SPAW Parties may be more inclined to advance their efforts to implement the Protocol. With open communication and a clear sense of the willingness of each Party to cooperate, implementation of SPAW will advance toward a more harmonized, cooperative process. The SPAW Programme should consider hosting regular workshops, every few years, such that Parties from civil or common law traditions can share challenges and concerns, as well as successes, gain support in developing legislation to sufficiently address outstanding threats, and mentor new Parties.

The SPAW Programme should give particular attention to the changing threats to sea turtles throughout the WCR and make the development of policies to protect important habitats a priority. Parties may provide complete protection of sea turtles and their habitats with fishery bans and management areas, as well as with the continued development of coastal zone management regulations that include buffer zones and "sea turtle friendly" lighting ordinances. Parties should also support research initiatives to increase understanding of protected species, and the use of research findings in developing or enhancing relevant policies. With increased understanding of sea turtle habitats and population status, resource managers may determine the success of policies and may begin to consider the potential for a viable population that can sustain a regulated level of harvest. Out of consideration for some Parties' limited resources to conduct extensive research activities, it is important to encourage the adoption of precautionary measures to ensure conservation and recovery of protected species and their habitats. A lack of specific information on the species should not prevent the development of protective legislation that intends to support the recovery of sea turtles in the region. Here again, coastal zone management, environmental impact assessments, and the establishment of protected areas, all promote the protection of sea turtles and other threatened or endangered wildlife.

Because most of the SPAW Parties are developing nations, the majority of which are small island developing states, it is important to address the potentially limited monitoring and enforcement capacities within each Party's structure, which presents a significant and unmet challenge that hinders the implementation of important legislation. Therefore, it is recommended that Parties welcome collaboration with local research and volunteer communities in a position to assist in monitoring and labor to secure the resources necessary to enable law enforcement. In recognition of the impact that strong enforcement mechanisms have on SPAW implementation, and of the enforcement support that research institutions provide, SPAW Parties are encouraged to increase their co-operation with local universities and NGOs, such as WIDECAST, which are interested in sea turtle research and conservation. Further, public education and awareness has also been recognized as an effective mechanism in reducing the market demand for sea turtle products and parts. Where possible, Parties may introduce marine conservation, or specifically sea turtle education into the public education system. This may be particularly relevant in communities where a local demand for consumption exists and in the public and tourist communities where a demand for sea turtle products is prevalent.

Identifying and replicating success stories would be a valuable tool in encouraging expanded participation in the SPAW Programme. The aim of the SPAW Protocol is to ensure the protection and recovery of endangered and threatened species in order to ensure the sustainable management of marine resources,

allowing for Parties to continue advancing their economies. The ideal success story may, therefore, be of a Party that both has sufficient policies in place and has reaped specific benefits through their implementation, such as economic gains associated with hoteliers complying with coastal lighting ordinances or the indication of tourist support for the Party's efforts.

As an example of economic benefits associated with sea turtles protection, Barbados states, in its National Report to the First CITES Wider Caribbean Hawksbill Dialogue Meeting, which was held in Mexico City, 15-17 May 2001:

> "Known as a destination where a visitor has an excellent chance of seeing sea turtles nesting on the beaches and diving on the reefs. Local hotels are interested in developing a reputation for being located on sea turtle nesting beaches and for being environmentally sensitive to sea turtle nesting. Sea turtles are an advertising tool…hotels gain international recognition for their environmental responsibility. Barbados has chosen to derive economic benefit from the power that sea turtles have to attract tourists."

This assessment serves as a model for the continual review of criteria and the strengthening of relevant legislation as well as a model for the assessment of the degree to which Parties have implemented SPAW with regard to other SPAW Annex II listed species. Such assessments are encouraged as they will serve to identify gaps in existing legislation and provide lessons to inform future CEP and SPAW Programme activities.

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APPENDIX I

Sea Turtles of the Wider Caribbean Region

Species	Adult Size		WCR Nesting			Global Status (IUCN Redlist)
	Carapace Length	*Weight (lbs)*	*Peak season*	*Nests/ season*	*Average "clutch size"(No. eggs)*	
Green (*Chelonia mydas)*	3-4 ft.	400	May - Sept	3-5	110-140	Endangered
Hawksbill (*Eretmochelys imbricata*)	2-3 ft.	132-176	Apr - Nov	4-5	~ 160	Critically Endangered
Kemp's Ridley (*Lepidochelys kempii*)	2-2.5 ft.	75-110	Apr - July	2-3	100-105	Critically Endangered
Leatherback (*Dermochelys coriacea*)	4.5-6 ft.	550-1400	Mar - July	6-9	80-90	Critically Endangered
Loggerhead (*Caretta caretta*)	3-4 ft.	400	May - July	3-4	100-120	Endangered
Olive Ridley (*Lepidochelys olivacea*)	2-2.5 ft.	75-110	Apr - Aug	1-2	105-115	Endangered

