

# Marine Turtle Newsletter

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Amelanistic (lower) and normal (higher) hatchlings from a green turtle nest laid 01 April 2006 on Rosalie Beach, Dominica W.I. (Photo: Rowan Byrne)

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## Editorial: New Editors for MTN!

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Well the time has finally come, after 8 years and 33 issues, for us to pass on the Editorship of the Marine Turtle Newsletter. We are delighted that Lisa Campbell (Duke University, USA) and Matthew Godfrey (North Carolina Wildlife Resources Commission, USA) have agreed to take over the helm. Having served on the Editorial Board of the *MTN* they know the challenges they face, the deadlines, the harassment and the rewards! We know that they will continue to improve the *MTN* over the coming years. We wish them all the best and, of course, will still be here to help!

When we first took on the *MTN* in 1998 we had both only recently finished our doctorates and had no children! Now we have two! Our IT skills were limited, email was only just becoming the norm in the UK, we had to learn desktop publishing, editing skills and our first purchases were a home computer, printer and set of dictionaries! In the first few months, after hundreds of emails from our predecessors Karen and Scott Eckert, we were beginning to wonder what we had taken on. It was all rather daunting! It has been an amazing time for us, a steep learning curve, and we would never have achieved all that we have without the skills and efforts of Michael Coyne. Michael was the driving force behind getting the *MTN* online, and as SEATURTLE.ORG has grown he has also taken over maintaining the mailing list, dealing with all the finances and the printing. Karen and Scott did not have a Michael! We are not sure how they did it all for 10 years! Thankfully Michael will remain as online editor – we hope forever!

There are many many people to thank over the course of our Editorship, a cast of hundreds! Most notably, however, we must thank our Editorial Board Members who are often asked to review articles, or proof read the *MTN*, with very short notice! They have included:

Nicholas Mrosovsky (Founding Editor)  
Karen Eckert (Editor Emeritus)  
George Balaz  
Lisa Campbell  
Angela Formia  
Jack Frazier  
Matthew Godfrey  
Colin Limpus  
the late Peter Lutz  
Roderic Mast  
Jeff Miller  
Nicolas Pilcher  
Anders Rhodin  
Kartik Shanker  
Manjula Tiwari  
Roldan Valverde  
Jeanette Wyneken.

For their sterling efforts, we thank Angela Mast and her team (Rod Mast, Cristina Mittermeier, Ricardo Zambrano) who translated and also produced the Spanish version, *Noticiero de Tortugas Marinas*, until 2002. A labour of love! Karen Bjorndal, Alan Bolten and Peter Eliazar of the Archie Carr Center for Sea Turtle Research have sent us amazingly punctual and thorough recent publications throughout our 8 years and we very much hope that they will continue this fantastic service, one of the most important aspects of the *MTN*. We are very grateful to Kelly Samek who has compiled the News and Legal Briefs section of the *MTN* since 2000 and always had it ready on time. A big thanks to Anders Rhodin and the Chelonian Research Foundation for seeing us through the first 4 years by handling the finances and mailing list of the *MTN*. Michael Coyne's team for their html skills. All of those excellent referees who did speedy reviews of articles, and those who did slower ones!

And of course a huge thank you to all of the funding bodies and individual sponsors who support the *MTN*, without whom the *MTN* would become a purely online facility and perhaps not reach those who most need it.

So, back she goes across the Atlantic.....back to where she started, which leads us to thank Nicholas Mrosovsky, Founding Editor of the *MTN* way back in 1976. Nicholas still reads each issue of the *MTN* with a fine tooth comb, sending us regular comments on his likes and dislikes and provides much thought provoking material! Keep it coming!

In his first editorial he wrote:

*The aim of this newsletter is:*

- 1) to provide a forum for exchange of information about all aspects of marine turtle biology and conservation*
- 2) to alert interested people to particular threats to marine turtles, as they arise.*

We hope that this is still the case and urge you all to get out those books full of data, write those articles, and share your experiences with the rest of the sea turtle community. We know there are lots of opinionated people out there! Keep the new editors busy!

The new editors will be contactable on MTN@seaturtle.org

# Hawksbill and Olive Ridley Nesting on Masirah Island, Sultanate of Oman: an Update

ALan F. Rees<sup>1</sup> & Sonja L. Baker<sup>2</sup>

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Masirah Island is internationally known for its loggerhead *Caretta caretta* turtle nesting population considered one of the largest in the world (Ross 1998). However, in total, four species of sea turtle nest on the Island; the others comprising of green *Chelonia mydas*, hawksbill *Eretmochelys imbricata* and olive ridley *Lepidochelys olivacea* turtles. Each species utilises specific beaches and seasons within the year, but with some overlap. Notably, hawksbills and olive ridleys nest in the winter and spring months whereas the loggerhead and green turtles nest in the summer and autumn (Ross & Barwani 1982).

Hawksbill and olive ridley nesting on Masirah Island was first studied, in detail, in the late 1970s as part of a comprehensive sea turtle survey of the Sultanate of Oman (Ross 1981). This three season survey identified the nesting populations, which had not been previously reported. The annual nesting populations were estimated at 92-124 hawksbills (Ross 1981) and 150 olive ridleys (Ross & Barwani 1982). Both species were observed to nest on Masirah's southern beaches. Hawksbills were found to concentrate their nesting on Omedu beach and olive ridleys on others (Ras abu Rasas and World Jury Beach), however there was overlap, with olive ridleys nesting on the hawksbill beach and vice versa. The nesting of these species on the same beaches is considered rare according to Prichard and Mortimer (1999).

Since this early survey, no further studies have been undertaken to monitor the hawksbill and olive ridley nesting. More recent turtle monitoring on Masirah has been restricted to the loggerhead and green populations (Baldwin 1992; Clark 2003; Ross 1998). In recent years, a team of wildlife rangers have been charged with monitoring the turtle populations but again the focus has been mainly on the large loggerhead population and the green turtle that is hunted for food.

As part of a three year project to assess and evaluate sea turtle populations in Masirah Island as well as establish a sustainable, general management plan for the Island and surrounding areas (Barr Al-Hikman and the Islands in the Masirah Channel), Masirah's southern beaches were surveyed between January and March 2006. Turtle nesting levels were assessed together with the threats facing both the adult turtles and their nests.

The southern beaches were historically named and divided using geographical divisions based on prominent landmarks (Baldwin 1992; Ross 1981). More recently, permanent marker posts have been placed to subdivide the coast. We used a combination of these two methods to identify nesting beaches and subdivide longer beaches into shorter sections. For our study, nesting beaches were grouped into three main areas: 1) the South West (SW) beaches (20°12.84'N, 58°38.03'E to 20°09.01'N, 58°38.21'E) that correspond to "Omedu" beach (Ross 1981), a beach to its north and "Ras abu Rasas" beach (Ross 1979) to its south; 2) the South East (SE) beaches (20°09.96'N, 58.38.39'E to 20°10.68'N, 58°39.91'E) that incorporate "World

Jury Beach" and "World Jury Beach East" (Baldwin 1992); and 3) the Ras Shibani beaches (20°10.86'N, 58°39.98'E to 20°13.21'N, 58°43.38'E) that extend eastwards from the South East beaches after a short section of rocky shore and are divided with permanent beach markers into approximate 2km stretches (Figure 1).

None of the beaches exhibit significant development. There are a few, seldom-used, wooden fishermen's huts near a fish landing area on the South West beaches and a further three fish landing areas on the Ras Shibani beaches. A coastal road, circling the island, used to be a rough dirt track and now has been almost completely paved on the west coast with progress made round the southern tip of the island to the south east beaches. The intention is to pave the entire ring road.

