

Marine Turtle Newsletter

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EDITORIAL: DEFINING MOMENTS

The Preamble of Agenda 21, adopted by Governments at the “Earth Summit” of Rio de Janeiro in 1992 (U.N. Doc. A/Conf.151/26, Vol. I-IV), proposes that, “Humanity stands at a defining moment in its history.” It goes on, “We are confronted with a perpetuation of disparities between and within nations, a worsening of poverty, hunger, ill health and illiteracy, and the continuing deterioration of the ecosystems on which we depend for our wellbeing. However, integration of environment and development concerns, and greater attention to them will lead to fulfillment of basic needs, improved living standards for all, better protected and managed ecosystems and a safer, more prosperous future.” It wisely concludes, “No nation can achieve this on its own; but together we can — in global partnership for sustainable development.”

More and more we hear that in order to survive, multilateral collaboration is the key. While this is certainly the case with humanitarian and security issues, perhaps nowhere is it more obvious than in the conservation of migratory species. As Eckert and Sarti (this issue) have shown, not even the largest nesting assemblages in the world are immune from threats faced thousands of miles from the nesting beach. Without a unity of conservation purpose at the inter-governmental level, remnant breeding assemblages around the world will ultimately fail. The Western Hemisphere has recently met this challenge head-on with the newly negotiated *Inter-American Convention for the Protection and Conservation of Sea Turtles*. It’s not a perfect treaty, but it is a start. We invite our global readership to study this new accord and to wish it well. With a little luck, it will define a balanced approach to sea turtle conservation well into the next century ... and serve as a model for other regions to follow.

This will be the last issue edited by Scott and I. After ten years (we accepted responsibility for the newsletter in 1988 when we were still in Graduate School), it’s time for someone else to enjoy this unique position of service. The newsletter has grown tremendously over the last decade, and we have loved every minute of it. Remarkably, there is much more change to come! The next year will be a time of profound transition. You can expect new Editors, a new Editorial Board, a fresh format and presentation style (including photographs and half-tones), more editorials and other regular features, an online option, and, very likely a subscription fee. We know you will give the new Editors the consistent support that has meant so much to us ... and we look forward to simply *reading* each issue! With fond regards, KLE/SAE

DISTANT FISHERIES IMPLICATED IN THE LOSS OF THE WORLD'S LARGEST LEATHERBACK NESTING POPULATION

Pritchard (1982) suggested that México was host to the largest nesting assemblage of endangered leatherback turtles (*Dermochelys coriacea*) in the world; estimated to number in the tens of thousands, the assemblage represented perhaps 50% or more of the global population. By 1996, when the first complete survey of leatherback nesting on the Pacific coast of México was finally undertaken, investigators were stunned to find that fewer than 1000 females had crawled ashore to lay their eggs during the 1995-1996 nesting season (Sarti et al., 1996). Sarti et al. (1996) reported an estimated annual rate of decline of 22.66% since 1984 when annual nesting data first became available for Mexiquillo beach, the largest nesting colony of leatherbacks in México (Figure 1). The comprehensive nature of the 1996 survey demonstrated that the decline was not due to emigration from Mexiquillo, but rather that a true population decline had occurred and that the data from Mexiquillo were likely to be indicative of a national trend.

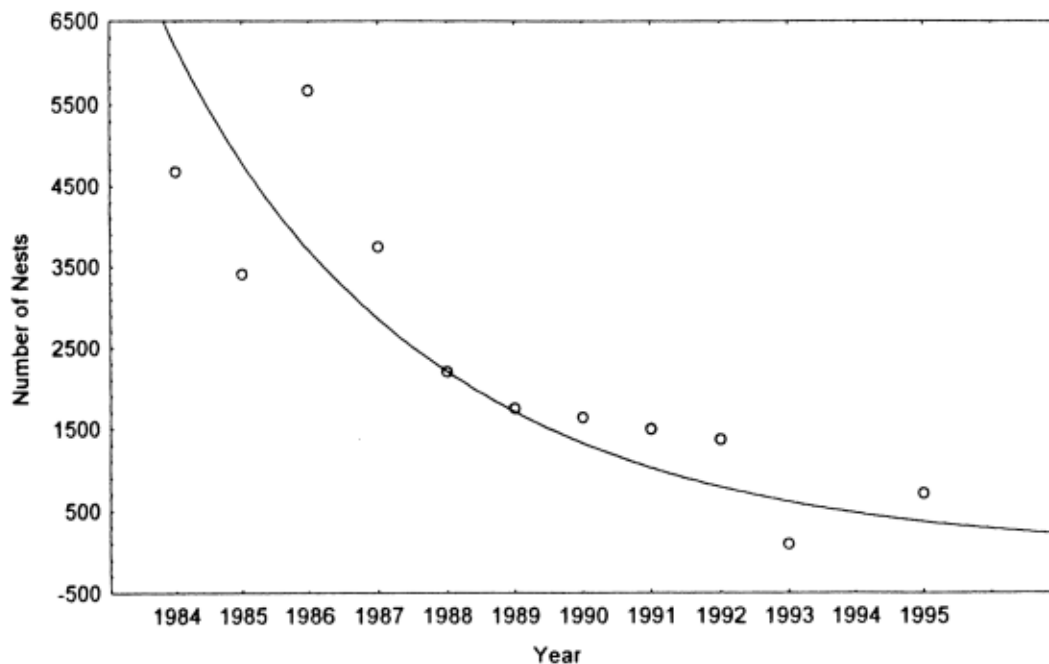


Figure 1. Number of nesting crawls (nests and false crawls combined) made by leatherback turtles each year at Playa Mexiquillo, Michoacán, México (source: Sarti et al., 1996). Sarti et al. (1988) calculated an average annual frequency of 5.3 nests per female, leading to the conclusion that fewer than 1000 females nested in 1995-1996.

Preliminary results of an ongoing study may shed light on how such a steep decline developed over the course of a mere decade. In January 1997, nine leatherbacks were equipped with satellite transmitters while nesting at Mexiquillo beach, Michoacán, México. The transmitters (microprocessor-controlled Platform Transponder Terminals, PTT) were equipped with sensors to report dive depth and duration, time at depth, and time at temperature. The transmitters were attached to a flexible body harness (similar to that described in Eckert and Eckert, 1986) during nesting. With the exception that the Mexican units report temperature and are constructed for longer battery life, the same instrument design was used to successfully retrieve data for more than a year from leatherbacks departing nesting beaches in Trinidad (Caribbean Sea) in 1995 (Eckert, in press).

A complete description of this ongoing investigation will be prepared when the transmitters expire, but we feel that our preliminary results have immediate value to what is emerging

as an international crisis. We are increasingly suspicious that the causes of this population collapse are to be found in waters hundreds and thousands of miles from México. The results of the first 10 months of tracking show that Mexican-nesting leatherbacks navigate to South American waters after egg-laying is complete (Figure 2).

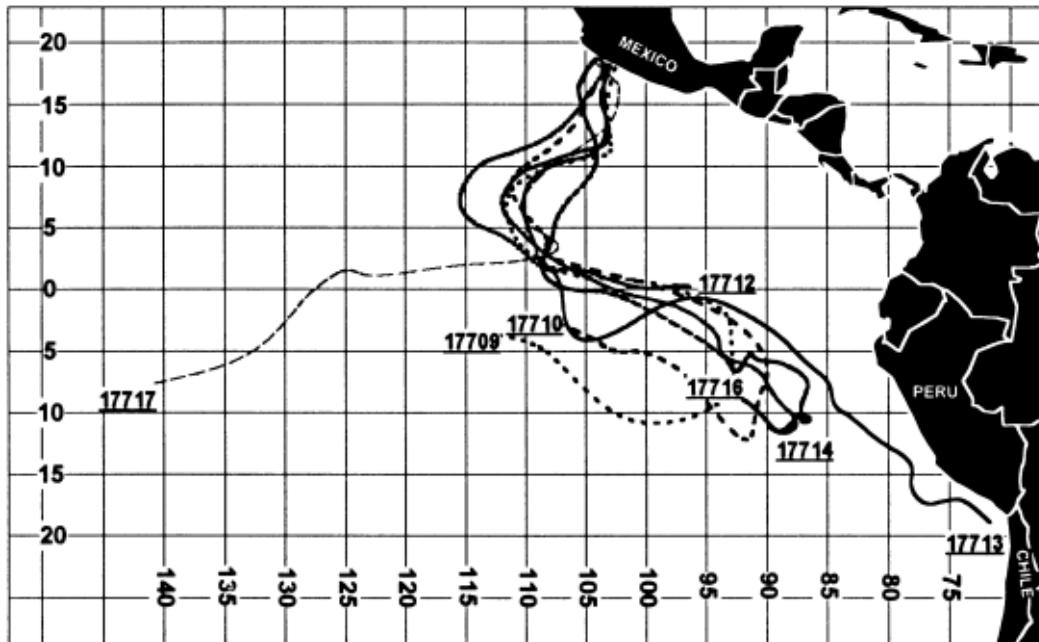


Figure 2. Post-nesting movements of seven leatherbacks from Mexiquillo, México; January-September, 1997.

Soon after deployment, one of the turtles was killed by a poacher, one unit ceased transmitting after nine days, and six turtles moved south immediately after their final nesting. One female, 17717, remained off the coast of México for about two months before travelling south; her behavior has continued to be anomalous when compared to her study mates (see Figure 2). Despite the diversion evident as they passed through the north equatorial current (at about 8° N), the turtles maintained their southwestern course toward the coasts of Peru and Chile. In late June and July, a warm water anomaly caused by a particularly strong (and ongoing) El Niño event may have been the impetus that redirected four of the turtles to the northwest; one stayed her course into Chilean waters (17712 ceased to transmit west of Galapagos). We believe that without this warm water anomaly, the turtles would not have turned north, but rather continued southwest to the South American coast with its rich upwellings and potentially abundant prey.

