TC:STCF/2004/DMA.1

NATIONAL AND INTERNATIONAL REGIMES FOR THE CONSERVATION OF SEA TURTLES

PART I - Legal Trends in Marine Turtle Conservation and Management (National Legislation) by Marion Chiris

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PART I

LEGAL TRENDS IN MARINE TURTLE CONSERVATION AND MANAGEMENT (NATIONAL LEGISLATION)

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1. INTRODUCTION

The present report explores some of the legal measures adopted at national level for the conservation and management of marine turtles. National legislation of about 70 countries or territories have been reviewed for this purpose and are listed at the end of this document.[1] Their legal instruments have been reviewed with a view to analyse and assess the main trends and characteristics of sea turtle conservation and management measures. In Chaper 2, the report covers the legal instruments adopted by countries with respect to turtles and contains a general overview of national legislation. Chapter 3 is dedicated to a more detailed analysis of the main conservation and management legal measures. This chapter is followed by a few words on other tools such as national institutions and special funds, public education and participation, research, economic incentives and alternative income (Chapter 4). Finally, Chapter 5 reviews very briefly some issues related to enforcement.

2. LEGAL INSTRUMENTS

2.1. Linkages between international, regional and national instruments

Over the last decades there has been a significant change and heightened interest in the national and international regulatory frameworks governing sea turtles. The adoption of various international instruments influenced sea turtle regulation worldwide. International instruments promote harmonization of legislation among countries as well as the setting of minimum standards for the protection of sea turtles. They also tend to encourage countries whose legislation is not fully developed to adopt more stringent rules. The main international and regional instruments which are relevant for the conservation and management of marine turtles are either species-based treaties or related to the protection of habitats, environment and more recently biodiversity. Fisheries-related international instruments also play a major role since they generally contain provisions for the protection of marine species. Many of these instruments, quite general in wording, are binding for the Parties and need to be

[1] Albania, Angola, Argentina, Australia, Bahamas, Bangladesh, Brazil, British Virgin Islands (UK), Cambodia, Canada, Cape Verde, Cayman Islands (UK), Chile, China, Comoros, Costa Rica, Cote d'Ivoire, Cuba, Cyprus, Dominican Republic, Egypt, European Community, Federated States of Micronesia, France, French Guiana (France), Gabon, Greece, Guyana, Haiti, India, Indonesia, Iran, Israel, Italy, Jamaica, Japan, Libya, Madagascar, Malaysia, Malta, Mauritania, Mexico, Mozambique, Myanmar, Namibia, New Zealand, Oman, Pakistan, Papua New Guinea, Peru, Philippines, Portugal, Puerto Rico (USA), Seychelles, Solomon Islands, South Africa, Spain, Sri Lanka, Suriname, Syria, Tanzania, Thailand, Tonga, Tunisia, Turkey, United Kingdom, United States of America, Vanuatu, Venezuela, Viet Nam

implemented within national systems through the adoption of adequate legislation. A list of major global instruments is provided hereafter:

- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973;
- Convention on the Conservation of Migratory Species of Wild Animals (CMS), 1979;
- International Convention for the Prevention of Pollution from Ships (MARPOL), 1973;
- United Nations Convention on the Law of the Sea (LOSC), 1982;
- Convention of Biological Diversity (CBD), 1993;
- Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UN Fish Stocks Agreement), 1995;
- FAO Code of Conduct for Responsible Fisheries (CCRF), 1995.

Regional instruments may be binding or voluntary in nature and take different forms e.g. protocol, treaties. They are sometimes used to implement global instruments taking into account the specificity of the region. Unlike global instruments, some regional protocols and conventions focus solely on marine turtles. The main regional instruments related to the protection of marine turtles include the following:

- Inter-American Convention for the Protection and Conservation of Sea Turtles (IAC), 1996;
- ASEAN Memorandum of Understanding on the Conservation of Marine Turtles, 1999;
- Memorandum of Understanding on Conservation Measures for Marine Turtles of the Atlantic Coast of Africa, 1999;
- Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats in the Indian Ocean and Southeast Asia (CMS-IOSEA), 2000;
- Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere (Western Hemisphere Convention), 1940;
- African Convention on the Conservation of Nature and Natural Resources, 1968;
- Convention for the Protection of the Mediterranean Sea Against Pollution (Barcelona Convention), 1976, renamed as Convention for the Protection of the Marine Environment and the Coastal Region in the Mediterranean, 1995; Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA and Biodiversity Protocol), 1995; and Action Plan for the conservation of Mediterranean Sea Turtles, 1999;
- Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention), 1979;
- Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention), 1983; and Protocol to the Cartagena Convention Concerning Specially Protected Areas and Wildlife, 1990;
- Convention for the Protection of the Natural Resources and Environment of the South Pacific Region (SPREP Convention), 1986;
- Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern Africa Region (Nairobi Convention), 1985; and Protocol Concerning Protected Areas and Wild Fauna and Flora in the Eastern Africa Region, 1985;

- Convention on the Conservation and Management on Highly Migratory Fish Stocks in the Western and Central Pacific Ocean, 2000;[2]
- Protocol Concerning Specially Protected Areas and Wildlife (SPAW Protocol), 1990.

At national level the conservation and management of sea turtles is achieved through the adoption of laws covering several topics, namely: (a) fisheries; (b) hunting; (c) wildlife, fauna, marine resources or endangered species, and (d) habitat, environment or biodiversity. Countries having adopted specific instruments for sea turtles are not rare but constitute a minority. Most of them are South American or Caribbean countries (Brazil, Costa Rica, Cuba, Dominican Republic, Guyana, Venezuela). Others are found in Africa (Comoros, Seychelles), in Asia (Micronesia, Philippines, Thailand), in the Southeast Pacific (Vanuatu) and in the Mediterranean region (France, Greece, Italy). Specific instruments for sea turtles take the form of subsidiary legislation, namely decrees or regulations, except in Costa Rica and United States of America where proper laws were adopted to protect sea turtles.

2.2. General overview of national legislation

2.2.1 Evolution of legal protection throughout years

The first measures related to marine turtles are found in old hunting and fishing laws, in which the basic premise was exploitation of animals rather than conservation. Common protection rules included limitations on hunting species, areas and methods. Such hunting and fishing laws while concerned about exploitation of animals, sometimes contained measures to protect sea turtles, such as the prohibition of killing and capture of sea turtles, at least at some stages of their lifecycle.

From the 1970s onwards, focus was put on the conservation of natural resources and legislation on wildlife developed rapidly in many countries. In general, sea turtles were not specifically mentioned although they were covered by law, being part of the wildlife. These laws in the early 1970s tended to take a more comprehensive view of wildlife management, including development as well as conservation aspects.

A major progress was made with the adoption, at international level, of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1973, which classified species into various categories and listed all seven species of marine turtles in Appendix I of the Convention (species threatened with extinction). At national level, the adoption of the Convention was reflected, from the 1970s but mainly in the 1980s and 1990s, by the adoption of special measures regarding international trade as well as capture and domestic trade in marine turtles. Regulations for the protection of marine turtles were often integrated into existing laws, mainly in wildlife and fishery laws.

In the same period, countries established an increasing number of protected areas for the conservation of wildlife and their habitats. These evolutions were accompanied by the growing acceptance of the concept of sustainable and rational use of natural resources, according to which the use of natural resources should guarantee the availability of these resources for future generations, as well as the survival of all species and the conservation of ecosystems.

[2] The Convention gives effect to the UN Fish Stocks Agreement.

The 1990s witnessed an even more comprehensive approach to wildlife management. Various aspects related to the protection of animal species were taken into account: not only the capture, use and trade of animals, the protection of their habitats but also the preservation of biological diversity, the regulation of activities having an incidental impact on animals (especially fisheries), the repopulation, reproduction and recovery of marine turtles, and other measures for the management of animals, including the elaboration of plans, the creation of institutions and special funds as well as the public involvement of and promotion of research in sea turtle management and conservation.

The most recent trend, the enhanced concern for the protection of biodiversity as a whole has led to the development of biodiversity laws which contribute to the protection of animal species, including turtles. Finally, the precautionary approach in the management of wildlife, habitats and environment is found in an increasing number of legal instruments. It implies that when threats of damage exist, the absence of scientific certainty should not be used as a reason to disregard the adoption of effective protection measures.

2.2.2 Main conservation and management measures

The analysis of legislation of the countries surveyed shows that legal provisions taken for the conservation and management of marine turtles cover many topics. Hereafter, is a summary of the major measures, whose detailed analysis is provided in Chapter 3 of this Report.

All countries, to very few exceptions, provide some legal protection against **capture** of marine turtles and their eggs. They either fully prohibit any form of capture or provide for restrictions in the capture of sea turtles. Limitations may translate in the form of fishing or hunting license and may concern quantity, size and type of species that may be caught, time when and areas where capture may take place as well as fishing/hunting methods and weapons. Some exceptions to these rules are admitted for various purposes, including scientific and educational purposes, subsistence fishing or cultural purposes. This topic is addressed in Chapter 3.1.

As far as trade is concerned, a distinction must be made between **international trade and domestic trade**. CITES has had an important impact in the development of national legislation. National laws on international trade are quite homogenous since a majority of countries have become Parties to CITES and have incorporated CITES provisions into their national legal system. As a result, international trade is prohibited in a majority of countries, except for some specific purposes and under very strict conditions. Legal measures on domestic trade either fully prohibit (in half of the countries surveyed), either regulate such trade or authorize it. The topic is covered in Chapter 3.2.

The protection of **habitats** was first characterized by the adoption of an adequate legal framework for the creation of protected areas, in which human activities were prohibited or controlled. Although this trend started in the 1970s, it has developed in the 1980s and 1990s in most countries. Both marine and terrestrial protected areas (coasts and nesting beaches) are relevant for marine turtles. In some countries, some protected areas were established with the specific purpose of conserving sea turtles. In the 1990s, protection of habitats was further broadened with the adoption of environmental laws, which often included the obligation of assessing the impact of potentially harmful activities. More recently, biodiversity laws, which include environment, ecosystems and living resources all together (Chapter 3.3).

Incidental catch of sea turtles during fishing operations started to be addressed mainly in the last decade. Turtles suffer significant mortality from fishing operations. This issue is at the core of debates and has created (and still creates) tension on the international scene. It is being addressed by an increasing number of countries by a variety of measures. Legal measures adopted to mitigate bycatch include restrictions in fishing efforts, limitations in the use of certain methods and gears and on fishing areas and periods, the mandatory adoption of Turtle Excluder Devices (TED) as well as prescriptions on release and resuscitation of sea turtles when they are caught (Chapter 3.4).

Actions taken for the conservation and management of sea turtles also concern their **repopulation and reproduction**. Some laws provide for the creation of hatcheries and development of head-starting programmes, as well as farming, breeding and ranching for conservation purposes. Other laws contain provisions on recovery plans for threatened species, which aim at stopping the decline of such species and includes sea turtles (Chapter 3.5).

Other conservation and management measures are the creation of **national institutions** and **special funds**. Further attention has also increasingly be devoted to people-related aspects of sea turtle management. This is reflected in those laws on **public involvement** in the management of sea turtles, which is encouraged to varying extents and under various approaches: it includes information and education of the public, consultation with stakeholders prior to the adoption of decisions, participation of the public through the creation of specific institutional arrangements, cooperation with civil society organizations and the conclusion of agreements between people and administrations. **Research** is promoted in various laws. Finally, some laws propose **economic incentives** and some countries have sought to help people working with sea turtles to find an **alternative income**, which include the development of alternative activities and eco-tourism (Chapter 3.6).

3. CONSERVATION AND MANAGEMENT MEASURES

3.1 Capture (direct take)

Almost all countries provide some legal protection against capture or direct take of sea turtles.[3] Out of the 70 countries surveyed, only one, Cambodia, does not confer any protection against capture. Protection was initially limited to nesting turtles and to their eggs, so that the reproduction of turtles would not be jeopardized by overexploitation (the first legislation setting up limitations to capture was adopted in the Philippines in 1916 and Tonga in 1934). More comprehensive measures were adopted throughout the years. The scope of the prohibitions or restrictions on capture of sea turtle may now include live and dead turtles as well as the taking of their eggs and nests. In addition to the act of capturing, laws also cover the killing, injuring, wounding, shooting, trapping and more recently the disturbance of sea turtles as well as the destroying of their eggs and damage of their nests.

3.1.1 Protection through complete prohibition

More than half of the countries surveyed fully prohibit capture of marine turtles. This is the case in the Philippines since 1947 and in many other countries, including all South American

[3] This part does not include incidental catch during fishery operations, which is envisaged in Chapter 3.4.

countries and all European Community Member States since the 1970s.[4] Examples of other countries are Mexico, Jamaica, United States of America, Australia, China, India, Indonesia, Malaysia, Pakistan, Sri Lanka, Comoros, Mozambique, Seychelles, Tanzania, Namibia, Mauritania, Tunisia and Albania. A larger number of countries prohibit the taking of sea turtle eggs which is of fundamental importance to ensure the correct reproduction of turtles.

3.1.2 Protection through restrictions

Other countries **partially prohibit** the direct taking of sea turtles. Hunting or fishing is subject to a **license or authorization.** This is the case for instance in Myanmar and Israel. License regimes may constitute an efficient management tool since they allow authorities to control the number of licenses which are issued each year and to limit the number of specimens that each holder of a license may catch, as it is done for instance in the Cayman Islands (UK). Following limitations apply to fishing and hunting of sea turtles:

- **Limitations in the quantity** of sea turtles that may be captured: quotas are set by means of regulations or a condition to a license in a number of countries, such as Cuba or Viet Nam for olive ridley and loggerhead turtles. Limitations in the quantity of sea turtles to be efficient require a periodical assessment of turtles' situation. As will be seen below, it is not rare that laws require the conduct of surveys and inventories (see Chapter 3.5.1), they usually do not link the result of such surveys to the adoption of adequate regulatory measures regarding the capture of sea turtles.

- **Limitations related to species:** a large number of countries prohibit the capture of **nesting turtles**. Laws either refer specifically to nesting turtles or provide for other measures which have a similar effect, like restrictions on capture of sea turtles during nesting periods or in nesting areas. It is notable that Madagascar has prohibited the capture of nesting turtles ever since 1924. Gabon limits hunting to fully grown males, to the exclusion of any female turtles. Size limits are also imposed, particularly in countries of the Caribbean[5], protecting thus the young sea turtles. Finally, some countries authorize the taking of some sea turtle **species** while they fully prohibit the capture of other species. For instance, while restricting the capture of olive ridley and loggerhead turtles, Viet Nam fully prohibits the capture of hawksbill, green and leatherback turtles. Bahamas is another example where the capture of any hawksbill turtle is prohibited.

- **Limitations on time:** a common norm in hunting and fishery laws is the prohibition to hunt and fish between sunset and sunrise. Besides, many laws fix open and closed seasons, the latter corresponding most often with turtle nesting periods.

- **Limitations on areas:** many countries have adopted measures limiting the taking of turtles in certain areas. Approaches in defining the areas differ from one country to another and may concern beaches, territorial waters and adjacent waters (Comoros), an area within the five first kilometres from the coastline (Costa Rica)[6], or within 100

[4] The Council Directive n. 92/43/EEC on the conservation of natural habitats of wild fauna and flora, of 21 May 1992, stipulates that Member States shall prohibit all forms of deliberate capture or killing of species listed in Annex IV (a), which includes loggerhead, leatherback, hawksbill, kemp's ridley and green turtles.

[5] Bahamas, Cuba, British Virgin Islands, Cayman Islands

[6] It is to be noted that Comoros and Costa Rica introduced a total ban on the capture of sea turtles in 1992 and 2002, respectively.

metres off shore (The British Virgin Islands (UK)) prohibit the setting of nets to catch marine turtles. Furthermore, the Japanese legislation refers to **administrative areas**, and several countries have created marine or terrestrial **protected areas** limiting and/or prohibiting the capture of sea turtles.[7]

- **Limitations on methods and weapons for taking sea turtles:** they are either of general or specific in nature. The general prohibition on use of explosives, poison and other noxious substances was one of the first fishing restrictions adopted; it concerns fishing of all species, including marine turtles (the Philippines has proscribed such methods since 1916 and it is not rare that such prohibitions date back to the 1950s). Fire-arms are usually also forbidden. In contrast, the Cayman Islands allow for capture of sea turtles with nets only.

3.1.3 Exceptional circumstances: derogation regimes

Most countries provide for derogations from the provisions prohibiting or restricting capture of sea turtles, allowing capture activities in specified cases or for specific reasons, relating *inter alia* to food security, protection of fauna and flora, cultural, educational and scientific purposes, and subject to the indication of all applicable conditions. Derogations thus authorized specify species, means, circumstances of time and place, and responsible authorities.

A large number of countries, in all parts of the world, allows for the capture of turtles and the taking of their eggs for **scientific and educational purposes**. This is the case for instance in Mauritania ("scientific and technical purposes"), China ("for the purpose of scientific exploration and survey, dissemination of knowledge, education in and exhibition of resources"), and in India where hunting permits may be granted for the collection of specimens for recognized zoos, museums and similar institutions.

Consistent with a number of international and regional instruments[8], countries where the local population relies on sea turtles and their eggs for **subsistence** reasons; derogation regimes have been introduced into national legislation like in South Africa and Tonga.

In traditional societies, exceptions to prohibition to capture sea turtles have been made for **cultural purposes**, like in Peru, or to allow the holding of **traditional ceremonies** involving marine turtles, as in Indonesia and more particularly Bali before 1999.

Capture is sometimes allowed for **farming or ranching**, either for commercial purposes or for conservation purposes. Such activities refer to the rearing in a controlled environment of specimens taken from the wild.[9]

Eventually, some laws admit other types of exceptions, for instance the **protection of animal species**. In the USA the relevant authority may permit the capture of turtles to enhance their survival, subject to the submission of a conservation plan by the applicant, which shall specify the impact resulting from such taking. Subject to the delivery of a special permit, Indonesia allows capture "for the safeguarding of animals", and India for the translocation of any wild

[7] The topic is addressed in Chapter 3.2.1.
[8] The Bonn Convention (CMS) (article III.5) or the Inter-American Convention (article IV.3).
[9] Farming or ranching for lucrative purposes and for conservation purposes are respectively covered under Chapters 3.2 and 3.4.2 of this report

animal, including sea turtles, to an alternative suitable habitat. India also allows the capture of wild animals which are so disabled or diseased as to be beyond recovery, subject to written authorization.

3.2 Trade

Most often national laws have firstly addressed the issue of international trade and further on domestic trade. Regulatory frameworks address live and dead sea turtles, their parts and produce, and transport is covered under the wording of "trade".

3.2.1 International trade

As mentioned above, the major international instrument regulating the trade of sea turtles is the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), adopted in 1973. Generally speaking the Convention protects endangered species by restricting and regulating their international trade through export permit systems. All seven species of marine turtles are listed in Appendix I of the Convention, which lists animal species that are or may become threatened with extinction which are or may be affected by trade. It prohibits international trade of such species and stipulates that non-commercial trade may be authorized in exceptional circumstances or for specimens bred in captivity, subject to the issuance of both import and export permits or re-export certificate.

Most countries surveyed are Parties to CITES[10] and have adopted similar legal measures prohibiting international trade in sea turtles. In contrast, there are some countries that impose partial prohibition while others do not prohibit international trade at all, either because they have not enacted any legal instrument to implement CITES provisions or because they are not Parties to CITES.

(a) Amongst the countries surveyed, the majority (about 80%) have adopted legal measures to fully prohibit international trade in sea turtles. The adoption of legislation has been spread over the last 30 years, with the oldest legislation dating back from the 1970s and 1980s (Latin American countries, European Community's Member States, USA, India) and the most recent ones dating from a few years ago (Turkey in 2003). Although the adoption of laws has been most often simultaneous to the ratification of CITES, some countries waited many years to implement the Convention. For instance, Guyana ratified CITES in 1977 but passed legislation controlling international trade in 1999 only. Other countries proceeded in several steps, such as Dominican Republic or Mauritania which had first prohibited the import and export of hawksbill turtles in 1967 (Dominican Republic) and green turtles in 1997 (Mauritania) and then extended the prohibition to all species of marine turtles (respectively in 1977 and 2000). Another example of progressive implementation of CITES is Jamaica, which in 1974 had forbidden the export of shells without license and was extended to all parts of sea turtles in 2000.

Import and export of marine turtles may nevertheless be consented as derogation to the general prohibition rule and, in conformity with CITES, for scientific research, non-commercial loan, donation or exchanges between scientists or institutions (China or New Zealand). Some countries further authorize, in accordance with CITES and under strict

[10] All countries are Parties to CITES except Oman, Solomon Islands and Tonga.

conditions, the international trade of species born and bred in captivity (farming and ranching) (European countries, Argentina and China).

Authorizations to import and export marine turtles for the above purposes are granted in the form of a permit (European Community[11]). The specific conditions under which the authorities may issue permits are not frequently detailed in the law, however where they are stipulated they often reflect the CITES provisions. Import and export can only occur if there is no harmful effect on the conservation status of the species, if specimens are obtained in accordance with the legislation in force in the country of origin (for import) or the country of destination (for export), and if the species are not used primarily for commercial purposes. In addition to the permit, some countries (Madagascar) require a certificate of origin and healthiness.

The general prohibition to international trade in sea turtles applies commonly also to trade with **non CITES Parties** than those contained in CITES (Argentina, Portugal). Costa Rica adopted measures stricter than CITES since trade with non CITES Parties is prohibited and no exceptions are admitted to this rule.

(b) A few countries surveyed allow for international trade of marine turtles to take place during specific periods of the year or allow import of marine sea turtles, specific species. To illustrate this, Cape Verde prohibits trade of turtles between June and February and Seychelles forbids the export and import of turtle shells or parts of turtle shells only.[12] Comoros, Gabon, Papua New Guinea and Vanuatu do not mention import but prohibit export of sea turtles. Eventually, some countries have joined **reservations** to their instruments of ratification of CITES to exclude the application of the Convention to one or several species. Japan, which was one of the main importers of sea turtles, ratified CITES in 1980 but excluded its application to hawksbill turtles. In fact, commercial export and import of all sea turtles except hawksbills was prohibited under the Foreign Exchanges and Foreign Trade Law in November 1980. Japan withdrew its reservation to CITES in 1994 and reviewed its legislation to protect all turtles, including hawksbills. Reservations made by Cuba and Suriname, which are still valid, exclude hawksbill and green turtles (Cuba) and leatherback and green turtles (Suriname) from CITES application.

(c) Amongst the **countries which do not prohibit or restrict international trade of marine turtles**, some have ratified CITES but have not adopted any national legislation implementing it as yet. It is the case of Cyprus, Myanmar or Cambodia or of the countries which have ratified CITES very recently, like Albania, Libya or Syria.[13] Other countries are not Party to CITES and have not adopted any legislation prohibiting export and import of sea turtles (Angola, Haiti and Micronesia).[14]

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[11] In accordance with Council Regulation n. 3338/97 of 9 December 1997, trade within the European Community of species listed in Annex A (which includes all sea turtles) is prohibited. The Directive also stipulates that any movement within the Community of a live specimen listed in Annex A shall require prior authorization from the authorities of the country of origin, which further reinforces the prohibition on trade.

[12] Seychelles is Party to CITES since 1977 while Cape Verde is not a Party.

[13] Cyprus is Party to CITES since 1975; Myanmar and Cambodia since 1997, and Albania, Libya and Syria since 2003.

[14] Out of the 70 countries surveyed, 7 countries are not Party to CITES: Angola, Cape Verde, Haiti, Micronesia, Oman, Solomon Islands and Tonga. Amongst these countries, Cape Verde, Oman, Tonga and Solomon Islands prohibit or restrict international trade of sea turtles. In Cape Verde, trade of marine turtles is prohibited from June to February. In Oman and Tonga, no import or export is allowed without the authorization of the relevant authority. In Solomon Islands, export of any turtle is strictly prohibited.

3.2.2 Domestic trade

Legal measures on domestic trade of sea turtles are far less homogenous than legislation on international trade and are more in line with measures on capture of sea turtles: commonly, countries having fully prohibited capture also prohibit domestic trade in sea turtles. As far as the other countries are concerned, if almost all of them put limits on the capture of sea turtles, the situation is slightly different regarding internal trade: countries could be equally divided between those restricting domestic trade and those authorizing it.

(a) In more than half of the countries surveyed **domestic trade** in sea turtles is not permitted. The first legal measures appeared at the beginning of the 1970s (USA and India) and were adopted in the 1980s and 1990s in most countries. All Member States of the European Community and all Latin American countries prohibit internal trade, to the exclusion of Guyana and Suriname. Other examples of countries include Cuba, Dominican Republic, Jamaica and Mexico in the Caribbean; Australia, Solomon Islands and Vanuatu in the Southeast Pacific; China, Indonesia, Malaysia, Philippines and Sri Lanka in Asia; Israel, Iran and Tunisia in the Mediterranean region; and Mauritania, Mozambique, Seychelles, South Africa and Tanzania in Africa. With a view to ensure that domestic trade does not take place some countries have adopted additional measures such as the prohibition for restaurants to keep or serve produce of protected species, including in this case sea turtles. (India and Sri Lanka). India also prohibits any business as a manufacturer of, or as dealer in articles of protected animals.

Yet again, there are some derogation regimes for **scientific and educational purposes** (research, teaching in conservation, exhibition) or for specimens born and bred in captivity, that-is-to say in **farms and ranches**. Such commercial activity is systematically subject to authorization, examples being China, Indonesia, Mauritania, Albania, Portugal and Thailand. Viet Nam prohibits the sale and purchase of hawksbill, leatherback and green turtles when they are taken from the wild, which means that turtles born in captivity may be traded.

(b) Other countries **partially prohibit domestic trade**. Trade of living resources can occur under a specific license or right (Namibia, Gabon and Guyana). Among the most common protection rules which are trade related, one can find:

- **Limitations related to species**: trade in specimens under a minimum size limit (Cayman Islands) or in specific species as in the Bahamas (hawksbill and leatherback turtles), Comoros (hawksbill, leatherback and green turtles) and Turkey (loggerhead turtles). Viet Nam authorizes, subject to specific conditions, the trade of loggerhead and olive ridley turtles. Ultimately, prohibitions on trade may concern **parts** of sea turtles like shells (Seychelles) or **specimens** presenting certain characteristics: in Japan the prohibition on trade of sea turtles applies only to live animals, to whole dead specimens and to shells. As a result, parts and products of turtles (including meat and eggs) are not covered by the prohibition.