## Methods

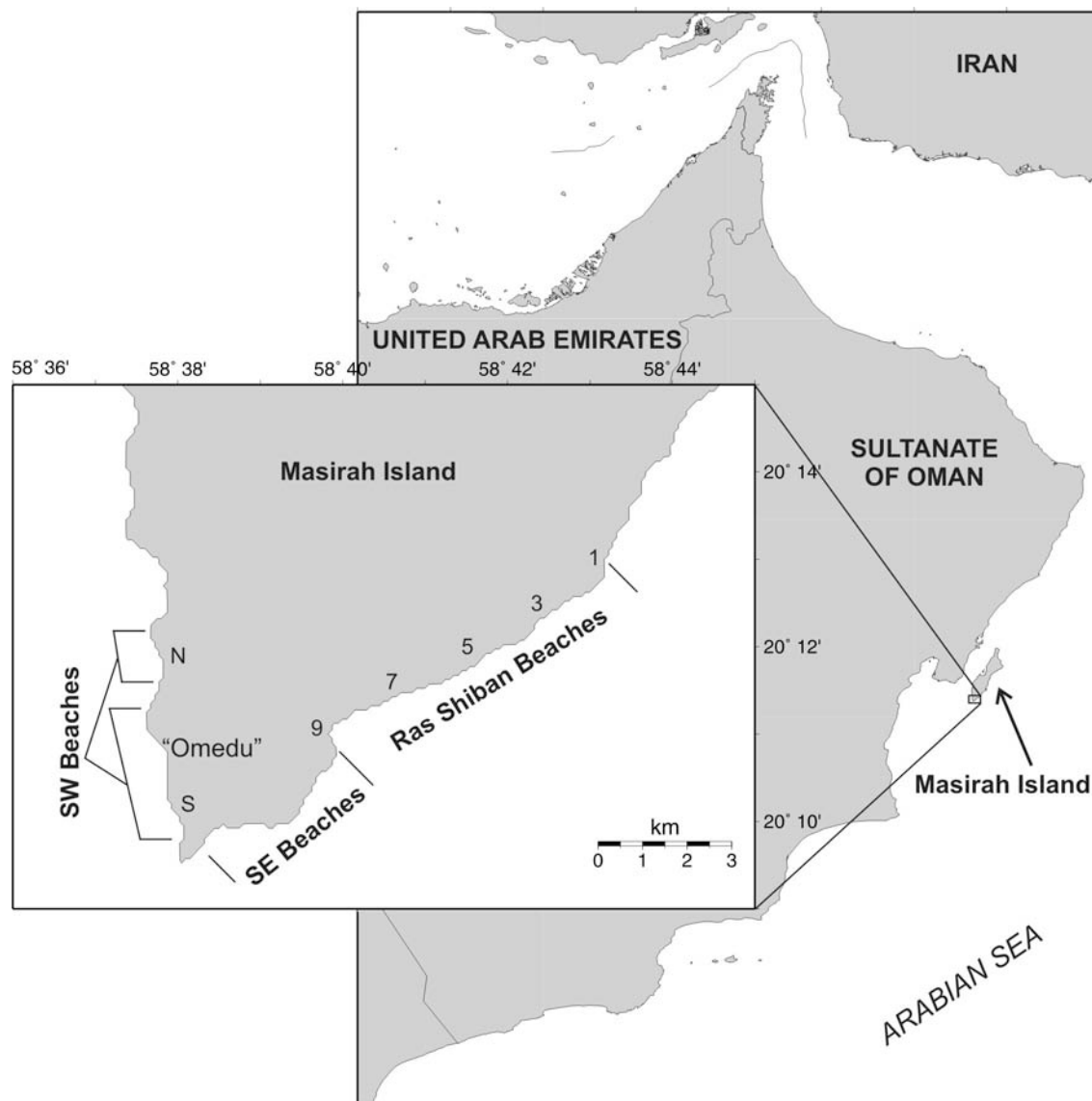
Day-time beach surveys, to record adult tracks as nests, were carried out on foot or using a 4x4 all terrain vehicle (ATV) on Masirah's southern beaches (Figure 1) between January 5 and March 26, 2006. The monitoring period did not cover the entire nesting season for either species. Using data from Ross and Barwani (1982), approximately 85% of the hawksbill and 50% of the olive ridley nesting season was covered.

Adult turtle emergences were classified and nesting or non-nesting depending on the appearance of the track. Egg deposition was not confirmed through uncovering the eggs in each nest as the researchers have much experience at observing and assessing nesting activity where subsequent clutch verification is undertaken. In order to not re-record turtle emergences, each new track was marked by scraping a line through it, near the top, and was driven over, above the high tide line, by the ATV. Opportunistic nocturnal surveys were undertaken for limited hours, mainly in March, to identify nesting turtle species so that individual tracks could be firmly assigned to a specific species. Beach surveys were usually made at 1 to 3 day intervals, but on two occasions the beaches were not monitored for up to 7 days.

## Results and Discussion

Although hawksbill and olive ridley nesting is evidently concentrated on the southern beaches, sporadic nesting by hawksbills on other beaches, as noted by Ross (1981), was again documented through photographic identification of individuals that nested near Ras Hilf at the extreme north of the Island.

Fifteen turtles were observed during the nocturnal surveys on Omedu and the SE beaches. One turtle of each species was seen on the SE beaches and six olive ridleys and seven hawksbills were seen on Omedu beach. This confirmed that both species of turtle were still nesting on Masirah. However, as so few turtles were observed and the tracks could not be assigned to a specific species, no estimate for the proportion of nests contributed by either species can be made



**Figure 1.** The monitored southern beaches of Masirah Island shown in their regional setting.

and hence all nesting activity was pooled for analysis.

A total of 462 nests from 752 emergences (61.4% nesting success) were recorded on the monitored beaches (Table 1), however, nesting activity was not evenly distributed in time or space. Nesting levels were low in January and increased through February and March (Figure 2) as found by Ross and Barwani (1982). Nesting activity on the SW beaches was concentrated on Omedu beach with 66 nests/km, the SE beaches were the most densely nested area with 94 nests/km and nest density dropped from west to east along the Ras Shibian beach which ranged from 35 to 7 nests/km (Table 1). There was no obvious reason for the distribution of nests. The long Ras Shibian beach is quite uniform along its length providing no indication why the western side was preferred, but from limited observations, hawksbills seemed to prefer beaches with off-shore rock or coral reef.