Our data compare nicely with a much shorter study by Morreale et al. (1996), who demonstrated that post-nesting leatherbacks leaving Costa Rica move south after nesting. The data further corroborate tag returns from leatherbacks killed in Chile after having been tagged during nesting in México and Costa Rica (Chandler, 1991; Marquez and Vellanueva, 1993). If the mounting evidence (suggesting that leatherbacks nesting on East Pacific beaches cross the equator to southern latitudes) is indicative of typical post-nesting migratory routing, then it is of critical importance to investigate the extent to which large commercial fishing fleets south of the equator may be contributing to regional population declines.

Chile supports the largest gillnet and longline swordfish fishery in South America. Since 1980, this fishery has grown exponentially with the gillnet fleet alone expanding from 4,777 days-at-sea in 1987 to 40,692 days-at-sea in 1993 (Figure 3) (Weidner and Serrano, 1997). The

incidental killing of sea turtles by the gillnet fishery was first described by Frazier and Montero (1990), who provided data opportunistically gathered on 30 leatherbacks taken by vessels based at San Antonio, Chile. They estimated that 250 leatherbacks were taken annually by the San Antonio fleet. Following the publication of these data, local fisherman have refused to share information with Montero; however, based on information gathered from a variety of sources, he estimates the current annual take at approximately 500 leatherbacks (J. Montero, pers. comm., 1997). The estimate is not unreasonable given the nearly 10-fold increase in fishing effort since Frazier and Montero compiled incidental take reports in 1988-1990.

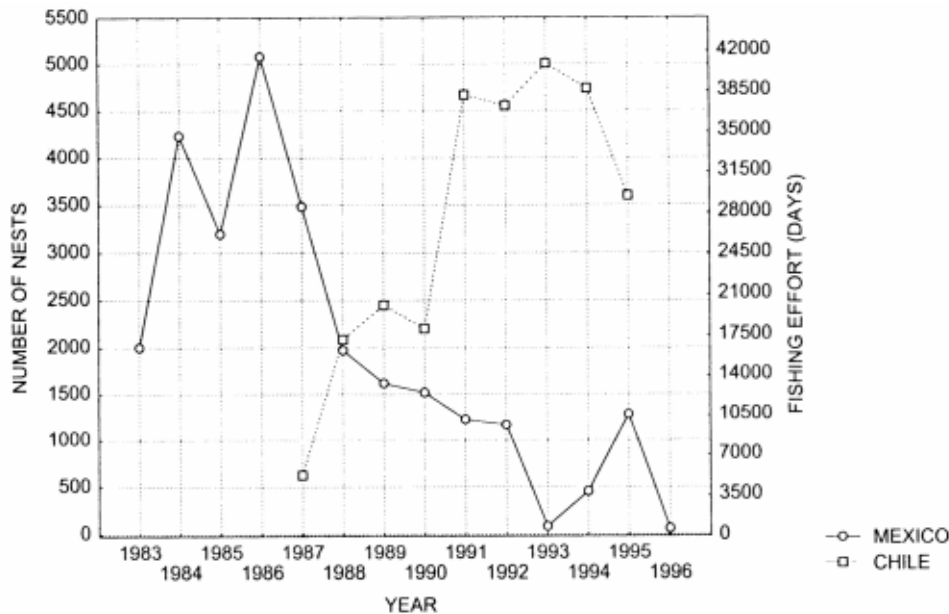


Figure 3. Decline in the number of leatherback turtle nests laid at Mexiquillo beach, México, and the gillnet fishing effort in Chile.

With the exception of San Antonio, there are no sea turtle incidental take statistics data available for Chilean fishing ports. Based on data from 1994 and 1995, San Antonio represents 28-32% of the Chilean gillnet fishing effort (Wiedner and Serrano, 1997). If leatherback capture rates are roughly equivalent among ports, the annual Chilean capture of leatherbacks could have been as high as 833 turtles in 1990 and more than twice that number today. Based on data reported by Frazier and Montero (1990), 80% of sea turtles captured in Chilean gillnets die. The situation is less clear in Peru. Brown and Brown (1992) described finding 167 leatherback carapaces in a canyon near the port of Pucusanain in October 1978; they concluded that at minimum of 200 leatherbacks were killed per year incidental to fishing operations based in that port alone. No other data are available.

Based on the information we have, it is not unrealistic to estimate that a *minimum* of 2,000 leatherbacks are killed annually by the combined swordfish fishing operations of Peru and Chile, and that this represents a major source of mortality for leatherbacks returning from protected nesting grounds in México and Costa Rica. It should be noted that these data account only for the gillnet fleets and do not include mortality associated with the growing longline fleets operated by Chile and other countries in these waters.

To place these fisheries-based estimates of mortality in context, it is useful to review other sources of known mortality. In México, there is a historical level of mortality associated with killing gravid females on their nesting beaches. In 1980, Pritchard (1982) conducted a two-

day aerial survey of the Pacific coast from Maruata, Michoacán to the Isthmus of Tehuan-tepec, Oaxaca. The survey (31 October - 1 November) occurred during the first trimester of the nesting season. He counted approximately 155 beach carcasses (remains left behind by poachers). If we assume that the total number of carcasses was double or even triple Pritchard's observation, fewer than 500 turtles were lost that year and the annual tally has undoubtedly declined since then. México has aggressively sought to prohibit the killing of leatherbacks on nesting beaches since the early 1980's. By the mid-1980's, field camps (staffed by biologists and often assisted by the Mexican military) protected nearly all of México's most important nesting grounds.

Incidental capture of leatherbacks by the North Pacific high seas driftnet fleet (targeting squid and tuna) was also a source of mortality during the 1980's and early 1990's. In 1990-1991, approximately 1000 leatherbacks were captured. Mortality is unknown, and can only be estimated at 10-100% (J. Wetherall, U. S. National Marine Fisheries Service, pers. comm., 1997). The range is based on observed levels of mortality (documented by on-board fisheries observers) and estimated levels of mortality after release. Most leatherbacks break free of the net during retrieval, but remain entangled in portions of the net. Wetherall et al. (1993) assumed that mortality following release is "high", and may reach 100% of entangled turtles. This fishery peaked during the years 1978-1990 (declining then until the fishery was terminated in 1993 by U.N. decree), meaning that the annual incidental take of leatherbacks was probably at least as high (i.e., ca. 1000 per year, as reported in 1990-1991) during the 1980's when fishing effort was at its peak and leatherback populations were still large.

These data, interpreted cautiously, indicate that mortality associated with the swordfish gillnet fisheries in Peru and Chile represents the single largest source of mortality for East Pacific leatherbacks, that this has been the case since the mid-1980's, and that this mortality has wholly negated the intense conservation effort put forth by México at the breeding grounds starting at roughly the same time. A comparison of annual nest production at Mexiquillo beach in México with driftnet fishing effort in Chile reveals a disturbing pattern (Figure 3). The pattern might be considered coincidental except that between 1990 and 1991, the driftnet fishing effort doubled from 18,150 days of fishing effort to 38,215 days of fishing effort. Assuming that this effort resulted in a proportional increase in mortality to leatherbacks, we would expect a substantial decrease in the number of turtles nesting in 1993 (the modal interseasonal nesting interval for leatherbacks is two years). Such a decline did occur. Further, in subsequent years, the fishing effort stayed elevated and the nesting population remained low.

With this analysis, we do not propose that all of the factors which have caused the drastic decline in the Mexican nesting population are accounted for. There is insufficient historical information on the killing of leatherbacks on the nesting beaches and their mortality in coastal and pelagic fishing operations (e.g. high seas longline fisheries which are known to catch leatherbacks; Balazs and Pooley, 1994). What is clear is that the decline of this population is severe and more rapid than has been documented for any other population or species of marine turtle. We propose that the speed at which this once huge population has declined indicates that large scale mortality of juvenile and adult turtles must have occurred. In contrast, the virtual extinction of the peninsular Malaysian leatherback nesting population, in which egg harvest was the primary culprit, took more than 50 years to accomplish (Leong and Siow, 1980).

In summary, we believe that the incidental killing of leatherbacks by swordfish fishing fleets plying the South American coast has played a major role in the collapse of the East Pacific leatherback population, a population which until recently was the largest in the world. We urge that immediate efforts be undertaken to reduce this take, and to assemble whatever additional data might be available to enable a more precise estimate of the incidental take over the last

decade of this and other relevant fisheries. Further, research should continue with an aim to more fully understand the movement patterns and habitat needs of these highly migratory reptiles. It is only through behavioral studies that we can identify where leatherbacks are vulnerable throughout the Pacific. Finally, we strongly encourage that efforts be undertaken to reduce all forms of incidental mortality in non-target species caught in high seas fisheries. Without these efforts, the sustained recovery of depleted non-target species will never occur.

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GUEST EDITORIAL: INTER-AMERICAN CONVENTION FOR THE PROTECTION AND CONSERVATION OF SEA TURTLES

Although its paternity is unclear to many conservationists, the Inter-American Convention for the Protection and Conservation of Sea Turtles was conceived from a union between a regional fishing industry, the Latin American Organization for Fisheries Development (OLDEPESCA), and dozens of governments in the Western Hemisphere. It is a consummation of Section 609 of U.S. Public Law 101-162, which invokes the conservation of sea turtles as a relatively small, yet significant, part of the gargantuan problem of bycatch destruction during commercial shrimp (prawn) trawling (NRC, 1990; Plé, 1990a,b; Alverson et al., 1994; Weber et al., 1995). Passed in November 1989, P.L. 101-162 has explicit international ramifications: to be "certified" and avoid an embargo by the U.S. Government, shrimp exporting nations must employ conservation measures for sea turtles comparable to those used in the U.S. (see Plé, 1990a, for the precise text).