- **Limitations on time**: many countries prohibit the trade of domestic turtles during **closed seasons**. This measure aims at protecting nesting turtles and their eggs and is complementary to the usual prohibition on capture of sea turtles during these seasons. These measures can be found in the British Virgin Islands (UK), Cape Verde, Gabon and Tonga.

(c) A certain number of countries do not prohibit or restrict domestic trade at all. They belong to the Mediterranean region (Albania, Libya, Syria), to Africa (Angola), to Asia (Cambodia, Myanmar), to the Southeast Pacific region (Micronesia, Papua New Guinea) and to the Caribbean region (Haiti).

3.3 Habitat and environment

Protection of habitat is of fundamental importance for the conservation and management of sea turtles and their habitats, whether marine or terrestrial. A traditional means for protecting habitat has been the establishment of terrestrial and marine protected areas. Numerous international and regional instruments, the oldest dating back to the 1940s,[15] promote the creation of such areas and almost all national legislation provide for the establishment of natural reserves, parks, sanctuaries, refugees, etc., in which human activities are prohibited or controlled. More recently, some countries have provided for the creation of an integrated "system of protected areas" where special measures are taken for the protection of particular species or habitat, as well as for the safeguarding of the interests of various stakeholders. Some countries have also started to create transboundary protected areas to adapt their conservation measures to the particular migratory nature of sea turtles.

Environmental laws constitute another mean relevant to the conservation of sea turtles and have been adopted by most countries in the 1990s with an enhanced concern for the protection of biodiversity as a whole. The most recent trend is to substitute comprehensive legislation on biodiversity to the patchwork of legal instruments which address separately various issues such as the protection of species, preservation of habitat and regulation of human activities having a strong environmental impact.

3.3.1 Protected areas

Legislation of all countries surveyed, except Syria and Micronesia, contain provisions for the creation of protected areas, whose objective is to preserve fauna and flora species as well as their habitat or ecosystems from overexploitation and deleterious human activities. The major part of the pertinent national laws dates back to the 1980s and 1990s although a significant number of legislation was adopted earlier (about 30% of the laws). Basic laws typically give the relevant Minister or administration the mandate to create protected areas without specifying the areas concerned, which is done subsequently by decree or regulations. These areas can also take different names ranging from national parks, to natural reserves, sanctuaries, wildlife management parks, etc., often along the various purposes pursued for their creation.[16]

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[15] Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, 1940.

[16] National instruments use the terms "protected areas" and "marine protected areas" but also list other types of protected areas, as follows:

- national parks (in many countries such as Cuba, Dominican Republic, French Guiana, Guyana, India, Australia, New Zealand, France, Iran, Cape Verde, Comoros, Madagascar, Mauritania, Mozambique and Tanzania), regional parks (Australia) and marine national parks (Mozambique);
- natural reserves (France, French Guiana, Suriname, Canada); marine natural reserves (Mozambique); marine reserves (Canada, China, Cayman Islands, Cyprus, Indonesia, Libya, Malaysia, Namibia, New Zealand, South Africa, Tanzania, Thailand, United Kingdom, Vanuatu, Viet Nam); nature or special nature reserves (South Africa); wildlife reserves (Venezuela) and ecological or biosphere reserves (Cuba);

A number of countries have created protected areas **with the specific purpose of protecting sea turtles and their habitat**. The Philippines declared a marine turtle sanctuary in the Island of Baguan in 1982. In Mexico, 16 nesting beaches were declared reserves and refugees for the conservation and management of marine turtles (1986). A Cyprus regulation of 1989 also made provision for the establishment of the Lara-Toxeftra Management Nature Reserve, designed to ensure the protection of the nesting grounds of marine turtles. Protected areas were established in Brazil for the laying of turtle eggs in 1996. In 2000, Costa Rica created by decree the Tamarindo Wildlife National Refugee dedicated to the observation of leatherback turtles, to which access is restricted during nesting period and is subject to authorization during the rest of the year as well as to other conditions (entrance in the Refugee authorized only in presence of a guide, prohibition on use of cameras, loud noise, etc.). In the application of the 1992 Habitat Directive of the European Council, Spain designated green turtles as one of the animals of community interest whose conservation requires the designation of special areas of conservation (Royal Decree of 1995).[17]

Protected areas play a very important role in protecting turtles, even when they are not specifically created to protect sea turtles. For instance, one of the most important West African feeding grounds for marine turtles is protected by a Mauritanian Decree of 1976, which established the Banc d'Arguin national park on an extensive marine zone.

Depending on the countries' legislation, various degrees of protection are offered to relevant fauna species conditional on a number of factors, including the life stage of animals,, particular needs and cultural settings of the countries and the type of protected areas. Most countries strictly prohibit the taking of **marine turtle eggs and hatchlings**. Reproduction is the core concern and thus concept of protected areas. The idea is to allow the natural regeneration of populations, *in-situ* and protection from human interference. This goal is sometimes reflected in the name given to the protected areas, like in Mexico and Albania, whose legislations respectively provide for the creation of "repopulation sites" and "repopulation zones". Nesting turtles are also granted a particularly high degree of protection.

Measures on **hunting and fishing** of fully grown turtles in protected areas range from total exclusion to less stringent measures, such as the authorization of fishing and hunting during certain periods or for subsistence purposes. For instance, in Australia, hunting by Aboriginal and Torres Strait Islander communities living adjacent to the Great Barrier Reef Marine Park, which protects a significant amount of marine turtles, may be undertaken upon delivery of a permit. Some countries also specify that it is prohibited to "affect", "disturb" or "interfere with" the animals (USA, France, Guyana). Although conservation measures taken in protected areas are stricter than in the non-protected areas, they need to be considered together with specific provisions of other laws prohibiting or restricting the capture of sea turtles. Tonga, for example, prohibits fishing for commercial use within protected areas; this allows

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- sanctuaries (in Argentina, Cambodia, China, Gabon, India, Malaysia, New Zealand, Papua New Guinea, Sri Lanka, Venezuela) and marine sanctuaries (USA, Philippines);
- refugees (Costa Rica, New Zealand, Venezuela);
- wildlife management areas (Papua New Guinea);
- protected environmental areas (Angola);
- protected waters (Japan);
- fisheries reserves (Sri Lanka).

[17] The Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora of 21 May 1992 asked Member States to designate animals of community interest whose conservation requires the establishment of special areas of conservation.

local communities to fish for subsistence purposes but fishers still have to respect the general prohibition to fish marine turtles at certain periods of the year.

In addition to the protection of animal species, the protection of **habitats** is of fundamental importance in protected areas and the creation of protected areas for the protection of sea turtles has had a progressively strong impact on human activities. Prohibitions include damaging, collecting or removing materials from seashore and waters such as shells, corals, rocks, soil, sand, dredges or gravels as well as spoiling and destroying the geological structures (Egypt, India and Vanuatu.) **Access** to protected areas is sometimes restricted or prohibited, as in the case of India, South Africa and Tanzania. Many activities that result in **coastal and marine pollution** are also particularly controlled in protected areas. Other prohibitions concern the **construction of buildings** and other installations (French Guiana, Tonga, New Zealand, South Africa) as well as the undertaking of **industrial or commercial activities** (China, USA). Myanmar also prohibits the driving in sanctuaries (nesting turtles may have difficulties when they bury eggs if the sand is too compact because of the repetitious passage of vehicles).

It is worth mentioning one of the few, if not the sole, existing **transboundary protected area** created with the specific objective of protecting sea turtles. On 31 May 1996 the Governments of the Philippines and Malaysia signed a bilateral agreement establishing the Turtle Islands Heritage Protected Areas (TIHPA), the first transfrontier protected area for marine turtles in the world. TIHPA covers six Philippines islands (one of these islands was declared marine sanctuary through legislation in 1982) and three Malaysian Islands (which have formed the national park of Sabah since 1977). The Agreement identifies priority activities for a common management of sea turtles in the area (which includes research, the establishment of a database, an appropriate information awareness programme and an eco-tourism programme).

3.3.2 Environmental and biodiversity protection measures

Environmental laws, which were adopted mainly in the 1990s, protect the full national territory and have an indirect impact on the conservation of sea turtles. The main measures concern the control of **sea pollution**, including oil pollution from ships, and the decrease of the quantity of **marine debris** (including fishing gear left in the sea) and **toxic substances** found in the sea. Dumping of waste and discharge of other harmful materials into the sea, such as chemical or radioactive substances, are normally prohibited or regulated. An old Japanese regulation (1949) adopted a particularly interesting approach since it went beyond prohibition or restriction of activities, which ordered that assistance should be provided to prefecture projects to remove wastes, such as vinyl bags, in waters inhabited by sea turtles. Restrictions may also regard the passage of vessels in certain areas, which may reduce marine pollution as well as marine turtle mortality due to boat collision. For instance, a Greek Ministerial Decree of 1998 on the protection of marine turtles delineates the marine and coastal areas (Gulf of Laganas) within which passage or anchorage of fishing vessels and any other vessels is prohibited between 1 May and 31 October. Other environmental provisions protect **seashores** and concern the collection of materials, construction of building and installations and the undertaking of certain activities in the coastal zones, such as excavation. These activities are normally subject to prior authorization. Two Brazilian Orders of 1995 also prohibit the transit of every type of vehicle along seashores (in certain states of Brazil), as well as the use of artificial light exceeding a certain intensity to protect marine turtles during the laying of eggs in the sand as well as hatchlings.

A number of recent laws require the prior assessment of processes that may be potentially harmful: persons or bodies wishing to undertake projects which may have a significant effect on wildlife and their habitats and more generally on the environment, must indeed prepare a **environmental impact assessment** (EIA). Provisions on EIA are mostly found in environment laws and, in some cases, in laws on biodiversity (Argentina and Costa Rica), on protected areas (Tanzania), on wildlife (Portugal) or on fisheries (Philippines), which date back to the 1990s. In addition to the preparation of an EIA, the Phillipines requires that any person that intends to undertake a development project obtain an Environmental Compliance Certificate from the relevant authority. The Australian 1999 Act requires that the relevant Minister establish a list of key threatening processes. A process is defined as threatening if it threatens, or may threaten, the survival, abundance or evolutionary development of a native species. The Minister may decide to have, for any key-threatening process, a threat abatement plan, which must provide for the research, management and other actions necessary to reduce the key threatening process concerned to an acceptable level to maximize the chances of the long-term survival in nature of native species affected by the process.

Protection of marine turtles was further strengthened with the adoption in some countries of **biodiversity laws** in the last decade, which include measures on the protection of threatened and endangered species and of their habitat, on the various ecosystems and pollution. The innovation is not so much in the type of measures taken but in the new approach, which embraces all aspects of species conservation in a single instrument and promotes an integrated management of natural resources. One possible problem, however, is the overlap and conflict between such laws and other sectoral laws. Examples are the 1998 Law on Biodiversity in Costa Rica, the 1999 Law on Biological Diversity in Venezuela, the Environment Protection and Biodiversity Conservation Act of 1999 in Australia, the Biological Diversity Act of 2003 in India and the National Environmental Management Biodiversity Act of 2004 in South Africa.

3.4 Incidental catch

With the massive increase of fishing operations in the last decades, incidental catch of non-targeted species has become critical for the conservation of certain marine species. In November 2003, the UN General Assembly approved a resolution encouraging countries “to reduce or eliminate bycatch to conserve non-target species taken incidentally in fishing operations”. Fishing operations do constitute a major threat for marine turtles. Several fishing methods and gears, including trawling, drift nets, gillnets or hooks, may cause injury and mortality of sea turtles, that become entangled in lines and drew or swallow longline hooks and other marine debris from fishing activities and die.

All countries have adopted laws to regulate fisheries, which always contain at least a few provisions to protect natural resources. Some measures seek to protect fishes and other marine resources against overexploitation. They do not directly concern sea turtles but have a positive impact since they contribute to reduce their incidental catch. Other measures aim at protecting non-targeted species against incidental catch and finally others have the specific objective of protecting sea turtles during fishery operations. **National laws propose various solutions for mitigating incidental catch**: (i) they provide for the reduction of fishing efforts, the limitation in the use of particular fishing methods and gears as well as restrictions on fishing areas and time; (ii) an increasing number of countries make mandatory the use of turtle excluder devices (TEDs), which is the main tool existing to avoid bycatch with certain gears;

(iii) some laws contain measures on resuscitation and release of sea turtles that have been taken incidentally.

3.4.1 Reduction in fishing effort and other restrictions on gears

Reduction in fishing effort has a direct impact on marine turtles since any type of limitation on fishing naturally results in a reduction of capture of non-targeted species. However, it is not the purpose of this report to describe and assess fishing effort reduction measures. Since the very early 1990s, there has been an increased recognition that some methods and gears are particularly harmful to non-targeted species, in particular when they capture indiscriminately all living marine resources. Most fisheries laws provide in general for restrictions in the use of non-selective and harmful fishing gears and methods. In a number of countries special provisions were made with respect to the use of specific gears with the view to protect sea turtles.

Limitations may be imposed on the use of trawl gear, longlines, dragnets or set nets. National laws sometimes limit the size of gillnets or the number of nets allowed per fisher. Restrictions on fishing with such gears are normally limited to particular areas or seasons (see below).

Driftnets which are used in a wide range of fisheries, are a type of gillnet left to drift at or near the sea surface and large-scale pelagic driftnet fishing, in particular, is a highly indiscriminating fishing method, which considerably threatens the conservation of living marine resources. The United Nations General Assembly passed a Resolution (44/225) in December 1989, calling for a moratorium in all large-scale pelagic driftnet fishing in high-seas by 30 June 1992. The moratorium did not include small-scale driftnet fishing, which is traditionally conducted in coastal waters, especially by developing countries. An example of law prohibiting use of large-scale driftnets is the EC legislation: after having required Member States to impose restrictions on the use of large driftnet within their territorial sea, it completely banned driftnets in 1998, effective 1 January 2002. The USA prohibited the practice of large-scale driftnet fishing by its nationals in 1976. In 1992 US legislation stipulated that a ban on the import into the USA of fish and fish products and other economic sanctions may be imposed to nations whose nationals or vessels conducted large-scale driftnet fishing beyond the Exclusive Economic Zone of any nation and that entry of vessels of these nations to any place in the USA and to the navigable waters of the USA would be denied. Other countries also banned the use of driftnet fishing, including waters under their jurisdiction, such as Japan, New Zealand, China, Papua New Guinea, Solomon Islands, Peru, Venezuela and South Africa. In some countries, driftnets are not fully banned but their use is restricted within a certain period or area (examples are given below).

Other methods prohibited or restricted in legislation include the use of lights, luring devices as well as attractive tarts (for instance, Albania forbids the use of luring devices and attractive tarts in the seaside since 1997). In Thailand a Royal decree of 1993 bans trawls and push nets used by boats with an engine within a 3-km zone around the entire coast of southern Thailand. Other examples of prohibition on use of trawl within a certain distance from the coast or at low water depth are the 1971 law in Turkey (in inland and territorial waters), the 1997 law of Albania (in inland waters) or the 1984 regulation in Iran (Persian Gulf). In Greece fishing with trawl nets is not allowed in the marine area between the two islands of Kalymnos and Kos, which constitute important Mediterranean nesting beaches for marine turtles. Other fishing methods and gears are prohibited near the coasts, like in Tunisia where the use of dragnets is prohibited at depths less than 35 metres since 1995.

3.4.2 Adoption of Turtle Excluder Devices (TEDs)

A major tool for the reduction of marine turtle mortality from harmful fishing operations, like shrimping but also to a lesser degree fish trawling, is the use of turtle excluder devices.[18] TEDs are grates that are placed in the cod-end of nets and allow sea turtles to escape through a trap door. Since the adoption of the US law in 1987, which made the use of TEDs mandatory for US shrimp trawlers, there has been a growing international acceptance of the use of TEDs and an increasing number of countries have introduced provisions on TEDs in their national laws. In addition to conservation considerations, a major force driving international interest and adoption of measures has been the 1989 US legislation threatening with trade sanctions countries which have not as yet adopted TED technology.

The first legislation to impose the use of TEDs was the US Regulations on American shrimp trawlers of 1987, which stipulated that US shrimp trawlers should use TEDs on their nets or limit their towing time to avoid turtles from drowning. In 1989 an amendment to the Endangered Species Act of 1973 provided for a ban on the importation of shrimp from any state that did not harvest shrimp "under conditions that do not adversely affect sea turtles". The Federal Regulation n. 1051 of 1991 specified that the ban on shrimp imports would cover shrimp taken without TED technology, in the “wider Caribbean region”. The ban was extended in 1996 to shrimp harvesting in **all** foreign countries.[19] In accordance with the 1991 and 1996 Regulations the US Department of State established and regularly updated the list of countries allowed to export shrimp to the US market. As of May 2004 “38 nations and one economy” were certified by the US authority because: (i) they required their shrimpers to use TEDs (15 countries);[20] (ii) their shrimpers use manual harvesting techniques which pose no threat to sea turtles (8 countries and one economy: Hong Kong), and (iii) shrimpers harvest in cold waters where the risk to turtles is negligible (16 countries).[21]

The majority of countries having inserted mandatory use of TEDs in their legislation are South American and Caribbean (it should be noted in this regard that the sole international instrument mentioning TEDs is the Inter-American Convention).[22] Examples of countries are Brazil, in which the use of TEDs is mandatory during pink shrimp fishing on the Brazilian coasts since 1994; Mexico, whose commercial shrimp trawlers have been required to use

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[18] Other tools for reducing sea turtle bycatch exist (for instance circle hooks) but are not mentioned in the legal instruments of the countries surveyed.

[19] Section 609, as elaborated in the 1996 Guidelines, excluded from the import ban: aquaculture shrimp; shrimp species harvested in water areas where sea turtles do not normally occur; and shrimp harvested exclusively by artisanal methods, even from non-certified countries.

[20] As of May 2004, the 15 nations meeting the TEDs standards of the US administration are Belize, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Pakistan, Panama, Suriname, Thailand and Trinidad and Tobago.

[21] In 1997 four Asian countries (Thailand, India, Malaysia and Pakistan) challenged before the WTO dispute panel the US decision to ban shrimp imports from countries not having made mandatory the use of TEDs. Both the dispute panel and the Appellate Body ruled that the US decision was illegal (for different reasons). The Appellate Body acknowledged the potential of such trade restriction to protect the environment and recognized that the US measure served a legitimate environmental objective under paragraph (g) of Article XX of GATT 1994. However, it found that the measure failed to meet the requirements of the chapeau of Article XX since it had been applied by the USA in a manner which constituted an arbitrary and unjustifiable discrimination between countries where the same conditions prevailed.

[22] Article IV.2.h of the Inter-American Convention provides for the reduction, to the greatest extent practicable, of the incidental capture, retention, harm or mortality of sea turtles in the course of fishing activities, through the appropriate regulation of such activities, as well as the development, improvement and use of appropriate gear, devices or techniques, including the use of TEDs and the corresponding training.

TEDs in the Gulf of Mexico since 1993 and on both coasts since 1997; Costa Rica, whose 2002 law on protection, conservation and regeneration of marine turtle populations stipulates that all Costa Rican and foreign shrimping vessels that operate in certain areas within the territorial waters or in the Economic Exclusive Zone are required to use TEDs; Guyana, whose 1994 "Marine Boundaries Act (Turtle Excluder Device) Order" states that the master, owner or charterer of a fishing boat shall not fish in the fishery zone or in the territorial sea, using a trawl net for fishing unless he has installed a TED that he shall not remove while fishing. The Order also requires boats to have at least one spare TED on board. An example of a country from another region is Mozambique, whose 2003 Regulation for Marine Fisheries made TEDs compulsory in trawl nets on boats with engine, effective January 2005.

3.4.3 Sea turtle release and resuscitation

Out of the 70 countries surveyed, 14 have inserted provisions in their legislation on the **release or use of sea turtles that have been caught incidentally** during fishing activities. Some laws provide that any sea turtle caught incidentally while fishing shall be released immediately in the water. Guyana, Namibia, Oman and Seychelles prescribe such actions. A Mozambique regulation of 1999 contains similar provisions for bycatch during the practice of recreational and sport fishing. Cuba legislation provides for the release of sea turtles under a minimum size. In contrast with the above countries, Peru authorizes that sea turtles caught incidentally be used for domestic purposes, while Malta authorizes their use for scientific purposes. Bycatch in general is often regulated under the country's fisheries law. Such regulation is applicable to any bycatch species including sea turtles. Bycatch is authorized in a number of countries up to a certain percentage of the total capture registered (10% in Argentina and Canada). The remaining bycatch caught incidentally has to be returned to the sea. Tunisia "tolerates" bycatch up to a certain quantity but its legislation specifies that such bycatch shall not be transported, sold, stocked or used as lure.

Legislation in Cuba, Malaysia and Turkey contains specific provisions on **dead turtles**. Dead turtles shall be reported to the relevant authority and disposed of in accordance with the fisheries officer directions in Malaysia, or used and sold if edible , otherwise destroyed in Turkey. Dead turtles, even if they are under the minimum size fixed for the release in sea, may be used in Cuba.

Some countries also provide for an **obligation of report** to the authorities, like in Peru. In Malta, turtles must be surrendered immediately to the relevant authorities who then dispose of them for scientific purposes. The Malta legislation also specifies that fishers having caught incidentally a turtle and surrendered it to the authority shall be compensated for any loss of tackle or income. Ultimately, the EC Council Directive 1992 on habitats stipulates that Member States shall establish a system to monitor the incidental capture and killing of species and take conservation measures to address this problem.

Another type of measure, which is rarely found in national laws, provides for the **resuscitation of sea turtles** before their release in sea. For instance, a 1994 Ministerial Order of Guyana describes very carefully the procedure to follow for ensuring the safe handling of turtles that have been caught and improve their survival (information on how to rescue turtles which are comatose or inactive).

3.5 Repopulation, reproduction and recovery plans

Actions proposed to promote sea turtle conservation include *ex-situ* conservation in specific areas dedicated to the conservation of sea turtles, namely hatcheries as well as farms and ranches. Discussion is restricted to sea turtles farming and ranching for conservation purposes, since commercial farming and ranching have already been covered in Section 3.1.2 on trade. Recovery plans constitute another tool for the conservation and management of marine turtles.

3.5.1 Hatcheries and head-starting programmes

Hatcheries and head-starting programmes primarily intend to improve the chances of turtle survival by protecting eggs and young from predators. The hatcheries programmes consist of collecting eggs from the beach and reburying them in a fenced enclosure. After the eggs hatch, the hatchlings are released onto the same beach from which the eggs were gathered. In the "head-starting" programmes, hatchlings are reared in captivity until they reach a larger size and have an increased chance of surviving predators before being released onto their natal beaches. Laws providing for such programmes are rare (most hatcheries and head-starting activities are undertaken by local administrations, associations or projects). An example of legislation is provided by two administrative orders of 1982 in the Philippines. Although there is a total ban of exploitation of sea turtles in the Philippines, harvest of eggs is allowed in the Province of Tawi-Tawi with a permit and under the condition that 30% of eggs be transferred to hatcheries for incubation and subsequent release to the wild (the other eggs can be kept by the residents (60%) and the remainder (10%) can be legally sold to fund the conservation activities on the islands through the Marine Turtles Foundation.

3.5.2 Farming, breeding and ranching for conservation purposes

Farming of sea turtles, also called breeding, entails maintaining captive adults who breed in captivity and whose offspring are raised in captivity. Ranching is collecting turtles from wild populations (usually as eggs) which are then raised in captivity. Only a few laws envisage farming and ranching of marine turtles for conservation purposes, which probably reflects the scientific controversy over the last 30 years on the utility and feasibility of such activities. Examples of laws encouraging conservation breeding are the Wildlife Resources Conservation and Protection Act of 2001 in the Philippines and the 1997 Law in Mauritania, which allows ranching in order to promote the development of fauna. The 1997 Decree on wildlife in Argentina stipulates that the relevant authority shall promote the captive or semi-captive breeding of wildlife for conservation, propagation and repopulation purposes ("estaciones de Cría de la Fauna Silvestre"). In Chile a decree of 1998 provides for the creation of Centres of Reproduction for the conservation, preservation and repopulation of protected species.

3.5.3 Recovery plans

Recovery plans aim at stopping the decline of marine turtles through the adoption of a comprehensive set of measures addressing the different threats faced by turtles. From the countries surveyed only Australia provides for the drafting of such plan in its legislation. It does not provide significant information on the number of recovery plans being effectively prepared for sea turtles since governments or local administrations may adopt recovery plans even if this is not specifically provided for in principal and subsidiary laws.

The Australian Environment Protection and Biodiversity Conservation Act (EPBC Act) of 1999 stipulates that the Minister may make recovery plan for the protection, conservation and management of listed threatened species and that "a recovery plan must provide for the research and management actions necessary to stop the decline of, and support the recovery of, the listed threatened species (...) concerned so that its chances of long-term survival in nature are maximized". Such recovery plan was prepared for marine turtles in July 2003. The document includes a list of recovery actions, which are the following: (a) reduce the mortality of sea turtles (bycatch, marine debris, boat collision, etc.); (b) develop programmes and protocols to monitor marine turtle populations in Australian waters; (c) manage factors that impact on successful turtle nesting (light pollution, tourism, vehicle damage, fauna predation of eggs); (d) identify and protect habitats that are critical to the survival of marine turtles; (e) communicate the results of recovery actions and educate stakeholders, and (f) conserve shared marine populations in the Asia/Pacific region.

3.5.4 Other

Other measures on repopulation and regeneration of sea turtles exist in a 1998 Chilean Regulation for species which are confiscated after illegal hunting or capture or are collected in case of contamination of pollution. Authorized centres of rehabilitation may keep animals for a transitory period before their release in the wild (upon registration and authorization of the relevant authorities). Another measure for protecting wildlife, which could apply to sea turtles, is found in the Chinese Law on the Protection of Wildlife of 1988. It stipulates that if a natural disaster presents a threat to protected wildlife, timely measures would be taken by the local governments to rescue them.

4. OTHER ARRANGEMENTS AND INSTRUMENTS: INSTITUTIONS, PEOPLE AND TURTLES

Recognizing the serious status of the turtle population, a number of countries have taken action other than strictly legal measures to address these threatened and endangered species. These include the creation of a special institutional framework, the establishment of funds as well as approaches to the involvement of people in turtle management.