APPENDIX II

Text of Articles 10, 11, 13 and 14 of the Protocol concerning Specially Protected Areas and Wildlife (SPAW Protocol) and related recommendations from the *Workshop to Assist with the Formulation of National Legislation to Implement the SPAW Protocol in the Common Law Countries of the Wider Caribbean Region* (Ocho Rios, Jamaica, 6-9 December 1993)

ARTICLE 10: NATIONAL MEASURES FOR THE PROTECTION OF WILD FLORA AND FAUNA

1. Each Party shall identify endangered or threatened species of flora and fauna within areas over which it exercises sovereignty, or sovereign rights or jurisdiction, and accord protected status to such species. Each Party shall regulate and prohibit according to its laws and regulations, where appropriate, activities having adverse effects on such species or their habitats and ecosystems, and carry out species recovery, management, planning and other measures to effect the survival of such species. Each Party, in keeping with its legal system, shall also take appropriate actions to prevent species from becoming endangered or threatened.
2. With respect to protected species of flora and their parts and products, each Party, in conformity with its laws and regulations, shall regulate, and where appropriate, prohibit all forms of destruction and disturbance, including the picking, collecting, cutting, uprooting or possession of, or commercial trade in, such species.
3. With respect to protected species of fauna, each Party, in conformity with its laws and regulations, shall regulate, and where appropriate, prohibit:
   a. the taking, possession or killing (including, to the extent possible, the incidental taking, possession or killing) or commercial trade in such species or their parts or products; and
   b. to the extent possible, the disturbance of wild fauna, particularly during the period of breeding, incubation, estivation or migration, as well as other periods of biological stress.
4. Each Party shall formulate and adopt policies and plans for the management of captive breeding of protected fauna and propagation of protected flora.
5. The Parties shall, in addition to the measures specified in paragraph 3, co-ordinate their efforts, through bilateral or multilateral actions, including if necessary, any treaties for the protection and recovery of migratory species whose range extends into areas under their sovereignty, or sovereign rights or jurisdiction.
6. The Parties shall endeavour to consult with range States that are not Parties to this Protocol, with a view to co-ordinating their efforts to manage and protect endangered or threatened migratory species.
7. The Parties shall make provisions, where possible, for the repatriation of protected species exported illegally. Efforts should be made by Parties to reintroduce such species to the wild, or if unsuccessful, make provision for their use in scientific studies or for public education purposes.
8. The measures which Parties take under this Article are subject to their obligations under Article 11 and shall in no way derogate from such obligations.

WORKSHOP RECOMMENDATIONS:

1. Identify and designate the agency responsible for the ecosystem-based management of protected species.
2. Authorize the designated agency to identify and accord protected status to endangered or threatened species.
3. Specify criteria for the identification of threatened and endangered species that takes into account the Protocol definitions and the regional 'common guidelines and criteria'.
4. Prescribe the basic procedures for the nomination and designation of threatened and endangered species.
5. Provide for public participation during the designation process.
6. Require that written reasons be provided for designating a nominated species.
7. Provide for interim protective measures following the nomination/ designation of species for protected

status before a management plan is in place.

8. Require the designated agency to develop and implement species recovery, management, planning and other necessary measures.
9. Provide mechanisms to prevent threats to species from becoming threatened or endangered.
10. Require all government agencies to further the purposes of implementing legislation in their policies, plans and actions.
11. Authorize the designated agency to promote and create partnerships with other national and municipal agencies, state-owned enterprises, private industry, conservation organizations, users, and local communities.
12. Establish mechanisms to consult and co-ordinate efforts with other Parties and non-Parties for migratory and endangered species.
13. Require the repatriation of protected species exported illegally.
14. Require the reintroduction to the wild of illegally taken species, where possible, or their use for scientific or public education purposes.
15. Authorize the designated agency to recommend, review and revise regulations for protected species, their habitats and associated ecosystems as detailed in Article 11.
16. Create adequate enforcement authority and duties, such as:
    - Provision for relevant personnel with adequate resources to investigate, gather evidence, and file charges in a court of law for unlawful species related activities
    - Provision for enforcement officers with adequate powers to prevent threats to species
    - Provisions, where feasible, for individuals, private entities and non-governmental organizations to assist with enforcement
    - Authorize designated employees from other government agencies to enforce protected area and species legislation.