Reports on the first and second meetings of the Convention, organized in México, and its potential conservation value (Donnelly, 1995, 1996), were met by a deafening lack of interest within the international community of sea turtle specialists (including this writer!). Yet, by the second intergovernmental meeting of the Convention for the Protection and Conservation of Sea Turtles in the Western Hemisphere (as it was then called), the Food and Agriculture Organization (FAO) of the United Nations was intimately involved. At this meeting, FAO provided financial support, as well as technical and legal assistance, which continued throughout the remainder of the Convention's gestation.

The initial disinterest is understandable, given the long and beleaguered history of pernicious effects on sea turtles and their habitats from commercial activities — notably, the shrimp industry. Furthermore, the covenant was begotten after decades of "delay and denial" by diverse sectors of the U.S. Government, oft consenting to the interests of a powerful minority, the commercial fishing industry (NRC, 1990; Weber et al., 1995). Indeed, at the time of its legalization, P.L. 101-162 was analyzed as having significant uncertainties and risks (Plé, 1990a,b). In February 1996, five months after the second intergovernmental meeting of the Convention, this regional initiative was perceived by many delegations and sea turtle conservationists to be a poorly-veiled attempt to support the commercial shrimp industry, under the guise of protecting sea turtles. It was, after all, intended as a mechanism to get around the need for certification and protect the interests of the shrimp fishery, an enterprise which manages thousands of millions of dollars annually, derived from the exploitation of common resources.

As there is already a dizzying number of international instruments which, in one way or another, are relevant to sea turtle conservation, why is one more treaty necessary, especially coming with this less than attractive pedigree? Are we just addressing symptoms one more time, when the fundamental issue of wanton bycatch destruction, and concomitant decimation of “non-target” fisheries and deprivation to small-scale fishers is constantly buried under the rhetoric of commerce, “free trade”, modernization, nationalism, progress and that most special of magic shibboleths: “sustainable development” (Alverson et al., 1994; Fairlie, 1995; Frazier, 1997)?

The suspicions of sea turtle specialists regarding commercial activities are shared not only by other conservationists, but also by those involved in the advancement of human rights, development and other humanitarian issues. While perhaps not always articulated in the most fashionable of terms, the concerns of the conservation and development communities are solidly supported by recent analyses in other disciplines, notably political science and economics. In a world run predominantly by corporate lawyers and accountants, in which the individual treasuries of hundreds of transnational corporations far exceed the Gross Domestic Product (GDP) of all but a few “sovereign” (sic) states, it is necessary to question the links between governments, industries and their agents (Korten, 1995). This is even more so now that the “post-modern”, “neo-liberal”, “globalized” economy is managed by organizations which are accountable only to a tiny elite of multinational investors and which have the capacity to invalidate decisions of democratically elected governments (Fairlie, 1995; Korten, 1995; UNRISD and Banson, 1995; Bhaduri and Nayyar, 1996; Giddens, 1996; Nova and Sforza-Roderick, 1997). Hence, when government representatives develop schemes with international industries and their various agents, basic questions need to be answered: Who is represented in these alliances? For the benefit of whom? At whose cost? Who will be accountable for any problems generated by the actions taken? What are the likely medium- and long-term consequences of these alliances on society and the environment? Until recently, these, and many other, fundamental doubts surrounded the draft Convention.

A major turning point occurred from 25 to 27 February 1996, just prior to the 16th Annual Symposium on Sea Turtle Biology and Conservation (held at Hilton Head Island, South Carolina, USA) the third consecutive year that the Latin American Reunion had met in this venue. During these three days, more than 40 sea turtle specialists from 13 nations in the Americas met to discuss common issues; one of the main items of discussion was the draft Convention. Five authorities in sea turtle conservation — one from Brazil, three from México (one each from the governmental, university and NGO communities) and one from the USA — who had participated in the second meeting of the Convention provided detailed analyses and comments, pro and con. Also in the meeting were other national and international leaders in sea turtle conservation from the Caribbean and Latin American. After lengthy discussions, it was unanimously agreed that, despite certain weaknesses and drawbacks, the Convention represented a potentially valuable instrument for strengthening and coordinating sea turtle conservation, both nationally and internationally (Frazier, 1996a).

Together with a manifestation of support for the idea of a regional convention for sea turtle conservation, this group of Latin American specialists drafted a series of basic recommendations for the future development of the treaty. One of the first points was that sea turtle specialists should be included in the deliberations and workings of the Convention; the last recommendation was that resource users (the shrimp industry in particular) should provide financial support for the costs of management and conservation — the concept of “user pays.” After minor adjustments to the language, these recommendations were passed as a formal Resolution during the Plenary of the 16th Annual Symposium on Sea Turtle Biology and Conservation (Frazier, 1996a).

It is noteworthy that this community was supportive of something from which they had been, to a great extent, excluded: the deliberations of the early phases of the Convention. It is also fundamental to understand that the collective experience of the participants in the 1996 Latin American Reunion did not derive from academic discourses on esoteric/political positions in the intriguing world of conservation; it was not constructed in the rarefied atmospheres of academic and commercial institutions, nor was it sponsored by wealthy patrons. Instead, this experience has grown from decades of unsung dedication by people who daily confront terrible problems of economic and political instability, yet somehow they are able to work within their respective systems and advance the goals of sea turtle conservation. Personal sacrifice is routine, and, as a matter of course, much of the sea turtle conservation carried out by these people forms an integral part of other more complex issues, such as community development, marine and coastal management, and public education. The role of this author in the meeting was to moderate and compile the information generated, and later distribute it to the participants (Frazier, 1996a); the consensus of the assembly was the mandate for his opinion and actions.

Another crucial event in the ontogeny of this Convention was the “Simposio Internacional para la Conservación de Tortugas Marinas” convened on 22 and 23 April 1996 in Caracas, Venezuela, immediately prior to the third intergovernmental meeting of the Convention. The symposium was organized by the Venezuelan Servicio Autónomo de los Recursos Pesqueros y Acuícolas (SARPA) of the Ministerio de Agricultura y Cría (MAC), and the Fundación Científica los Roques. The full participation of industry, NGO and scientific communities during the preparations, the catalytic organizational skills of Lic. Hedelvy Guada, with the active ingredients of sea turtle authorities from Brazil, México and Venezuela provided the chemistry for a much-needed integration of sea turtle specialists into the workings of the Convention. The pre-Convention Simposio furnished delegates with basic information on sea turtles, as well as an opportunity for them to dialogue with specialists. The Resolution of the 16th Annual Symposium, as well as the results and recommendations of the just-finalized Simposio Internacional, were provided to the delegates; and these were discussed officially and publicly, at several junctures, during the intergovernmental negotiations. The host delegation took the lead in pressing for more scientific involvement. In addition, the Convention in Caracas was open to NGOs and local students of sea turtles, who attended as observers.

The draft Convention was not approved in Caracas (fortunately!); yet, the tide had changed. Instead of sole, or preponderant, representation by the fisheries industry, the scientific and conservation communities were being heard and their opinions were integral parts of the deliberations. With the mandate of the Latin American specialists, and the impetus of the advances in Caracas, a concerted effort was made to provide the delegations with detailed comments on the Caracas draft, and lobby further in favor of including scientific opinion (Frazier, 1996b).

The stage was set for the fourth, and final, intergovernmental meeting in Salvador, Brazil, from 3 to 5 September 1996. Until this point, the Brazilian Delegation had not been openly supportive of the Convention; but in Salvador they took the lead to revise the entire convention document, and in the words of one of the key players, to “make something good out of something dirty.” The Peruvian Delegation, under the leadership of one of the prime authors of the United Nations Law of the Sea, also provided critical support in the detailed revision. Although some delegates may have felt that these extended discussions (beginning all over again, starting from the title, even revising past accords!) were a strategic ploy, there could be no doubt in the sincerity to mold the Convention into an instrument truly useful for sea turtle conservation. Once the assembled delegations had revised each of the issues about which they were concerned, the final draft was accepted, and the head of the host delegation (officially assigned to the economic section in the Brazilian diplomatic corps) made a closing speech, breaking slightly with protocol, but speaking with deep conviction and pride. Using as a positive example their na-

tional sea turtle program, Projecto TAMAR, she accentuated the need for international cooperation to effectively conserve these “magnificent, migratory animals.” Clearly, the information provided in Caracas, and through the various other scientific inputs, had made an indelible impact: sea turtle conservation is indeed consequential, important enough not to be left to the whim of multinational commerce; recognized as regional resources, sea turtles need to be managed through regional accords.

The stated reason for the Convention in the Salvador draft stands much as it has been from the start: Article II reads: “The objective of this Convention is to promote the protection, conservation and recovery of sea turtle populations and of the habitats on which they depend, based on the best available scientific evidence, taking into account the environmental, socioeconomic and cultural characteristics of the Parties.” However, the final document has clearly evolved from the first draft, and there are numerous major improvements (Somma, 1996). It is no longer a “TED (turtle excluder device) treaty”, but takes into account the diversity and complexity of problems involved. Conservation and management of habitat are given central, and recurring, importance; e.g., Annex II, “Protection and Conservation of Habitats”, has been added. The issue of subsistence use of sea turtles was resolved to the satisfaction of the delegations from the nations where these practices are fundamental (Costa Rica, Honduras, Nicaragua, Suriname).