4.1 National institutions

Legislation often provides for the **creation of committees or national bodies**, whose objectives are the regulation of fisheries or other human activities or the protection of fauna species. Many countries established advisory committees or commissions on fisheries. Quite an important number of countries also created special committees or bodies on environmental issues, including the management of protected areas. Examples are the Brazilian Institution for the Environment and Natural Resources (IBAMA, created in 1990), the National Commission for the Management of Biodiversity in Costa Rica (1998), and other bodies created, for instance, in Egypt, South Africa, Tanzania, Pakistan, Guyana and New Zealand. In 1997 Argentina created advisory committees or bodies for the management of wildlife. Finally, two countries adopted a law for the creation of **specific bodies for the conservation of marine turtles**. In the Philippines an Executive Order of 1979 established the Pawikan Task Force (Pawikan means turtles) to protect the country's dwindling marine turtle resources from continuing overexploitation. In 1982, an administrative order gave to the Task Force the authority to regulate egg collection in the Province of Tawi-Tawi and stipulated that part of the eggs collected would be legally sold to fund conservation activities on the islands through

another body, the Marine Turtle Foundation. Another example is found in Brazil, with the creation of the National Centre for the Conservation and Management of Marine Turtles (TAMAR) by a Brazilian Order of 1990. This important Centre focuses on the identification of species, the protection of the main nesting sites and turtles during the nesting seasons, conservation actions, research and community involvement.

4.2 Special funds

A fundamental aspect for the conservation and management of sea turtles is the availability of financial resources. The legislation of about 15 countries provides for the creation of specific funds for fisheries, conservation of the environment, including protected areas and protection of marine resources and wildlife. A particular reference should be made to the only fund, out of all laws of the countries surveyed, which is specifically devoted to sea turtle protection. The objective of the US Marine Conservation Act of 2004 is to assist in the conservation of marine turtles in foreign countries. This should be achieved through the grant of financial resources for projects aiming at conserving nesting habitats and marine turtles in these habitats and for projects addressing other threats to the survival of turtles. For this purpose, the Act provides for the creation of a Marine Turtle Conservation Fund, which will be of US$ 5 million for each year between 2005 and 2009.

4.3 Planning

About one third of the countries surveyed have made provisions for the elaboration of management plans either under a fisheries law (Australia, Papua New Guinea, Solomon Islands, Albania, Cape Verde, Mauritania, Seychelles, South Africa), under a wildlife law (Spain, Portugal, Argentina, Peru, Mexico, Iran) or under a habitat or environmental law (Italy, New Zealand, Cambodia, Philippines, Sri Lanka, Mozambique). While there are no doubts that management plans could be a comprehensive tool to ensure long term sea turtle conservation and management, the author has not been able to identify the existence of national management plans for marine turtles specifically. Fisheries management plans exist in New Zealand, Namibia and South Africa. In respect of a fishery or more fisheries, the plans regulate fishing activities, specify the objectives to be achieved, require that possible adverse effects of activities be identified and spell out the main measures to be taken for the conservation of dependent species, non-targeted aquatic species and their habitat. In accordance with the 1991 Fisheries Management Act, Australian management plans for fisheries contain measures directed at reducing to a minimum the incidental catch of non-targeted species. Management plans often require inventories and surveying of animal populations and habitats. However, very few legal instruments explicitly link the evaluation of “wildlife” situation to the elaboration of strategies and adoption of measures ensuring the survival of non-targeted aquatic animal species. Argentina is the only country where such link is made under the Resolution of the National Strategy on Biological Diversity of 2003.

4.4 Public education and participation

There is a wide recognition that where opportunities for public participation in wildlife conservation and management are provided, the public is more willing to support protection laws and, as a result, the likelihood of implementation of such laws is enhanced. People’s involvement in marine turtle management may take various forms and different levels of intensities. A basic way of involving the public is to share information and provide education on conservation issues. Further steps are made with public involvement through consultations,

which describe the governments' effort in gaining information from the public, and through joint-decision making processes, which imply the rights of the people to negotiate the content of strategies or, in the most advanced form, to be the initiators of such strategies.

4.4.1 Public information and education

Several laws provide for public information and education. Many provisions are found in recent environmental laws, as in Australia (1999), Oman (2001), Libya (2003) and India (2003), while other laws contain similar provisions. For instance, the 1997 Portuguese decree-law on habitat conservation promotes dissemination of information on wild fauna and their habitats. In Albania, the 1994 law on wildlife protection stipulates that the relevant administrations shall take measures for the basic knowledge on preservation and protection of the natural environment and especially fauna. China admits exceptions to the prohibition on capture of aquatic wildlife for the purpose of popularization of knowledge, education and exhibition of resources (1993 Regulation on Wild Aquatic Animal Protection).

In accordance with national laws, various measures are taken to increase public awareness on conservation issues and marine turtles. Such measures include: (i) the elaboration of manuals, codes and guides on environmental questions (India); (ii) campaigns on the plight of sea turtles in Thailand, Myanmar and other countries; (iii) despatch of law summaries, maps and brochures on sea turtles in the Cayman Islands; (iv) education in schools with special programmes (Albania), presentations (Cuba, British Virgin Islands) and visits of pupils to traditional sites (Cuba); (v) training adults on biodiversity (India) or more specifically on sea turtles (Malaysia and Brazil) as well as national training programmes, which are being developed to provide technical information, local knowledge and skills to local communities that harvest turtles (Solomon Islands).

4.4.2 Public involvement

Public involvement in conservation and management of fauna and their habitats may take various forms. Some laws provide for **consultation with the public prior to the adoption of decisions**. The EC Habitats Directive of 1992 establishes that the competent national authorities must obtain, if appropriate, the opinion of the general public when they create a special conservation area. In Australia a specific procedure must be set to publicize drafts and to receive comments when wildlife conservation plans and recovery plans for threatened species listed are to be adopted. The Marine Reserves Bill of 2002 in New Zealand also requires public consultation when developing a general policy or management plan for marine reserves or when reviewing a reserve or its boundaries. Undoubtedly these arrangements are likely to benefit the management of sea turtles too.

Some laws authorize the **participation of the public in the management of wildlife and their habitats**, which is often achieved through the **creation of specific bodies**. The 2002 Bill of New Zealand, states that local communities and people with a particular interest in a marine reserve can be involved in its management through advisory bodies or management bodies. A notable provision of the law stipulates that any person may propose the creation of reserves. In Australia the 1999 Act provides for the creation of a Biological Diversity Advisory Committee, which must include representation of conservation organizations, the scientific community, rural communities and indigenous people and whose role is to advise the Minister on matters relating to the conservation and ecologically sustainable use of biological diversity. There is also an Indigenous Advisory Committee, which advises the

Minister on the operation of the Act taking into account the significance of indigenous peoples' knowledge of the management of land and the conservation and sustainable use of biodiversity. Other advisory committees may be established by the Minister. To enable people's participation, a Mauritanian law of 1997 envisages the creation of "Association de gestion de la faune" within each commune. The associations participate in the definition of policies, monitoring and surveillance of wildlife. They are partially funded with a fund created under the law. Tanzania constitutes another example: in accordance with its Marine Parks and Reserves Act of 1994, local advisory committees as well as the traditional Village Councils, are involved in the management of marine parks.

Some laws contain provisions on the **cooperation between civil society organizations and authorities**. In Thailand the 1992 Act on Environment Quality provides for the cooperation of authorities and administration with non-governmental organizations (NGOs) that are registered with the Ministry of Science, Technology and Environment. Such cooperation may concern public campaigns and dissemination of information to promote public awareness and understanding, study and research or the assistance of volunteers to assist government officials (a practical example of such cooperation is the surveillance of turtles nesting beaches in the Sirinarth National Park where the authorities patrol the beaches together with the Phuket NGO group).

Another form of cooperation with the public that some laws envisage is the **conclusion of agreements between people and administrations** for the management of areas and wildlife resources. In Australia "conservation agreements" whose primary object is to enhance the conservation of biodiversity may be entered into by the Minister and people or bodies. They may relate to private or public land or to marine areas and aim at protecting, conserving and managing any threatened species listed or their habitats as well as mitigating the activities that may have adverse effects on biodiversity.

4.5 Research

Many laws relevant to marine turtle conservation contain provisions encouraging research. As already mentioned in this report, exceptions to the prohibition on sea turtle capture are commonly accepted for scientific purposes. In addition, the objectives for the creation of protected areas typically include scientific study and research. A particular example is the establishment of the Tamarindo Wildlife National Refugee in Costa Rica, which is dedicated to the observation of leatherback turtles (2001). Other examples of legislation promoting research are found in the USA, Costa Rica, Brazil (it is one of the functions of TAMAR), New Zealand, Portugal, China, Malaysia and Sri Lanka. The 2003 law on Biodiversity in India even stipulates that the government shall develop incentives for research. Some laws also provided for the creation of specialized institutes, such as the National Wildlife Research Centres in the Philippines and the National Aquatic Resources Research and Development Agency in Sri Lanka.

4.6 Economic incentives and alternative income

To encourage people's involvement in the protection of sea turtles, legislation sometimes provides for **economic incentives**. In the Philippines the 1997 Wildlife Resources Conservation and Protection Act makes provision for the exemption from taxes of any donation, contribution, bequest, subsidy or financial aid for the conservation and protection of wildlife resources and their habitats which may be made to the Department of Agriculture and

to duly registered NGOs. The 1998 Law on Biodiversity in Costa Rica stipulates that the Minister will promote investment and research through the adoption of fiscal incentives in favour of the activities or programmes aiming at developing the conservation and sustainable use of biodiversity.

Some countries have helped populations find an **alternative income** where new enacted laws prohibited the use of animals being sources of income until then. Such provisions reflect the taking into consideration of the dual objectives of simultaneously improving natural resources management and people's quality of life. They play a crucial role in breaking the cycle of unsustainable resource use and in enhancing people's acceptance of wildlife protection laws. In Brazil TAMAR seeks to improve fishing yield to replace the customary income from marine turtle eggs, meat and shells and also provides employment to some coastal community residents. Another example is Seychelles, before passing the 1994 regulation which prohibited the capture and sale of turtles, their parts and products (including raw and worked shells), the government devised and implemented the "Artisan Training and Compensation Programme" to compensate artisans for the loss of their business and to provide training to help them embark in new livelihoods.

Another way of promoting alternative income, and therefore enhancing conservation and management of sea turtles, is the development of **eco-tourism**. Live marine turtles, which are often called "charismatic species", have indeed the potential to generate jobs and contribute to gross revenues if they are used as tourism attraction. Although some experiences are being developed ("le village des tortues" in Senegal, Tortuguero village in Costa Rica, the Cayman Turtles Farm in the Cayman Islands), provisions on such alternative economic activities are not included in law so far. Eco-tourism is however considered as a priority activity for the management of sea turtles in the Turtle Islands Heritage Protected Areas (TIHPA), which was created in 1996 by the signature of a bilateral agreement between the Governments of the Philippines and Malaysia.

5. ENFORCEMENT

5.1 General observations

Effective enforcement depends on a number of factors and it is difficult to assess from an analysis of the legislation alone whether the various examples of provisions which have been reported in this report guarantee the protection of sea turtles and whether they are enforced or not in practice. However, it is possible to make some observations on factors that strengthen or reduce the effective enforcement of the rules.

The various prohibitions on capture and trade are, in most laws, reinforced by the listing of related actions which are equally forbidden, such as the killing, injuring, shooting, trapping, possession or transport of sea turtles. The same can be said about rules that make mandatory the use of certain gears but also their possession on board. An example is the 1994 Order of Guyana, which stipulates that no fishing boat may fish unless it uses a turtle excluder device, that such TED shall not be removed while fishing and that at least one spare TED should be available on board. Clear definitions of prohibited actions may also help enforcement officers in applying the rules.

The effectiveness of the law also depends on the extent to which exceptions are allowed by the law and in practice. Where the definition of exceptions is left to the discretion of local administrations, there may be critical differences in the application of the law from one place to another.

The clear definition of responsibilities is of fundamental importance. This refers to the coherent repartition of competences between administrations and, in countries having adopted a federal system, between Federal State and Federated States. Competences must be clearly defined regarding both enactment and enforcement of rules.

The number of legal instruments that is adopted also plays a role in the correct enforcement of rules. A multiplication of laws may create confusion on the rules that shall apply and be applied. The recent apparition of Biodiversity laws is an attempt to gather all rules related to the protection of animals, their habitat and environment. However, if on the one hand it promotes an integrated management of natural resources, on the other hand it does not suppress the risk of overlap between various laws as well as the risk of conflict with sectoral legislation on questions that are elements of biodiversity.

Another factor that may hinder the correct enforcement of the legislation is that laws often set out the guiding principles and indicate that details will be fixed subsequently in a subsidiary legislation. However, when no subsidiary decree or regulation is adopted, the law is never put into operation. On the other hand, laws that provide for very detailed provisions may run the risk of becoming ineffective, as they may be more difficult to amend than other instruments.

Finally, the availability of financial and human resources is another critical issue for the enforcement of laws. There is a greater possibility that rules be implemented in countries whose laws provide for the creation of funds for specific purposes. Enforcement of laws also depends on the importance given to sea turtles and their habitats on the governmental list of priorities.

5.2 Sanctions

Legislation in the countries surveyed contain a number of provisions regarding the enforcement of the rules. This section looks into the sanctions primarily provided for under fisheries related laws. As turtles are dealt with also under other laws, the review is incomplete. Furthermore, only a field mission to countries concerned could reveal the effectiveness of legal instruments and in particular, of the enforcement provisions.

The type of **sanctions** applied for non-compliance with the rules is quite similar in the countries surveyed. Most laws provide for civil and criminal liability. However, although most countries punish the breach of rules with a **fine** and **imprisonment**, the amount of the fine and the length of the imprisonment are extremely variable. For instance, imprisonment ranges from 3 months (Solomon Islands) to 7 years (India) for the illegal capture, domestic and international trade of sea turtles. Some laws establish a difference between violations which are intentional or those which occur by negligence (Indonesia). The 1985 Malaysian Fisheries Law stipulates that any person who destroys or abandons turtles with the intent to avoid its detection or seizure by an officer shall be liable of an offence.[23] Similar sanctions (fine and imprisonment) are applied for the destruction of fauna habitats and damage to the

[23] Such offence is subject to a fine not exceeding 20,000 ringgit or a term of imprisonment not exceeding two years, or both.

environment, with more severe provisions when protected areas are concerned. Some laws, for instance in China, Egypt, Iran and Comoros, stipulate that any person or body who damages the environment shall pay the costs involved for the reparation of damages or elimination of pollution. As far as bycatch is concerned, Spain imposes a fine and the prohibition of fishing activities for those who fish with tools that are not selective. In Brazil, fishing licences are suspended to shrimpers that do not adopt TED, while they are revoked in Costa Rica, which also requires the payment of a fine equivalent to three to five salaries. Another common sanction for all types of offences is the **confiscation** of catch, including that of sea turtles captured illegally, equipment and vessel.

5.3 Enforcement and international environment

Sanctions may be applied in case of violation of the obligations resulting from international or regional treaties. For instance, where a Secretariat is established in the framework of an international or regional convention, the Parties are normally requested to communicate monitoring reports on a regular basis. In CITES, in accordance with decisions 11.37 and 11.89 of the Conference of the Parties, the Standing Committee may prohibit Parties to trade CITES-listed species with any Party that has failed, without adequate justification, to provide the annual reports required under Article VIII.7(a) of the Convention for three consecutive years. The Standing Committee may also impose trade restrictions to any Party that has not adopted adequate legal instruments to implement the Convention (Decision 12.80 of the Conference of the Parties). Even in the absence of such sanctions or report obligation, pressure coming from other States and, in some cases, from civil society, further encourages States to enforce the provisions of the treaties.

Recent developments have taken place with the unilateral use of market coercion by the USA, which imposed a ban on shrimp import from any state not harvesting shrimp "under conditions that did not adversely affect sea turtles". Such measure, which resulted *de facto* in the adoption of TEDs in various countries, was heavily criticized and challenged before the World Trade Organization (WTO) Dispute Panel. Although both the Dispute Panel and the Appellate Body ruled against the US measure, the Appellate Body acknowledged the potential of such trade restriction to protect the environment and “exhaustible natural resources” (such as sea turtles), thus leaving a door opened for future developments.[24]

6. CONCLUSIONS

Among the most significant features of the legal frameworks in many countries is the fact that turtles are being dealt with under the various legislations dealing with general matters such as fisheries, wildlife, environment and biodiversity. All have evolved over the last decades under the impulse of international events and instruments. Among them are the United Nations Conference on the Environment and Development (Rio de Janeiro, 1992), which produced the Convention on Biological Diversity (CBD), Agenda 21 which contains extensive prescriptions for the “further development of international law on sustainable development”

[24] In 1997 four Asian countries (Thailand, India, Malaysia and Pakistan) challenged before the WTO dispute panel the US decision to ban shrimp imports from countries not having made mandatory the use of TEDs. Both the dispute panel and the Appellate Body ruled that the US decision was illegal (for different reasons). The Appellate Body acknowledged the potential of such trade restriction to protect the environment and recognized that the US measure served a legitimate environmental objective under paragraph (g) of Article XX of GATT 1994. However, it found that the measure failed to meet the requirements of the chapeau of Article XX since it had been applied by the USA in a manner which constituted an arbitrary and unjustifiable discrimination between countries where the same conditions prevailed.

and for the establishment of effective national legal frameworks. None of the areas listed have remained untouched by law reform in the last two decades, which have seen a burst of activity in drafting new provisions for turtle conservation and management. In comparison with older laws which limit turtle management to basic prohibitions applicable to fishing and hunting, considerable progress has been made with the adoption of a set of measures covering the various aspects of sea turtle conservation and management.

In the ambit of fisheries, legislation reveals important innovations in the post-Rio era. These are mainly related to biodiversity, management planning, precautionary approach, responsible fisheries, high seas fishing and eco-system based fisheries management. As far as sea turtles are concerned, fisheries laws go beyond protecting specified species, taking greater account of the interdependence between species and increasingly providing for protection of the biodiversity and turtle's habitats. They tend to assess the impact of fishing operations potentially harmful to turtles. National fisheries legislation tends to act as a significant management instrument and an increasing number of countries adopted an integrated approach of marine turtles conservation and management. The situation is however heterogeneous amongst the countries surveyed and some laws include provisions on protection of marine turtles in a fragmentary manner rather than in a more systematic and coherent manner.

Attention is given in national legislation to sea turtles as a bycatch and non-targeted species rather than a "species associated with" or "dependent upon harvested species"[25]. During this post Rio decade the US Sea Turtle Conservation programme had an important impact on the development of national legislation concerning the mandatory use of TEDs. It should be noted that all recently adopted international fisheries instruments call for the development and use of selective, environmentally safe and cost-effective fishing gear and techniques.[26] This has lead to new legislations, changes to fishing license conditions, in a number of countries.

The rather patchy approach to the sea turtle situation is likely to exist also and to be reflected in the institutional framework governing the conservation and management of turtles. Though this document does not enter into the details of the institutional frameworks in place, it does not make any doubts that a number of government institutions are likely to deal with sea turtle-related matters from a different angle leading probably rather to a tangled web, often confusing and overlapping in nature, looking for the conservation and management of these species.

A transboundary approach to the conservation and management of sea turtles is particularly needed because of their migratory nature. There are an increasing number of international and regional instruments dealing with sea turtle-related issues from different angles, including fisheries. However, the great variability in national laws may result in a complex situation for developing an effective regional or global management of sea turtles. Furthermore, with the exception of one country[27], no other countries appear to have legislations concerning incidental catch of sea turtles in waters beyond national jurisdiction.

Some conservation and management measures may be in conflict with other considerations such as exploitation and/or food security: in coastal zones where sea turtles are relatively abundant, turtles may be considered as significant sources of food and income, and villagers

[25] LOSC 1982 art.61 (4)
[26] UN Fish Stocks Agreement, Preamble, Article 5(f); CCRF articles 6.6;7.2.2(g); 8.5 and 12.10
[27] 1985 Malaysia Fisheries Act, art. 27.

may depend on them to supplement their fishing and crop harvests. Many communities have long used marine turtles for their medicinal and nutritional properties, in traditional meals or for religious ceremonies.

7. LEGISLATION REVIEWED

1. ALBANIA

Law n. 7664 on Environment Protection, 23 January 1993

Law n. 7875 on Hunting and Protection of Wildlife, 23 November 1994

Law n. 7908 on Fishery and Aquaculture, 5 April 1995

Regulation n. 1 implementing the Law on Fisheries and Aquaculture of 1995, 26 March 1997

2. ANGOLA

Fishing Act n. 20/92, 14 August 1992

Environmental Law n. 5/98, 19 June 1998

3. ARGENTINA

Ley Nacional n. 22.421- Ley de conservación de la fauna silvestre, 5 de marzo de 1981

Ley Nacional n. 23.344- Convención sobre el comercio internacional de especies amenazadas de fauna y flora silvestre (CITES), 1 de octubre de 1982

Reglamento n. 783/87- Prohíbe la comercialización de especies de la fauna silvestre autóctona (Secretaria de agricultura, ganadería y pesca), 6 de noviembre de 1987

Decreto Nacional n. 522/97- Reglamenta el comercio exterior y la protección de la fauna silvestre, 5 de junio de 1997

Decreto Nacional n. 666/97- Reglamenta la conservación de la fauna silvestre, 18 de Julio de 1997

Resolución n. 1.089/98- Prohíbe la caza, el comercio interprovincial y la exportación de los ejemplares y productos de diversas especies de la fauna Silvestre (Secretaría de Recursos naturales y Desarrollo Sustentable), 21 de diciembre de 1998

Disposición provincial 1173/98 (Dirección provincial de pesca), 1998

Resolución 3/01 (Consejo Federal Pesquero), 2001

Ley n. 23.375- aprueba el Convenio sobre la diversidad biologica, 27 de enero de 2003

Resolución n. 91/03- Adopta la Estrategia Nacional sobre Diversidad Biológica (Secretaría de Ambiente y Desarrollo Sustentable), 27 de enero de 2003

Resolución n. 70/03- Aprueba el Marco Estatutario del Sistema Federal de Áreas Protegidas (Consejo Federal del Medio Ambiente), 11 de septiembre de 2003

Resolución n. 381/03- Modificaciones a los Apéndices de la Convención sobre el Comercio Internacional de Especies Amenazadas de Fauna y Flora Silvestres (CITES) (Secretaría de Ambiente y Desarrollo Sustentable), 15 de abril de 2003

4. AUSTRALIA

Petroleum (Submerged Lands) Act, 1967

National Parks and Wildlife Act, 27 November 1974

Environment Protection (Sea Dumping) Act, 1981

Minerals (Submerged Lands) Act, 1981

Protection of the Sea (Prevention of Pollution from Ships) Act, 1983

Sea Installations Act, 1987

Fisheries Administration Act, 10 November 1991

Fisheries Management Act, 10 November 1991

Environment Protection and Biodiversity Conservation Act (N. 91), 1999

Environment Protection and Biodiversity Conservation Amendment (Wildlife Protection) Act (n.82), 11 July 2001

5. BAHAMAS

Marine Products (Fisheries) Rules, 23 September 1954

Wild Animals Protection (Chapter 29), 1968

Fisheries Resources (Jurisdiction and Conservation) Act, 1977

Fisheries Resources (Jurisdiction and Conservation) Regulations, 3 March 1986

6. BANGLADESH

Protection and Conservation Fish Act, 1950

Wildlife (Preservation) Order, 1973

Wildlife (Preservation) (Amendment) Act, 1974

Territorial Water and Maritime Zones Act, 1974

Protection and Conservation (Amendment) Ordinance, 8 December 1982

Protection and Conservation of Fish Rules, 16 October 1985

7. BRAZIL

Decree-law n. 221 promoting and protecting fishing activity, 28 February 1967

Decree n. 54/75- Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES), 24 June 1975

Decree n. 76.623 laying down a list of flora and fauna endangered species, according to the convention on the international trade, 17 November 1975

Order n. 5 prohibiting the capture of every marine turtle species, 31 January 1986

Law n. 7.679 concerning the prohibition of fishing certain species during the season of reproduction, 23 November 1988

Order n. 186 creating the National Centre for the Conservation and Management of Marine Turtles, 22 February 1990

Order n.332 regulating the license for collecting wildlife material with scientific purposes, 13 March 1990

Order n. 36-N establishing protecting measures (TED) for marine turtles during pink shrimp fishing, 7 April 1994

Order n. 10 establishing protective measures for green turtles, leatherback turtles, hawksbill turtles and olive ridley turtles, 30 January 1995

Order n. 11 establishing protective measures for marine turtles along sea shores, 30 January 1995

Resolution Conama n. 10 establishing protected areas for the laying down of marine turtles' eggs, 24 October 1996

Act n. 9.605 regulating criminal and administrative penalties relating to the behavior and activities harmful to the environment, and sets forth other provisions, 12 February 1998

Act n. 9.985 regulating the National System for Protected Areas, 18 June 2000

Decree n. 3.842 on the Inter-American Convention for the Protection and Conservation of Sea Turtles (IAC), 15 June 2001

Decree n. 4.339 establishing principles and guidelines for the implementation of the National Policy on Biodiversity, 22 August 2002

Decree n. 4.703 on the National Programme on Biological Diversity (PRONABIO) and on the National Commission on Biodiversity, 21 May 2003

8. BRITISH VIRGIN ISLANDS (UK)

Endangered Animals and Plants Ordinance (Cap.89), 1976

Turtles Ordinance (Cap. 87), 1987

Fisheries Act (Cap. 4), 25 September 1997

9. CAMBODIA

Fisheries Management and Administration, First-Law n. KRO.CHOR., 9 March 1987

Proclamation on competent authorities in issuing permission to do fishery in open water, aquaculture, fish processing and special permission (n. 002.PROR.KOR.KOR.SOR.KOR.), 10 January 1989

Law on Environmental Protection and Natural Resources Management, 24 December 1996

10. CANADA

Fisheries Act, 1984

Wildlife Act , 1985

Environmental Assessment Act, 15 June 1992

Contraventions Act, 15 October 1992

Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act (WAPPRIITA), 17 December 1992

Wildlife Area Regulation, 1994

Oceans Act, 1996

Foreign Vessel Fishing Regulations, 30 April 2000

11. CAPE VERDE

Decree-Law n. 17/87 defining general principles of fisheries resources policy, 18 March 1987