On Masirah, olive ridleys and hawksbills have been observed to make a maximum of 3 nests/season (Ross 1979, 1981). Using this number of nests per individual we calculate there were at least 154 turtles nesting in 2006. Hawksbills have an average interesting

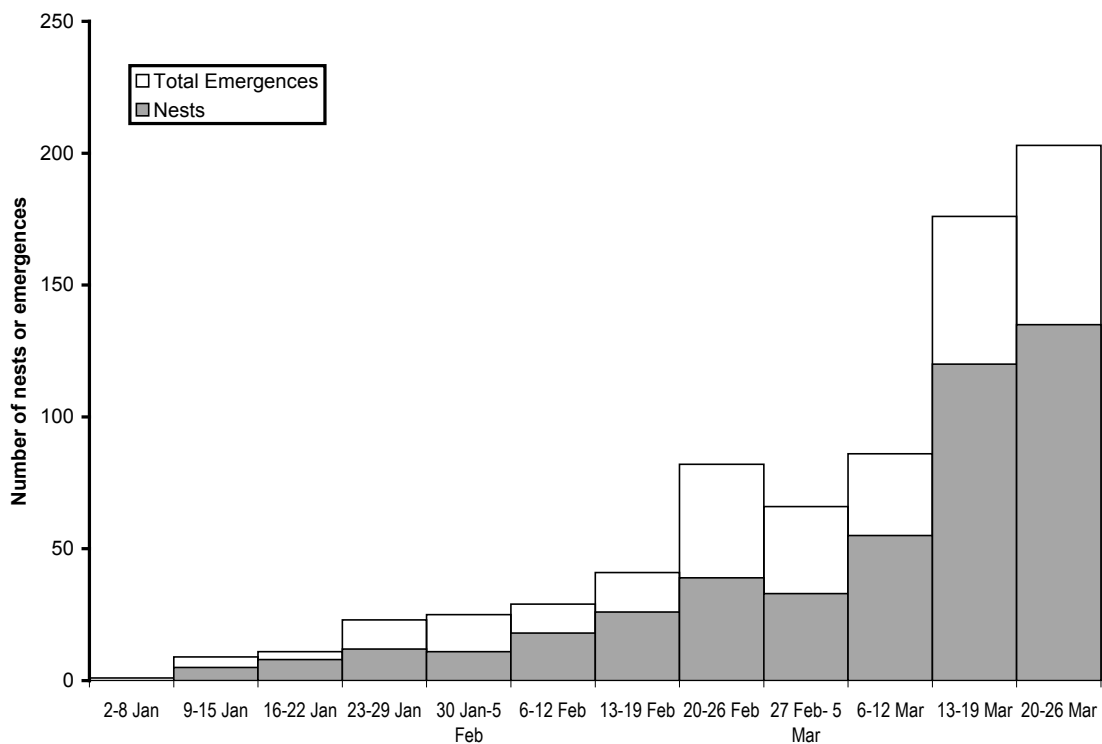
interval of 14.5 days (Miller 1997) and olive ridleys on Masirah were found to have a 21 day interesting interval (Ross 1979) and hence the total number of nests made in 14 days should provide a conservative maximum estimate for population size. By this method it is estimated there were over 250 turtles nesting in 2006. The estimated nesting population size for 2006 is therefore 150-250 turtles.

The combined hawksbill and olive ridley yearly nesting population had been roughly estimated to range from 240-275 turtles (Ross & Banwari 1982) and our results place the population still in the lower part of this range. Caution must be used when comparing our results with previous studies, particularly because we were unable to distinguish species and an increase in one population may mask a decrease in the other.

During the survey period, seven attempts at poaching turtle nests were recorded, equating to 1.5% of the nests laid. Additionally, one nesting turtle was poached from the beach, based on observing an "up track" ending in a pit and whence a large drag mark with a set of footprints on either side lead to vehicle tracks at the top of the

	<i>Beach length (km)</i>	<i>Nests</i>	<i>Emergences</i>	<i>Nesting success (%)</i>	<i>Density (nests/km)</i>
Southwest Beaches N	1	11	28	39.3	11
Southwest Beaches "Omedu"	1	66	133	49.6	66
Southwest Beaches S	1	36	71	50.7	36
SE Beaches	2	188	301	62.5	94
Ros Shiban 9-7	2	70	94	74.5	35
Ros Shiban 7-5	2	50	66	75.8	25
Ros Shiban 5-3	2	27	41	65.9	14
Ros Shiban 3-1	2	14	18	77.8	7
Overall	13	462	752	61.4	36

**Table 1.** Spatial distribution of sea turtle nesting activity on Masirah's southern beaches, 2006.



**Figure 2.** Temporal Distribution of sea turtle nesting activity on Masirah's southern beaches, 2006.

beach. The other main anthropogenic threats observed were dumping or drying of fishing nets on the beaches and vehicles traversing the beach at fish-landing sites. None of these problems were extensive, affecting only a small proportion of the nests and turtles. However, poaching should be deterred, the beaches should be cleaned of problematic rubbish, vehicle traffic should be minimised on the beach year-round as loggerheads and green turtles use these beaches to nest in other seasons (Clarke 2003) and fishermen should be encouraged to dry their nets away from the nesting habitat to ensure maximum survival chances for the turtle populations.

Natural potential, threats to nests and hatchlings that were observed included the presence of numerous ghost crabs (*Ocypode* spp.) on the nesting beaches and the possibility of nest flooding or

destruction by high tides and beach erosion with nest flooding most likely to be the worst threat. However, no incidences of ghost crab predation on hatchlings, or nests exposed due to beach erosion were observed during the study period.

### Conclusions

This study indicates that hawksbill and olive ridley nesting still occurs in low but significant numbers on Masirah Island. However, more focused studies on certain beaches, to repeat the early population assessments, should be undertaken to make better estimates of the proportion of nests that can be attributed to either species. Specifically, in February, March (and possibly April) Omedu beach of the South West group should be closely monitored

as it is believed to host the majority of hawksbill nesting on the Island and the 2km of the SE beaches should be monitored for the majority of the olive ridley nesting from February to April. In this way approximately 55% of the nesting activity would be recorded through monitoring only 3km (23%) of the nesting habitat.

The southern beaches are currently undeveloped and suffer none of problems caused by construction for habitation, tourism or industry. They should be kept this way to protect the turtle populations. However, improved access to the southern beaches afforded by the ongoing road upgrading may bring pressure on the local community to create facilities for visitors to the area and encourage development. If development must occur it should be undertaken in a “turtle friendly” manner that does not adversely affect the nesting populations.

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# Preliminary Data and Observations from an Increasing Olive Ridley Population in Sergipe, Brazil

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In the western Atlantic, olive ridleys (*Lepidochelys olivacea*) have a relatively limited distribution and nest primarily in Suriname/French Guiana and on mainland Brazil (Fretey 1999). Olive ridley nesting in Suriname has greatly declined over the past 40 years and recent reports from French Guiana indicate more nests than earlier recorded, but the population trend remains uncertain (Hoekert *et al.* 1996; Marcovaldi 2001). The major nesting areas for olive ridleys in Brazil occur in the States of Sergipe (da Silva *et al.* 2003) and Bahia (Marcovaldi & Laurent 1996); no indication of arribadas in Brazil is found in the oral accounts of older fishermen or in historical records. When TAMAR, the Brazilian sea turtle program, began working in this region in 1982, nearly 100% of the nests were being collected for human consumption in Sergipe, which supports the densest olive ridley nesting in Brazil (Figure 1). Concurrent with TAMAR's intensive monitoring and conservation work there has been a rapid increase in this population over the past two decades promoting the area to a status of regional importance (Castilhos pers. observ.). **With the significant increase in the annual number of nests and a subsequent increase in monitoring effort, we believe that an update is warranted.** Here we report some data on renesting intervals, distance between consecutive nests, average weight of females and weight loss between nesting events, carapace length as well as some observations on nesting behavior from the 2004/2005 nesting season in the State of Sergipe.