In terms of mechanics, the Convention is open for signing from 1 December 1996 until 31 December 1998. At least eight nations must ratify it before it will come into force; and at the date of this writing, six countries have signed (on the following dates): USA (13/XII/96); Venezuela (16/XII/96); Costa Rica (31/I/97); Nicaragua (4/III/97); Brazil (21/III/97); and Perú (8/IV/97). México has not signed as of this writing. Venezuela is the Depository, and as such has invited other nations in the Americas to subscribe to and ratify the Convention. In addition to almost 40 countries in the Americas, it is open to France, the Netherlands and the United Kingdom, because of their territorial possessions in the region. Once the Convention comes into force, those countries that are present at the first meeting of the Parties will establish operational details (such as whether or not there will be a Secretariat and, if so, which organization will serve); procedural rules for the Convention and its committees, as well as the composition of both the Consultative Committee and Scientific Committee will also be instituted.

Not surprisingly, the final document shows the signs of being the product of a committee, with various “conceptual patches.” More alarming is the fact that there are still significant vestiges of the original “TED treaty”: despite its laudable Preamble and noble objective, there is still a heavy bias on TEDs, and deep in the heart of the Convention is Article XV, “Trade Measures.” To be sure, Article XV, which champions unrestricted commerce, was the reason for failure at the Caracas meeting, and it was the final and most delicate part of the negotiations in Salvador. Significantly, when Somma (1996), from the Office of Protected Resources at the U.S. National Marine Fisheries Service, reported on the outstanding points resolved at Salvador, she listed first the use of trade measures — not other issues which occurred earlier in the negotiations or in the text and that deal directly with the conservation of sea turtles and their habitats. Indeed, P.L. 101-162 is now before the World Trade Organization, which will decide on the relative importance of unrestricted trade versus conservation of shared sea turtle resources (Schoenberger, 1997).

What does this Convention mean to the conservation of sea turtles? Some of the basic concerns are: Will the “Scientific Committee” have the authority and autonomy to act without political pressure, and how effective will it be in getting “the best available scientific information” into the core of discussions taking place in what is unabashedly a political arena, with enormous financial interests at stake? Will the right of any Party to unilaterally decide if they are

going to allow domestic, “subsistence” consumption of sea turtles be consistent with the urgently needed regional cooperation in the conservation of these migratory species, resources shared among the peoples and nations of the region? As there are no sanctions or other means of enforcement, if a Party does not comply with the terms of the Convention, what can be done about it? (The continual inability of the U.S. Government to protect sea turtles, notably the critically endangered Kemp’s Ridley, in U.S. waters jumps to mind; and throughout the region there are countless other examples.) Will adequate funding and support be provided, or will this be just one more “paper convention”? Will resource exploiters contribute to resource conservation? If a Secretariat is chosen, which organization will it be, and will it truly represent the Objective of the Convention? Despite its title, will this Convention be used mainly as an instrument for unrestricted commerce or will it truly support the conservation of sea turtles? How can we ensure that the Convention will strengthen the complex and urgently needed measures to conserve endangered, migratory marine turtles, as well as protect the rights of small-scale fishers: to keep it from being a ploy for concentrating yet more power and resources in big business?

Obviously the Convention is imperfect, and there are many unknowns. As a Brazilian colleague says: “Those people who do nothing, don’t get criticized”, and not surprisingly this western Hemisphere initiative has its detractors. For example, the results of the meeting in Salvador were hardly known to the general sea turtle community when the Convention was disparagingly attacked on the INTERNET. The tirade, ostensibly in support of subsistence fishers, came from specialists in crocodile farming, residents of the Old World who have not been involved in the regional processes described above, but who are contracted by Japanese interests to facilitate the supply of seemingly limitless resource demands — namely, sea turtle products — of that island nation (see Groombridge and Luxmore, 1989).

Nonetheless, despite the uncertainties and detractions, there are reasons for hope. The author is convinced from personal communications that key people in all of the delegations that have now signed are truly committed to sea turtle conservation and to using the Convention to that end. According to the Chief Liaison Officer, FAO (Lizarraga, *in litt.*), this Convention was proposed within the context of the *Code of Conduct for Responsible Fisheries* (FAO, 1995), a document of incalculable value if ever there is going to be an intelligent relationship between humans and aquatic resources. Because sea turtles serve as “flagship species”, “ambassadors of the oceans”, this Convention is in many ways a test case. Here are both the usual difficulties in international cooperation, and the tremendous challenge of injecting responsibility and accountability into industrialized fisheries, for decades characterized by their level of irresponsibility, damaging to both the environment and to societies (Bailey, 1985; Bailey and Jentoft, 1990; Ludwig et al., 1993; Dyer and McGoodwin, 1994; Fairlie, 1995; Heywood, 1995; Weber et al., 1995; Masood, 1997).

Hopefully an issue as complex as the conservation of shared living marine resources can be accomplished by focusing on charismatic sea turtles. Perhaps, just perhaps, if the world society can agree for once to be less damaging and more rational in its relationship to these ambassadors of the oceans, it will be possible to extend successful procedures to less charismatic, but no less endangered and desecrated living marine resources. The test of the acceptance of the *Code of Conduct for Responsible Fisheries* and the implementation of the Inter-American Convention for the Protection and Conservation of Sea Turtles is before us. However, to this writer’s mind, the critical question underlying these challenges is not just about the fate of this Convention, but a deeper concern: has our species been correctly named Homo sapiens sapiens (“doubly wise, bipedal primate”)?

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INTER-AMERICAN CONVENTION FOR THE PROTECTION AND CONSERVATION OF SEA TURTLES

Preamble

The Parties to this Convention:

Recognizing the rights and duties of States established in international law, as reflected in the United Nations Convention on the Law of the Sea of 10 December 1982, relating to the conservation and management of living marine resources;

Inspired by the principles contained in the 1992 Rio Declaration on Environment and Development;

Considering the principles and recommendations set forth in the Code of Conduct for Responsible Fishing adopted by the Conference of the Food and Agriculture Organization of the United Nations in its 28th Session (1995);

Recalling that Agenda 21, adopted by the United Nations Conference on Environment and Development, recognizes the need to protect and restore endangered marine species and to conserve their habitats;

Understanding that, in accordance with the best available scientific evidence, species of sea turtles in the Americas are threatened or endangered, and that some of these species may face imminent risk of extinction;

Acknowledging the importance of having the States in the Americas adopt an agreement to address this situation through an instrument that also facilitates the participation of States from other regions interested in the worldwide protection and conservation of sea turtles, taking into account the widely migratory nature of these species;

Recognizing that sea turtles are subject to capture, injury or mortality as a direct or indirect result of human-related activities;

Considering that coastal zone management measures are indispensable for protecting populations of sea turtles and their habitats;

Recognizing the individual environmental, socio-economic and cultural conditions in the States in the Americas;

Recognizing that sea turtles migrate widely throughout marine areas and that their protection and conservation require cooperation and coordination among States within the range of such species;

Recognizing also the programs and activities that certain States are currently carrying out for the protection and conservation of sea turtles and their habitats;

Desiring to establish, through this Convention, appropriate measures for the protection and conservation of sea turtles throughout their range in the Americas, as well as their habitats;

Have agreed as follows:

Article I: Definitions

For the purposes of this Convention:

1. "Sea turtle" means any of the species listed in Annex I.
2. "Sea turtle habitats" means all those aquatic and terrestrial environments which sea turtles use at any stage of their life cycles.
3. "Parties" means States which have consented to be bound by this Convention and for which this Convention is in force.
4. "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.

Article II: Objective

The objective of this Convention is to promote the protection, conservation and recovery of sea turtle populations and of 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.

Article III: Area of Application of the Convention

The area of application of this Convention (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 the United Nations Convention on the Law of the Sea.

Article IV: Measures

1. Each Party shall take appropriate and necessary measures, in accordance with international law and on the basis of the best available scientific evidence, for the protection, conservation and recovery of sea turtle populations and their habitats:
 - a. In its land territory and in maritime areas with respect to which it exercises sovereignty, sovereign rights or jurisdiction included within the Convention Area; and
 - b. Notwithstanding Article III, with respect to vessels on the high seas that are authorized to fly its flag.
2. Such measures shall include:
 - a. The prohibition of the intentional capture, retention or killing of, and domestic trade in, sea turtles, their eggs, parts or products;
 - b. Compliance with the obligations established under the Convention on International Trade in Endangered Species of Wild Fauna and Flora relating to sea turtles, their eggs, parts or products;
 - c. To the extent practicable, the restriction of human activities that could seriously affect sea turtles, especially during the periods of reproduction, nesting and migration;
 - d. The protection, conservation and, if necessary, the restoration of sea turtle habitats and nesting areas, as well as the establishment of necessary restrictions on the use of such zones, including the designation of protected areas, as provided in Annex II;
 - e. The promotion of scientific research relating to sea turtles and their habitats, as well as to other relevant matters that will provide reliable information useful for the adoption of the measures referred to in this Article;
 - f. The promotion of efforts to enhance sea turtle populations, including research into the experimental reproduction, raising and reintroduction of sea turtles into their habitats in order to determine the feasibility of these practices to increase populations, without putting sea turtles at risk;
 - g. The promotion of environmental education and dissemination of information in an effort to encourage the participation of government institutions, nongovernmental organizations and the general public of each State, especially those communities that are involved in the protection, conservation and recovery of sea turtle populations and their habitats;
 - h. 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 turtle excluder devices (TEDs) pursuant to the provisions of Annex III, and the corresponding training, in keeping with the principle of the sustainable use of fisheries resources; and
 - i. Any other measure, in accordance with international law, which the Parties deem appropriate to achieve the objective of this Convention.
3. With respect to such measures:
 - a. Each Party may allow exceptions to Paragraph 2(a) to satisfy economic subsistence needs of traditional communities, taking into account the recommendations of the Consultative Committee established pursuant to Article VII, provided that such exceptions do not undermine efforts to achieve the objective of this Convention. In making its recommendations, the Consultative Committee shall consider, *inter alia*, the status of the sea turtle populations in question, the views of any Party regard-

ing such populations, impacts on such populations on a regional level, and methods used to take the eggs or turtles to cover such needs.