ARTICLE 11: CO-OPERATIVE MEASURES FOR THE PROTECTION OF WILD FLORA AND FAUNA

1. The Parties shall adopt co-operative measures to ensure the protection and recovery of endangered and threatened species of flora and fauna listed in Annexes I, II and III of the present Protocol.
    a. The Parties shall adopt all appropriate measures to ensure the protection and recovery of species of flora listed in Annex I. For this purpose, each Party shall prohibit all forms of destruction or disturbance, including the picking, collecting, cutting, uprooting or possession of, or commercial trade in such species, their seeds, parts or products. They shall regulate activities, to the extent possible, that could have harmful effects on the habitats of the species.
    b. Each Party shall ensure total protection and recovery to the species of fauna listed in Annex II by prohibiting:
        i. the taking, possession or killing (including, to the extent possible, the incidental taking, possession or killing) or commercial trade in such species, their eggs, parts or products;
        ii. to the extent possible, the disturbance of such species, particularly during periods of breeding, incubation or migration, as well as other periods of biological stress.
    c. Each Party shall adopt appropriate measures to ensure the protection and recovery of the species of flora and fauna listed in Annex III and may regulate the use of such species in order to ensure and maintain their populations at the highest possible levels. With regard to the species listed in Annex III, each Party shall, in co-operation with other Parties, formulate, adopt and implement plans for the management and use of such species, including:
        i. for species of fauna:
            a. the prohibition of all non-selective means of capture,

killing, hunting and fishing and of all actions likely to cause local disappearance of a species or serious disturbance of its tranquility;

b. the institution of closed hunting and fishing seasons and of other measures for maintaining their population;

c. the regulation of the taking, possession, transport or sale of living or dead species, their eggs, parts or products;

ii. For species of flora, including their parts or products, the regulation of their collection, harvest and commercial trade.

2. Each Party may adopt exemptions to the prohibitions prescribed for the protection and recovery of the species listed in Annexes I and II for scientific or management purposes necessary to ensure the survival of the species or to prevent significant damage to forests or crops. Such exemptions shall not jeopardize the species and shall be reported to the Organization in order for the Scientific and Technical Advisory Committee to assess the pertinence of the exemptions granted.

3. The Parties also shall:

a. accord priority to species contained in the annexes for scientific and technical research pursuant to Article 17;

b. accord priority to species contained in the annexes for mutual assistance pursuant to Article 18.

4. The procedures to amend the annexes shall be as follows:

a. any Party may nominate an endangered or threatened species of flora or fauna for inclusion in or deletion from these annexes, and shall submit to the Scientific and Technical Advisory Committee, through the Organization, supporting documentation, including, in particular, the information noted in Article 19. Such nomination will be made in accordance with the guidelines and criteria adopted by the Parties pursuant to Article 21;

b. the Scientific and Technical Advisory Committee shall review and evaluate the nominations and supporting documenttation and shall report its views to the meetings of Parties held pursuant to Article 23;

c. the Parties shall review the nominations, supporting documentation and the reports of the Scientific and Technical Advisory Committee. A species shall be listed in the annexes by consensus, if possible, and if not, by a three-quarters majority vote of the Parties present and voting, taking fully into account the advice of the Scientific and Technical Advisory Committee that the nomination and supporting documentation meet the common guidelines and criteria established pursuant to Article 21;

d. a Party may, in the exercise of its sovereignty or sovereign rights, enter a reservation to the listing of a particular species in an annex by notifying the Depositary in writing within 90 days of the vote of the Parties. The Depositary shall, without delay, notify all Parties of reservations received pursuant to this paragraph;

e. a listing in the corresponding annex shall become effective 90 days after the vote for all Parties, except those which made a reservation in accordance with paragraph (d) of this Article; and

f. a Party may at any time substitute an acceptance for a previous reservation to a listing by notifying the Depositary, in writing. The acceptance shall thereupon enter into force for that Party.

5. The Parties shall establish co-operation programmes within the framework of the Convention and the Action Plan to assist with the management and conservation of protected species, and shall develop and implement regional recovery programmes for protected species in the Wider Caribbean Region, taking fully into account other existing regional conservation measures relevant to the management of those species. The Organization shall assist in the establishment and

implementation of these regional recovery programmes.