The coastline of Sergipe is composed of high energy beaches with an open, rock-free offshore approach. Beaches are backed by coastal sand dunes and in some areas lagoons are located relatively

close to the dunes; several major rivers discharge on this coastline. Nesting takes place during the Brazilian summer from September to March; loggerheads (*Caretta caretta*), hawksbills (*Eretmochelys imbricata*) and green turtles, (*Chelonia mydas*) also nest on these beaches, but almost 90% of the nests are laid by olive ridleys. TAMAR maintains three stations in Sergipe at Ponta dos Mangues, covering 36 km, Pirambu, covering 53 km, and Abais, covering 36 km (Figure 1). The most intensely monitored area of the 135 km total is in Pirambu. Night patrols, conducted at low tide or during falling tide between 1 October 2004 and 15 March 2005, covered only the northern 26 km, with most effort concentrated on 12 km of beach and extended to the remaining 14 km if tidal conditions permitted. Females encountered were measured for curved carapace length (CCL) from the middle of the nuchal notch to the posterior tip of the supracaudals and tagged with inconel tags on the front flippers. Females were weighed with a Filizola digital balance, which had a maximum capacity of 500 kg. **The beach was marked by stakes at every kilometer and the location of the nest noted.**

Of the 226 ridleys encountered during the night patrols, the renesting interval of 18 olive ridleys was noted. The renesting interval was between 19 and 40 days (Table 1). In the literature, the renesting interval for ridleys lies between 14 to 75 days and appears to be governed by environmental factors (Plotkin *et al.* 1997; Pritchard 1969; Schulz 1975). Using 14 days as the minimum renesting interval in olive ridleys, some of the intervals recorded i.e. 27, 29, and 40 days (Table 1), may potentially include one or more missed nesting events. The mean distance between consecutive nests of these females was estimated to be 5 km (SD = 2.7, range = 1-11 km, n = 18). The mean weight of these females after egg deposition, the first time they were encountered, was 41.3 kg (SD = 4.7, range = 33.8-56 kg, n = 18; Table 1). On the subsequent nesting encounter their mean weight was 39.5 kg (SD = 3.9, range = 33.8-52 kg, n = 18; Table 1). These values are higher than mean female weights recorded in Suriname after nesting (mean = 35.7 kg, n = 14; Pritchard 1969) and greater than or similar to female weights from Mexico (mean = 39.25 kg, n = 136) depending on whether mean weight from the first or second encounter is compared, but lower than weights recorded for females in India (mean = 49.5 kg, n = 108; Marquez 1990). Nesting females had lost body weight on their subsequent nesting event (n = 16) apart from two females who indicated no weight loss; mean weight loss was 1.8 kg (SD = 1.1, range = 0-4 kg, n = 18; Table 1) and may reflect reduced feeding at the nesting beach.

Although most of the nesting has been found to take place at night, on some days turtles were found to nest in the afternoon, as early as 1550 hours. Observations indicate that early nesting occurred on very windy days. It is hypothesized that this may be a strategy to prevent predation of the shallow olive ridley nests because all



Figure 1. Areas monitored for olive ridley nesting in Sergipe, Brazil.



Date of first encounter	Weight (kg) at first encounter	Date of second encounter	Weight (kg) at second encounter	Difference in weight (kg)	Renesting interval (days)	CCL (cm)
20-Nov-04	56.0	11-Dec-04	52.0	4.0	21	78.5
14-Jan-05	44.4	12-Feb-05	41.2	3.2	29	73.5
01-Dec-04	43.2	21-Dec-04	41.6	1.6	20	73.0
02-Dec-04	40.4	22-Dec-04	37.8	2.6	20	69.0
21-Dec-04	44.0	09-Jan-05	42.6	1.4	19	73.0
25-Dec-04	37.8	14-Jan-05	37.0	0.8	20	69.5
03-Jan-05	39.4	30-Jan-05	37.2	2.2	27	68.0
19-Nov-04	40.0	10-Dec-04	37.8	2.2	21	71.0
29-Nov-04	39.6	20-Dec-04	38.7	0.9	21	69.0
07-Dec-04	37.8	30-Dec-04	36.2	1.6	23	71.0
19-Nov-04	40.8	11-Dec-04	38.6	2.2	22	72.5
10-Jan-05	37.8	01-Feb-05	37.2	0.6	22	70.5
12-Jan-05	46.0	21-Feb-05	43.4	2.6	40	73.3
23-Jan-05	41.2	11-Feb-05	38.4	2.8	19	70.5
15-Jan-05	37.8	05-Feb-05	37.8	0.0	21	70.5
01-Feb-05	42.8	21-Feb-05	41	1.8	20	71.5
07-Mar-05	33.8	29-Mar-05	33.8	0.0	22	68.0
02-Mar-05	40.6	29-Mar-05	38.6	2.0	27	69.8

**Table 1.** Weights of olive ridleys after nesting, weight loss between nesting events, renesting interval, and curved carapace measurements.

evidence of nesting on the sand surface was estimated to disappear within 15 to 20 minutes; the crab-eating fox (*Cerdocyon thous*) is the main nest predator in this region. In Mexico, sand blowing in the wind has been suggested to deter predators from accessing the beach (J. Seminoff, pers. comm.). However, this requires quantitative evaluation as several other factors may contribute to early nesting. Nevertheless, it is interesting to note that ridley arribadas in Rancho Nuevo, Mexico, and Eilanti, Suriname, have also been observed to take place during periods of strong wind, and were even delayed until the wind had picked up (J. Seminoff pers. comm.; Pritchard in press; Schulz 1975). No correlation between wind speed or temperature and arribada timing was found by Cornelius (1991) in Costa Rica.

With the loss of arribadas in Suriname, monitoring of this increasing olive ridley population in Brazil will provide important information on olive ridleys in the Atlantic. The major threat to this population is from shrimp trawlers in these waters because coastal Sergipe is an important shrimping area (da Silva pers. comm.). An adult female with fully developed eggs that stranded on the beach during the nesting season was found to have shrimps in its esophagus suggesting a potential overlap in feeding and fishing areas (Castilhos pers. comm.). Therefore, the continued survival of this population depends in part on mitigating olive ridley bycatch in these waters.

*Acknowledgements.* We would like to thank the fishermen, local agents and Pirambu's communities for their collaboration with the conservation program. Special thanks to Pirambu's Station Biologist (Marilda I. Weber) and the trainees/university students (Fabio Picinato and Lelia Matos) who helped to collect the data. Projeto TAMAR, a conservation program of the Brazilian Ministry of the Environment, is affiliated with IBAMA (the Brazilian Institute for the Environment and Renewable Natural Resources), is co-managed by Fundação Pró-TAMAR and officially sponsored by Petrobras. Our thanks to M. Godfrey, J. Seminoff, and L. Soares e Soares who commented on earlier drafts.

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# First Report of Green, *Chelonia mydas*, and Kemp's ridley, *Lepidochelys kempii* Turtle Nesting on Wassaw Island, Georgia, USA

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The loggerhead sea turtle (*Caretta caretta*) is the most commonly observed marine turtle species to nest in Georgia, USA (Frick *et al.* 2002). Green turtles (*Chelonia mydas*) and leatherback turtles (*Dermochelys coriacea*) also nest within the state (Rabon *et al.* 2003; M. Dodd personal communication). To date, loggerhead turtles and a single leatherback turtle have been reported to nest on Wassaw Island (Chatham County), Georgia (Frick *et al.* 2002). Here, we report nesting by two additional sea turtle species on Wassaw Island: a green turtle and a Kemp's ridley (*Lepidochelys kempii*). Additionally, we provide data on hatching success and hatchling size for both species as well as morphometric and epibiont data for each nester.

On 4 August 2003 the first green turtle to nest on Wassaw Island since monitoring began in 1973 was encountered at 2115 h. The turtle was tagged with inconel flipper tags (SSX-747/SSX-743) and a PIT tag (#407B1E0A7F) was implanted in her right-front flipper. She measured 102 x 97 cm (curved carapace length and width (CCL/CCW)) and hosted the following epibiont species: barnacles (*Platylepas hexastylus* and *Chelonibia caretta*) and leeches (*Ozobranchus brachiatus*).