- b. A Party allowing such an exception shall:
 - i) establish a management program that includes limits on levels of intentional taking; and
 - ii) include in its Annual Report, referred to in Article XI, information concerning its management program.
- c. Parties may establish, by mutual agreement, bilateral, subregional or regional management plans.
- d. The Parties may, by consensus, approve exceptions to the measures set forth in paragraph 2(c)-(i) to account for circumstances warranting special consideration, provided that such exceptions do not undermine the objective of this Convention.

4. When an emergency situation is identified that undermines efforts to achieve the objective of this Convention and that requires collective action, the Parties shall consider the adoption of appropriate and adequate measures to address the situation. These measures shall be of a temporary nature and shall be based on the best available scientific evidence.

Article V: Meetings of the Parties

1. For the first three years following the entry into force of this Convention, the Parties shall hold an ordinary meeting at least once per year to consider matters pertaining to the implementation of the provisions of this Convention. Following that, the Parties shall hold ordinary meetings at least once every two years.

2. The Parties may also hold extraordinary meetings when deemed necessary. These meetings shall be convened at the request of any Party, provided that such request is supported by a majority of the Parties.

3. At such meetings, the Parties shall, among other things:

- a. Evaluate compliance with the provisions of this Convention;
- b. Examine the reports and consider the recommendations of the Consultative Committee and the Scientific Committee, established pursuant to Articles VII and VIII, regarding the implementation of this Convention;
- c. Adopt such additional conservation and management measures as deemed appropriate to achieve the objective of this Convention. If the Parties consider it necessary, such measures may be included in an Annex to this convention;
- d. Consider, and as necessary adopt, amendments to this Convention, in accordance with Article XXIV;
- e. Review reports of the Secretariat, if established, relating to its budget and activities.

4. At their first meeting, the Parties shall adopt rules of procedure for meetings of the Parties as well as for meetings of the Consultative Committee and the Scientific Committee, and shall consider other matters relating to those committees.

5. Decisions reached at meetings of the Parties shall be adopted by consensus.

6. The Parties may invite other interested States, relevant international organizations, as well as the private sector, scientific institutions and nongovernmental organizations with recognized expertise in matters pertaining to this Convention to attend their meetings as observers and to participate in activities under this Convention.

Article VI: Secretariat

1. At their first meeting, the Parties shall consider the establishment of a Secretariat with the following functions:

- a. Providing assistance in convening and organizing the meetings specified in Article V;
- b. Receiving from the Parties the annual reports referred to in Article XI and placing them at the disposal of the other Parties and of the Consultative Committee and the Scientific Committee;
- c. Publishing and disseminating the recommendations and decisions adopted at the meetings of the Parties in accordance with rules of procedures adopted by the Parties;
- d. Disseminating and promoting the exchange of information and educational materials regarding efforts undertaken by the Parties to increase public awareness of the need to protect and conserve sea turtles and their habitats, while maintaining the economic profitability of diverse artisanal, commercial, and subsistence fishing operations, as well as the sustainable use of fisheries resources. This information shall concern, *inter alia*:
 - (i) environmental education and local community involvement; and
 - (ii) the results of research related to the protection and conservation of sea turtles and their habitats and the socio-economic and environmental effects of the measures adopted pursuant to this Convention;
- e. Seeking economic and technical resources to carry out research and to implement the measures adopted within the framework of this Convention; and
- f. Performing such other functions as the Parties may assign.

2. When deciding in this regard, the Parties shall consider the possibility of appointing the Secretariat from among competent international organizations that are willing and able to perform the functions provided for in this Article. The Parties shall determine the means of financing necessary to carry out the functions of the Secretariat.

Article VII: Consultative Committee

1. At their first meeting, the Parties shall establish a Consultative Committee of Experts, hereinafter referred to as "the Consultative Committee", which shall be constituted as follows:

- a. Each Party may appoint one representative to the Consultative Committee, who may be accompanied at each meeting by advisors;
- b. The Parties shall also appoint, by consensus, three representatives with recognized expertise in matters pertaining to this Convention, from each of the following groups:
 - (i) the scientific community; (ii) the private sector; and (iii) nongovernmental organizations.

2. The functions of the Consultative Committee shall be to:

- a. Review and analyze the reports referred to in Article XI, and any other information relating to the protection and conservation of populations of sea turtles and their habitats;
- b. Solicit from any Party additional relevant information relating to the implementation of the measures set forth in this Convention or adopted pursuant thereto;
- c. Examine reports concerning the environmental, socio-economic and cultural impact on affected communities resulting from the measures set forth in this Convention or adopted Pursuant thereto;
- d. Evaluate the efficiency of the different measures proposed to reduce the capture and incidental mortality of sea turtles, as well as the efficiency of different kinds of TEDs;
- e. Present a report to the Parties on its work, including, as appropriate, recommendations on the adoption of additional conservation and management measures to promote the objective of this Convention;
- f. Consider reports of the Scientific Committee; and
- g. Perform such other functions as the Parties may assign.

3. The Consultative Committee shall meet at least once a year for the first three years after the entry into force of the Convention, and after that in accordance with decisions made by the Parties.

4. The Parties may establish expert groups to advise the Consultative Committee.

Article VIII: Scientific Committee

1. At their first meeting, the Parties shall establish a Scientific Committee which shall be comprised of representatives designated by the Parties and which shall meet, preferably, prior to the meetings of the Consultative Committee.
2. The functions of the Scientific Committee shall be to:
 - a. Examine and, as appropriate, conduct research on sea turtles covered by this Convention, including research on their biology and population dynamics;
 - b. Evaluate the environmental impact on sea turtles and their habitats of activities such as fishing operations and the exploitation of marine resources, coastal development, dredging, pollution, clogging of estuaries and reef deterioration, among other things, as well as the potential impact of activities undertaken as a result of exceptions to the measures allowed in accordance with this Convention;
 - c. Analyze relevant research conducted by the Parties;
 - d. Formulate recommendations for the protection and conservation of sea turtles and their habitats;
 - e. Make recommendations on scientific and technical matters at the request of any Party regarding specific matters related to this Convention; and
 - f. Perform such other scientific functions as the Parties may assign.

Article IX: Monitoring Programs

1. During the year following the entry into force of this Convention, each Party shall establish, within its territory and in maritime areas with respect to which it exercises sovereignty, sovereign rights or jurisdiction, a program to ensure monitoring of the application of the measures to protect and conserve sea turtles and their habitats set forth in this Convention or adopted pursuant thereto.
2. The program referred to in the preceding paragraph shall include, where appropriate, mechanisms and arrangements for the participation by observers designated by each Party or by agreement among them in monitoring activities.
3. In implementing the program, each Party may act with the support or cooperation of other interested States and relevant international organizations, as well as nongovernmental organizations.

Article X: Compliance

Each Party shall ensure, within its territory and in maritime areas with respect to which it exercises sovereignty, sovereign rights or jurisdiction, effective compliance with measures to protect and conserve sea turtles and their habitats set forth in this Convention or adopted pursuant thereto.

Article XI: Annual Reports

1. Each Party shall prepare an annual report, in accordance with Annex IV, on the programs it has adopted to protect and conserve sea turtles and their habitats, as well as any program it may have adopted relating to the utilization of these species in accordance with Article IV(3).
2. Each Party shall provide, either directly or through the Secretariat, if established, its annual report to the other Parties and to the Consultative and Scientific Committees at least 30 days prior to the next ordinary meeting of the Parties and shall also make such annual reports available to other States or interested entities that so request.

Article XII: International Cooperation

1. The Parties shall promote bilateral and multilateral cooperative activities to further the objective of this Convention and, when they deem it appropriate, shall seek the support of relevant international organizations.

2. Such activities may include the training of advisors and educators; the exchange and training of technicians, sea turtle managers and researchers; the exchange of scientific information and educational materials; the development of joint research programs, studies, seminars and workshops; and other activities on which the Parties may agree.

3. The Parties shall cooperate to develop and to facilitate access to information and training regarding the use and transfer of environmentally sustainable technologies, consistent with the objective of this Convention. They shall also develop endogenous scientific and technological capabilities.

4. The Parties shall promote international cooperation in the development and improvement of fishing gear and techniques, taking into account the specific conditions of each region, in order to maintain the productivity of commercial fisheries and to ensure the protection, conservation and recovery of sea turtle populations.

5. The cooperative activities shall include rendering assistance, including technical assistance, to Parties that are developing States, in order to assist them in complying with their obligations under this Convention.

Article XIII: Financial Resources

1. At their first meeting, the Parties shall assess the need for and possibilities of obtaining financial resources, including the establishment of a special fund for purposes such as the following:

- a. Meeting the expenses that could be required for the potential establishment of the Secretariat, pursuant to Article VI;
- b. Assisting the Parties that are developing States in fulfilling their obligations under this Convention, including providing access to the technology deemed most appropriate.