Decree-law n.97/87 establishing regulations for the implementation of certain provisions of Decree-law n. 17/87 of 1987, 5 September 1987

Act n. 79/III/90 creating the natural reserve of Santa Luzia, 12 June 1990

Act n. 86/IV/93 defining environmental policy, 26 June 1993

Decree-law n. 3/2003 establishing the legal regime for management of protected areas, 24 February 2003

12. CAYMAN ISLANDS (UK)

Endangered Species Protection and Propagation Law (n. 21), 1978

Marine Conservation Law (n. 19), 1978

Marine Parks Regulation, 1986

Marine Conservation (Turtle Protection) Regulation, 1996

13. CHILE

Ley de Caza n. 4.601, 1929

Decreto Supremo n. 709 (Ministerio de Economía y trabajo), 1945

Decreto Supremo n. 7268 (Ministerio de Agricultura), 1955

Decreto Supremo n. 2.47/74, 1974

Decreto Supremo n. 141/75 sobre la Convención sobre el Comercio Internacional de Especies Amenazadas de Fauna y Flora Silvestres (CITES), 1975

Ley General de Pesca y Acuicultura, 22 de septiembre de 1989

Decreto 133/92- Reglamento de la Ley de Caza (Ministerio de Agricultura), 4 de junio de 1992

Ley n. 19.300 sobre Bases Generales del Medio Ambiente, 1 de marzo de 1994

Decreto Supremo n. 225/95, 11 de noviembre de 1995

Ley de Caza n. 19.473, 4 de septiembre de 1996

Decreto n. 5 (Ministerio de Agricultura), 9 de enero de 1998

Ley n. 19.800- Modifica la ley general de pesca y acuicultura, 22 de abril de 2002

14. CHINA

Marine Environment Protection Law, 1982

Fisheries Law, 20 January 1986

Regulations for the Implementation of the Fisheries Law, 14 October 1987

Law on the Protection of Wildlife, 8 November 1988

Environmental Protection Law, 26 December 1989

Regulations for the Implementation of Wild Aquatic Animal Protection, 5 October 1993

Regulations on Nature Reserves, 9 October 1994

15. COMOROS

Décret n. 79-019 interdisant la capture des tortues de mer dans les eaux territoriales des Comores, de même que dans les eaux internationales limitrophes, 9 avril 1979

Arrêté interministériel n. 92-015 portant interdiction de la pêche, la capture et la commercialisation de certaines espèces marines ainsi que de la dégradation du littoral, 30 mars 1992

Loi-cadre n. 94-018 relative à l'environnement, 22 juin 1994

Arrêté ministériel n. 01/031/MPE/CAB portent protection des espèces de faune et flore sauvages des Comores, 15 mai 2001

16. COSTA RICA

Ley n. 190 sobre pesca y caza marinas, 28 de septiembre de 1948

Decreto Ley n. 363- Reglamento de pesca y caza, 11 de enero 1949

Decreto n. 14.524/A- Otorgamiento de permisos para la captura y comercialización de tortuga verde en aguas del Mar Atlántico, 4 de mayo de 1983

Decreto n. 18.289/MAG- modifica el decreto n. 14.524/A, 31 de mayo de 1988

Ley n. 7.317 de conservación de la vida silvestre (LCVS), 30 de octubre de 1992

Ley n. 7.384- Crea el Instituto Costarricense de Pesca y Acuicultura (INCOPESCA), 16 de marzo de 1994

Decreto n. 26.435.MINAE-Reglamento a la Ley de conservación de la vida silvestre (LCVS), 1 de Octubre de 1997

Ley n. 7788 de biodiversidad, 23 de abril de 1998

Decisión de la Sala constitucional de la Corte Suprema de Justicia, 19 de febrero de 1999

Ley n. 7.906- Aprobación de la Convención Interamericana para la protección y conservación de las tortugas Marinas (IAC), 23 de agosto de 1999

Decreto n. 29.068/MINAE- Crea área destinada a la observación de la tortuga baula, 2000

Ley n.8325- Ley de protección, conservación y recuperación de las poblaciones de Tortugas marinas, noviembre de 2002

17. COTE D'IVOIRE

Loi n. 65-225 sur la protection de la faune, 4 août 1965

Décret n. 66-433 portant statut des parcs nationaux et réserves de faune, 15 septembre 1966

Loi n. 86-478 relative à la pêche, 1er juillet 1986

Loi-cadre n. 96-766 portant code de l'environnement, 3 octobre 1996

Loi n.32/046 relative à la création, à la gestion et au financement des parcs nationaux et des réserves, 2002

18. CUBA

Resolution 16-IV (Ministry of Fishing Industry), 1961

Resolution 317 (Ministry of Fishing Industry), 1977

Resolution 298 (Ministry of Fishing Industry), 1994

Resolution 300 (Ministry of Fishing Industry), 1994

Resolution 3 (Ministry of Fishing Industry), 1995

Decree-law 164, September 1996

Resolution 561 (Ministry of Fishing Industry), 1996

Resolution 83 (Ministry of Fishing Industry), 1997

19. CYPRUS

Fisheries Law (chapter 135), 15 May 1931

Regulations (Fishery Department), 1971

Fisheries (Consolidation) Ordinance, n. 2/82, 1 April 1982

Fisheries (Consolidation) Amendment Ordinance, 6 March 1991

Fisheries Regulations, 20 May 1991

20. DOMINICAN REPUBLIC

Decree n. 34-96, 1996

Resolution n. 2-97 (Ministry of Sport, Physical Education and Recreation), 17 April 1997

Framework Law for Environment and Natural Resources (n. 64-00), 18 August 2000

21. EGYPT

Ministerial Order n. 667 on fisheries, 1961

Law n. 53 (Agricultural Code, Book II, Chapter I on Animal Development and Protection), 1966

Decree n. 28 (MAG) implementing article 117 of Law n. 53 (Agricultural Code), 1966

Law n. 102/1983 concerning the natural protected areas, 20 July 1983

Act on fishing, aquatic life and the regulations for fish farms (n. 124), 13 August 1983

Law n. 4/94 on the environment, 3 February 1994

Resolution n. 339 concerning fishing methods and gears, 1999

Regulations implementing Law n. 4/94 on the environment (n. 338), 18 February 1995

22. EUROPEAN COMMUNITY

Council Regulation (EEC) n. 3626/82 on the implementation in the Community of the Convention on international trade in endangered species of wild fauna and flora (CITES), 3 December 1982

Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, 21 May 1992

Council Regulation (EEC) n. 3760/92 establishing a Community system for fisheries and aquaculture, 20 December 1992

Council Regulation (EC) n. 1626/94 laying down certain technical measures for the conservation of fishery resources in the Mediterranean, 27 June 1994

Council Regulation (EEC) n. 338/97 on the protection of species of wild fauna and flora by regulating trade therein, 9 December 1996

Commission Regulation (EC) n. 1579/2001, amending Council Regulation (EC) No 338/97 on the protection of species of wild fauna and flora by regulating trade therein, 1 August 2001

Commission Regulation (EC) n. 1808/2001 laying down detailed rules concerning the implementation of the Council Regulation n. 338/97, 30 August 2001

23. FEDERATED STATES OF MICRONESIA

Endangered Species Act, 1975

Marine Resources Act, 1992

24. FRANCE

Loi n. 76-629 relative à la protection de la nature, 10 juillet 1976

Loi n. 77-1423 autorisant l'approbation de la Convention sur le commerce international des espèces de faune et de flore sauvages menacées d'extinction (CITES), ouverte à la signature à Washington jusqu'au 30 avril 1973 et, après cette date, à Berne jusqu'au 31 décembre 1974, 27 décembre 1977

Loi n. 85-542 sur la pêche, 22 mai 1985

Décret n. 95-90 pris pour l'application de l'article 3 du décret du 9 janvier 1852 modifié fixant les conditions générales d'exercice de la pêche maritime dans les zones de pêche non couvertes par la réglementation communautaire de conservation et de gestion, 25 janvier 1990

Arrêté fixant la liste des tortues marines protégées sur le territoire métropolitain (Ministère de l’environnement), 17 juillet 1991

Arrêté fixant la liste des tortues marines protégées dans le département de la Guyane (Ministère de l’environnement), 17 juillet 1991

Arrêté fixant la liste des tortues marines protégées dans le département de la Guadeloupe (Ministère de l’environnement), 2 octobre 1991

Arrêté fixant la liste des tortues marines protégées dans le département de la Martinique (Ministère de l’environnement), 16 mars 1992

Arrêté ministériel fixant les modalités d’application de la Convention sur le commerce international des espèces de faune et de flore sauvages menacées d'extinction (CITES) et des règlements (CE) n. 338/97 du Conseil Européen et (CE) 939/97 de la Commission européenne, 30 juin 1998

Arrêté fixant les modalités d’application de la Convention sur le commerce international des espèces de faune et de flore sauvages menacées d'extinction (CITES) et des règlements (CE) n. 338/97 du Conseil Européen et (CE) 939/97 de la Commission européenne, 9 août 1998

Code de l’environnement, septembre 2000

Arrêté fixant la liste des tortues marines protégées sur le territoire national (Ministère de l’aménagement du territoire et de l’environnement), 9 novembre 2000

Arrêté du 16 novembre 2001 relatif à la liste des types d'habitats naturels et des espèces de faune et de flore qui peuvent justifier la désignation de zones spéciales de conservation au titre du réseau écologique européen NATURA 2000 (Ministère de l'aménagement du territoire et de l'environnement), 16 novembre 2001

25. FRENCH GUIANA (FRANCE)

Décret fixant sur tout ou partie du territoire les mesures de protection de la faune sauvage dans le département de la Guyane, 15 mai 1986

Arrêté fixant la liste des tortues marines protégées dans le département de la Guyane (Ministère de l'environnement), 17 juillet 1991

Décret n. 95-1299 portant création de la réserve naturelle des Nouragues (Guyane), 18 décembre 1995

Décret n. 96-491 portant création de la réserve naturelle de La Trinité (Guyane), 6 juin 1996

Décret portant création de la réserve naturelle du Grand Connétable (Guyane), 8 décembre 1996

Décret n. 98-165 portant création de la réserve naturelle de l'Amana (Guyane), 13 mars 1998

Décret n. 2004-312 relatif au parc naturel de Guyane (région Guyane), 26 mars 2004

26. GABON

Loi n. 1-82 d'orientation en matière des eaux et des forêts, 22 juillet 1982

Décret n. 192/PR/MEFCR règlementant l'exercice des droits d'usage coutumiers, 4 mars 1987

Décret n. 189/PR/MEFCR relative à la protection de la faune, 4 mars 1987

Décret n. 190/PR/MEFCR fixant les modalités de détention, de circulation et de commercialisation des produits de la chasse, 1987

27. GREECE

Law n. 420 introducing the Fisheries Code, 24 January 1970

Presidential Order n. 617 on the protection of sea turtles, 9 July 1980

Presidential Order n. 67 on the protection of the Flora and Fauna, 29 November 1980

Errate Corrige on Presidential Order n. 67, 1981

Law n. 1650 on protected areas, 10 October 1986

Law n. 2055 on ratification of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1992

Ministerial Decree n. 232045 prohibiting fishing in the marine area of Kalymos-Kos Islands, 4 August 1997

Ministerial Decree n. 232046 establishing measures for fishing activities within the marine area of Evoikos and Maliakos gulfs, 4 August 1997

Ministerial Joint Decree 18670/777 establishing measures for the protection of the Caretta-Caretta turtle, 19 February 1998

Joint Ministerial Decision 331794/99 of the Minister of National Economy and the Minister of Agriculture on provisions for the international trade in endangered species of wild flora and fauna, 3 December 1999

28. GUYANA

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PART II

REVIEW OF INTERNATIONAL INSTRUMENTS CONCERNING PROTECTION OF SEA TURTLES

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I. INTRODUCTION

Having travelled the seas for over 100 million years, marine turtles have outlived almost all of the prehistoric animals with which they once shared the planet. Marine turtles survived the extinction of the dinosaurs and are still present in the world's oceans today. Until recently, their success was apparent, as marine turtles crawled ashore to nest in abundance on tropical and subtropical beaches around the globe. Unfortunately many threats have wiped out entire turtle populations, or reduced them to mere shadows of their former glory.[29]

Three main threats endanger sea turtles: incidental take, direct hunting, and loss of coastal habitat. Despite their ability to remain underwater for long periods of time, sea turtles must breathe at the surface. When trapped in nets and shrimp trawls sea turtles suffocate and drown. In addition to shrimp trawls, turtles also become enmeshed in other fishing gear such as longlines and gillnets. The historic cause of decline for most sea turtle species was hunting for their carapace to use as jewellery and ornaments. This has been reduced considerably through Convention on International Trade in Endangered Species (CITES) protections over the last 25 years, reducing the market for turtles and relieving the pressure on direct harvesting. At the same time, however, the consumption of sea turtles as a food source has increased. Finally, efforts to revive the already depleted and vulnerable populations of sea turtles have been seriously hampered by major loss of nesting beaches. Sea turtles lay their eggs above the high tide line of beaches and coastal development has paved over or made inaccessible many traditional turtle egg-laying sites (Hunter, Salzman, and Zaolke). In fact, human induced mortality is having a greater impact on marine turtle populations than natural mortality.[30]

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[29] See: http://www.worldwildlife.org/turtles/index.cfm.

[30] Under natural conditions, turtles suffer high hatchling, post-hatchling and juvenile mortality, but those that survive the early days grow into long-lived animals with very low adult mortality. Unfortunately, conditions nowadays are far from "natural" and turtles suffer mortality at all stages of their life cycle, leading to increasingly regular population crashes. Marine turtle populations can be destroyed from the "bottom up" by overexploitation of the eggs, and destruction of nesting sites. For example, as far as is known, green turtles take 30 to 50 years to reach sexual maturity and remain reproductive for about 20 years. Adults are the visible component of a turtle population; their numbers are maintained by the gradual maturation of juvenile and sub-adult turtles. This will continue to happen, even if no eggs are laid or if all the eggs are collected. It will be many decades before the number of adults begins

Currently, seven species of marine turtles are clearly recognized: Green turtle (*Chelonia mydas*), Loggerhead (*Caretta caretta*), Flatback (*Natator depressus*), Hawksbill (*Eretmochelys imbricata*), Leatherback (*Dermochelys coriacea*), Olive ridley (*Lepidochelys olivacea*), and Kemp's ridley (*Lepidochelys kempii*). All seven are listed on Appendix I of CITES and granted its highest level of protection; all seven are also listed as critically endangered, endangered or vulnerable on the World Conservation Union Red List.

Most species have circumglobal and subtropical or tropical distributions. Marine turtles have a fascinating life history. They are long-lived species that mature late in life and move great distances during their lifetimes. Marine turtles are excellent navigators, frequently migrating hundreds or even thousands of kilometres between foraging and nesting grounds. They spend their lives at sea but return to land to reproduce. That adult females return faithfully to nest on the very beach where they were born makes the feat even more amazing. [31]

Facing the problem of marine turtles declining, the international community has developed various international instruments for the protection and conservation of wildlife in general, and marine turtles in particular, even though these efforts are pretty recent, because human beings are now more and more aware that it is imperative for them to protect their natural environment, including all species of fauna and flora.[32] Concerning marine turtles in particular, it should be mentioned that important developments have taken place in the last ten years.

In fact, many international instruments that directly or indirectly affect sea turtles have been developed. Their life history characteristics, slow maturity and long lives in diverse habitats belonging to different nations, make the conservation challenge very important.[33] But, in

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to decline, but over time the reservoir of juveniles and sub-adults will become progressively depleted until there are no more recruits. These "last adults" will, in theory, survive for another 20 years during which time the situation may not seem too serious. In reality, however, the population is on the verge of extinction because once these adults die there will be no hatchlings, juveniles or sub-adults to replace them. If juvenile and adults are being killed, e.g. as bycatch, then this will simply happen more quickly. See: http://www.worldwildlife.org/lectures/drews.cfm.

[31] Adult females nest in multiyear cycles, usually 2-4 years. They come ashore several times to lay hundreds of eggs during a nesting season. After about 50 to 60 days of incubation, the hatchlings emerge and head for the ocean to begin life as pelagic drifters. See: http://www.iucn-mtsg.org/turtles.shtml.

[32] In fact, threats affecting the diversity of fauna and flora have long been acknowledged by scientists, policy makers, legislators, and the general public, but it is only in the past three decades that countries have started to address these issues in earnest and on a global scale. Prior to 1970, only a handful of international instruments were established for wildlife conservation. In 1972, the United Nations Conference on the Human Environment in Stockholm triggered an unprecedented development in international environmental treaties. This growth in international instruments promoted cooperation among nations to address environmental problems that extend beyond the geographical borders of any one country and permitted States to regulate many activities within a common, international framework. Today, there are more than 900 international legal instruments registered with the United Nations that have one or more provisions concerning the environment (Tiwari, 2002).

[33] See Tiwari, M., ibid. p. 146.

order to ensure equity between range States, all nations through whose seas turtles travel must make a commitment to their conservation. Otherwise actions in one nation will detract from gains made by those people in another country who are endeavouring to minimize human impacts upon sea turtles.[34] In fact, if anything is abundantly clear, it is that international cooperation is fundamental to the conservation of marine turtles. The tools for promoting, structuring, and enforcing such cooperation between States are international instruments.[35]

It would be a bit pretentious to think that all relevant international instruments can be analysed here. This study will rather be focused on major international norms that form the complex system of complementary and synergistic legal instruments that contribute to the conservation of marine turtles and their habitats. The paper does not intend to address in any detail the legal instruments regulating the harvesting of target living marine resources in international fisheries, or marine and land-based pollution, which are covered by a large number of specialized instruments. While too numerous to describe all of them in detail, it is nonetheless worth highlighting the most relevant ones operating at the global and regional level, and to indicate their special features.[36]

In order to have a clear view of this relatively complicated system, we will conduct a short review, first of major global instruments relating to the conservation and management of marine turtles (Chapter II), second of relevant regional instruments (Chapter III and IV), before conducting a general analysis of the applicable law (Chapter V) and drawing some general conclusions (Chapter VI).

II. MAJOR GLOBAL INSTRUMENTS RELATING TO CONSERVATION AND MANAGEMENT OF MARINE TURTLES

By global international instruments, we refer to those legal instruments, which can potentially be applicable in any region in the world and under which marine turtles can be protected in one way or another. For the sake of addressing such conservation and management from a fisheries perspective, it seems preferable to analyse, firstly, (A) the global fisheries related instruments, and, secondly (B) the global environmental instruments.

A. Global fisheries-related instruments

Despite the fact that sea turtles return occasionally on land – namely female to lay their eggs – the natural environment of those animals is mainly the sea and their protection can be

[34] Kaufmann, M.M. 1990. The New Caribbean Environment Programme Protocol Concerning Specially Protected Areas and Wildlife (SPAW) and the Associated New Regional Programme for the Protected Areas and Wildlife. In Richardson, T.H., J.I. Richardson, and M. Donnelly (compilers). Proceedings of the Tenth Annual Workshop on Sea Turtle Biology and Conservation. NOAA Technical Memorandum NMFS-SEFC-278, pp. 193-195 (pp. 122). (See: http://www.nmfs.noaa.gov/prot_res/readingrm/turtlesymp/10turtle.pdf).

[35] Frazier, J., 2002. Marine Turtles and International Instruments: The Agony and the Ecstasy. 5 Journal of International Wildlife Law and Policy, p. 3.

[36] See Hykle, D. 2002. The Convention on Migratory Species and Other International Instruments Relevant to Marine Turtle Conservation: Pros and Cons. 5 Journal of International Wildlife Law and Policy, pp. 109-110.

directly or indirectly guaranteed by some global fisheries-related instruments that exist nowadays, namely the 1982 Law of the Sea Convention, the 1995 UN Fish Stocks Agreement and the FAO Code of Conduct for Responsible Fisheries.

As will been seen, over the last decade world attention is focussing increasingly on the impact of fisheries on the marine environment. Indeed international fisheries-related law tend to take increasingly into account the wider ecological impacts of fishing (including the lethal bycatch of marine wildlife in certain fisheries), going far beyond the traditional concern of achieving sustainable yields from harvested fish stocks. This evolution can only be beneficial towards the conservation of sea turtles.

1. The Law of the Sea Convention, 1982

Areas under Jurisdiction of a Coastal State

The Law of the Sea Convention (LOSC 1982 or the Convention)[37], also known as the "Constitution of the Oceans"[38], is the applicable law on the seas, which covers three-quarters of the earth.[39]. The main trust of the 1982 Convention is the division of the ocean space into different jurisdictional areas and the identification of the rights and duties of States within those various areas. [40] However notably the preamble recognizes that "the problems of ocean space are closely interrelated and need to be considered as a whole". It further exhorts States to cooperate or to negotiate in order to address transboundary ("transjurisdictional") problems, such as the management of shared stocks and the conservation of straddling fish stocks. Thus the LOSC 1982 provides the framework within which most uses of the sea are located and contains rules relevant for the protection of marine living resources, in general.[41]

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[37] The Convention was signed on 10 December 1982 and entered into force on 16 November 1994. For the text of the Convention, see: http://www.un.org/Depts/los/convention_agreements/texts/unclos/closindx.htm.

[38] Remarks made at the final act of the Third United Nations Conference on the Law of the Sea by the President of the Conference, Ambassador Tommy Koh. For the text of his declaration, see: http://www.un.org/Depts/los/convention_agreements/texts/koh_english.pdf.

[39] 145 States are now members of this Convention, which dispositions are largely considered to be also the customary law.

[40] In those different maritime zones, the applicable law is different as far as the sovereignty or jurisdiction of States is concerned. In any case, marine turtles and other migratory species do not respect all those artificial "limits" in the sea. From the coastline there are the Territorial Sea, Contiguous Zone, Exclusive Economic Zone, Continental Shelf, High Seas, and Area.

[41] The living resources (i.e. fish, shellfish, sea turtles and marine mammals) provisions of the LOSC comprise Articles 61 through 73, and deal specifically with conservation (Article 61), exploitation (Article 62), transboundary and straddling stocks (Article 63), highly migratory stocks (Article 64), marine mammals (Article 65), anadromous stocks (Article 66), catadromous stocks (Article 67), sedentary species (Article 68), rights of landlocked States (Article 69), rights of geographically disadvantaged States (Article 70), non applicability of Articles 69 and 70 (Article 71), restrictions on transfer of rights (Article 72), and enforcement by coastal States (Article 73). In addition, sedentary continental shelf species are more specifically addressed in Article 77(4), living resources on the high seas are considered in Articles 116-120, and marine habitat protection is provided by Articles 192-196. See: Buck, E.H., U.N. Convention on the Law of the Sea: Living Resources Provisions, See: http://lugar.senate.gov/CRS%20reports/UN_convention_law_of_the_seas.pdf.

It is quite obvious that those rules are more targeted "fish"-oriented, and there is no specific clauses concerning marine turtles, but they can form a useful basis for the protection of sea turtles and their habitats in maritime zones submitted to the sovereignty or the jurisdiction of coastal States, as well as those in the high seas. States can achieve this protection individually or in cooperation with other States, because of the migratory character of marine turtles.

In zones under full sovereignty of a coastal State, the Convention does not provide for any duties with respect to the conservation and management of the marine living resources. Coastal State's laws and regulations may cover aspects related to the conservation of living resources of the sea, the prevention of non compliance with national fisheries laws and the preservation of the marine environment.[42] Foreign vessels though benefiting from the right of innocent passage may, in principle, be subject to such laws and regulations.[43]

The situation is slightly different under the EEZ regime, where coastal States exercise sovereign rights for the purpose of exploring and exploiting, conserving and managing living and non-living resources of the area[44] and have jurisdiction to protect and preserve the marine environment of the EEZ[45]. Hence where adequate measures to regulate fisheries will have been taken the conservation of sea turtles may eventually be achieved. The conservation duties provided for under the LOSC 1982 include the responsibility for the coastal State to prevent fishing from threatening the reproduction of species that are associated with or dependent upon harvested species.[46] With respect to the utilization of living resources, the coastal State is under the obligation to promote the objective of optimum utilization of the living resources in the EEZ without prejudice to the "conservation duties" spelled out in Article 61 of LOSC. Measures so adopted with respect to national and foreign fishing operations could consider the conservation of sea turtles through, e.g. selective fishing gear use. It should be noted in this regard, that in the exercise of its sovereign rights relating to the conservation and utilization of living resources of the EEZ, a coastal State need not to subject itself to compulsory dispute settlement provisions of LOSC. The implementation of its duties may therefore a priori not be questioned by other States.[47]

Sea turtles migrate between the EEZs of two or more States and/or between the EEZ(s) and the waters beyond. Protection of sea turtles could be sought under Articles 63 and 64 of LOSC 1982, either as a shared, straddling stock, stock of associated species, or where and when States attempt to regulate fishing of highly migratory species either individually or in cooperation with other States.

[42] LOSC, 1982, Art. 21
[43] LOSC, 1982, Art.21
[44] LOSC, 1982, Art.56(1)(a).
[45] LOSC, 1982, (Art. 56(1)(b)(iii)
[46] LOSC, 1982 art.61(4)
[47] LOSC, 1982, 297(3).

Sea turtles could be considered either as "stocks or stocks of associated species"[48] referred to in Article 63; and, because they are transboundary, they may be of international concern and thus call for cooperation. Lawyers tend to identify stocks referred to in Article 63 (1) as "shared" stocks and those referred to in Article 63 (2) as "straddling fish stocks".[49] The Convention imposes a duty to negotiate arrangements for the management of shared stocks but there is no duty to reach an agreement. If no agreement is reached, each State shall manage that part of the shared stock occurring within its EEZ in accordance with the rights and duties relating to fisheries management and conservation by a coastal State in its EEZ. The Convention does not further elaborate on the management and conservation objectives. Burke states colourfully that "[t]he substantive obligation imposed by Article 63(1) cannot fairly be described as awesome, imposing, or, even, perhaps, very consequential" (Burke, 1994). The article refers to conservation and development of these stocks. Regarding the term "development", Nandan, Rosenne and Grandy (1982) state that:

The reference to "development" ... relates to the development of those stocks as fishery resources. This includes increased exploitation of little-used stocks, as well as improvements in the management of heavily fished stocks for more effective exploitation. Combined with the requirement in Article 61 of not endangering a given stock by overexploitation, this envisages a long-term strategy of maintaining the stock as a viable resource.

The provisions of the Convention on marine scientific research are potentially applicable to the management of shared stocks (see *inter alia* LOSC, Arts 246(3), 246(5)(a) and 249 LOSC).