The green turtle deposited 151 eggs, of which 144 hatched 60 days later (95.4 % hatch rate). The morphometrics and weights of twenty hatchlings were recorded. The average size (straight measurements using Vernier calipers) and weight, including range, of the hatchlings were as follows: mean carapace length = 51.4 mm (range = 49 - 54.5 mm), mean carapace width = 37.9 mm (35 - 40.5 mm), mean depth = 21.5 mm (20 - 23 mm), and mean weight = 30.0 g (29 - 39 g).

On 24 June 2005 we encountered a nesting Kemp's ridley at 1400 h. The turtle was measured (71 x 74 cm CCL/CCW), tagged with inconel flipper tags (SSX-707/SSX-456) and implanted with a PIT tag in the right front flipper (#444F0C556A). Biopsy samples were taken from each side of the neck for isotopic analyses being conducted by the Archie Carr Center for Sea Turtle Research in Gainesville, Florida. The turtle was largely free of epibionts but did host a few specimens of the barnacle *C. testudinaria* along the sutures between costal scutes near the posterior region of the carapace.

The Kemp's ridley laid 126 eggs of which 36 hatched 48 days later (29 % hatch rate). Four hatchlings that were encountered during nest excavation were weighed and measured. The average size and weight, including range, of the hatchlings were as follows: mean carapace length = 38.1 mm (37 - 40.5 mm), mean carapace width = 29.3 mm (27 - 32 mm), mean depth = 18 mm (17 - 19 mm) and mean weight = 17.1 g (16.1 - 18.2 g).

Records of sea turtle species, other than loggerheads, that have nested on beaches north of Florida have been reported before. Rabon *et al.* (2003) summarizes such accounts for leatherback turtles and Woodson and Webster (1999) present similar data for green turtles. Two reports by Anonymous (1992) and Bowen *et al.* (1994) describe nesting by Kemp's ridleys in South Carolina and North Carolina, respectively. Ours is the first report of a Kemp's ridley nesting in Georgia.

Interestingly, from 1973 to 2001, only loggerhead sea turtles were observed nesting on Wassaw Island. Since 2001, three additional species have been encountered nesting on the island. The factors surrounding this sudden increase in nesting sea turtle diversity on Wassaw Island are unclear. There are several possible reasons why these species have been documented for the first time on Wassaw Island. For instance, green and Kemp's ridley nesting has increased dramatically in Florida and Mexico, respectively. The green turtle may be expanding its range to the north as nesting numbers increase in Florida. Similarly, increases in the Kemp's ridley population in the Gulf of Mexico and northwest Atlantic may increase the chances of a random nesting event on the Atlantic coast.

*Acknowledgements:* We thank Randy Isbister, Charles Warnock, Robert A. Moulis, the U.S. Fish and Wildlife Service - Savannah Coastal Refuges, the Wassaw Island LLC., the Georgia Department of Natural Resources, Peter Eliazar and the Archie Carr Center for Sea Turtle Research. We also thank two anonymous reviewers for their helpful suggestions and revisions which improved the manuscript.

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## LETTERS TO THE EDITORS:

### Cuba: Who Won? The Hawksbills?

Dear Editors,

It will not be so long before the next round of CITES is upon us. Whether or not there will be proposals relating to sea turtles, we do not know at this stage. Nevertheless, it may be worth reflecting, in the relatively quiet period, before the sometimes adversarial atmosphere of CITES meetings develops, on whether past events at CITES have been beneficial. For those who see the absence of a Cuban CITES proposal in 2004, following on it narrowly missing the required two thirds majority on two previous occasions, as a victory for conservation, one may recall words written in 1985 by Frazer after the defeat of other CITES proposals for utilization of turtles:

*... the defeat of a proposal is not a victory unless that proposal is replaced with another that is more likely to have a positive impact.... Whether we agree or disagree with ranching or farming, we must understand that the defeat of these proposals is no victory unless they are replaced by other programs with equal or better provisions for: (a) raising revenue to support the program, (b) assessing and ameliorating its socio-cultural effects on local human populations, and (c) ensuring that the intended program does, in fact, have a positive impact on sea turtles.*

Has the rejection of the Cuban proposals had a positive impact? It is not evident the management and conservation of hawksbills has improved. They are still taken, illegally and legally, in many parts of the Caribbean. In Cuba itself, with its long coastline and extensive hawksbill habitat, it is not obvious that there has been better enforcement of regulations or amelioration of incidental catch. Webb and Manolis (2002) let their imagination stray to a different scenario:

*Let us imagine for a moment - wild speculation - that the MTSG and the IUCN had supported Cuba in 1997. That they had welcomed Cuba's commitment to conservation, management and sustainable use, its leadership in research, and indeed, its tight embrace of the IUCN Mission. The last 5 years would then have seen major advances in hawksbill research, conservation and management in Cuba, with increasing levels of regional cooperation and commitment.... Had the MTSG genuinely tried to help Cuba, as the CSG would have done, and indeed did do with Cuban crocodiles - a species with a global wild population perhaps less than 1% of the wild hawksbill population - how much could have been achieved? Would Cuba's turtle program still be fighting for survival against competing needs for resources?*

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### Cayman Island Turtle Farm: Under Fire by Conservationists

Dear Editors,

A diverse coalition of international NGOs from the USA and Europe, initiated by the Caribbean Conservation Corporation (CCC) and the Mediterranean Association to Save the Sea Turtles (MEDASSET), are condemning the UK government for approving a contentious shipment of 20 endangered green sea turtles from the Cayman Turtle Farm (CTF) to Sea Life Centres in England (3<sup>rd</sup> March 2006). A joint letter has been sent to the Ministers of Environment of France, Belgium, the Netherlands and the Convention on International Trade in Endangered Species (CITES) authorities in each country, pressing them to censure the UK authorities and to prevent planned onward shipment of turtles to their countries. Joining the Government of Costa Rica in its objections, the group labelled the shipment as a violation of CITES.

The Cayman Turtle Farm, a government-owned facility, has a history of working to reopen international markets for sea turtle products. In its latest attempt to be registered under CITES as a captive-breeding facility, which would authorize international trade of turtle products from the farm, the farm failed to meet the required criteria. In particular, evidence submitted by the Government of Costa Rica showed that at least some of the founding stock was taken illegally from that country. The Farm also could not show its activities benefited wild populations. When CITES delegates indicated a lack of support for the CTF application, the UK withdrew the proposal that was submitted on behalf of the Cayman Islands.

The Cayman Farm's policy of releasing a portion of its overflow of juvenile turtles into surrounding waters could pose serious threats to wild turtle populations. The Farm has yet to produce any scientific studies on the ramifications of crossbreeding various genetic stocks of green turtles and then having these hybrids released to mate with wild populations. There is also concern among sea turtle scientists and conservationists that diseases occurring in Cayman Farm-raised turtles could be spread to wild populations.

Objections to the Turtle Farm by conservationists extend only to those actions that have the potential to affect wild populations in the broader Caribbean and undermine international conservation efforts. These include releasing farm-raised turtles into the wild and re-establishing international demand for either turtle meat or shell products. Although the Farm may intend to feed that demand with only farm-raised animals, in reality such demand will inevitably lead to clandestine harvesting and the re-opening of black markets for wild turtles.

**MEDASSET**-Mediterranean Association to Save the Sea Turtles, 24 Park Towers, 2 Brick St., London W1J 7DD, U.K. <[medas-set@medasaset.org](mailto:medas-set@medasaset.org)> & **Caribbean Conservation Corporation**, 4424 NW 13th Street, Suite A-1, Gainesville, FL 32609 <[david@ccturtle.org](mailto:david@ccturtle.org)>.