Article XIV: Coordination

The Parties shall seek to coordinate their activities under this Convention with relevant international organizations, whether global, regional or subregional.

Article XV: Trade Measures

1. In implementing this Convention, the Parties shall act in accordance with the provisions of the Agreement establishing the World Trade Organization (WTO), as adopted at Marrakesh in 1994, including its annexes.

2. In particular, and with respect to the subject matter of this Convention, the Parties shall act in accordance with the provisions of the Agreement on Technical Barriers to Trade contained in Annex 1 of the WTO Agreement, as well as Article XI of the General Agreement on Tariffs and Trade of 1994.

3. The Parties shall endeavor to facilitate trade in fish and fishery products associated with this Convention, in accordance with their international obligations.

Article XVI: Settlement of Disputes

1. Any Party may consult with one or more other Parties about any dispute related to the interpretation or application of the provisions of this Convention to reach a solution satisfactory to all parties to the dispute as quickly as possible.

2. If a dispute is not settled through such consultation within a reasonable period, the Parties in question shall consult among themselves as soon as possible in order to settle the dispute through any peaceful means they may decide upon in accordance with international law, including, where appropriate, those provided for in the United Nations convention on the Law of the Sea.

Article XVII: Rights of the Parties

1. No provision of this Convention may be interpreted in such a way as to prejudice or undermine the sovereignty, sovereign rights or jurisdiction exercised by any Party in accordance with international law

2. No provision of this Convention, nor measures or activities performed in its implementation, may be interpreted in such a way as to allow a Party to make a claim, or to exercise sovereignty, sovereign rights or jurisdiction in contravention of international law.

Article XVIII: Implementation at the National Level

Each Party shall adopt measures in its respective national laws for implementation of the provisions of this Convention and to ensure effective compliance by means of policies, plans and programs for the protection and conservation of sea turtles and their habitats.

Article XIX: Non-Parties

1. The Parties shall encourage:

- a. any eligible State to become party to this Convention;
- b. any other State to become party to a complementary protocol as envisioned in Article XX.

2. The Parties shall also encourage all States not Party to this Convention to adopt laws and regulations consistent with the provisions of this Convention.

Article XX: Complementary Protocols

In order to promote the protection and conservation of sea turtles outside the Convention Area where these species also exist, the Parties should negotiate with States that are not eligible to become party to this Convention a complementary protocol or protocols, consistent with the objective of this Convention, to which all interested States may become party.

Article XXI: Signature and Ratification

1. This Convention shall be open for signature at Caracas, Venezuela, by States in the Americas from December 1, 1996, until December 31, 1998.

2. This Convention is subject to ratification by the Signatories in accordance with their domestic laws and procedures. Instruments of ratification shall be deposited with the Government of Venezuela, which shall be the Depositary.

Article XXII: Entry into Force and Accession

1. This Convention shall enter into force ninety days after the date of deposit of the eighth instrument of ratification.

2. After the Convention has entered into force, it shall be open for accession by States in the Americas. This Convention shall enter into force for any such State on the date of its deposit of an instrument of accession with the Depositary.

Article XXIII: Reservations

Signature and ratification of, or accession to this Convention may not be made subject to any reservation.

Article XXIV: Amendments

1. Any Party may propose an amendment to this Convention by providing the Depositary the text of a proposed amendment at least 60 days in advance of the next meeting of the Parties. The Depositary shall promptly circulate any amendment proposed to all the Parties.

2. Amendments to this Convention, adopted in accordance with the provisions of Article V(5), shall enter into force when the Depositary has received instruments of ratification from all Parties.

Article XXV: Withdrawal

Any Party may withdraw from this Convention at any time after 12 months from the date on which this Convention entered into force with respect to that Party by giving written notice of withdrawal to the Depositary. The Depositary shall inform the other Parties of the withdrawal within 30 days of receipt of such notice. The withdrawal shall become effective six months after receipt of such notice.

Article XXVI: Status of Annexes

1. The Annexes to this Convention are an integral part hereof. All references to this Convention shall be understood as including its Annexes.

2. Unless the Parties decide otherwise, the Annexes to this Convention may be amended, by consensus, at any meeting of the Parties. Unless otherwise agreed, amendments to an Annex shall enter into force for all Parties one year after adoption.

Article XXVII: Authentic Texts and Certified Copies

1. The English, French, Portuguese, and Spanish texts of this Convention are equally authentic.

2. The original texts of this Convention shall be deposited with the Government of Venezuela, which shall send certified copies thereof to the Signatory States and to the Parties hereto, and to the Secretary General of the United Nations for registration and publication, pursuant to Article 102 of the Charter of United Nations.

In witness whereof, the undersigned, having been duly authorized by their respective governments, have signed this Convention.

Done at Caracas on this first day of December, 1996.

Annex I: Sea Turtles ²

1. Caretta caretta (Linnaeus, 1758)

Tortuga caguama, cabezuda, cahuama
Loggerhead turtle
Tortue caouanne
Cabeçuda, mestiça

2. Chelonia mydas (Linnaeus, 1758), including populations of this species in the Eastern or American Pacific alternatively classified by specialists Chelonia mydas agassizii (Carr, 1952), or as Chelonia agassizii (Bocourt, 1868).

Tortuga blanca, aruana, verde
Green sea turtle
Tortue verte
Tartaruga verde
Soepschildpad, krapé

Common alternate names in the Eastern Pacific:

Tortuga prieta
East Pacific green turtle, black turtle
Tortue verte du Pacifique est

3. Derموchelys coriacea (Vandelli, 1761)

Tortuga la£d, gigante, de cuero
Leatherback turtle
Tortue luth
Tartaruga gigante, de couro
Lederschildpad, aitkanti

4. Eretmochelys imbricata (Linnaeus, 1766)

Tortuga de carey
Hawksbill sea turtle
Tortue caret, Karét
Tartaruga de pente

5. Lepidochelys kempii (German, 1880)

Tortuga lora
Kemp's ridley turtle
Tortue de Kemp

6. Lepidochelys olivacea (Eschscholtz, 1829)

Tortuga golfina
Olive ridley turtle
Tortue oliv∞tre
Tartaruga olive, Warana

² Due to a wide variety of common names, even within the same State, this list should not be considered exhaustive.

Annex II: Protection and Conservation of Sea Turtle Habitats

Each Party shall consider and may adopt, as necessary and in accordance with its laws, regulations, policies, plans and programs, measures to protect and conserve sea turtle habitats within its territory and in maritime areas with respect to which it exercises sovereignty, sovereign rights or jurisdiction, such as:

1. Requiring assessments of the environmental impact of marine and coastal development activities that may affect sea turtle habitats, including: dredging of canals and estuaries; construction of sea walls, piers and marinas; extraction of raw materials; operation of aquaculture facilities; siting of industrial facilities; use of reefs; deposit of dredged materials and trash; and other related activities;
2. Managing and, when necessary, regulating the use of beaches and coastal dunes with respect to the location and design of buildings, the use of artificial lighting and the transit of vehicles in nesting areas;
3. Establishing protected areas and taking other measures to regulate the use of areas where sea turtles nest or regularly occur, including permanent or temporary closures, modification of fishing gear, and, to the greatest extent practicable, restrictions on vessel traffic.

Annex III: Use of Turtle Excluder Devices

1. "Shrimp trawl vessel" means any vessel used to catch shrimp species with trawl nets.
2. "Turtle Excluder Device" or "TED" means a device designed to increase the selectivity of shrimp trawl nets in order to reduce the incidental capture of sea turtles in shrimp fishing operations.
3. Each Party shall require shrimp trawl vessels subject to its jurisdiction that operate within the Convention Area to use recommended TEDs that are properly installed and functional.
4. Each Party, in accordance with the best available scientific evidence, may allow exceptions to use of TEDs as required in Paragraph 3 only in the following circumstances:
 - a. For shrimp trawl vessels whose nets are retrieved exclusively by manual rather than mechanical means, and shrimp vessels with trawl nets for which no TEDs have been developed. A Party allowing such exception shall adopt other measures to reduce the incidental mortality of sea turtles that are equally effective and that do not undermine efforts to achieve the objective of this Convention, such as limits on tow times, closed seasons and closed fishing areas where sea turtles occur.
 - b. For shrimp trawl vessels:
 - (i) exclusively using other trawl gear that has been demonstrated not to pose a risk of incidental mortality of sea turtles; or
 - (ii) operating under conditions where there is no likelihood of interaction with sea turtles;

Provided that the Party allowing such exception provides to the other Parties, either directly or through the Secretariat, if established, documented scientific evidence demonstrating the lack of such risk or likelihood;

- c. For shrimp trawl vessels conducting scientific research under a program approved by the Party;
- d. Where the presence of algae, seaweed, debris, or other special conditions, temporary or permanent, make the use of TEDs impracticable in a specific area, provided that:
 - (i) a Party allowing this exception shall adopt other measures to protect sea turtles in the area in question, such as limits on tow times;
 - (ii) only in extraordinary emergency situations of a temporary nature may a Party allow this exception to apply to more than a small number of the vessels subject to its jurisdiction that would otherwise be required to use TEDs pursuant to this Annex;

- (iii) a Party allowing this exception shall provide to the other Parties, either directly or through the Secretariat, if established, information concerning the special conditions and the number of shrimp trawl vessels operating in the area in question.