Straddling fish stocks or stocks of associated species (LOSC, Article 63(2)) open the question of responsibility for high seas management and, of the relationship between high seas management and the management by coastal states of straddling stocks within their exclusive economic zones. Articles 63 (2) and 116 of the 1982 Convention provide an essential starting point for the resolution of problems that have arisen in the implementation of the straddling stocks regime.

Yet again Article 63(2)[50] does not offer that much guidance as to how the problems involved in regulating straddling stocks are to be addressed. Notably cooperation is called for in

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[48] FI Glossary (http://www.fao.org/fi/glossary/default.asp). Associated species are referred to as : "Those species that (i) prey upon the target species; (ii) are preyed on by it; (iii) compete with it for food, living space, etc; or (iv) co-occur in the same fishing area and are exploited (or accidentally taken) in the same fishery or fisheries. These interactions can occur at any stage of the life cycle of one or other species and the range of species concerned can therefore be very large."

[49] For further reading on this, see, Van Houtte, A. Legal Aspects in the Management of Shared Fish Stocks – A Review, Norway-FAO Expert Consultation on the Management of Shared Fish Stocks, Bergen, Norway, 7-10 October 2002, FAO Fisheries Report No. 695, Supplement, FIPP/R695 (Suppl.)

[50] Article 63 (2) provides as follows:
Where the same stock or stocks of associated species occur both within the exclusive economic zone and in an area beyond and adjacent to the zone, the coastal State and the States fishing for such stocks in the adjacent area shall seek, either directly or through appropriate sub-regional or regional organizations, to agree upon the measures necessary for the conservation of these stocks in the adjacent area.

particular and only to take measures for conservation purposes in respect of the high seas (for the conservation of these stocks in the adjacent area), not in respect of the EEZ. The duty to cooperate under international law has a substantive content which may be expressed in terms of a general obligation to cooperate, i.e. duties to notify, consult and negotiate.[51] It is also generally accepted under international law that the duty to cooperate does not involve the duty to reach in an agreement provided that the cooperation has been undertaken in good faith.

Under Article 116(2) it is clear that the high seas right to fish is subject to the "rights and duties as well as the interests of coastal States provided for, *inter alia,* in article 63 paragraph 2". In respect of straddling stocks or stocks of associated species, the question is what are the "rights, duties and interests" of the coastal State while the stocks are on the high seas? The effective implementation of the legal regime provided for under the Convention depends on States acting in accordance with Article 63 (2) and section 2 of Part VII and on the use of the dispute-settlement mechanism contained in the Convention and, where necessary, on further development of that mechanism.

Article 64 of the LOSC 1982 deals with highly migratory species. They are those species listed in Annex 1 of the Convention and include tuna, marlins, swordfish and oceanic sharks. They do not include any type of sea turtles. Thus the provisions of the Convention on the conservation of highly migratory species do not apply to sea turtles. However, in regulating highly migratory species, a State or States may adopt measures relating to sea turtles.

High Seas

Turtles spend part of their life cycle on the high seas. The Convention provides that high seas fishing is in principle open to all States, subject to restrictions referred to above under straddling stocks. Articles 117 to 120 lay down a duty on interested States to cooperate in the management and conservation of high seas fishery resources, making use, where appropriate, of regional fisheries bodies.[52] The aim of such management should be "to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield, as qualified by relevant environmental and economic factors, including [...] the interdependence of stocks and [...].[53] The Convention further reads that in adopting conservation measures, States shall also take into consideration "the effects on species associated with or dependent upon harvested species with a view to maintaining or restoring populations of such associated or dependent species above levels at which their reproduction may become seriously threatened".[54] Any conservation measures adopted should not discriminate in form or in fact against the fishers of any State.[55] There is thus a limited recognition of the need to preserve the ecological integrity of fisheries.

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[51] P. Reuter, "De l'obligation de négocier », Studi in onore di Gaetano Morelli, Communicazioni e studi,vol. XIV (Milan, Giiuffre, 1975), p. 711-733

[52] Under Article 118 of the LOSC 1982, all States have a duty to take measures to conserve and manage living resources on the high seas, either alone or in cooperation with other States and the obligation to enter into negotiations with a view to taking the measures necessary for the conservation of high seas living resources.

[53] LOSC, 1982, Art. 119(1)(a).

[54] LOSC, 1982, Art. 119(1)(b).

[55] LOSC, 9182, Art.119(3).

The LOSC 1982 high seas regime presents several elements of inadequacy and is ill-"equipped" to address *inter alia* problems of overexploitation of target and non-target species, of free rider/re-flagging , unregulated fishing, overcapitalization and marine biodiversity.

Over the past decade a number of steps, in the form of both soft and hard law were taken to address these problems. In 1992 the International Conference on Responsible Fishing was held in Cancún, Mexico and adopted the Cancun Declaration which called upon FAO to draft an International Code of Conduct for Responsible Fisheries.[56] The same year the UN Conference on Environment and Development met at Rio and adopted, amongst other matters, Agenda 21 and Chapter 17 concerned with the oceans.[57] Programme Area C of this Chapter entitled "Sustainable Use and Conservation of Marine Living Resources of the High Seas" highlights in respect to the management and conservation of high seas fisheries resources, *inter alia*, the insufficiently selective gear, the need to protect and restore endangered marine species, and the lack of cooperation between States. Agenda 21 calls for, *inter alia*, the negotiation, where appropriate, of international agreements for effective management and conservation of high seas fish stocks; the promotion of the development and use of selective fishing gear and practices that minimize waste in the catch of target species and minimize bycatch on non-target species; the promotion of scientific research and exchange of data in order to obtain better knowledge of high seas fish stocks. Agenda 21 laid the basis for the development of a series of international fisheries-related instruments of which two are of particular importance for this study: the Code of Conduct for Responsible Fisheries[58] and the UN Fish Stocks Agreement. These soft law instruments provide a basis for the development of conservation measures relating to sea turtles.

Protection of the Marine Environment

Part XII of the Convention provides a general framework for the protection and preservation of the marine environment. Article 192 *et seq*. lay down the general duty to protect and preserve the marine environment from pollution from all sources. Specific to the conservation of sea turtles, Article 194(5) reads that measures should be formulated by States to "protect and preserve rare and fragile ecosystems as well as habitat of depleted, threatened or endangered species and other forms of marine life". The rest of the provisions of Part XII define the jurisdictional rights and obligations, both legislative and enforcement, of flag, coastal and port States.[59] It identifies various sources of pollution including pollution from land-based sources; pollution from seabed activities subject to national jurisdiction; pollution from activities in the international sea-bed area; pollution from dumping; pollution from vessels; and pollution from or through atmosphere.[60] In sofar as sea turtles may be affected by these types of pollution, these provisions of the LOSC may be relevant. However, it should not be forgotten that there is a proliferation of international instruments, of which some are in force and some not, relating to the aspect of marine pollution. Without an overall assessment of the impacts of these instruments, it might be difficult in general to decide

[56] UN Doc. A/Conf.151/15, annex.
[57] International Organizations and the Law of the Sea. Documentary Yearbook 400-32 (1992).
[58] FAO Doc. 95/20/Rev.1 (1995) Reproduced in 11 International Organizations and the Law of the Sea. Documentary Yearbook 700-34.
[59] See LOSC, Arts. 207 to 234 and 236.
[60] LOSC, 1982, Arts. 207-212.

whether additional international legislative action is desirable, leave aside for the purposes of conserving sea turtles.

2. The UN Fish Stocks Agreement, 1995 and the Conservation of Sea Turtles

On 8 September 1995 the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (1995 UN Fish Stocks) was signed.[61]

Two important elements emerge among these international initiatives: the reinforcement of flag State responsibilities and the promotion of cooperation, especially at subregional and regional level.

The 1995 UN Fish Stocks Agreement implements the 1982 Convention and has provided for more detailed provisions concerning straddling fish stocks and highly migratory fish stocks. The overarching objective is "to ensure the long-term conservation and sustainable use of straddling fish stocks and highly migratory fish stocks through the effective implementation of the relevant provisions of the Convention.[62]

The Agreement creates a detailed framework for the management of these stocks. It does also go further and places the conservation and management within a wider context of the need to avoid adverse impacts on the marine environment, of the preservation of marine biodiversity, and of the integrity of the marine ecosystem.[63]

The 1995 UN Fish Stocks Agreement applies "unless otherwise provided" to the conservation and management of straddling fish stocks and highly migratory species "beyond areas under national jurisdiction".[64]

The main elements of the 1995 UN Fish Stocks Agreement are:

1. Requires coastal States and distant-water fishing states (DWFS) to ensure that the conservation and management measures, which are created within the EEZ and on the high seas are compatible.
2. Sets out general principles for the conservation and management of straddling fish stocks and highly migratory fish stocks, including the requirement to minimize catch of non-target species, both fish and non-fish species and impacts on associated or dependent species, in particular endangered species, through measures including to the extent practicable, the development and use of selective safe and cost-effective fishing gear and techniques, as well as the precautionary approach, which parties to the agreement are to apply on the high seas as well as within the EEZ.

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[61] 52 States are now members of the Agreement, which entered into force on 11 November 2001. For the text of the Agreement, see: http://ods-dds-ny.un.org/doc/UNDOC/GEN/N95/274/67/PDF/N9527467.pdf

[62] 1995 UN Fish Stocks Agreement, Article 2.

[63] Edeson, W.R. 2001. The Law of the Sea: Recent Developments. Seminar on International Marine Fisheries and Introduction of Vietnam's draft Fisheries Law, Sept. 2001.

[64] 1995 UN Fish Stocks Agreement, Article 3.

3. Specifies the duties of the flag States with respect to their vessels fishing on the high seas.
4. Includes detailed rules on the establishment and operation of subregional or regional fisheries management organizations or arrangements (RFMOs) which are to establish conservation and management measures on the high seas. Parties to the agreement are obliged to join RFMOs or agree to comply with the measures they create. Otherwise they will not be allowed to fish in the areas where these management and conservation measures apply.
5. Introduces innovative provisions on enforcement for non-flag states, as well as providing for port-state jurisdiction in respect of fishing vessels.
6. Contains detailed provisions on peaceful dispute settlement.

The paper does not elaborate more on the details of these basic elements but highlights a few issues and points which are of particular interest in relation to the issue of conservation of sea turtles.

The Agreement sets standards in relation to the scope of the States duties to cooperate in the management and conservation of high seas fisheries resources. In doing so, it promotes the conservation of sea turtles, as an element of the overall marine ecosystem and biodiversity.

The Preamble of the Agreement reveals the importance attached by the negotiators to the need to preserve the marine biodiversity and provides guidance for the interpretation of all other provisions of the Agreement. It states "Conscious of the need to avoid adverse impacts on the marine environment, preserve biodiversity, maintain the integrity of marine ecosystems and minimize the risk of long-term or irreversible effects of fishing operations".

The duty to cooperate is an essential ingredient throughout the 1995 Agreement and a range of obligations to cooperate apply to straddling fish stocks and highly migratory fish stocks. In giving effect to duty to cooperate "in accordance with the [Law of the Sea] Convention", all States are required to implement a number of principles. Under Article 5 of the Agreement, States are required to: "...(b) ensure that [management and conservation measures] are based on the best scientific evidence available and are designed to maintain or restore stocks at levels capable of producing maximum sustainable yield, as qualified by relevant environmental and economic factors [...] and taking into account fishing patterns, the interdependence of stocks [...]; (d) assess the impacts of fishing, other human activities and environmental factors on target stocks and species belonging to the same ecosystem or associated with or dependent upon the target stocks; (e) adopt, where necessary, conservation and management measures for species belonging to the same ecosystem or associated with or dependent upon the target stocks, with a view to maintaining or restoring populations of such species above levels at which their reproduction may become seriously threatened, and (f) minimize pollution, waste, discards, catch by lost or abandoned gear, catch of non-target species, both fish and non-fish species, (hereinafter referred to as non-target species) and impacts on associated or dependent species, in particular endangered species, through measures including, to the extent practicable, the development and use of selective, environmentally safe and cost-effective fishing gear and techniques".

An important principle expressed in the Agreement and with invaluable implications for the marine biodiversity and thus including sea turtles is the precautionary approach detailed in Article 6 and Annex II of the Agreement. States are required to apply the precautionary approach widely to conservation, management and exploitation of straddling fish stocks and

highly migratory fish stocks in order to protect the living marine resources and preserve the marine environment. Where information is uncertain, unreliable or inadequate, States are required to be more cautious. Furthermore, the absence of adequate scientific information can not be used as a reason for postponing or failing to take conservation and management measures.[65] The implementation of the precautionary approach includes the duty for the States to "develop data collection and research programmes to assess the impact of fishing on non-target and associated or dependent species and their environment, and adopt plans which are necessary to ensure the conservation of such species and to protect habitats of special concern".[66]

The requirement to implement the precautionary approach to fisheries management and conservation (straddling fish stocks and highly migratory species) is equally valid within areas under national jurisdiction and high seas areas.[67]

The Agreement provides the legal basis for the development and implementation of practical measures at national, subregional and regional levels to conserve sea turtles. Should the precautionary approach become a "rule" of international customary law in fisheries management and conservation, such approach could pave the way towards reforms in international and national conservation practices likely to impact positively on sea turtles. It should be noted that Annex II while it remains silent in the manner in which the uncertainties about "other effects" are to be considered and addressed, management strategies should seek to maintain or restore populations of harvested stocks, and where necessary associated or dependent species, at levels consistent with previously agreed precautionary reference points. The specific details of a precautionary approach will need to be worked out preferably within the ambit of Regional Fisheries Management Organizations.

The principles and the trust of the Agreement are reflected in and supported by the Code of Conduct for Responsible Fisheries.

3. The FAO Code of Conduct for Responsible Fisheries, 1995

In 1995 FAO elaborated a Code of Conduct for Responsible Fisheries, which "sets out principles and international standards of behaviour for responsible practices with a view to ensuring the effective conservation, management and development of living aquatic resources, with due respect for the ecosystem and biodiversity."[68] It has a very wide scope, indeed, it is stated to be "global in scope, and is directed towards members and non-members of FAO, fishing entities, subregional, regional and global organizations, whether governmental or nongovernmental, and all persons concerned with the conservation of the fishery resources and management and development of fisheries, such as fishers, those engaged in processing and marketing of fishery products and other users of the aquatic environment in relation to fisheries."[69] "It also covers the capture, processing, trade and

[65] UN Fish Stocks Agreement, Article 6 (1) and (2).
[66] Ibid., Article 6(3)(d)
[67] UN Fish Stocks Agreement, Article 3.
[68] See "Introduction to the Code" at http://www.fao.org/fi/agreem/codecond/codecon.asp.
[69] Article I (The Nature and Scope of the Code).

marketing of fish and fishery products, fishing operations, aquaculture, fisheries research and the integration of fisheries into coastal area management."[70]

Thus, the Code, by applying to all fisheries, covers fisheries on the high seas, within the EEZ, in territorial waters, as well as covering inland fisheries, even when they are in shared waters.

One of the clear objectives is to "promote protection of living aquatic resources and their environments and coastal areas"[71] and one of its general principles is that "States and users of living aquatic resources should conserve aquatic ecosystems. The right to fish carries with it the obligation to do so in a responsible manner so as to ensure effective conservation and management of the living aquatic resources."[72]

The General Principles are set out in Article 6. In effect, Article 6 provides the outline of the Code. The General Principles are lengthy, containing at times many important qualifications and restrictions more suited to a binding legal instrument, and what follows are those principles most relevant for this study. These principles urge that States should[73]:

- conserve aquatic ecosystems, recognizing that the right to fish carries with it an obligation to act in a responsible manner;
- base conservation and management decisions on the best scientific evidence available, taking into account traditional knowledge of the resources, their habitat and the interaction with the ecosystem;
- apply the precautionary approach;
- develop further selective and environmentally safe fishing gear, in order to maintain biodiversity, minimize waste, catch of non-target species, etc.;
- ensure fisheries interests are accommodated in the multiple uses of the coastal zone and are integrated into coastal area management;

The Code recognizes the transboundary nature of certain stocks and calls for cooperation; it supports the implementation of the precautionary approach, of an ecosystem-based approach to fisheries and specifically addresses biodiversity issues and conservation of endangered species, calling for the bycatch of non-target species and the impacts of fisheries on biodiversity to be minimized (FAO, 2004).

Despite the fact that the Code is voluntary, it should be indicated that certain parts of it are based on relevant rules of international law, including those reflected in the abovementioned LOSC.[74]

Apart from global international instruments, the protection of marine turtles can also, and perhaps, be more effective at a regional level. It is for this reason that regional instruments,

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[70] Although recreational fisheries is not specifically mentioned in this clause, it was clearly also intended to be covered, as the "Introduction" to the Code refers to the role of fisheries in "recreation".
[71] Article 2(g) of the Code.
[72] Article 6(1) of the Code.
[73] It should be noted that "should" is used throughout the Code of Conduct, consistently with its status as a voluntary instrument.
[74] Article 1(1) of the Code.

some of them exclusively focused on marine turtles, have been developed. The most important of them will be briefly presented below.

Having reviewed the global fisheries related instruments, which can be useful for the protection of sea turtles , we will now analyse the relevant global environmental instruments.

B. Global Environmental Instruments

Three major global instruments are particularly relevant to the conservation and management of marine turtles: the Convention on Biological Diversity, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, and the Convention on the Conservation of Migratory Species of Wild Animals.

The United Nations Conference on the Human Environment (Stockholm, 1972) and the adoption of the World Charter for Nature by the United Nations General Assembly in 1982[75] pave the way, as soft law instruments, for the development of international environmental law. Three of the general principles contained in the Charter are of particular relevance for the conservation of marine biodiversity, of which sea turtles are undeniably part of. These are:

- The genetic viability of the earth shall not be compromised; the population levels of all life forms, wild and domesticated, must be at least sufficient for their survival, and to this end necessary habitats shall be safeguarded.[76]
- All areas of the earth, both land and sea, shall be subject to these principles of conservation; special protection shall be given to unique areas, to representative samples of all the different types of ecosystems and to habitats of rare and endangered species.[77]
- Ecosystems and organisms, as well as the land, marine and atmospheric resources that are utilized by man, shall be managed to achieve and maintain optimum sustainable productivity, but not in such a way as to endanger the integrity of those other ecosystems or species with which they co-exists.[78]

These general principles have provided both the basis and the framework for the development of conservation treaties (De Klemm, 1999). Two of these, though of a more sectoral nature, are of particular relevance for turtles namely covering trade in endangered species and the conservation of migratory species. In 1982, the General Assembly of IUCN called for the conclusion of a global treaty covering terrestrial and biological diversity. The Convention on Biological Diversity (CBD or Biodiversity Convention)[79] was adopted at the Earth Summit in Rio de Janeiro, Brazil in June 1992.

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[75] UNGA Resolution 37/7, (1983) 22 LLM 455.
[76] Principle 2, World Charter for Nature
[77] Principle 3, World Charter for Nature
[78] Principle 4, World Charter for Nature.
[79] For the text of the Convention see: http://www.biodiv.org/doc/legal/cbd-en.pdf.

1. The Convention on International Trade in Endangered Species of Wild Fauna and Flora, 1973.

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (well known as CITES)[80] is an important instrument, which protect endangered species in the world. CITES has been among the largest conservation agreements in existence, with now 166 Parties.

The aim of CITES is to ensure that international trade in specimens of wild animals and plants does not threaten their survival.[81] Four appendices comprises the fundamental principles of CITES. Appendices I, II, and III offer various levels of international trade protection based on the permit form elaborated in Appendix IV. International trade of species listed on Appendix I is strictly prohibited, except in certain circumstances. Export of species on Appendix II is limited based on scientific evidence that evaluates the impact of international trade on the survival of the species' wild population. Finally, international trade of species listed on Appendix III must be controlled in conformity with the provisions of the treaty (Wood *et al*., 1998). There are four main exemptions to bypass CITES namely transit or reshipment, personal or household effects[82], the cases of the pre-Convention specimens[83], and non-commercial trade between scientists or scientific institutions for certain specimens.[84]

As far as marine turtles are concerned, CITES is a valuable international convention for their protection at species level. Currently, seven species of marine turtles are clearly recognized: Green turtle (*Chelonia mydas*), Loggerhead (*Caretta caretta*), Flatback (*Natator depressus*), Hawksbill (*Eretmochelys imbricata*), Leatherback (*Dermochelys coriacea*), Olive ridley (*Lepidochelys olivacea*), and Kemp's ridley (*Lepidochelys kempii*). All seven are listed in Appendix I of CITES and granted its highest level of protection. CITES protects sea turtles but from one identifiable threat namely international trade. As such, it is one component of

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[80] The Convention was drafted as a result of a resolution adopted in 1963 at a meeting of members of IUCN (the World Conservation Union). The text of the Convention was finally agreed at a meeting of representatives of 80 countries in Washington DC., USA, on 3 March 1973, and on 1 July 1975, CITES entered in force. For the text of the Convention, see: http://www.cites.org/eng/disc/text.shtml#texttop.

[81] Because the trade in wild animals and plants crosses borders between countries, the effort to regulate it requires international cooperation to safeguard certain species from over-exploitation. CITES was conceived in the spirit of such cooperation. Today it accords varying degrees of protection to more than 30 000 species of animals and plants, whether they are traded as live specimens, fur coats or dried herbs. See: http://www.cites.org/eng/disc/what.shtml.

[82] Countries may exempt identified personal effects from all permitting requirements in accordance with Paragraph 3 of Article VII of CITES. In this way, certain CITES Appendix II specimens are currently exported, in full compliance with CITES, without an export permit.

[83] CITES permits are not required for specimens that were acquired before CITES applied to that species. The Management Authority would need to be satisfied that the specimen was indeed acquired prior to that date, before issuing the certificate.

[84] The non-commercial exchange, loan or donation of scientific specimens may be exempt from CITES permitting requirements if the Minister has determined under the regulations that it is a registered exchange between scientific organizations. Strict conditions (Regulation 9A.01) must be met for the import or export of specimens to be determined to be a non-commercial scientific exchange.

many international measures assisting in the conservation of marine turtles. Birnie and Boyle (1994) concluded that CITES provides: "a highly practical mechanism incorporating a structure designed to deal with a complex international situation which attempts to balance legitimate trade interests in renewable resources with the need to protect endangered species."

Some concrete measures have been taken under CITES for the protection of marine turtles, namely the adoption of a Strategic Plan for the Conservation of Hawksbill turtles (*Eretmochelys imbricata*) within the wider Caribbean Vision, which aims is ″to enhance the conservation status of hawksbill turtles so that the Caribbean regional population is no longer considered to be threatened″[85].

2. The Convention on the Conservation of Migratory Species of Wild Animals, 1979

The Convention on the Conservation of Migratory Species of Wild Animals (also known as CMS or Bonn Convention)[86], with its 87 Contracting Parties[87], is an invaluable international instrument for the conservation of wildlife.[88] Noteworthy it has "spawned over the last decade over a dozen regional instruments between countries through which migratory animals pass".[89] It is concerned particularly with those species of wild animals that migrate across or outside national jurisdictional boundaries and aims at conserving terrestrial, marine and avian migratory species throughout their range. It is an international treaty, concluded under the aegis of the United Nations Environment Programme[90], concerned with the conservation of wildlife and habitats on a global scale. "Migratory species" are referred to as "the entire population or any geographically separate part of the population of any species or lower taxon of wild animals, a significant proportion of whose members cyclically and predictably cross one or more national jurisdictional boundaries."[91]

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[85] For the text of the Outline of a strategic plan for the conservation of hawksbill turtles within the wider Caribbean Vision, see http://www.cites.org/eng/decis/valid12/annex4.shtml.

[86] See the text of the Convention at: http://www.cms.int/documents/convtxt/cms_convtxt.htm.

[87] Countries like Brazil, Canada, China and Mexico are not yet parties to the Bonn Convention.

[88] In fact, together with CITES, CMS is one of a handful of first generation' treaties, drafted some 20-25 years ago, each with very focussed fields of application. Each of these conventions serves a particular purpose and, in terms of their stated aims, they are largely complementary to one another. CITES, for example, is concerned with aspects of international trade in wildlife, CMS, on the other hand, is expressly intended to address problems of domestic consumption of endangered wildlife and to foster international cooperation to achieve conservation objectives. Therefore, both of these conventions are needed in order to deal with all aspects of the problem at hand. One without the other will not suffice. See: Hykle, D. The Convention on Migratory Species and Marine Turtle Conservation, at: http://www.arbec.com.my/sea-turtles/douglas.php.

[89] CMS/UNEP, 25 Years of Journeys: A Special Report to mark the Silver Anniversary of the Bon Convention on Migratory Species (1979-2004)

[90] Was concluded in Bonn, Germany, on 23 June 1979 and entered into force on 3 November 1983, and has now 86 Parties.

[91] CMS, Preamble and arts. I (1)(a) and II(1).

Under CMS, States have some general conservation obligations to protect endangered migratory species listed in Appendix I. “Endangered” in relation to a particular migratory species means that the migratory species is in danger of extinction throughout all or a significant portion of its range. CMS Parties strive towards strictly protecting these animals, conserving or restoring the places where they live, mitigating obstacles to migration and controlling other factors that might endanger them. Parties that are Range States of a migratory species listed in Appendix I are required to prohibit the taking of animals belonging to such species. Exceptions may be made to this prohibition only if:

(a) the taking is for scientific purposes;
(b) the taking is for the purpose of enhancing the propagation or survival of the affected species;
(c) the taking is to accommodate the needs of traditional subsistence users of such species; or
(d) extraordinary circumstances so require; provided that such exceptions are precise as to content and limited in space and time. Such taking should not operate to the disadvantage of the species.[92]

Besides establishing obligations for each State joining the Convention, CMS promotes concerted action among the Range States[93] of many of these species and in particular those listed in Appendix II.[94] Migratory species that need or would significantly benefit from international cooperation are indeed listed in Appendix II of the Convention.[95] Interestingly, if the circumstances so warrant, a migratory species may be listed both in Appendix I and Appendix II.[96]

As it would be seen below, CMS acts as a framework Convention. The Agreements may range from legally binding treaties (called Agreements) to less formal instruments, such as Memoranda of Understanding, and can be adapted to the requirements of particular regions. The development of models tailored according to the conservation needs throughout the migratory range is a unique capacity to CMS. As will be seen below, under the auspices of CMS, the MOU concerning the Conservation Measures for Marine Turtles of the Atlantic Coast of Africa took effect in 1999. Likewise the MOU concerning the Conservation Measures for Marine Turtles of the Indian Ocean and South East Asia (IOSEA) became effective in 2001.