## Cayman Turtle Farm – A Response To NGO Comments

Dear Editors,

Thank you for providing the UK and the Cayman Islands an opportunity to comment on the claims made by various NGOs following the export of 20 live, captive-bred green turtles from the Cayman Islands to the United Kingdom. Whilst we will respond here to some of the points raised by NGOs, we do not think that these issues are best resolved by debate through the pages of this or, indeed, any other newsletter.

First, the import of the 20 live green turtles to aquaria in the UK was only approved after careful consideration and after discussions between Member States in the European Community CITES Committee. The import to the UK was approved on its own merits and not as a precedent for any future trade. We remain confident that the Cayman Turtle Farm (CTF) meets the CITES criteria for captive breeding as defined in Res. Conf. 10.16. This trade was accompanied by the correct CITES permits, met the requirements of all the relevant Articles of the Convention and the EC CITES Regulations and was **not**, therefore, in violation of CITES.

The EC (and so the UK) does not implement the CITES Resolution for the registration of Appendix I captive breeding operations. Nevertheless, the Cayman Islands sought to achieve such registration for the Cayman Turtle Farm at the 12<sup>th</sup> Conference of the CITES Parties (CoP12) – see <<http://www.ukcites.gov.uk/CTFproposal.htm>>. This proposal gained a majority of those votes cast by Parties but did not attract the required two thirds majority required for success. The proposal was **not** withdrawn by the UK. Nor did, or does, the CTF seek to ‘*re-open international markets for sea turtle products*’ as claimed. Rather, CTF sought the sale, as personal effects only, of individually and uniquely marked carapaces (which are otherwise currently destroyed) purchased in person from the Farm. These carapaces are a by-product of the primary purpose of the Farm which is to provide turtle meat, at affordable prices, to

support the strong Caymanian cultural tradition of consuming turtle meat. By doing so, from a captive bred source, the CTF enables the Cayman Island authorities to reduce the demand for wild turtle meat (there is a small regulated harvest on the island) and so to reduce actual and potential illegal take.

NGOs also claim that the Costa Rican government provided evidence at CoP12 that ‘*showed that at least some of the founder stock was taken illegally*’. We are surprised to see this claim repeated here. Whilst Costa Rica provided a letter, sent from them to the CTF’s representatives in April 1971, noting that egg collection would not be permitted in the newly created Tortuguero National Park, it does not demonstrate that subsequent acquisitions were necessarily illegal. However, we reiterate that these issues are best resolved by dialogue between the governments of the UK, the Cayman Islands and Costa Rica and through careful and dispassionate examination of all the available evidence (which we do not rehearse here) and not through lobbying or campaigns.

Finally, the issue of head-starting is raised though it is irrelevant to the issue of captive breeding or the legality of trade under CITES. The head-starting programme initiated by CTF in 1980 has been documented widely in the scientific literature (for the most recent paper see Bell *et al.* 2006. *Oryx* 38: 137-148) including in the *Marine Turtle Newsletter*. Work, funded by the UK government, is continuing on the genetic sampling and analysis of both farm-produced animals and wild nesting and foraging populations (as a part of a wider project aimed at the conservation of marine turtles) in the Cayman Islands and other relevant UK Overseas Territories (e.g. see <<http://www.seaturtle.org/mtrg/projects/tcot/finalreport/>>). The results of this work will be used to inform future policies on any further releases.

**UK CITES Management Authority & Scientific Authority (Fauna)** (E-mail: [cites.ukma@defra.gsi.gov.uk](mailto:cites.ukma@defra.gsi.gov.uk))  
**Cayman Islands Department of the Environment & CITES Scientific Authority** (E-mail: [DOE@gov.ky](mailto:DOE@gov.ky))

## MEETING REPORTS

### Training workshop for fishermen at Casablanca port, Morocco

**Wafae Benhardouze<sup>1</sup>, Manjula Tiwari<sup>2</sup>, Mustapha Aksissou<sup>1</sup> & Matthew H. Godfrey<sup>3</sup>**

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On 12 May 2006, Wafae Benhardouze and Mustapha Aksissou from Abdelmalek Essaadi University in Tetouan, Morocco, organized a training workshop for 34 fishermen at Casablanca port. This workshop was part of a collaborative study between Abdelmalek Essaadi University, Manjula Twari, and Matthew Godfrey to evaluate the impact of fisheries on sea turtles found in these waters. The project is funded by the Rufford Small Grants program in the UK and the Chelonian Research Institute. Through this workshop we tried to educate the fishermen about turtles and data collection techniques

and also further strengthen our collaboration with them to collect data on accidentally captured sea turtles. Children of the fishermen also participated in this workshop. A drawing competition was held for the children who then received prizes. Other workshops are being planned along the Moroccan coast in Agadir, Laâyoune and Dakhla. For more information see:

<http://www.seaturtle.org/blog/africa/000486.html>

# The 26<sup>th</sup> Annual Symposium on Sea Turtle Biology and Conservation: President's Report on the Symposium and ISTS Business

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## **The Symposium**

*Overview:* The 26<sup>th</sup> Annual Symposium on Sea Turtle Biology and Conservation was admittedly a profound success. For the first time in its long history it was hosted in the Mediterranean, on the island of Crete, Greece and this gave the opportunity to many under-represented countries to take part in this globally important event. With about 700 participants from 78 countries it fulfilled its motto: "Diverse Cultures, One Purpose".

The Island of Crete, at the crossroads of Africa, Asia and Europe proved an excellent selection. Also the meeting's venue, Capris Beach Hotel at the village of Aghia Pelaghia, located 20 km from Heraklion airport, provided adequate facilities, agreeable surroundings, and relatively good prices. The Symposium would not have been a success without the assistance of ARCHELON, the Sea Turtle Protection Society of Greece, and its staff, members and volunteers. Further, I was fortunate to have the expert services of Thanos Belalidis, as Symposium Coordinator, a long-time member of ARCHELON and participant in previous Sea Turtle Symposia.

Submitted abstracts surpassed the five hundred (500!), a record breaking all previous Symposia, loading the Program Officers (Brendan Godley and Kartik Shanker) and their 35-member Program Committee with a tremendous amount of work, which culminated in the 376-page Book of Abstracts, printed on time for on-site distribution to participants. Here I should also mention the pedantic work of the four compilers: Mike Frick, Aliko Panagopoulou, Alan Rees and Kris Williams.

On the 3-4<sup>th</sup> April, 2-day regional meetings took place: the 5<sup>th</sup> Mediterranean Reunion, the Latin American (RETOMALA) meeting, and the WIDECAST (Wider Caribbean Sea Turtle Network) meeting. In addition on 4<sup>th</sup> April two more regional meetings took place: the IOSEA (Indian Ocean and South-East Asia) meeting, and the Africa meeting.

The official opening took place in the morning of the 5<sup>th</sup> April, with welcome speeches from the Symposium President, the Prefect of Heraklion Mr D. Sarris, and the Coordinator of UNEP's Mediterranean Action Plan (MAP) Mr Paul Mifsud. The invited speaker of the Symposium was Dr Wolf Michael Iwand of TUI, the largest tour operator in the world, who talked on the interaction of sea turtles and the tourist industry and how these two could best benefit from each other; it was really a challenging talk, with examples from various parts of the world.

On the 5<sup>th</sup> April, in a special 2.5-hour session in memory of Peter Lutz, entitled "Sea Turtle Biology without Boundaries", six scientific overviews were presented on broad aspects of turtle biology. I would like to thank Jeanette Wyneken who organized this session.