5. Any Party may comment upon information provided by any other Party pursuant to Paragraph 4. Where appropriate, the Parties shall seek guidance from the Consultative Committee and the Scientific Committee to resolve differences of view. If the Consultative Committee so recommends, and the Parties agree, a Party that has allowed an exception pursuant to Paragraph 4 shall reconsider the allowance or extent of such an exception.

6. The Parties may, by consensus, approve other exceptions to the use of TEDs as required in Paragraph 3, in accordance with the best available scientific evidence and based on recommendations of the Consultative Committee and the Scientific Committee, to account for circumstances warranting special consideration, provided that such exceptions do not undermine efforts to achieve the objective of this Convention.

7. For the purposes of this Convention:

- a. Recommended TEDs shall be those TEDs determined by the Parties, with advice from the Consultative Committee, to reduce the incidental capture of sea turtles in shrimp trawl fishing operations to the greatest extent practicable;
- b. At their first meeting, the Parties shall develop an initial list of recommended TEDs, which they may modify at subsequent meetings;
- c. Until the first meeting of the Parties, each Party shall determine, in accordance with its laws and regulations, which TEDs to require for use by shrimp trawl vessels subject to its jurisdiction in order to reduce the incidental capture of sea turtles in shrimp trawl fishing operations to the greatest extent practicable, based on consultations with other Parties.

8. At the request of any other Party or of the Consultative Committee or the Scientific Committee, each Party shall provide, either directly or through the Secretariat, if established, scientific information relevant to the achievement of the objective of this Convention.

Annex IV: Annual Reports

The annual reports referred to in Article XI(1) shall include the following:

- a. A general description of the program to protect and conserve sea turtles and their habitats, including any laws or regulations adopted to achieve the objective of this Convention;
- b. Any pertinent new laws or regulations adopted during the preceding year;
- c. A summary of actions taken, and the results thereof, to implement measures for the protection and conservation of sea turtles and their habitats, such as: operation of turtle camps; improvement and development of new fishing gear to reduce incidental sea turtle capture and mortality; scientific research, including marking, migration, and repopulation studies; environmental education; programs to establish and manage protected areas; cooperative activities with other Parties; and any other activities designed to achieve the objective of this Convention;
- d. A summary of the actions taken to enforce its laws and regulations, including penalties imposed for violations;
- e. A detailed description of any exceptions allowed, in accordance with this Convention, during the preceding year, including monitoring and mitigation measures related to these exceptions, and, in particular, any relevant information on the number of turtles, nests, and eggs, as well as sea turtle habitats, affected by the allowance of these exceptions;
- f. Any other information the Party may deem relevant.

18TH ANNUAL SYMPOSIUM ON SEA TURTLE BIOLOGY AND CONSERVATION

The 18th Annual Symposium on Sea Turtle Biology and Conservation will take place on 3-7 March 1998 at El Cid Hotel in Mazatlan, Sinaloa, México. Your symposium hosts will be: Instituto de Ciencias del Mar y Limnología (UNAM); Facultad de Ciencias (UNAM), Universidad de Guadalajara (UdeG); Secretaría del Medio Ambiente, Recursos Naturales y Pesca (SEMARNAP); H. Ayuntamiento de Mazatlán; Comité Nacional para la Protección y Conservación de las Tortugas Marinas; Facultad Ciencias Marinas (UAS), and Acuario Mazatlán.

Registration will begin Tuesday, 3 March. Sessions will take place all day on 4-6 March and on the morning of 7 March. The Symposium plenary session will take place on Saturday, 7 March, followed by a meeting of the IUCN Marine Turtle Specialist Group. Prior to the Symposium, meetings of the Latin American Sea Turtle Specialists (28 February-3 March) and the Wider Caribbean Sea Turtle Conservation Network, WIDECAST (2-3 March) will take place as in years past. For more information on these meetings, contact Dr. Jack Frazier, CINVESTAV, A.P. 73 "Cordemex", Mérida C.P. 97310, Yucatán, México; fax: (52 99) 81 29 17, -19; email: frazier@kin.cieamer.conacyt.mx, or Dr. Karen Eckert, WIDECAST, 17218 Libertad Drive, San Diego, California 92127 USA; fax: (619) 451-6986; email: widecast@ix.netcom.com.

With regard to accommodations, please make your reservations directly with El Cid Hotel. Contact Mr. Einar Broden at tel: 1 (800) 525-1925, 1 (888) 733-7308; fax: (52 69) 14-13-11; email: sales@elcid.com. Prices are US\$ 75+tax for Std Rooms (2 DB, w/o kitchenette) and US\$ 180+tax for Suites (2 QB, 1 sofa, 2 bathrooms, kitchenette). Book early!

The Announcement and Call for Papers has been issued over the internet (CTURTLE, email). Full documentation is available in the Symposium home page at <http://ola.icmyl.unam.mx/tortugas> and is also being sent out by mail and fax to past Symposium participants. For those not registered last year (and/or who are unable to access the home page), please request a copy of the Announcement and Call for Papers from Jane Provancha, Symposium Secretary (DYN - 2, Kennedy Space Center, Florida 32899, USA; tel: (407) 853-3281; fax: (407) 853-2939; email: provancj@bonsmtp.ksc.nasa.gov). Pre-registration can be sent by fax to Jane Provancha or using the electronic formats available in the home page. Send abstracts for oral or poster presentations to Lic. Laura Sarti, Program Coordinator (Depto. de Biología, Facultad de Ciencias, UNAM, Circuito Exterior, Ciudad Universitaria, México D.F. 04510; tel: (52 5) 622 -4918; fax: (52 5) 622-4828; email: lsm@hp.fciencias.unam.mx) or Dr. F. Alberto Abreu; fax: (52 69) 81-36-96 or address below. Use of the electronic formats available in the home page is encouraged. Deadline for abstracts: 1 December 1997.

International air travel arrangements are being taken care of by Don Laver at Don For Travel (c/o Regency Travel, 1075 Duval Street #19, Key West, Florida USA 33040; fax: (305) 294-3631; email: DonForTravel@compuserve.com). Please contact him for the best airfares!

Limited financial aid is available. Priority will be given to participants presenting a paper or poster, who have not participated at previous Symposia, and who can demonstrate the availability of matching funds. Send your applications for support to the member of the International Travel Committee who represents your region of residence. For the Eastern Caribbean, USA and Canada, contact Dr. Karen Eckert, Committee Chair (see WIDECAST, address above). For Central and South America, contact Dr. Jack Frazier (see CINVESTAV, address above). For Asia and the Pacific, contact Ms. Marydele Donnelly, IUCN/MTSG, 1725 De Sales Street NW (Ste 500), Washington D.C. 20036; fax: (202) 872-0619; email: mdonnelly@cenmarine.com. For Europe and Africa, contact Dr. Brendan J. Godley, Div. Environmental and Evolutionary Biol-

ogy, Graham Kerr Building, University of Glasgow G12 8QQ, U.K.; fax: 44 (141) 330-5971; email: b.godley@udcf.gla.ac.uk. Students resident in México are eligible for travel grants; applications should be sent to Francisco de Asis Silva (UdeG), Centro de Ecología Costera, Gómez Farías 82, Apartado Postal 48-980, Melaque, Jalisco, México; fax: 52 (335) 56331; email: fasilva@costera.melaque.udg.mx. Deadline: 12 December 1997.

Last year, more than 700 participants from about 38 countries presented over 200 papers. This year we hope to beat that record! The central theme for the symposium is sea turtle conservation, and we hope to promote this goal through a multinational dialogue in which sea turtle scientists, managers and decision-makers from a broad range of backgrounds can listen, talk and offer their expertise and points of view. See you there!

F. ALBERTO ABREU GROBOIS, 1998 Sea Turtle Symposium President, Estacion Mazatlan, Instituto de Ciencias del Mar y Limnología (UNAM), A.P. 811, Mazatlan, Sinaloa 82000 MEXICO; tel: (52 69) 85-28-45; fax: (52 69) 82-61-33; email: abreu@ola.icmyl.unam.mx

HURRICANE PAULINE DESTROYED 40 MILLION SEA TURTLE EGGS IN THE OAXACAN BEACH OF MAZUNTE

The Mexican Center for Sea Turtles, unique in the world, was damaged [in October 1997] by Hurricane Pauline, although the worst damage was caused to the beaches where the chelonians arrive to lay their eggs. The Director of the Center, Javier Vasconcelos Perez, said in an interview that 90% of the Center's installations suffered some kind of damage. He pointed out that most of the buildings are now roofless. The Center's computer equipment is damaged, as are electrical installations, radio communication systems, and archives. Fortunately, the section of the aquarium that holds specimens of endangered sea turtles did not suffer any damage. "We will reestablish soon the attention given to the sea turtles", he said; although heavy damage was caused to the communities near the Center, help has been arriving. He said that the Secretary of Environment, Natural Resources and Fisheries (SEMARNAP) and the National Fisheries Institute (INP) promised to provide support to reestablish the Center.

Pauline affected almost the totality of the 806 thousand nests which had been registered this year. According to Javier Vasconcelos Perez, "the ecological damage is very severe, especially "La Escobilla" beach, which is considered one of the most important nesting beaches for the Pacific Ridley sea turtle in the world." He estimates that 50% of the nests were totally wind-blown by the hurricane; that is, 40 million eggs and 10 million hatchlings. There is hope that the adult population, which was not affected, will permit the recovery of the population. The nesting beaches which suffered the most damage are Chacahua, Llano Grande, Tierra Colorada, Morro Ayuta, Barra de la Cruz and La Escobilla.