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[92] CMS, Article III.
[93] "Range State" in relation to a particular migratory species means any State (and where appropriate any other Party referred to under subparagraph (k) of this paragraph) that exercises jurisdiction over any part of the range of that migratory species, or a State, flag vessels of which are engaged outside national jurisdictional limits in taking that migratory species (CMS, article 1).
[94] See: http://www.cms.int/about/intro.htm.
[95] Article IV reads that (1) Appendix II shall list migratory species which have an unfavourable conservation status and which require international agreements for their conservation and management, as well as those which have a conservation status which would significantly benefit from the international cooperation that could be achieved by an international agreement.
[96] CMS, Article IV, 2.

Besides the Flatback turtle (*Natator depressus*), all other sea turtles are listed on both Appendices I and II (Wold, 2002). Further some attempts have been made in order to address fisheries bycatch. For example, through its Resolution 6.2 on Bycatch (Cape Town, 1999), the CMS Conference of the Parties (COP) drew attention to the problem of fisheries bycatch, particularly in relation to marine turtles, seabirds and cetaceans, and called on Parties to strengthen measures to minimize such incidental mortality. A complementary Recommendation 7.2, adopted by CMS COP7 (Bonn, September 2002) provides more specific guidance to Parties on measures that need to be taken to reduce this serious threat to marine life. CMS funding has been allocated and is available to support the convening of a workshop bringing together international experts to examine mitigation measures in relation to longline fisheries.[97]

3. The Convention on Biological Diversity

The Convention on Biological Diversity (Biodiversity Convention)[98] was adopted at the Earth Summit in Rio de Janeiro, Brazil in June 1992, and entered into force in December 1993. As the first treaty to provide a legal framework for biodiversity conservation, the Convention established three main goals: (i) the conservation of biological diversity[99]; (ii) the sustainable use of its components, and (iii) the fair and equitable sharing of the benefits arising from the use of genetic resources.[100] It differs decisively from the species conservation agreements of the 1970s, which focus on exploitation prohibitions or limitations. It further differs from these latter agreements in that it sets three hierarchical categories of biodiversity in living systems: (i) genetic diversity within a species; (ii) species diversity i.e. the variety of species within a region, and (iii) ecosystem diversity i.e. the variety of ecosystems within a region.

Pursuant to the Convention's provisions, Parties are obliged *inter alia* to develop (or adapt existing) national strategies, plans or programmes for the conservation and sustainable use of biological diversity, to carry out *in situ* conservation activities (e.g. establishment of protected areas, rehabilitation and restoration of degraded ecosystems, regulation or management of activities affecting biological diversity), to undertake identification and monitoring activities, and to encourage customary use of biological resources compatible with conservation or sustainable use needs.

The CBD constitutes a milestone in a legal sense. Relevant achievements of this Convention include but are not limited to the following:

- The principle of sovereign rights over natural resources and the access to genetic ressources is subject to prior informed consent;
- Conservation of biological diversity as a common of humankind;
- Codification of the principle of sustainable development embodying the idea of inter-generational equity;

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[97] See: http://www.cms.int/news/PRESS/nwPR2002/cms_cites12cop_statement.htm.
[98] For the text of the Convention see: http://www.biodiv.org/doc/legal/cbd-en.pdf.
[99] Which means "the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems." (Article 2).
[100] Article 1.

- Reflection of the precautionary principle;
- Incorporation principle 21 of Stockholm Declaration;[101] and
- Putting trade in an ecological context.

The Convention does not explicitly address the conservation of marine turtles – indeed, the CBD contains no annexes of species to which its provisions are to apply. However, it does provide a framework within which broader terrestrial and marine conservation objectives may be pursued.[102] Its articles provide planning and habitat protection mechanisms, as well as cooperation, to protect biological diversity, including sea turtles, on both a national and regional level. Nonetheless, other habitat and species protection treaties are much more specific. In fact, the Secretariat of the Biodiversity Convention is investigating a mechanism for linking other, more specific treaties to the Biodiversity Convention.[103]

III REGIONAL FISHERIES INSTRUMENTS

The paper would not be complete without providing some information on the activities and initiatives of some Regional Fisheries Management Organizations (RFMOs) undertaken in relation to the conservation of sea turtles. This section will further look into another development which took place in the international arena relating to fishing operations and the conservation of sea turtles, i.e. the specific issue concerning marine turtle which has been raised at the World Trade Organization.

A. RFMOs and the conservation of sea turtles

Regional fisheries management organizations can they be viewed as "vehicles" for the conservation of marine turtles? With the emergence and the development of the recent fisheries relate international instruments related to the sustainable management and conservation of the world fisheries resources,[104] a special emphasis is being put on RFMOs as being a "vehicle of good governance" in the management of international fisheries (Sydnes, 2001). Regions are increasingly viewed as the appropriate level for cooperation in fisheries related issues, in particular those which cannot be dealt with only at a national level.

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[101] Principle 21 of the Stockholm Declaration states: "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond limits of national jurisdiction."

[102] In particular, in 1998 the CDB adopted a multi-year programme of work focussing on the conservation and sustainable use of marine and coastal biological diversity, with special attention accorded to the issues of integrated marine and coastal management. See Hykle, D., *op. cit.* (note 9), pp. 110-111.

[103] Such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora and the Convention on the Conservation of Migratory Species of Wild Animals, this will be analysed below (Wold, 2002).

[104] Among these are Chapter 17 of Agenda 21, the 1993 Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, the 1995 Rome Consensus on World Fisheries, the 1995 UN Fish Stocks Agreement and the Code of Conduct for Responsible Fisheries.

None of the RFMOs in existence nowadays are given a specific mandate to deal with sea turtles, their habitats and their ecosystem. Nevertheless most of them could address issues relating to the conservation of sea turtles under the umbrella of their general mandate to cooperate and work towards sustainable fisheries. More particularly the issue could be or is addressed under the efforts of a RFMO to adopt an ecosystem approach to fisheries management, to reduce bycatch of non-targeted species and/or top reduce and mitigate adverse impacts on the marine biodiversity on which fisheries depend on.[105]

Some organizations are better equipped than others to deal with marine biodiversity related issues, in general, and conservation of sea turtles, in particular, depending on the functions assigned to the constituent bodies, the decision-making process and nature of the decisions, the mandate of the organization (fisheries operations *sensu strictu* vs fisheries and environment related matters), the geographic scope (high seas and areas under national jurisdiction or only areas under national jurisdiction), enforcement related issues and last but not least the resources.

No less than four important fisheries commissions have taken some constructive measures or, at least, have raised the question of measures necessary to mitigate the effect of fisheries on marine turtles.

1. The Commission for the Conservation of Southern Bluefin Tuna

The objective of the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) is to ensure, through appropriate management, the conservation and optimum utilization of the global Southern Bluefin Tuna fishery. In pursuit of this objective the CCSBT performs a number of functions, including fostering ″activities directed towards the conservation of ecologically related species (living marine species which are associated with the SBT fishery, including but not restricted to both predators and prey of SBT) and bycatch species″.[106] The Commission has taken measures to reduce the impact of SBT fishing on ecologically related species and bycatch and has created a Working Group on Ecologically Related Species (ERS) that collects and analyses information on species which may be affected by the SBT fishery, and provides information and recommendations on data collection, mitigation measures (including gear modifications and fishing practices) and other conservation measures relating to ERS.[107] As part of these recommendations, the CCSBT sets guidelines for scientific observer programmes to be implemented by Member Countries on their own flag vessels. These measures are reviewed at the CCSBT annual meetings.[108]

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[105] In 2002 the Secretariats of a large number of RFMOs were asked to identify five most important issues for them and the reasons why they are important. Out of the 29 RFMOs that have listed important issues, nine identified the ecosystem approach to fisheries, five bycatch and four the application of the precautionary approach.

[106] See: http://www.ccsbt.org/docs/about.html.

[107] For the Terms of Reference for the Working Group (adopted at the Second Annual Meeting, 12–15 September 1995), see: http://www.ccsbt.org/docs/pdf/about_the_commission/terms_of_reference_for_subsidiary_bodies.pdf.

[108] See Macalister Elliott and Partners Ltd, *op. cit*., (note 63).

2. The General Fisheries Commission for the Mediterranean

The General Fisheries Commission for the Mediterranean (GFCM) was established in 1949 as the regional FAO body, to promote the development, conservation, rational management and best utilization of living marine resources of the Mediterranean and the Black Seas. One of the functions of the GFCM is to formulate and recommend appropriate measures for the conservation and rational management of living marine resources, including measures regulating fishing methods and gear. At the 21st Session of the GFCM[109], it was suggested that the GFCM should encourage Member States to enact legislation aiming at regulating the use of gears and fishing effort to minimize the impact of fishing activity on non-target species (including marine mammals, turtles and seabirds). In relation to this, it was also suggested that special emphasis should be given to coordination between GFCM and UNEP's Mediterranean Action Plan. During its 27th Session[110], the GFCM adopted a Reference Framework for the Mandate of the Scientific Advisory Committee (SAC) for the Intersessional Periods 2003 and 2004, which requested the SAC to ″continue updating information on incidental catches of protected species and on bycatch of large migratory sharks″, to ″describe interaction with non-commercial fish, birds and turtles″ and to ″report on measures taken to make more efficient use of baits and to prevent bird and turtle mortality.″[111]

3. The Inter-American Tropical Tuna Commission

The Inter-American Tropical Tuna Commission (IATTC) established since 1950, is responsible for the conservation and management of fisheries for tunas and other species taken by tuna-fishing vessels in the Eastern Pacific Ocean. The Programme also has significant responsibilities for the implementation of the International Dolphin Conservation Programme (IDCP), for which the IATTC also provides the secretariat.[112] Although the IATTC does not have legal authority, the Agreement on the International Dolphin Conservation Programme (AIDCP) is a legally binding, multilateral agreement that entered into force in February 1999. Article VI of the AIDCP[113] prescribes that the Parties, in application to Article VI[114], shall, *inter alia*, ″require that their vessels operating in the Agreement Area release alive incidentally caught sea turtles and other threatened or endangered species, to the maximum extent practicable.″ A Bycatch Working Group, established in 1997, monitors and assesses bycatch of other species including sharks and turtles. During the 72nd Meeting of the IATTC[115], a Resolution C-04-07, was adopted, concerning a Three-Year Programme to Mitigate the Impact of Tuna Fishing on Sea Turtles.[116]

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[109] Held in Alicante, Spain, 1995.

[110] Held at FAO Headquarters, Rome, Italy, 19–November 2002.

[111] See: ftp://ftp.fao.org/docrep/fao/005/y8322e/y8322E00.pdf.

[112] See: http://www.iattc.org/HomeENG.htm.

[113] Specifically entitled: ″Sustainability of Living Marine Resources″.

[114] Pursuant to Article IV, the Parties commit to develop and implement measures to ensure the long-term sustainability of living marine resources associated with the purse-seine tuna fishery in the Agreement Area, taking into consideration the interrelationships among species in the ecosystem.

[115] Held in Lima (Peru), 14-18 June 2004.

[116] See the text of the Resolution at:
http://www.iattc.org/PDFFiles2/C-04-07%20Sea%20turtle%20program.pdf.

4. The International Commission for the Conservation of Atlantic Tunas

The International Commission for the Conservation of Atlantic Tunas (ICCAT) is an inter-governmental fishery organization responsible for the conservation of tunas and tuna-like species in the Atlantic Ocean and its adjacent seas.[117] Concern over issues raised at CITES relative to ICCAT species led to the establishment of the Standing Committee on Research and Statistics (SCRS) Sub-Committee on Bycatch in 1996. The SCRS guides research and analytical activities related to bycatch; it recommends methodological adaptations to the national statistical data collection systems in order to better quantify bycatch (logbook and observer programmes designed to characterize total catch composition and disposition); and it coordinates data gathering and cooperation with other fishery or wildlife organizations on bycatch issues (e.g. FAO, CITES, ICES, etc.). Concerning specifically sea turtles and marine mammals, purse seine and gillnet have higher diversity thus far documented for the Atlantic tuna fleets.[118]

B. The specific issue concerning marine turtle, which has been raised at the World Trade Organization

The General Agreement on Tariffs and Trade (GATT) covers international trade in goods. The workings of the GATT agreement are the responsibility of the Council for Trade in Goods (Goods Council), which is made up of representatives from all World Trade Organization (WTO) member countries. Issues relating to sustainable development, trade and the environment have been discussed in the GATT and in the WTO for many years. Since 1995, the Committee on Trade and Environment (CTE) has conducted such work. In recent years, several governments have come under increasing pressure from non-governmental organizations to review the environmental implications of trade agreements.[119]

In April, 1998, a dispute panel of the WTO found[120] that United States of America requirements that imported shrimp be caught in trawls equipped with turtle excluder devices (TEDs) violate free trade rules under the WTO.[121] The issue arose when, in September 1996, four nations newly affected by Section 609 (India, Malaysia, Pakistan and Thailand) brought

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[117] See: http://www.iccat.es/.

[118] See the ICCAT REPORT 2004-2005, namely the Appendix 8 (Report of the Meeting of the Sub-Committee on Bycatch), at: http://www.iccat.es/Documents/SCRS/ExecSum/SC_BYC%20EN.pdf.

[119] See Macalister Elliott and Partners Ltd, *op. cit*., (note 63).

[120] In a WTO Dispute No. 58, known also as "shrimp-turtle". For the text of the Decision, see, for Part I: Part I: http://www.wto.org/english/tratop_e/dispu_e/58r00.pdf, for Part II: http://www.wto.org/english/tratop_e/dispu_e/58r01.pdf, and Part III: http://www.wto.org/english/tratop_e/dispu_e/58r02.pdf

[121] Responding to increasing threats to marine turtles in the 1970s and the 1980s, the US National Marine Fisheries Service developed TEDs, a sort of cage that gets attached to shrimp nets allowing captured turtles to escape. In 1989, Congress passed an amendment to the Endangered Species Act, Pub. L. 101-162, title VI, Sec. 609, Nov. 21, 1989, 103 Stat. 1037ec 1537, that called for a ban on the importation of shrimp for any state that did not require it's shrimpers to meet federal standards. See Patricia, A.M., Shrimp, Turtles and International Trade: Background, article available at: http://greennature.com/article180.html. For the history of the case, see Crouse, 1999.

a case against the USA, claiming that the shrimp embargo violated US obligations under the WTO Agreement. The USA defended the case, claiming that Section 609 fell within Article XX (b) and (g) of the WTO Agreement, which permit WTO Members, subject to certain constraints, to take measures to protect human, animal and plant life and health and to conserve exhaustible natural resources, even if such measures conflict with other provisions of the WTO Agreement.[122]

The USA lost the case on the grounds that their embargoes posed an arbitrary and unjustifiable discrimination between Members of the WTO. While the USA provided countries in the western hemisphere − mainly in the Caribbean − technical and financial assistance and longer transition periods for their fishermen to start using TEDs, it did not afford the same advantages to the four Asian countries. On 12 October 1998, the Appellate Body of the WTO upheld the lower WTO panel's ultimate determination: that the US law amounted to "arbitrary and unjustifiable discrimination".[123] That decision has not ended this controversy, however. On 27 January 2000, the US stated that it had implemented the DSB's rulings and recommendations, namely by adopting a certification system that was based on shipment-by-shipment, rather than country-by country. Malaysia asserts that the US ban still constitutes a violation of WTO rules.[124]

However, in June 2001, the dispute settlement panel agreed with the USA that it had remedied any unfair discrimination identified in the initial case and in its concluding remarks, the Panel ″urge[d] Malaysia and the United States to cooperate fully in order to conclude as soon a possible an agreement which will permit the protection and conservation of sea turtles to the satisfaction of all interests involved and taking into account the principle that States have common but differentiated responsibilities to conserve and protect the environment.″[125]

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[122] See Balton, 1999. Five specialists provided voluminous information on the biological and technical aspects for a recent Dispute Resolution Panel of the WTO, yet the Panel ruled that the priority of the WTO is facilitating free access to markets and resources. According to an author, it was made clear that social and environmental issues—no matter how strong the arguments may be—are not within the contract of this body. Regardless of which species or environments are concerned, when basic social and environmental considerations are subsumed to the protection of mechanisms for promoting free access to world markets, the future of society and environment are under grave risk. In this particular case, the issue of sea turtle conservation has been a critical test case for examining the role of the WTO, and its responsibility before social and environmental issues. As in the case of the Inter-American Convention for the Protection and Conservation of Sea Turtles, the consequence of this global issue transcends sea turtles (Frazier, 1999).

[123] For the Report of the Appellate Body, see:
http://www.wto.org/english/tratop_e/dispu_e/58abr.pdf.

[124] http://www.cites.org/eng/prog/hbt/bg/multi_agreement1.shtml.

[125] For the Report of the Panel, see: http://www.wto.org/english/tratop_e/dispu_e/58rw_e.pdf.

IV. MAJOR REGIONAL CONSERVATION INSTRUMENTS RELATING TO CONSERVATION AND MANAGEMENT OF MARINE TURTLES

The regional instruments are presented by region and whether they are turtle specific. Some of those instruments deal with environment and wildlife in general. But some of them are exclusively focused on the protection of sea turtles and they are part of an emerging new trend.

A. Regional Conservation Instruments addressing specifically sea turtles

1. The Inter-American Convention for the Protection and Conservation of Sea Turtles

The sea turtle treaty, officially named the Inter-American Convention for the Protection and Conservation of Sea Turtles (IAC)[126], is the only international agreement created for the sole purpose of sea turtle protection and conservation issues. It was signed on 1 December 1996 and became active on 2 May 2001. It is the first attempt to protect sea turtles comprehensively with a legally binding, multilateral treaty. The IAC covers all but the flatback sea turtle, which is not found in the region, and takes several important steps for sea turtle conservation.

Its primary objective is to "promote the protection, conservation and recovery of sea turtle populations and the habitats on which they depend, based on the best available scientific evidence, taking into account the environmental, socio-economic and cultural characteristics of the Parties."[127]

As a regional convention, it applies throughout the Americas to land and adjacent waters of the Parties where they exercise sovereign rights. It applies to the land of each Party; maritime areas where Parties exercise jurisdiction over living marine resources; and vessels flying their flag on the high seas. It also applies to vessels on the high seas, which are registered in State Parties.[128]

Complementing the CITES prohibition on international trade, Parties to the IAC are required to prohibit the intentional capture, retention, or killing of sea turtles as well as the domestic trade in sea turtles, their eggs, parts or products. Parties are required, to the extent practicable, to restrict human activities that could seriously affect sea turtles, especially during the periods of reproduction, nesting and migration, as well as protect and restore sea turtle habitat and nesting areas. Most important, in reducing to the greatest extent practicable the incidental harm and taking of sea turtles through fishing activities, Parties must require

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[126] For the text of the Convention see: http://www.seaturtle.org/iac/convention.shtml.

[127] Article II of the Convention.

[128] Hence, the only operations not covered are those in the waters of non-Contracting Parties or by vessels flying a flag of non-Contracting Parties on the high seas. In this regard, it is worthwhile noting that geographic restrictions limit membership to the IAC to "States in the Americas," these being countries located in North, Central and South America and the Caribbean Sea, as well as other States that have continental or insular territories in this region. Hence, distant water fishing nations that may bycatch sea turtles in operations in the region, such as Japanese tuna longliners, are not eligible for membership to the IAC (Bache, 2002).

the use of appropriate gear including the use of Turtle Excluder Devices (TEDs).[129] Shrimp trawl vessels subject to a Party's jurisdiction must use TEDs or other measures that are equally effective to protect sea turtles and do not undermine efforts to achieve the objectives of the Convention. If a Party permits measures other than the use of TEDs, it must provide scientific evidence demonstrating the lack of risk to sea turtles.[130]

The measures proposed in the Inter-American Convention promote regional management plans and agreements, such as the International Agreement for the Conservation of Caribbean Sea Turtles[131]. Problems and omissions also exist however, stemming from both the IAC's origin as a 'TEDs treaty' and from intrinsic difficulties associated with international arrangements. For example, though broadly mentioning the impact of the range of fishing methods upon sea turtles, only TEDs and trawling bycatch are given explicit attention. Other fishing methods which may adversely impact upon sea turtle include purse-seining, gillnetting, and perhaps most significantly longlining (Bache, 2002).

2. The Memorandum of Understanding concerning Conservation Measures for Marine Turtles of the Atlantic Coast of Africa

Concluded under CMS auspices and effective on 1 July 1999, the Memorandum of Understanding (MoU) concerning Conservation Measures for Marine Turtles of the Atlantic Coast of Africa[132] is the counterpart of the Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia.

The objectives of the MoU are, in summary: (i) to conserve and protect sea turtles at all stages of their live story, where necessary and appropriate; (ii) to harmonize national legislation with international conventions such as CITES and CMS; (iii) to implement in each country the provisions of the Conservation Plan[133], which has been adopted[134], based on

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[129] IAC's original focus was on the use of the Turtle Excluder Devices (TEDs) in shrimp trawl nets, and the impetus was US Public Law 101-162 that requires the use of TEDs by nations wishing to export their shrimp and shrimp products to the USA. A hemispheric treaty on the use of the TEDs was seen as an alternative to unilateral US inspection and certification of foreign shrimp fleets, and in the early stages of negotiation governments and fishing organizations dominated, with little participation by marine turtle conservationists and scientists. As a result there was general lack of enthusiasm for the planned treaty and distrust for the process among the latter group, who saw the treaty as "a poorly-veiled attempt to support the commercial shrimp industry, under the guise of protecting sea turtles". The IAC has since received wide support from the marine turtle conservation community. See Campbell *et al.*, 2002.

[130] Hunter, Salzman and Zaolke, op. it. (note 2).

[131] A Tripartite Agreement, a recently completed pact that deals specifically with the Caribbean coasts of Costa Rica, Nicaragua and Panama. See the text of the Convention at: http://www.oceanlaw.net/texts/turtles2.htm.

[132] For the text of the Convention, see: http://www.cms.int/pdf/AFRICAturtle_mou.pdf.

[133] For the text of the Conservation Plan, see: http://www.cms.int/species/africa_turtle/AFRICAturtle_cmp.htm.

[134] The bulk of the Conservation Plan focuses on the establishment of a database on turtle ecology (distribution, migration patterns, etc.) and on threats (nature and extent of direct exploitation, bycatch rate, impact of coastal management, pollution, etc.). The overall aim of

the availability of resources; (iv) to facilitate exchange of information to coordinate conservation measures in the region; (v) to designate a national correspondent who will serve as focal point for the parties, and (vi) to provide CMS a progress report annually on implementation of this memorandum in each country.[135]

3. The Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia.

The Memorandum of Understanding (MoU) on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia,[136] was signed 23 June 2001, by the ASEAN Ministers on Agriculture and Forestry (Kadir, 2002), and became effective on 1 September 2001.

This instrument, totally focused on marine turtles, is characterized by the fact that it is a non-binding agreement concluded under the auspices of the CMS.[137] As an example of specialized regional cooperation instruments established under this umbrella Convention,[138] its aim is to restore or maintain migratory species to a favourable conservation status through the coordination of short-term administrative and scientific measures. The immediate scope of the MOU is thus to initiate immediate concerted protection measures for seriously endangered species until a more elaborate conservation strategy can be prepared and adopted by the interested countries.[139]

The most detailed obligation in the MoU concerns the implementation of a Conservation and Management Plan (CMP).[140] In particular, programmes for the reduction of threats to marine

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the project is to create a monitoring and protection network for nesting and feeding sites in close collaboration with local communities, fishermen, travel operators and coastal developers. See: http://www.cms.int/species/africa_turtle/AFRICAturtle_bkgd.htm.

[135] For the analysis of the MoU, see Fretey and Tiwari, 2002.

[136] For the text of the Memorandum, see:
http://www.ioseaturtles.org/Mou/IOSEA_MoU_Final.doc.

[137] Paragraph 4 of Article 4 of CMS (entitled: Migratory Species to be the Subject of Agreements: Appendix II) stipulate: "Parties are encouraged to take action with a view to concluding agreements for any population or any geographically separate part of the population of any species or lower taxon of wild animals, members of which periodically cross one or more national jurisdiction boundaries".

[138] For an overview of the CMS in relation to marine turtles, see Hykle, *op. cit.* (note 9), p. 105. See also Hykle, 2000.

[139] Along these lines, the IOSEA Memorandum created a regional framework for the conservation and replenishment of the population of depleted marine turtle species, which are listed on the CMS Annexes as vulnerable or seriously threatened by extinction. Specifically, the MOU protects six species in the Indian Ocean and Southeast Asia: loggerhead, olive ridley, green, hawksbill, leatherhead and flatback turtles.

[140] The IOSEA Plan contains 24 programmes and 105 specific activities, focusing on, inter alia: (i) reduction of direct and indirect causes to marine turtles mortality; (ii) conservation and rehabilitation of marine turtles critical habitats; (iii) research and exchange of information; (iv) public awareness raising, and (v) promotion of national, regional, and international cooperation. The text of the IOSEA Conservation and Management Plan is reproduced at: www.unep-wcmc.org/cms/IOSEAturtle_cmp.htm

turtles encompass not only direct harvesting (capture or killing), and domestic trade in marine turtles and turtle products, but also incidental capture and mortality of marine turtles in the course of fishing activities,[141] correction of adverse economic incentives that threaten marine turtle populations, and management of nesting beaches (Morgera, 2003).

B. Regional Instruments dealing inter alia with the conservation of sea turtles

1. In the Mediterranean: the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

In the Mediterranean, sea turtles are protected under several international conventions (i.e. Bern Convention, CMS,). However, the Convention that encompasses all Mediterranean countries is the Convention for the Protection of Marine Environment and the Coastal Region of the Mediterranean, known as the Barcelona Convention[142].