After this we started the standard program with concurrent sessions until Friday afternoon, where again we had a plenary session on the Ecological Roles of Marine Turtles. In total from

5-7<sup>th</sup> April, 107 oral and 340 poster contributions were presented, covering the following standard sessions: Behavior and Movements; Conservation, Management and Policy; Population Biology and Monitoring; Fisheries Interaction; Anatomy, Physiology and Health; Ecology and Evolutionary Biology; Social Science Research; Education, Outreach and Advocacy, plus two special sessions: Turtles and Climate Change; Ecological Roles of Marine Turtles. We sought to create a pleasant atmosphere for posters and we installed them close to the coffee break area and an always-open bar with views over the blue Aegean Sea. However, the large number of posters did not allow us to have all posters set up for the whole Symposium's duration, as initially planned. Eventually we split the posters into two sessions, each with a 14-hour viewing time and two "Question & Answer" periods of 1 h and 1.5 h respectively. The timely preparation and the smooth running of the program, as well as the efficient arrangement of the posters would not have been possible without the dedication of the Program Officers, the Program Committee, the Session Chairs and the Poster Session Chair Dr Bill Irwin.

On the 6<sup>th</sup> April, a Panel Discussion, organized by the Western Pacific Regional Fishery Management Council and entitled "Cooperative Approaches to Implement Sea Turtle Bycatch Solutions in Longline Fisheries", took place on the global issue of longline turtle captures (for details this issue; MTN 113:13).

On Saturday, 8<sup>th</sup> April, the Annual Meeting of the IUCN's Marine Turtle Specialist Group convened (for details see this issue of MTN 113: 16-18) and on Saturday afternoon the Freshwater and Terrestrial Turtle Workshop was held, which gave emphasis to regional species and issues.

*The Archie Carr Student Best Paper Competition:* Nine awards were given to the best and runners up student oral and poster presentations in two major categories: Biology and Conservation. In total, 146 contributions presented by 111 student candidates were examined by the Judging Committee. The award certificates were accompanied by an honorarium and a subscription to Chelonian Conservation and Biology; in total 2,000 USD and 1,000 Euro were awarded to the nine students. About half of the totally awarded sum came as usual from the Chelonian Research Foundation (thank you, Anders). I thank the co-chairs of the Judges, Lisa Campbell and Jeanette Wyneken, as well as the 22-member Judging Committee for this important task.

*Travel Grants:* In total, 131 travel grants were distributed by the Regional Travel Chairs, either as cash or as "free" rooms, through generous donations from Western Pacific Regional Fishery Management Council, US Fish & Wildlife Service, US National Marine Fisheries Service, UNEP's RAC/SPA, Disney's Animal Kingdom, Chelonian Research Institute (CRI), Marine Conservation Society (MCS), WWF Italy, Bern Convention (Council of Europe),

Leatherback Trust, Caribbean Conservation Corporation and IUCN Centre for Mediterranean Cooperation. Also we had several smaller donors and “room sponsors”, too many to be mentioned here. As noted by previous presidents a severe constraint that the Symposium President faces is to secure beforehand the sum to be allocated for travel grants. Pending final evaluation by the treasurer, I can say that, in general, we did very well financially; albeit this is known well after the allocation of travel grants. Eventually we spent about 56,000 USD in travel grants. I should mention here the great efforts (and successes) by Manjula Tiwari, Angela Formia, Susan Ranger and Rob Tryland in securing special funds for our colleagues from Africa; a major objective of this Symposium. Also, I must thank for their assistance in securing funds and in fund-raising efforts Jeff Seminoff, Rod Mast, Ed Drane, Nicolas Pilcher, Barbara Schroeder, Earl Possardt, Paolo Casale, and Thanos Belalidis. The delicate job of allocating travel grants would not have been done better without the efforts of the Travel Committee Chair, Hoyt Peckham, and the Regional Travel Chairs Ana Barragan, Alan Bolten, Annette Broderick, Karen Eckert, Angela Formia, Brendan Godley, and Nicolas Pilcher.

*Simultaneous translation:* Thanks to the UNEP/MAP’s headquarters, based in Athens, we were able to have simultaneous interpretation to French during the Africa meeting and during the first day plenary. Unfortunately the high costs of having two sets of translators and equipment did not allow us to have interpretation during the concurrent sessions.

*Involvement of the media:* Early advice from Earl Possardt, President of the 22nd ISTS, was to involve, as much as we could, the media in order to make public some important sea turtle issues. Thanks to support of Conservation International (CI) we were able to set a Press Room, equipped with computers, fax and internet and to secure the expert involvement of Lisa Bailey (of CI), who together with Dimos Tsantilis and Theoni Karkoulia (of ARCHELON) were assigned to liaise with journalists, find appropriate experts for interviews and draft news releases in English and in Greek. Two journalists from far-away lands (Colombia, Indonesia), invited by CI, stayed on-site and covered the event fully, while several local journalists were in and out. Various Symposium events and news items appeared many times in local, national and international media. In addition, a daily blog hosted at [conservation.org](http://conservation.org), and another one (in Greek) at the website of ARCHELON, were set to inform journalists who could not attend the Symposium.

*Local Participation:* We tried to involve the local community on Crete as much as possible. In this regard, schoolteachers of Heraklion were informed about the Symposium well in advance, and prepared and implemented various activities in their schools, inspired by sea turtles. A result of these activities was the handicrafts, made by the children, exhibited during the Symposium at the posters’ area. Further, a meeting with local fishermen took place in the nearby harbor of Rethymno to discuss ways of mitigating turtle captures. It is worth to note that these fishermen participated in the Mediterranean Reunion, together with the local officers of the Fisheries Department and the Coast Guard, and presented their views on the issue of turtle bycatch in fisheries.

*Entertainment:* The best part of the Symposium. On Tuesday, during the Welcome Cocktail we had the Cretan dancers, young women and men, with the local musicians playing the “lyra” (an ancient instrument – mythology says that Orpheus had his lyra made

of a tortoise).

I will include the Auction in this section. The Silent Auction gathered a great many items, well arranged and organized by the Auction Chair Theodoros Belos-Palmer, with advice from Debbie Sobel. The live Auction was a success both as entertainment (was it the exotic drinks that Rod Mast took care to sell first?) and also as an additional fund (about 13,000 USD was collected on-site, through the expert cashiers of the Hilton Head Island Sea Turtle Protection Project, coordinated and supervised by Ed Drane). Thank you Rod! Thank you Ed! Thank you all those who donated all these lovely items!

When we were drafting the Symposium schedule, Thanos and I called the traditional banquet “Farewell Party” because we didn’t know, until the last day, what and where to do it. There were ideas of having it right “on the hotel’s beach”, or at the open theater, or even outside the hotel property in one of those huge places, very common in Crete, where weddings are celebrated in a very Cretan-style. Since no weddings were in sight and the nights were rather cool, we resorted in the safety of the hotel dining room. The food was excellent, thanks to the ever-checking-the-details Thanos and the abundant home-made raki, a very welcome gift of the Prefect.

Now, I want to say a few words about dancing. As we all know, dancing is a form of self-expression. This is very conspicuous in the case of Greek dances; thus the so many forms of them, especially the solitary ones. When I danced the Zorba dance with Michael Coyne, the new President, I wanted actually to show you the steps of an easy Greek dance with the hope that I would lure the most daring of you on the dancing floor. However, when we finished and the band started to play Greek tunes I was truly amazed to see many Latinos, Middle-easterners and even northern Americans inundating the dance floor, leaping in the air and circling with amazing grace and expertise. I couldn’t believe my eyes that Greek dances were so widespread. Thank you all for this unique experience!