"We expect the damage will be repaired in a natural way next year, but what had been accomplished with regards to the preservation of the species has been lost, so that it will be necessary to increase the vigilance in the nesting beaches," Javier Vasconcelos Perez said. He added, "The different species of turtles will have serious problems to nest in the future since the winds and rains "ate" the beaches and filled them with debris." Source: excerpted from *La Cronica*, 17 October 1997 (translation from the Spanish original was provided by Juan Carlos Cantu, TEYELIZ, A.C., MEXICO)

THREE TURTLE CONSERVATION GROUPS WIN CONSERVATION PRIZE

Three marine turtle conservation groups received the prestigious J. Paul Getty Wildlife Conservation Award in 1997. The \$50,000 prize — administered annually by World Wildlife Fund — is given for outstanding achievement in the conservation of wildlife and its habitats. This year's winners — Brazil's Fundação Pró-TAMAR, the Philippines' Pawikan Conservation Project, and Malaysia's Sabah Parks — have developed innovative approaches to protecting threatened turtles and their nesting habitats. "Through their multifaceted approaches, each of these groups have made marine turtle conservation part of the fabric of national life and national policy in their countries," said WWF President Kathryn Fuller. "This is the kind of effort necessary to ensure these magnificent creatures swim safely through the bottleneck of extinction into the next century."

Brazil's Fundação Pró-TAMAR (the Brazilian Marine Turtle Foundation) helped create a turtle conservation area that stretches along more than 600 miles of Brazilian coast, sheltering vital turtle breeding sites. The group hires fishermen who once poached eggs to help conserve them, works with residents to develop alternative income sources to poaching including nature tourism and handicraft production, and educates local communities about turtles' ecological value. The Philippines' Pawikan Conservation Project establishes turtle sanctuaries, and recently convened a symposium on marine turtle conservation that brought together sea turtle specialists from throughout Southeast Asia. Malaysia's Sabah Parks has released more than 4 million turtle hatchlings into the wild over the last 15 years and helped designate the nine islands of the Turtle Islands as a single protected unit. The group manages the 4,300-acre marine protected area known as Turtle Islands Park, which embraces three of the Turtle Islands.

The Getty Prize, which was created in 1974 by the late J. Paul Getty, will be split among the three turtle conservation groups, with \$25,000 going to the Brazilian project and \$12,500 going to each of the Asian turtle projects. Past winners include Dr. Jane Goodall, Sir Peter Scott, and the guards who protected Rwanda's mountain gorillas during the country's recent civil war. For more information, contact Gillian Haggerty, World Wildlife Fund, tel: (202) 778-9647, or visit the World Wildlife Fund web site, <http://www.wwf.org/>. Source: adapted from *Environmental News Network*.

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LEGAL BRIEFS

PROPOSAL TO DOWNLIST HAWKSBILLS FAILS AT CITES — Cuba's proposal to downlist its hawksbill turtle (Eretmochelys imbricata) population from Appendix I to Appendix II was defeated [by the 10th Conference of Parties to CITES, Harare, Zimbabwe], primarily because of management difficulties presented by the species' highly migratory nature. Concerns were raised that it is impossible to distinguish and manage a separate national population without taking into account the species' conservation needs in other parts of its range. Although Cuba was recognized as having strong conservation measures, the parties decided that the prospect of opening tortoiseshell trade from Cuba could severely threaten hawksbills throughout the Caribbean region. Source: *TRAFFIC(USA)* 16(2):4.

* * *

TURTLES PROTECTED IN MALAYSIA — The state of Pahang will join Terengganu, Malacca, Sabah and Sarawak, in Malaysia, in enforcing a ban on the sale and consumption of leatherback turtle (Dermochelys coriacea) eggs [starting] next year, according to an announcement to reporters gathered for a national seminar on turtles and terrapins in Cherating, Peninsular Malaysia. Under new fisheries rules, anyone caught in possession of the turtles' eggs could be fined up to RM1000 (US\$ 400), or gaoled for six months, while those harming the animals within five nautical miles of the beaches of Pahang without a permit from the State Fisheries Department will risk a RM2000 fine. Source: *New Straits Times* (Malaysia), 24 October 1996.

* * *

TURTLES INCREASE IN TONGALAND — The population of loggerhead turtles, Caretta caretta, on the Tongaland [South Africa] coast has doubled over 30 years, from an average of 200 females per season to well over 400. The leatherback, Dermochelys coriacea, has also seen a population increase from 21 females to an average of about 80. The sea turtle programme was started by the Natal Parks Board in 1963 and is the longest-running project of its kind. Source: *Africa Environment and Wildlife*, May/June 1996 [in *Oryx*, 1997, 31(1):19].

* * *

GREEN TURTLE SAFE AFTER LONG JOURNEY — (AP) "Stitch" the green sea turtle is headed to Sea World in Orlando following a remarkable journey that began in Bermuda

and ended on the beach at St. Simons Island [USA]. The young turtle ... was found dazed by low temperatures on the Georgia island on December 30 [1996]. From the metal tag attached to its front left flipper, scientists were able to determine it had traveled more than 1000 miles since being released from an aquarium in Bermuda last summer. Stitch had to swim against the powerful Gulf Stream with only three flippers.

It's the first confirmed case of a green turtle making that trip, said Heather Sarg, assistant curator at the University of Georgia Marine Extension Aquarium at Skidaway Island. The Georgia scientists discovered that the turtle was rescued off a Bermuda beach July 8, 1992, after it was attacked by a shark, which tore off its right front flipper. Veterinarians at the aquarium stitched up the wound — thus the name Stitch — and repaired a crack in its shell. Stitch remained at the aquarium until late last summer [1996], when it was tagged and released. At about 28 pounds and nearly 20 inches long, the young turtle ... [will not] be released again because it has been stranded twice and is missing a flipper, making it vulnerable. Source: *Miami Herald*, 26 January 1997.

* * *

NEW CITES CHECKLIST AVAILABLE — A new Checklist of CITES Species containing alphabetical lists of all animal species listed in the CITES appendices, as well as a large number of plant species, is now available. Common names in English, French and Spanish (where available) are also listed and cross-referenced to scientific names. The volume also includes the Convention text in the three working languages and sells for SFr35 plus SFr10.50 shipping charges. To order, please contact the CITES Secretariat, 15 Chemin des Anémones, Case Postale 456, CH 1219 Châtelaine, Geneva, Switzerland; Fax: +41 22 797 3417; e-mail: cites@unep.ch

* * *

BONES OF GIANT SEA TURTLE FOUND IN U.S. — The fossilized remains of one the largest known sea turtles, probably 20 feet (6 m) wide, have been found in South Dakota. The South Dakota School of Mines and Technology said the skeleton was found near the city of Pierre in a shale bank last month. The animal, called Archelon, had a shell 12 feet (3.6 m) across and from the tips of its flippers could have been 20 feet wide and more than double the weight of today's sea turtles, the announcement said. The turtle roamed the region toward the end of the age of dinosaurs, about 70 million years ago, when much of the area was covered by water. The fossilized bones are not the first Archelon found in the state but comprise one of the most complete remains yet uncovered, the school said. The skeleton eventually will be put on display at the school's geology museum. Source: *Reuter*, 30 September 1996.

* * *

SEA TURTLE POSTAGE STAMPS — A updated and comprehensive directory, *Sea Turtle Postage Stamps of the World*, is available on the internet at www.wired2.net/nlinsley/. The entire stamp list (and many images) can be viewed and the list pages can be printed out. For those without internet access, or if your browser is unable to display the list properly formatted, a new printed copy (1997) is available (in the U.S.) by sending a self-addressed 9 x 11 inch envelope affixed with US\$ 1.10 of postage to Nancy Linsley, 2625 American River Drive, Sacramento, California 95864.

INSTRUCTIONS FOR CONTRIBUTORS

The *Marine Turtle Newsletter* (MTN) publishes manuscripts that deal largely or exclusively with marine turtles. The aims of the MTN are: (1) to provide a forum for exchange of information about all aspects of marine turtle biology and conservation, and (2) to alert interested people to particular threats to marine turtles, as they arise (Mrosovsky, 1976, MTN 1:1). The MTN is published quarterly (January, April, July, October) and is distributed free of charge to all interested persons. To the extent that donations are sufficient to meet the need, the policy of free distribution will continue. Manuscripts should be sent to the Editors. Manuscripts should be composed in English, legibly typewritten, and double-spaced (8 pages maximum, including references and figures). Please include author name, affiliation, and complete address. Tables and figures must include brief captions. Graphics should be clear and "camera ready" (large lettering is appreciated since most figures are reduced before printing). Manuscripts submitted on disk can be in any IBM-compatible format. Electronic text can be sent to: widecast@ix.netcom.com or seckert@hswri.org. Editors retain the privilege of soliciting peer comment and may request that the author(s) revise their manuscript according to comments received.

The MTN welcomes the results of original research, field survey findings, advances in field and laboratory techniques, book reviews, and informal status reports from research/conservation/management programs with sea turtles around the world. In addition, notes on changes in the legal status of sea turtles, public awareness programs, the availability of new educational materials (include the name and address of the distributor and cost, if applicable), job announcements (paid or volunteer), and notification of newly published scientific papers, technical reports and academic theses are all appropriate contributions. Readers are also encouraged to alert the *Newsletter* to letter-writing campaigns and other activities which may need the support of the global sea turtle research and conservation community. Finally, the MTN serves as a conduit for debate and discussion and welcomes contributions on any aspect of the legal or scientific status of sea turtles, or on conservation philosophy. In order to be considered for publication in the upcoming issue, contributions must reach the Editors by the first of the month preceding (i.e., 1 December, 1 March, 1 June, 1 September). KLE/SAE.

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