Pursuant to the Barcelona Convention, the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean was signed on 10 June 1995 and entered into force in December 1999[143]. The amended Specially Protected Areas Protocol contains general obligations similar to those found in the Convention on Biological Diversity, but applies in the specific context of the marine environment in the Mediterranean. In addition, the Protocol requires Contracting Parties to protect, preserve and manage threatened or endangered species (including the prohibition of taking, possession, killing, commercial trade, disturbance, etc.), to establish protected areas, and to coordinate bilateral or multilateral conservation efforts. In addition to the declaration of Specially Protected Areas of Mediterranean Importance (SPAMIs), the revised Protocol has an Annex II listing endangered species to be protected and conserved. Five species of marine turtles are included in this list.[144] Where species are listed, Parties are required to:

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[141] This is to be achieved through the development of gear and techniques to minimize incidental capture, the establishment of training programmes and inspection procedures, information exchange and technical assistance, and improved liaison and coordination with fisheries management bodies and the fishing industry. See Bache, S.J., *op. cit*. (note 38), p. 53.

[142] Not yet in force, formerly the Barcelona Convention for the Protection of the Mediterranean Sea against Pollution, revised in Barcelona, Spain, on 10 June 1995. The original Convention entered into force in 1978; it remains in force, pending further ratifications to its successor, the Barcelona Convention. Article 10, prescribes that: "The Contracting Parties shall, individually or jointly, take all appropriate measures to protect and preserve biological diversity, rare or fragile ecosystems, as well as species of wild fauna and flora which are rare, depleted, threatened or endangered and their habitats, in the area to which this Convention applies." The text of the Convention can be seen at: http://www.unep.ch/seas/main/med/medconvi.html.

[143] Replacing the former Protocol concerning Mediterranean Specially Protected Areas (SPA) for those countries that have ratified it. For the text of the Convention, see: http://www.unepmap.gr/pdf/spa.pdf.

[144] Hykle, D., *op. cit.* (note 9), p. 113.

- adopt cooperative measures to ensure their protection and conservation as well as relevant national measures (general prohibitions of taking, protection of spawning seasons and areas, etc.), provided for in paragraphs 3 and 5 of Article 11 of this Protocol; and
- prohibit the destruction of and damage to the habitat of those species and to formulate and implement action plans for their conservation or recovery.

Concerning the specific protection of sea turtles in the region, the Mediterranean countries within the framework of the Mediterranean Action Plan adopted in 1989 the Action Plan for the Conservation of Mediterranean Marine Turtle[145]. The action plan, which constitutes a regional strategy defining priorities and activities to be undertaken, is coordinated and put into practice by the Regional Activity Centre for Specially Protected Areas (RAC/SPA). Activities to date have included field studies to assess marine turtle nesting in close collaboration with several NGOs and a coordinated tagging programme. Priorities at national level have been drafted for most MAP countries. MAP priorities for turtle protection involve greater collaboration between fishermen and conservationists and an improved information flow between scientists and the wider community (Ouerghi, 2001).

2. Instruments in the Wider Caribbean

In this particular region, two conventions (the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere and the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region) should be mentioned, as well as one protocol to the second abovementioned Convention, the Protocol Concerning Specially Protected Areas and Wildlife.

2.1 Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere

The Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, known as the WHC, is one of the oldest international conventions aiming at protecting and preserving wildlife.[146] As a 1940 treaty[147], the WHC is very progressive in calling for wildlife protection as well as wilderness areas and national parks free from exploitation. The WHC also obligates Parties to protect those species that the Parties place in the Annex. Those species are species whose protection is “of special urgency and importance”.

Complete protection includes a prohibition on hunting, killing, capturing, or taking these species without proper governmental approval. Under the Convention, Parties are also obliged to regulate through a permit process the import, export, and transit of domestically protected species, much of which is now done under CITES. These provisions allow Parties to protect sea turtles, yet also allow regulated ranching or harvesting.[148]

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[145] For the full text of the Action Plan, see: http://www.rac-spa.org.tn/down/AP_turt_eng.PDF.
[146] For the text of the Convention, see: http://international.fws.gov/whp/whpconv.html.
[147] The Convention came into force on 1 May 1942.
[148] Wold, C., *op. cit*. (note 14), pp. 37-38.

However, despite its futuristic dispositions, the Convention did not really meet its objectives and is nowadays completed by the Protocol Concerning Specially Protected Areas and Wildlife.

2.2. Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region

The Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (known as the "Cartagena Convention") was signed on 4 March 1983 and entered into force on 11 October 1986.[149]

The Cartagena Convention includes a clause of special interest for marine turtles in which it addresses the responsibilities of Contracting Parties in these terms: "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."[150]

This Convention was completed later on by two protocols. One of them is of great importance for marine turtles, the Protocol Concerning Specially Protected Areas and Wildlife.

2.3. The Protocol Concerning Specially Protected Areas and Wildlife (The SPAW Protocol)

Adopted on 18 January 1990 and entered into force on 18 June 2000, the Protocol Concerning Specially Protected Areas and Wildlife (known as the SPAW Protocol)[151] is a complement to the Cartagena Convention. The SPAW Protocol requires Parties to implement national as well as cooperative measures for the protection of protected areas and several categories of species, including endangered species,[152] threatened species,[153] protected species,[154] and endemic species[155]. Significantly, Article 3 requires each Party to manage

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[149] For the text of the Convention, see: http://www.cep.unep.org/pubs/legislation/cartxt.html.
[150] Article 10 of the Convention.
[151] For the text of the Protocol, which entered into force on 11 June 1991, see: http://www.cep.unep.org/pubs/legislation/spaw.html.
[152] "Endangered species" are species, subspecies, or their populations that "are in danger of extinction throughout all or part of their range and whose survival is unlikely if the factors jeopardizing them continue to operate." Article 1(f) of the Protocol.
[153] "Threatened species" are species or subspecies or their populations that "are likely to become endangered with the foreseeable future throughout all or part of their range if the factors causing numerical decline or habitat degradation continue to operate" or that are naturally rare and "potentially and actually subject to decline and possible endangerment or extinction." Article 1(g) of the Protocol.
[154] "Protected species" are species or subspecies or their populations accorded protection pursuant to article 10 of the SPAW Protocol. Article 1(h) of the Protocol.
[155] "Endemic species" are species or subspecies or their populations "whose distribution is restricted to a limit geographic area." Art. 1(i) of the Protocol.

their fauna and flora with the objective of preventing species from becoming threatened or endangered in the first place. This agreement represents an enormous step forward for conservation in the Wider Caribbean region.[156]

The SPAW Protocol will also include three Annexes. Annex I will include species of marine and coastal flora exempt from all forms of destruction or disturbance. Annex II ensures total protection and recovery of listed species of fauna, with minor exceptions. Annex III will prohibit all non-selective means of capture, killing, hunting and fishing; implement closed hunting and fishing seasons and other measures for maintaining designated populations; and regulate the taking, possession, transport or sale of living or dead species, their eggs, parts or products (Eckert and Pinto-Rodriguez, 1991).

As far as marine turtles are concerned, it should be mentioned that in 1981 the Wider Caribbean Sea Turtle Conservation Network (WIDECAST)[157] was founded in Santo Domingo, Dominican Republic. At least 12 national sea turtle recovery plans have been developed with the assistance of WIDECAST. Conservation activities at the national and regional level have been supported by Caribbean Environment Program Regional Co-ordinating Unit (CAR/RCU) in support of those plans. Most of the plans call for implementation of Turtle Excluder Devices (TEDs) in trawl fisheries and monitoring of other forms of bycatch where necessary (MacAlister Elliott and Partners Ltd., 2003).

Like the CMS, the SPAW Protocol has great potential for protecting sea turtles. Although not directed specially to sea turtles, the SPAW Protocol provides the legal framework for powerful conservation measures. Unlike the Biodiversity Convention and the WHC, the obligations are much more specific. Moreover, the signatories are developing guidelines for sea turtles. Those actions suggest that the Parties and signatories believe that the habitat and species conservation measures of the SPAW Protocol are necessary for the protection of species in the Wider Caribbean Region.[158]

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[156] See the analysis of Kaufmann, M.M., *op. cit.* (note 7), pp. 193-194.

[157] The WIDECAST was founded to prepare a "Wider Caribbean Sea Turtle Recovery Action Plan ... consistent with the Action Plan for the [UNEP] Caribbean Environment Programme." WIDECAST's goal is to realize a future where all inhabitants of the Wider Caribbean Region, human and sea turtle alike, can live together in balance.WIDECAST provides governmental and non-governmental stakeholders with updated information on the status of sea turtles, specific recommendations for their management and recovery, and a framework for effective collaboration in fulfilling the unique mandate of the SPAW Protocol. Local and regional WIDECAST experts assist each country in the development of a national conservation strategy for sea turtles. The strategy is referred to as a "Sea Turtle Recovery Action Plan". Each action plan is tailored to local circumstances and discusses: (i) sea turtle status and distribution; (ii) major causes of mortality; (iii) the effectiveness of existing legislation; iv) the present and historical role of sea turtles in the local culture and economy, and (v) local, national, and multilateral implementing measures for science-based sea turtle management. See: http://www.cep.unep.org/programmes/spaw/widecast.html.

[158] Wold, C., *op. cit*. (note 14), pp. 38-39. In view of the very limited participation of Caribbean States in CMS, the strict provisions of the SPAW Protocol provide legal underpinning for domestic conservation measures, which might otherwise be afforded by CMS. Given the partial overlap in geographic scope and content between the SPAW Protocol and the IAC, consideration might be given as to how the latter two instruments might reinforce each other. See Hykle, D., *op. cit.* (note 9), pp. 114-115.

3. Instrument in Europe

3.1. The Convention on the Conservation of European Wildlife and Natural Habitats

The Convention on the Conservation of European Wildlife and Natural Habitats - also known as the Bern Convention - was adopted in September 1979 in Bern (Switzerland) and came into force on 1 June 1982[159].

Pursuant to Article 1, the principal aims of the Convention are to ensure conservation and protection of all wild plant and animal species and their natural habitats (listed in Appendices I and II of the Convention), to increase cooperation between contracting parties, and to afford special protection to the most vulnerable or threatened species (including migratory species) (listed in Appendix III).[160]

In order to achieve these objectives, the Convention requires in general that parties take measures to conserve wild flora and fauna at a level "which corresponds in particular to ecological, scientific and cultural requirements"[161] and, in particular, take various measures to protect the habitats and specimens of species of fauna and flora listed in Appendix I and II, as well as their habitats.

Five species of marine turtles included in Appendix II are given the status of strict protection: *Chelonia mydas, Caretta caretta, Eretmochelys imbricata, Lepidochelys kempii* and *Dermochelys coriacea*. To date, most initiatives under the Convention have focussed on the first two species. The Bern Convention is also building a network of protected areas known as the Emerald Network of Areas of Special Conservation Interest, and it is responsible for coordinating a European Action Program on Threatened Species within the framework of the Pan-European Biological and Landscape Diversity Strategy. Given the comprehensive geographic and thematic coverage of the Bern Convention within Europe, CMS' complementary role in relation to marine turtles may be thought of in terms of reinforcing existing norms, collaborating and providing support where needed, and providing the link between regional and global initiatives. [162]

3.2. EC Legislation

The main relevant instrument seems to be the so-called European Community "Habitats" Directive of 21 May 1992 (Council Directive 92/43/EEC on the Conservation of

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[159] It has 45 European and African States and the European Community.

[160] To this end the Convention imposes legal obligations on contracting parties, protecting over 500 wild plant species and more than 1000 wild animal species. See: http://www.jncc.gov.uk/legislation/conventions/bern.htm.

[161] Article 2 of the Convention.

[162] Given the comprehensive geographic and thematic coverage of the Bern Convention within Europe, CMS' complementary role in relation to marine turtles may be thought of in terms of reinforcing existing norms, collaborating and providing support where needed, and providing the link between regional and global initiatives. See Hykle, D., *op. cit.* (note 9), p. 114.

Natural Habitats and of Wild Flora and Fauna[163]), which requires EC Member States to take conservation measures to insure that incidental capture and killing does not have a significant negative impact on species listed in Annex IV(a) of the Directive such as cetaceans and turtles.[164] In fact, the Directive clearly prescribes that: "Member States shall establish a system to monitor the incidental capture and killing of the animal species listed in Annex IV(a). In the light of the information gathered, Member States shall take further research or conservation measures as required to ensure that incidental capture and killing does not have a significant negative impact on the species concerned."[165] The Council Regulation (EC) No 2371/2002 of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy[166] is also relevant to this matter, as according to its Article 1(2), the Common Fisheries Policy shall provide for coherent measures concerning, *inter alia*: (a) the conservation, management and exploitation of living aquatic resources, and (b) limitation of the environmental impact of fishing. For this purpose, the Community shall apply the precautionary approach in taking measures designed to protect and conserve living aquatic resources, to provide for their sustainable exploitation and to minimize the impact of fishing activities on marine ecosystems.[167]

EC Regulation No 1626/94 of 27 June 1994 is a rare example of cross linkages between fishery and conservation instruments in that it is mutually supportive to both aspects. While it lays down technical measures for the conservation of the fishery resources in the Mediterranean, EC Member States are also required to pay attention to the conservation of fragile or endangered species or habitats. The species concerned, as listed in an appendix to

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[163] The aim of this Directive is, according to its article 2(1), to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies. The fundamental purpose of the Directive is to establish a network of protected areas (by the year 2004 at the latest), throughout the Community, designed to maintain both the distribution and the abundance of threatened species and habitats, both terrestrial and marine. The network of Special Areas of Conservation (SAC) is called Natura 2000. Member States are under an obligation to contribute to Natura 2000 in proportion to the important natural habitat types and species, listed in the annexes that occur within their territories. Once the Nature 2000 Network is established, it is up to the Member States to protect the sites in order to achieve the Directive's objectives. The Directive puts forward a number of important minimum conservation measures required from the member States. See the commentary of the Directive at:
http://europa.eu.int/comm/fisheries/doc_et_publ/liste_publi/studies/bycatch/04.pdf.
For the text of the Directive, see: http://europa.eu.int/smartapi/cgi/sga_doc.

[164] See the Opening Statement by the World Wide Fund for Nature at the 7th Meeting of the Advisory Committee to ASCOBANS (Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas), 13-16 March 2000, Bruges, Belgium, at: http://www.ngo.grida.no/wwfneap/Publication/Submissions/ASCOBANS2000/

[165] Paragraph 4 of the Article 12.

[166] See the text of the Regulation at:
http://europa.eu.int/eur-lex/pri/en/oj/dat/2002/l_358/l_35820021231en00590080.pdf.

[167] Article 2(1) of the Regulation. Pursuant to Article 3(i), "'precautionary approach to fisheries management' means that the absence of adequate scientific information should not be used as a reason for postponing or failing to take management measures to conserve target species, associated or dependent species and non-target species and their environment."

the Regulation include all species of turtles and fish present in the Mediterranean and listed in the Appendices I and II to the Bonn Convention or Appendix II to the Berne Convention.

The Community Action Plan to integrate environmental protection requirements into the Common Fisheries Policy, adopted on 28 May 2002[168] should also be mentioned. The priority measures to be taken are, *inter alia*: "(i) within the framework of multi-annual management plans, a reduction in fishing pressure on fishing grounds to sustainable levels; where possible, and on the basis of scientific advice, this reduction should target fishing activities having adverse effects both on the sustainability of fish stocks and on the favourable conservation status of non-commercial species and habitats; (ii) an improvement of fishing methods with a view to reducing discards, incidental bycatch and impact on habitats."[169]

Marine turtles do not seem to be the priority target of the European legislation. Cetaceans in general receive more attention, as it is evidenced by the very recent Council Regulation No. 812/2004 of 26 April 2004.[170]

4. South Pacific Region: the Convention for the Protection of the Natural Resources and Environment of the South Pacific Region

The Convention for the Protection of the Natural Resources and Environment of the South Pacific Region (also known as SPREP) [171] was signed on 24 November 1986 and entered into force on 22 August 1990.[172]

Pursuant to the Convention, the Contracting Parties "shall, individually or jointly, take all appropriate measures to protect and preserve rare or fragile ecosystems and depleted, threatened or endangered flora and fauna as well as their habitat in the Convention Area. To this end, the Parties shall, as appropriate, establish protected areas, such as parks and reserves, and prohibit or regulate any activity likely to have adverse effects on the species, ecosystems or biological processes that such areas are designed to protect."[173]

A Regional Marine Turtle Conservation Programme (RMTCP), developed under SPREP's Natural Resource Conservation Programme, has helped to promote marine turtles conservation, monitoring and networking in the SPREP region, since a successful Year of the

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[168] See the text of the Action Plan at:
http://europa.eu.int/comm/fisheries/doc_et_publ/factsheets/legal_texts/docscom/en/com_02_186_en.pdf.

[169] See Point 4 of the Action Plan.

[170] Council Regulation (EC) No 812/2004 of 26.4.2004 laying down measures concerning incidental catches of cetaceans in fisheries and amending Regulation (EC) No 88/98. For the text of the Regulation, see:
http://europa.eu.int/eur-lex/pri/en/oj/dat/2004/l_150/l_15020040430en00120031.pdf.

[171] SPREP consists of all 22 Pacific island countries and territories, and four developed countries with direct interests in the region. Australia, France, New Zealand and the USA.

[172] For the text of the Convention, see:
http://www.austlii.edu.au/au/other/dfat/treaties/1990/31.html.

[173] Article Article 14 of the Convention, entitled: "Specially protected areas and protection of wild flora and fauna".

Sea Turtle campaign launched in 1995. [174] Hence, the RMTCP and associated active network of government and NGO agencies are working together to effect turtle conservation and sustainable use. The goals of the current Regional Marine Turtle Conservation Strategic Action Plan 2003-2006 are, on the one hand, to recover turtle stocks, and, on the other hand, conserve them and their cultural and nutritional values for the coastal people of the countries served by SPREP. These goals are planed to be achieved through following tasks which are identified as the principle elements of the programme: (i) education and awareness; (ii) regional turtle databases; (iii) management; (iv) capacity building; (v) research (national/regional), and (vi) regional/international cooperation.[175]

5. Instruments in Africa

In the Africa region, marine turtles can be legally protected under one convention – the African Convention on the Conservation of Nature and Natural Resources – and one memorandum of understanding, the Memorandum of Understanding concerning Conservation Measures for Marine Turtles of the Atlantic Coast of Africa. The latter has been dealt with earlier.

The African Convention on the Conservation of Nature and Natural Resources was signed on 15 September 1968 and entered into force on 16 June 1969.[176] Pursuant to this Convention, some species are protected by a specific clause: "1. The Contracting States recognize that it is important and urgent to accord a special protection to those animal and plant species that are threatened with extinction, or which may become so, and to the habitat necessary to their survival. Where such a species is represented only in the territory of one Contracting State, that State has a particular responsibility for its protection. These species which are, or may be listed, according to the degree of protection that shall be given to them are placed in Class A or B of the Annex to this Convention, and shall be protected by Contracting States as follows: (a) species in Class A shall be totally protected throughout the entire territory of the Contracting States; the hunting, killing, capture or collection of specimens shall be permitted only on the authorization in each case of the highest competent authority and only if required in the national interest or for scientific purposes;[177] and (b) species in Class B shall be totally protected, but may be hunted, killed, captured or collected under special authorization granted by the competent authority."[178]

The Convention was revised on 11 July 2003[179] and is not yet in force, and according to IUCN it is not only the "first comprehensive regional treaty on natural resources, environment and development"[180], but "the new text makes the African Convention the most comprehensive and modern regional treaty on environment and natural resources

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[174] Hykle, D., *op. cit.* (note 9), p. 115-116.
[175] For the text of the Regional Marine Turtle Conservation Plan Strategic Action Plan 2003-2006, see: http://www.c-spodp.org/Articles/turtleactionplan.htm
[176] For the text of the Convention, see: http://www.africa-union.org/Official_documents/Treaties_%20Conventions_%20Protocols/Convention_Nature%20&%20Natural_Resources.pdf.
[177] All marine turtles have been placed on Class A.
[178] Article 4 of the Convention.
[179] For the text of the Revised African Convention on the Conservation of Nature and Natural Resources, see: http://www.intfish.plus.com/treaties/africa2003.htm.
[180] See: http://www.iucn.org/info_and_news/press/prafcon.pdf.

conservation, and the first to deal with an array of sustainable development issues. It covers a wide spectrum of questions, ranging from biological diversity conservation, sustainable use of soil, air, water and land, and provides for procedural rights and mechanisms serving its implementation."[181]

V. ANALYSIS

After a brief review of the international instruments relevant for the protection of marine turtle, it is necessary to proceed to a global analysis of these legal instruments, in order to assess them, to analyse their advantages and disadvantages, and to assess, when possible, their implementation and effectiveness.

Based on the instruments presented, important remarks can be done: on the one hand, the inexistence of any global legal instruments with specific aim to protect marine turtles (A) and, on the other hand, the emergence of regional instruments focused on marine turtles which can proved to be a very important move for the protection of marine turtle in the near future (C). Furthermore the Law of the sea can be an important vehicle in international law for the conservation of marine turtles (B).

A. Inexistence of Global Instruments with Specific Aim to Protect Marine Turtles

Marine turtles seem to have not yet drawn enough attention of the international community to deserve a global or potentially universal convention or any other agreement for their specific protection. But the existing system has played a relatively important role in their protection, even though, some efforts still have to be done. With the exception of CITES, the global instruments have developed in response to biodiversity-related developments. All reflect some of the major principles of contemporary international environmental and biodiversity law, as enunciated in the Rio Declaration. They re-affirm sovereign rights of States over their natural resources within their territories and strive for their conservation and use in a sustainable manner, for exchange and collection of information and cooperation. Two conventions have played an important role for the protection of marine turtle, as a vulnerable component of the wildlife, namely CMS and CITES, but they present some limits. Most of the treaties are "sectoral" addressing turtles only in a fragmentary manner. It appears in fact that the CMS is an umbrella convention for the protection of migratory species in general, that CITES is focused on only one of various threats facing marine turtles, and other general conventions are often too general and poorly implemented with respect to marine turtles. The conservation of turtles brings about other regulatory challenges than those related to above limited number of threats to there life, i.e. trade and "hunting".

1. The CMS is an umbrella Convention primarily for the protection of migratory wildlife in general

CMS's strengths have already been illustrated above[182], it must be said that this is a Convention that has yet to realize its full potential. Its membership is far from universal, lagging behind the degree of participation found in other biodiversity-related Conventions. Significantly, a number of countries that are important players on the international scene

[181] See: http://www.iucn.org/themes/law/index200307.html.
[182] Notably its possibility to develop unique instruments of regional instruments by interested Range States.

and/or rich in biodiversity are not yet Parties – notably Brazil, Canada, China, Indonesia, Japan, Mexico, Russia, and the USA. Their absence amounts to a withholding of significant resources and expertise that could be mobilized towards more concerted, coordinated international action on behalf of migratory species.[183]

2. CITES is focused on one threat to marine turtle: international trade

As already indicated, CITES deals only with one threat to the survival of marine turtle. CITES regulates only international trade in sea turtles and their products;[184] it does not protect habitat or control other threats to sea turtles. Nonetheless, CITES has effectively curbed international trade in sea turtles and their parts. CITES can be used as a complement to major conservation and fisheries-related instruments regulating the exploitation of particular species.

If a comparison can be done between CITES and CMS, it can be said that while CITES has been instrumental in helping to mitigate threats arising from excessive international trade in live animals and their derivatives, one must recognize that such trade is only one of the many threats to wildlife. Moreover, CITES imposes no direct, legally binding obligations in relation to the harvesting of wildlife – marine turtles included – within a country. CMS, on the other hand, offers a means to address the conservation and sustainable use of migratory species comprehensively, by dealing with problems of domestic consumption of endangered migratory species and by fostering international cooperation to achieve shared conservation objectives. In this regard, CITES and CMS are perfectly complementary, though in practice their respective areas of competence may become blurred.[185]

It is then quite clear that these two conventions have some limits, which are not, unfortunately, dealt with by other international wildlife or biodiversity-related instruments whose dispositions are often too general or poorly implemented.

3. The other global international instruments are often too general and poorly implemented to marine turtles

The real impact of other global international instruments on the protection of marine turtles is limited and one may question what the conditions of sea turtles would be if such conventions did not exist. Those instruments either prescribe too general obligations,[186] with little mechanisms for the control of the effective translation and implementation of their clauses in

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[183] Hykle, D., *op. cit.* (note 9), p. 108.

[184] As far as sea turtles are concerned, CITES has played a really important role in their protection. But, local or national trade is sometimes very important and it is done quite openly in certain countries. This can only maintain the threat to sea turtles as, for example, legal sale of marine eggs in one country often encourage illegal trade with neighbouring States.

[185] Hykle, D., *op. cit.* (note 9), pp. 110-111.

[186] In fact, these treaties often create general obligation to conserve biological diversity or species and require the Parties to implement these obligations “as appropriate” or “to the maximum extent possible”. These general, qualified obligations often lead to ineffective implementation.

national law[187]. There are sometimes some bureaucratic problems for their implementation.[188]

As is shown in a recent study, there appears to be increasing disenchantment with international policies because of their failure to incorporate and respond to local needs and preferences. International agreements can only effectively represent the lowest common denominator of common shared interests between/among dissimilar countries. Often, international instruments may only provide a framework that has to be supplemented by precise measures prescribed by the country. Successful conservation of environmental quality and biodiversity requires consideration of fundamental biological, social, political, economic, cultural, and philosophical components of each country. It is sometimes advanced that the best results come from small-scale projects and research, and that national laws have been more effective in promoting the conservation and stabilizing of sea turtle populations than have international instruments.[189]

Because of these limits for the protection of marine turtles by global instruments, there has been, in the last decade, a real tendency for the emergence of regional instruments focused on marine turtles.

B. The Law of the Sea and the Reduction of Sea Turtles Mortality?

Since environmental concerns came at the forefront of fisheries management, marine biodiversity, bycatch related issues, interdependency between fish stocks, endangered marine species conservation received increased attention at global, regional and subregional level. On the one hand, the LOSC 1982, remains the principal legal source of regulatory frameworks concerned with the management and conservation of marine living resources. Most international and regional instruments refer to the LOSC 1982, directly or indirectly, and the rights and obligations its implementation bring with it for the contracting parties. The Convention while recognizing the potential adverse impacts some fishing operations may have in general on marine biodiversity, does not contain however specific duties or standards with respect to conservation of marine biodiversity (whether at genetic, species and ecosystem levels) of which sea turtles like other fragile species are part of. The UN Fish Stocks Agreement which implements the LOSC 1982, supplements this lacunae (partly)

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[187] In fact, effective implementation of the relevant international laws, unlike domestic laws, is handicapped by the lack of a sovereign authority to enforce environmental regulations. While some treaties provide mechanisms to enforce or encourage implementation, such as arbitration by International Court of Justice or the World Trade Organization, there are few instances of these mechanisms being used for environmental issues. Consequently, governments have fewer incentives to address transboundary and global issues because they face few legal obligations. There is also a lack of motivation by governments to take action without the assurance that neighbouring States will take similar action. Lack of long-term cooperation among countries can only result in the "tragedy of commons", where shared resources are overexploited for private gain and destroyed. Tiwari, M., *op. cit.* (note 5), p. 153.