WORKSHOP RECOMMENDATIONS:

1. Authorize the designated agency to participate in bilateral, regional and global programmes for the protection and recovery of endangered and threatened species.
2. Establish a procedure for nominating and listing species in the Annexes based on criteria in the regional "common guidelines and criteria" and on the procedures listed in Article 11.
3. Require the designated agency to implement the requirements and prohibitions of Article 11 for Annex-listed appropriate regional cooperative programmes.
4. Provide for implementation of regional recovery programs
5. Prohibit the taking, possession or killing of, or commercial trade in, species of fauna (including their eggs, parts, or products) listed in Annex II.
6. Require that:
    - Permits for the taking of Annex II species be limited to the exemptions specified in Article 11.2
    - Permits be denied when they would jeopardize the species
    - Monitoring and reporting are a condition of the permit
    - Permits may be suspended for non-compliance.
7. Authorize the designated agency to recommend, review and revise regulations for protected species, their habitats and associated ecosystem, including prohibitions or restrictions:
    - On their destruction or disturbance (including incidental take)
    - On commercial trade
    - On activities having adverse effects
    - Applicable to all individuals and private and public entities.
8. Regarding destruction or disturbance that is authorized in accordance to the Protocol, require that:
    - Intentional taking of protected species be done by permit only
    - Permits be denied when evidence suggests species may be at or below their optimum level
    - Permits should impose conditions on amounts, time and places, equipment and harvesting methods
    - Non-selective means of capture, or killing, hunting and fishing be regulated and monitored
    - Closed hunting and fishing seasons be declared as necessary
    - Activities that result in the disturbance of species be regulated and monitored
    - Permits revoked for non-compliance.
9. Regarding commercial trade that is authorized in accordance to the Protocol:
    - Require permits for the import, export or possession of protected species
    - Require permits be denied unless permit seeker can establish that a species has been lawfully obtained
    - Prohibit trade and transport of unlawfully imported or acquired specimens
    - Require that permits be revoked for non-compliance.
10. Establish mechanisms in addition to those required for protected areas to protect habitat and ecosystems, such as:
    - Integrated coastal management
    - Environmental impact assess-ments
    - Designation of critical habitat
    - Zoning and land use planning
    - Permits
    - Monitoring
    - Interim protection orders
    - Interagency consultation and coordination
    - Conservation management agree-ments with private and public entities.

ARTICLE 13: ENVIRONMENTAL IMPACT ASSESSMENT

1. In the planning process leading to decisions about industrial and other projects and activities that would have a negative environmental impact and significantly affect areas or species that have been afforded special protection under this Protocol, each Party shall evaluate and take into

consideration the possible direct and indirect impacts, including cumulative impacts, of the projects and activities being contemplated.

2. The Organization and the Scientific and Technical Advisory Committee shall, to the extent possible, provide guidance and assistance, upon request, to the Party making these assessments.

WORKSHOP RECOMMENDATIONS:

1. Require that environmental impact assessments (EIAs) be prepared for all projects and activities that would have a negative environmental impact or significantly affect protected areas or species.
2. Require that EIAs be considered during the planning process so that a project/activity design may be modified if necessary.
3. Require that EIAs evaluate possible direct, indirect and cumulative impacts.
4. Require the exchange of information and the consultation of protected areas and species management agencies during the planning process of the project/activity.
5. Provide for timely review and comment by all concerned parties, including the general public, conservation organizations and local communities.
6. Require that permits be denied for projects that would result in the destruction of disturbance of a species listed in Annex I or II.
7. Provide that permits for projects that might have a negative environmental impact or adversely affect protected species, their habitats or associated ecosystems be denied or conditioned to avoid harm.
8. Provide authority for designated agencies to veto projects or activities that would significantly affect protected species or, in the alternative, to request that a decision be reviewed at a higher governmental level.
9. Require that permits be monitored during construction and audited following completion to assess compliance.
10. Authorize the appropriate agency to suspend work for non-compliance with permit condition and to require the permit to correct deficiencies.
11. Provide for effective fines and penalties for violation of permit conditions or agency orders to correct deficiencies.
12. Provide that performance bonds be posted to guarantee the availability of funds to remedy any damage, to pay fines or penalties, and to finance the cost of taking corrective action in the event the permit holder fails to do so.
13. Upgrade technical capabilities of relevant personnel to review EIAs.

ARTICLE 14: EXEMPTIONS FOR TRADITIONAL ACTIVITIES

1. Each Party shall, in formulating management and protective measures, take into account and provide exemptions, as necessary, to meet traditional subsistence and cultural needs of its local population. To the fullest extent possible, no exemption which is allowed for this reason shall:
   a. endanger the maintenance or areas protected under the terms of this Protocol, including the ecological processes contributing to the maintenance of those protected areas; or
   b. cause either the extinction of, or a substantial risk to, or substantial reduction in the number of, individuals making up the populations of species of fauna and flora within the protected areas, or any ecologically inter-connected species or population, particularly migratory species and threatened, endangered or endemic species.
2. Parties which allow exemptions with regard to protective measures shall inform the Organization accordingly.

WORKSHOP RECOMMENDATIONS:

1. Require consideration of traditional subsistence, and cultural needs when formulating management and protective measures.

Authorize the designated agencies to accommodate such needs in management and protective measures, and to make exemptions when necessary, subject to the limitations in Article 14.1 (a) and (b).