[188] To this regard there have been some appeals for a creation of an international environmental court. See, for example, Hey, E. 2000. Reflections on an International Environmental Court, Kluwer Law International, The Hague, 27 p.

[189] Tiwari, M., *op. cit.* (note 5), p. 153.

through the introduction of the precautionary approach to fisheries management and strengthens international law of the sea with respect to marine biodiversity. It is worth recalling here though that sea turtles do not fall within the list of highly migratory species as specified in Article 64, 1 of the LOSC 1982, and in its Annex 1.

On the other hand, the most specific international law as far as biodiversity is concerned is the Biodiversity Convention, but undeniably as most human uses of the oceans bear an impact on the marine biodiversity, the law of the sea cannot be ignored. Intrinsically the CBD recognizes this in its Article 22 which reads:

1. The provisions of this Convention shall not affect the rights and obligations of any Contracting Party deriving from any existing international agreement, except where the exercise of those rights and obligations would cause a serious damage or threat to biological diversity.

2. Contracting Parties shall implement this Convention with respect to the marine environment consistently with the rights and obligations of States under the law of the sea.

This clause provides that the implementation of the Biodiversity Convention should be "consistent with" and seems to give precedence to the law of the sea. The reference to the "law of the sea" (or absence of a specific reference to the LOSC 1982) suggests according to certain authors[190] that further developments may take place in this area of law. Undoubtedly the parties to the Biodiversity Convention did not want to prejudice the rights and obligations of States as provided for under the law of the sea.[191] This article is also in line with Article 311(2) of the LOSC 1982, which reads: "This Convention shall not alter the rights and obligations of States Parties which arise from other agreements compatible with this Convention and which do not affect the enjoyment by other State Parties of their rights or the performance of their obligations under this Convention."

Will the law of the sea evolve to contain protection of marine biodiversity? Is this not already partly the case? It would indeed be difficult for instance to deny nowadays that the management and conservation duties of States in relation to EEZ fisheries and high seas fisheries do not include a general responsibility to ensure that harvesting operations (techniques, methods, catch quantity) should not have adverse impacts/threaten marine biodiversity at genetic, species or ecosystem level. Others may argue that the law of the sea is and will be unable to cover the full spectrum of marine species and ecosystems, especially those that are in – or near – shore. It does not regulate international trade in the living

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[190] Rieser, A., International Fisheries Law, Overfishing and Marine Biodiversity, 9 Georgetown International Environmental Law Review p. 251 (1997); De Klemm, C. 1999. Fisheries Conservation and Management and the Conservation of Marine Biological Diversity. *In* Hey, E. (ed.). Developments in International Fisheries Law. The Hague, Kluwer Law International, p. 423.

[191] A number of other international conventions mentioned in this paper refer to "territories". The concepts of territory and jurisdiction are intimately linked to State sovereignty. The Code of Conduct for Responsible Fisheries provides that "The Code is also to be interpreted and applied: [...] (C) in the light of the 1992 Declaration of Cancun, the 1992 Rio Declaration on Environment and Development, and Agenda 21 adopted by the United Nations Conference on Environment and Development (UNCED), in particular Chapter 17 of Agenda 21, and other relevant declarations and international instruments."

resources to which it applies.[192] Neither does it contain measures for habitat protection, land-based processes and activities, in a nutshell a number of issues dealt with by other global and regional instruments referred to.

Regional fisheries management organizations started to take initiatives in the areas of ecosystem based approaches to fisheries, of selective gear use, recognizing increasingly the interdependency between species, etc. But the implementation of such initiatives is still in its infancy. Since the entering into force of the UN Fish Stocks Agreement and the increased attention being given to RFMOs, efforts are undertaken at regional level to translate into effective measures the precautionary approach.

All these combined effort developments and efforts make the law of the sea a valuable but probably incomplete instrument to deal with the full range of threats to sea turtles and thus the conservation of sea turtles. Concretely legal cross-linkages between fishery and conservation instruments have to be developed in order to ensure that these become mutually supportive to each other with a view to conserve sea turtles and if turtles were to be protected from all threats. Something which could probably be initiated and achieved more easily at a regional level.

C. The Emergence of Regional Instruments Focused on Marine Turtles

While some of the regional instruments are old (e.g. the African Convention[193] and the Western Hemisphere Convention), recent and flexible regional instruments[194] have developed more comprehensive approaches that either include specific provisions for sea turtles conservation and management or embrace stricter controls at the national level that greatly limit international killing of turtles and regulate other threats to turtle survival.[195] The intrinsic merit of the instruments is already the fact that they exist and deal specifically with marine sea turtles protection. Because they are so focused, they can prescribe measures for their protection from any threat to the survival of sea turtles. The main debate which can be raised at this stage of their evolution is their legal status: they can be legally binding or not. But what is relevant here would be their efficacy for the protection of sea turtles.

1. Advantages and disadvantages of regional legally binding instruments

The advantages of the regional legally binding will be analysed in the first place, and their disadvantages will follow.

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[192] De Klemm, C. 1999. Fisheries Conservation and Management and the Conservation of Marine Biological Diversity. *In* Hey, E. (ed.). Developments in International Fisheries Law. The Hague, Kluwer Law International, p. 423.

[193] A revised African Convention on the Conservation of Nature and Natural Resources was adopted on 11 July 2003 but is not yet in force.

[194] It should be mentioned that regional instruments for the protection on wildlife present, more or less, the same features as the global international instruments whose efficiency, as far as the protection of marine turtles is concerned, can be questioned.

[195] Wold, C., *op. cit.* (note 14), p. 12.

1.1 Advantages of regional legally binding instruments

Legally binding treaties, such as the IAC mentioned above, are drafted with care over several rounds of negotiation, and provide for binding commitments to be undertaken by contracting States. Meant to be pre-eminent conservation instruments for years if not for decades to come, the obligations they entail outline the life span of individual governments, which often are concerned with shorter term objectives. Normally they include an obligation to share the financial burden of implementation equitably, and provide for the establishment of a coordinated body (secretariat), which is vitally important to help ensure that commitments are followed up.[196]

It can be advanced that such legally binding conventions might have the same problems of implementation as the global international instruments relevant to the protection of wildlife in general, but it should be mentioned that the IAC, for example, is flexible enough and its structure is a basic text with annexes for detailed issues. This structure was intended to allow for procedurally easier amendment of technical issues such as TEDs. In regard to the need to allow for the addition of explicit controls over fishing methods, this structure provided an avenue through the creation of additional annexes whereby other issues, to date afforded scant attention, may receive more detailed consideration and regulation. This would be facilitated through the introduction and acceptance of additional annexes on, for example, sea turtle longline bycatch, at a regular meeting of the Parties.[197]

1.2 Disadvantages of legally binding regional instruments

On the other hand, the fact that they are legally binding means that these instruments take a long time – normally several years – to elaborate and conclude (and amend, as necessary). Thereafter, governments must carefully consider whether or not they are prepared to sign or ratify them and abide by all their provisions. In most countries, a formal ratification procedure through a parliamentary assembly is required, which in itself may be very time consuming, requiring inter-ministerial consultations, drafting of memoranda to cabinet, parliamentary review, etc. Consequently, several more years may pass before countries sign in sufficient number to bring the treaty into force. For this reason, these instruments are less useful than non-binding arrangements for stimulating conservation action in the short term.

In the end, legally binding treaties represent a common denominator of what many countries consider acceptable norms; their negotiated provisions may still be too stringent for some countries to accept. The costs associated with the international structures they put in place (e.g. regular meetings, advisory bodies, secretariat, etc.) and the direct costs of implementation, may make them prohibitively expensive for resource-strapped countries. Both factors could lead to incomplete participation and geographic coverage.

Having in place a comprehensive legal framework within which to implement an effective conservation programme may well represent the ideal to strive for, and warrants serious consideration among the range of options to achieve in the medium to long term. However there are also many practical considerations that need to be taken into account, which may lead one to examine other less formal arrangements.[198]

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[196] Hykle, D., *op. cit.* (note 9), p. 116.
[197] Bache, S. J., *op. cit*. (note 40).
[198] Hykle, D., *op. cit.* (note 9), pp. 116-117.

In any case, the emergence of the IAC illustrates that is possible for countries to conclude free-standing instruments for marine turtle conservation, without necessarily associating them with the umbrella that CMS is intended to provide. Indeed, this approach may be understandable in regions that have limited representation in CMS. On the other hand, an independent approach without adequate reference to other initiatives could run the risk of "reinventing the wheel" – by not taking advantage of knowledge gained through negotiation of similar instruments – or putting in place measures that are not fully compatible. In any case, given the highly migratory nature of marine turtles, it is almost inevitable that there will be a need for dialogue and interaction in the future among these various instruments, which CMS is well-placed to facilitate.[199]

2. Advantages and disadvantages of less formal regional instruments

Let us analyse firstly the advantages and, secondly, the disadvantages of those new comers in the field of marine turtles protection.

2.1 Advantages of Memoranda of Understanding

The signatories to the MoUs have positive conservation obligations and the duty to conclude flexible and species-specific conservation and management measures for sea turtles. Moreover, the regional approach adopted through the two sea turtle Memoranda of Understanding offers hope that countries sharing turtle populations can adopt and effectively implement conservation strategies. In addition, these agreements have drawn the participation of non-CMS Parties, such as the USA. Because the USA has been an active supporter of the use of turtle excluder devices in shrimp fisheries and a major importer of shrimp, its participation means that both "producer" and "consumer" countries are involved in sea turtle conservation efforts.[200]

Given their rather recent adoption, it might be premature to assess whether MoUs will provide the necessary impetus for effective coordinated conservation work in the two concerned regions. It can be said, however, that the comparable instrument for Siberian Cranes[201] has validated the efficacy of using MoUs to achieve practical conservation results in the international arena. What is more, they may serve as useful precursors to the development of the other more formal legal instruments that the CMS has to offer. [202]

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[199] Ibid., p. 112.
[200] Wold, C., *op. cit*. (note 14), pp. 36-37.
[201] With the advent of 1993 Memorandum of Understanding concerning Conservation Measures for the Siberian Crane, CMS introduced a new, more flexible tool to the conservationist's toolkit. The Siberian Crane MoU was the first MoU developed under CMS auspices. It was concluded on 1 July 1993 and revised on 1 January 1999. Originally concentrating on the western and central populations of Siberian cranes, which migrate between breeding grounds in western Siberia and wintering sites in Iran and India respectively, the scope of the MoU was extended in 1998 to cover the larger eastern Asian population which winters around Poyang Lake, China, and accounts for over 95% of the birds. See: http://www.cms.int/species/siberian_crane/sib_bkrd.htm.
[202] Hykle, D., *op. cit*. (note 9), p. 107.

Memoranda of Understanding are concluded among governments at the Ministry level, wildlife department or other nature conservation agency. MoUs concluded to date under CMS consist of a basic text outlining the framework for cooperation, which is usually accompanied by a more detailed Conservation Plan.[203] MoUs have several advantages over more formal, legally binding instruments. They are quicker to negotiate and conclude, since for most countries they can be agreed with ministerial approval, and need not go through a formal ratification process. They may be signed by Ministers or by representatives who have been delegated such authority. Typically, a number of signatures can be secured immediately upon the conclusion of the MoUs or at a later gathering of the countries concerned. Perhaps more the case than with instruments that bind governments to undertake specific commitments, non-governmental organizations often make an important contribution in shaping the contents of the MoU and indeed, in implementing many of the actions proscribed therein. Where appropriate, they may even be invited to sign the MoU in recognition of their role as international partners. [204]

2.2 Disadvantages of Memoranda of Understanding

If MoUs seem to present a certain number of interesting advantages, it should be mentioned that on the downside, the attention given to MoUs may depend on the interest of the actual government and the individuals who contributed to their drafting. Equally important, the fact that they shy away from committing governments to pledge or provide funds for activities means that, over the longer term, their capacity "deliver the goods" might be restricted. Normally, the commitments that governments make within the framework of these instruments bear the caveat "subject to availability of funds".[205]

VI. CONCLUSION

The protection of marine turtles is now on the agenda of the international community and the necessity to take effective actions to protect those interesting animals is not questioned.[206]

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[203] The Conservation Plan may take a number of negotiation sessions to reach consensus, and may be concluded after the basic agreement on the terms of the MoUs has been reached. The associated Conservation Plan is meant to be a rolling document, subject to regular review and updating, whereas the MoU proper is intended to serve as a general reference for cooperation over many years.

[204] Hykle, D., *op. cit.* (note 9), p. 117.

[205] Ibid., p. 118.

[206][206][206] Even if in recent years there has been considerable discussion in the sea turtle conservation community regarding the status of sea turtles species and the most appropriate methods to conserve sea turtles. The debate has become increasingly polarized with diametrically opposed positions being proposed by two schools of thought. One school call for complete protection of sea turtles and the other proposes sustainable extractive use of sea turtles. The two main battlegrounds in this controversy have been the classification of the status of sea turtles species in the IUCN Red List of Threatened Species and the proposals presented at CITES to downlist a hawksbill turtle population to Appendix 2. In CITES, there is a similar conflict. In recent Conferences of Parties of CITES, Cuba has repeatedly requested a downlisting of the hawksbill population in Cuba from Appendix 1 to Appendix 2 in order to allow export of stockpiled tortoise shell to Japan. The Cuban proposals have been vehemently defended by pro-used scientists, groups and countries and opposed with equal

The network of international instruments (legally binding and non binding) is not yet able to secure the protection of sea turtles and their sustainable use. At the global level, there are many insufficiencies in wildlife or biodiversity-oriented instruments.[207] But the new trend at regional level seems to be very encouraging. At this level, there has been some originality, notably concerning the legal nature of the newly adopted instruments.

There has been the legally binding IAC, which as has been seen, was adopted in particular circumstances, as its origins was in the need to adopt TEDs. It should also be noted that many of the States Parties to this Convention are not members States to the CMS under which the second type of instruments, the Memorandum of Understanding, was adopted in two other regions in the world. They are members of the LOSC 1982.

This flexible approach of MoU might be the right path to follow by the international community in order to create international instruments for the protection of marine turtles. Because they are non binding, they can be easily adopted and their application can be enhanced by the participation of NGOs who could even be invited to participate in the process of its elaboration.

Conservation of sea turtles will depend on States taking voluntary actions to address numerous threats to these species. But still, among the environmental concerns the issue of conservation of sea turtles has to compete with issues like deforestation, loss of terrestrial bio-diversity, land-based pollution, to list a few and other priorities which a State may support.

Fisheries management could become a crucial vehicle for addressing sea turtles conservation, both reducing impacts of fishing itself on sea turtles and also in requiring action in other fora, like land-based pollution, climate change or other factors that threaten sea turtle life and more general the marine biodiversity upon which fisheries depend. Cooperation remains mandatory and RFMOs could play a valuable role. However conservation of sea turtles cannot only be achieved under the current fisheries-related global or regional instruments but it remains that the latter can play a major and constructive role in reducing their mortality.

To conclude, the way forward will involve an identification of synergies and linkages between various applicable instruments with a view to develop cost-effective initiatives and programmes for sea turtle conservation. The regional level could constitute a first test.

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dedication by conservation organizations, pro-protection researchers and countries. See Troëng, Ranstam. and Rankin, 2003.

[207] Concerning one of the main threats to the survival of marine turtles – bycatch – some fisheries Commissions have expressed interest or concern about the issue but there are relatively few who have taken practical steps to address the problem. Of those organizations that have taken an interest in this issue, most have confined themselves to information collation and holding conferences. Few have actively researched the issue, established monitoring programmes, developed solutions or implemented management measures.

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GLOBAL INSTRUMENTS RELATED TO SEA TURTLE CONSERVATION AND MANAGEMENT[1]

Title	Thematic Focus	Instrument	Geographic Scope	Species coverage	Existence of secretariat or coordinating or advisory body	Mandate for cooperation	In force since	Number of contracting parties
Convention on Biological Diversity (CBD)	• conserve biodiversity • sustainable use • fair & equitable sharing	UNEP	global	general, not species specific or just marine life	Conference of bodies & a scientific body	Strategic plans	12/ 1993	188
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	• protects endangered species • regulates international trade of endangered species	World Conservation Union	Global	3 separate annexes includes 30000 species of which 25000 are plants	National scientific and management authority for each member CITES Secretariat CITES Standing Committee	Subjects international trade to controls (licensing system)	1/7/ 1975	166
Convention on Conservation of Migratory Species of Wild Animals (CMS)	• avian migratory species • conservation of wildlife, terrestrial & marine species	UNEP	Terrestrial and marine areas under national jurisdiction of its members and flag vessels on high seas	endangered species of migratory wild animals	• Secretariat of UNEP • Scientific councils • Standing committee	Pledge for sustainable management	3/11/ 1993	86
Law of the Sea Convention	Uses of all seas and oceans	UN	Seas and oceans	Living and non living aquatic resources			8/9/ 1995	
The UN Fish Stocks Agreement	Conservation and management primarily of straddling fish stocks and highly migratory species	UN	Primarily high seas but some provisions apply to areas under national jurisdiction	Straddling & highly migratory fish stock	Member party meetings		11/11/ 2001	52
Code of Conduct for Responsible Fisheries	• all fisheries related issues & activities • biodiversity issues & conservation of endangered species	FAO	int'l	• living aquatic resources • fisheries & fish sector	n/a		1995 FAO	

[1] The contents of the instruments have been described in the light of the subject matter of the Technical Consultation on Sea Turtles Conservation and Fisheries, Bangkok, Thailand, 29 November-2 December 2004.

REGIONAL INTRUMENTS DEALING WITH SEA TURTLE CONSERVATION[2]

	Inter-American Convention for the Protection & Conservation of Sea Turtles	Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean	Convention on Nature Protection & Wildlife Preservation in the Western Hemisphere	Convention for Protection & Development of Marine Environment of the Wider Caribbean Region	Protocol concerning Specially Protected Areas and Wildlife*
Nature of instrument/In force	2/5/2001	12/1999	1942	10/11/1986	18/06/2000
Geographic scope	"States in the Americas" means the States of North, Central and South America and the Caribbean Sea, as well as other States that have continental or insular territories in this region. The Convention Area comprises the land territory in the Americas of each of the Parties, as well as the maritime areas of the Atlantic Ocean, the Caribbean Sea and the Pacific Ocean, with respect to which each of the Parties exercises sovereignty, sovereign rights or jurisdiction over living marine resources in accordance with international law, as reflected in LOSC.	Mediterranean Sea Area as defined in the Barcelona Convention. It also includes: - the seabed and its subsoil; - the waters, the seabed and its subsoil on the landward side of the baseline from which the breadth of the territorial sea is measured and extending, in the case of watercourses, up to the freshwater limit; - the terrestrial coastal areas designated by each of the Parties, including wetlands.	Territories of Contracting Parties	The "Convention area" means the marine environment of the Gulf of Mexico, the Caribbean Sea and the areas of the Atlantic Ocean adjacent thereto, south of 30 deg north latitude and within 200 nautical miles of the Atlantic coasts of the States referred to in article 25 of the Convention Safe exception in Protocol, the Convention area shall not include internal waters of the Contracting Parties	"Wider Caribbean Region" has the meaning given to the term "the Convention area" in Article 2(1) of the Convention, and in addition, includes for the purposes of this Protocol: (i) waters on the landward side of the baseline from which the breadth of the territorial sea is measured and extending, in the case of water courses, up to the fresh water limit; and (ii) such related terrestrial areas (including watersheds) as may be designated by the Party having sovereignty and jurisdiction over such areas:
Species coverage	All sea turtles but flatback	All natural resources in Mediterranean Sea Area	To preserve all species and genera of native American fauna and flora from extinction, and to preserve areas of extraordinary beauty, striking geological formations or aesthetic, historic or scientific value.	the marine environment of the Convention area.	endangered, threatened endemic

[2] The contents of the instruments have been described in the light of the subject matter of the Technical Consultation on Sea Turtles Conservation and Fisheries, Bangkok, Thailand, 29 November-2 December 2004.

	Inter-American Convention for the Protection & Conservation of Sea Turtles	Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean	Convention on Nature Protection & Wildlife Preservation in the Western Hemisphere	Convention for Protection & Development of Marine Environment of the Wider Caribbean Region	Protocol concerning Specially Protected Areas and Wildlife*
Membership	Venezuela, Peru, Brazil, Costa Rica, Mexico, Ecuador, Netherlands, Honduras and USA	Ratifications: Albania, Croatia, Cyprus, EU, Egypt, France, Israel, Italy, Malta, Monaco, Slovenia, Spain, Tunisia, Turkey	Argentina, Brazil, Chile, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad & Tobago, United States of America, Uruguay, Venezuela	Antigua e Barbuda, Barbados, Belize, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, France, Grenada, Guatemala, Jamaica, Mexico, Netherlands, Panama, Saint Lucia, Saint Vincent and Grenadines, Trnidad and Tobago, UK, USA, Venezuela	Barbados, Colombia, Cuba, Dominican Republic, France, Netherlands, Panama, Saint Lucia, Saint Vincent and Grenadines, Trnidad and Tobago, USA, Venezuela
Conservation and Management measures	Work with int'l community for protection & conservation	Requires parties to protect, preserve & manage threatened or endangered species of flora and fauna	Overall objective : To preserve all species and genera of native American fauna and flora from extinction, and to preserve areas of extraordinary beauty, striking geological formations or aesthetic, historic or scientific value. Species listed in annex to enjoy special protection (art. 8); Controls to be imposed on trade in protected fauna and flora and any part thereof (art. 9).	• to adopt measures aimed at preventing, reducing and controlling pollution of the following areas: pollution from ships; pollution caused by dumping; pollution from sea-bed activities; airborne pollution; and pollution from land-based sources and activities. • to protect and preserve rare or fragile ecosystems, as well as the habitat of depleted, threatened or endangered species and to develop technical and other guidelines for the planning and environmental impact assessments of important development projects in order to prevent or reduce harmful impacts on the area of application.	• national & cooperative measures • protect flora & fauna • national protected areas • mutual assistance • scientific & technical advisory cttee

	Inter-American Convention for the Protection & Conservation of Sea Turtles	Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean	Convention on Nature Protection & Wildlife Preservation in the Western Hemisphere	Convention for Protection & Development of Marine Environment of the Wider Caribbean Region	Protocol concerning Specially Protected Areas and Wildlife*
Comments	Symposiums legally binding	• Obligatory joint programmes • Establish protected areas • Coordinate bilateral or multilateral conservation efforts • Regional authority • Centre for specially protected areas	Defines protection: *"no hunting, capture, killing of taking species without proper gov't approva*l Migratory birds oriented	Control various types of pollution. The Convention has been supplemented by three Protocols: 1) Protocol Concerning Co-operation in Combating Oil Spills in the Wider Caribbean Region; 2) Protocol Concerning Specially Protected Areas and Wildlife in the Wider Caribbean Region (SPAW Protocol); and 3) Protocol on Marine Pollution from Land-based Sources and Activities (LBS Protocol).	

	Convention on the Conservation of European Wildlife and Natural Habitats	Convention for the Protection of the Natural Resources and Environment of the South Pacific Region	MOU on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia	Africa Convention on the Conservation of Nature and Natural Resources	MOU concerning the Conservation Measures for Marine Turtles of the Atlantic Coast of Africa
Nature of instrument in force	Binding In force:	22/08/1990	Soft law instrument, implemented effectively (01/09/2001)	Binding instrument in force 16/06/1969	Soft law instrument, implemented effectively
Geographic scope	Any State may, at the time of signature or when depositing its instrument of ratification, acceptance, approval or accession, specify the territory or territories to which this Convention shall apply. (art.21)	Terrestrial and marine areas under national jurisdiction of the members	Indian Ocean, Southeast Asia, East Asia and adjacent seas of east of Torres Strait	Primarily land areas under jurisdiction of the Contracting parties	Land and water areas under national jurisdiction
Species coverage	Protect wild plant & animal species in natural habitat especially those species and habitats whose conservation requires the co-operation of several States, and to promote such co-operation. emphasis on endangered and vulnerable species, incl. migratory species	Marine & coastal environment under national jurisdiction of the member countries.	Six species of marine turtles, at all stages of their life cycle, in all habitats in which they are found throughout their range.	"Natural Resources" i.e. renewable resources, that is soil, water, flora and fauna; species that are threatened with extinction, or which may become so, and to the habitat necessary to their survival may be classified into A or B; all sea turtles are in Class A and thus totally protected throughout the entire territory of the Contracting States; the hunting, killing, capture or collection of specimens	Conserve & protect sea turtles at all stages of their lives where necessary & appropriate
Membership	EU (45 EU & African states)	23 states 14 Island countries, Australia, New Zealand, US, French Territories	More than 40 States of the Agreement Area and other concerned States (20 signatories as at 01/11/2004)	30 African countries	All countries bordering the Atlantic Coast of Africa

	Convention on the Conservation of European Wildlife and Natural Habitats	Convention for the Protection of the Natural Resources and Environment of the South Pacific Region	MOU on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia	Africa Convention on the Conservation of Nature and Natural Resources	MOU concerning the Conservation Measures for Marine Turtles of the Atlantic Coast of Africa
Conservation and Management measures	The aims of the convention are threefold: a. to conserve wild flora and fauna and natural habitats; b. to promote co-operation between States; c. to give particular attention to endangered and vulnerable species, including endangered and vulnerable migratory species.	• Protocols • Technical assistance • Bilateral agreements • EIAS • Scientific & technical cooperation	Comprehensive measures to reduce sources of mortality, protect habitats, improve knowledge base, increase public awareness and participation, enhance cooperation and promote implementation.	to ensure conservation, utilization and development of soil, water, flora and faunal resources in accordance with scientific principles and with due regard to the best interests of the people. the hunting, killing, capture or collection of specimens of class A species can only occur with a gvt authorization and if required in the national interest or for scientific purposes.	
Comments	Protect 500 plant and 1000 animal species; Five species of marine turtles are in Appendix II.	Regional marine turtle conservation programme		Went through revisions in 11/07/2003 but not yet in force	