Closing this part of my report, I would like to thank all participants, all sponsors and donors, all members of Committees and Task Forces, the staff of ARCHELON and all volunteers for making this event a memorable one. Many thanks to my daughter Lenio and her husband Vangelis Karatzas for designing the graphics of the Symposium, including the t-shirts, and the printed program. Special thanks should go to Michael Coyne for providing his wisdom many times and for hosting the Symposium website.

### **ISTS Business**

The International Sea Turtle Society (ISTS) is making great steps forward. These were extensively discussed at the BoD Retreat in August 2005 (Margaritoulis 2005) and also at the BoD Meeting on Crete. Three major issues were presented at the Annual Plenary Business Meeting on Crete (7 April): nominations, resolutions, modifications of constitution and by-laws.

*Nominations & Elections:* A clear procedure was announced through the *MTN*, the ISTS website and individual email messages to all members, setting a deadline for nominations by 15 November 2005. The 5-member Nominating Committee (NC) set criteria and evaluated each received nomination. Eventually, the BoD decided to present to the membership a multiple slate for the 2 BoD & the 2 NC positions, and also to accept nominations from the floor during the Plenary, prior to voting. I believe this measure enhanced participation and upgraded transparency and democracy. Following

a secret ballot at the Plenary, the following candidates were elected: Ana Barragan and Naoki Kamezaki for the BoD positions, and Scott Eckert and Alberto Abreu for the NC. In addition, the NC recommended that the BoD approve the following slate for the Executive Committee: President-Elect Wallace J. Nichols, Treasurer Edwin Drane, Secretary Manjula Tiwari. The BoD accepted this slate and it was approved unanimously by the general membership during the Plenary. At this point, I would like to congratulate the new members and also to warmly thank the departing BoD members Frank Paladino and Clara Padilla, the past president Nicolas Pilcher, and the NC members Matthew Godfrey (Chair) and Neca Marcovaldi.

*Resolutions:* As discussed in a previous article (Margaritoulis 2005) there has been skepticism within the BoD as regards the effectiveness of resolutions. Further, the existing procedure was cumbersome, provided little time for deliberations among the BoD members and needed some persistent work for following up efficiently. To confront the above constraints, and in-line with a recommendation from a task force, the procedure for submitting resolutions became more clear and strict. This effort has already been fruitful: In the context of the 26<sup>th</sup> Symposium, four resolutions were accepted by the Resolutions Committee and eventually by the BoD, plus one resolution that was tabled from the previous Symposium. Subsequently, all five resolutions were adopted during the Plenary Business Meeting on Crete, and are the following:

1. Resolution to support the adoption and implementation of the UN Food and Agriculture Organization's "Guidelines to Reduce Sea Turtle Mortality in Fishing Operations" by parties to regional fishery management organizations and sea turtle agreements.
2. Designation of Puerto Rico's Northeastern Ecological Corridor as a Nature Reserve.
3. Resolution to minimise disturbance to nesting loggerhead turtles (*Caretta caretta*) by tourist activities on the Island of Zakynthos, Greece.
4. Resolution on the need to strengthen and implement the U.S. Recovery Plan for Kemp's Ridley.

5. On the need to strengthen protection of the Kemp's Ridley sea turtles by creating a Texas-Mexico Protected International Swimway.

You can find the above resolutions in the Symposium and ISTS websites. All resolutions were dispatched to the competent authorities and, a good sign, we have already received replies and comments from some of them. I must thank the members of the task force, the sponsors of the resolutions, and above all the Resolutions Chair and mentor Jack Frazier.

*Modification of the constitution and by-laws:* The ever-expanding mandate and international character of our Society asks for changes in its instruments and procedures; thus the needed modifications of these documents. Thanks to the work of Frank Paladino and Nancy FitzSimmons, the BoD came up with a draft of the proposed changes, which were approved by the membership at the Plenary Business Meeting on Crete. Modification of by-laws is a lengthy process, and needs the input of as many members as possible in order to integrate many views and our Society to acquire long-lasting, modern and flexible governance rules.

Concerning the ISTS business, I would like to express my sincere thanks to the members of the Executive Committee (Michael Coyne, Thane Wibbels, Edwin Drane, Manjula Tiwari), the members of the Board of Directors (Clara Padilla, Frank Paladino, Milani Chaloupka, Jeffrey Seminoff, Hedelvy Guada, Donna Shaver, Nancy FitzSimmons, Lisa Campbell, Brendan Godley, Kartik Shanker) and the 3 past presidents participating at the BoD meetings (Nicolas Pilcher, Roderic Mast, Thane Wibbels), for their continuous advice and wholehearted support.

Finally, I thank Matthew Godfrey, Brendan Godley, Brian Hutchinson, Jeff Seminoff, Kartik Shanker, Manjula Tiwari, and Jeanette Wyneken for their comments while I was drafting this report.

MARGARITOULIS, D. 2005. The annual BoD Retreat of the International Sea Turtle Society (Shepherdstown, West Virginia, USA, 15-17 August 2005): improving procedures and transparency. *Marine Turtle Newsletter* 110: 10-11.

## **Longline Fishery Panel Discussion at the 26<sup>th</sup> Annual Sea Turtle Symposium: Cooperative Approaches to Implement Sea Turtle Bycatch Solutions in Longline Fisheries**

**Irene Kinan**

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The Western Pacific Regional Fishery Management Council (WPRFMC) in collaboration with organizers of the 26<sup>th</sup> Annual Sea Turtle Symposium in Crete convened a pelagic longline fishery panel discussion at the symposium on April 6, 2006. The objectives of the panel were to promote transparency and provide factual information about measures to reduce sea turtle interactions by the pelagic longline industry, to help identify new opportunities for fishery research and collaboration, and to discuss international efforts to promote environmentally responsible longline fisheries within an ecosystem context.

The two hour discussion, moderated by Dr. Milani Chaloupka, consisted of brief presentations by a panel of six experts followed

by an interactive question and answer period. Panelists were: Dr. Martin Hall, IATTC; Dr. Ricardo Sagarminaga, Sociedad Espanyola de Cetaceos (*substituting for: Dr. Juan Antonio Camiñas, Instituto Español de Oceanografía*); Dr. Christopher Boggs, NOAA Fisheries Pacific Islands Fishery Science Center; Dr. Gabriella Bianchi, FAO; Ms. Liz McLellan, WWF; and Mr. Paul Dalzell, WPRFMC.

In summary, numerous success stories based on the strong commitment and participation of fishing communities were presented. Panelists discussed promising information from certain longline fisheries of the Central Pacific, Latin America and Mediterranean that have demonstrated the beneficial use of circle hooks as well as fish bait (compared to traditional J hooks and squid

bait) to reduce sea turtle interactions. Experience and information from these same fisheries indicate that the use of measures developed in one ocean basin **can** be successfully transferred to other ocean environments or fisheries.

Regarding management capacity, the panel provided evidence that international institutional frameworks are rapidly developing to support sustainable fishing practices. Although much work still needs to be done and important governance problems resolved, the issue of negative impacts of fisheries on sea turtle populations is seriously being considered and addressed by international fishery management organizations. Trust and collaboration between nations and among scientists, managers and industry are seen as the greatest assets for achieving sustainable fishery management and reduced sea turtle interactions.

Numerous questions arose from the floor following presentations that sparked lively discussion and thought provoking debate. Topics ranged from reminders about developing measures for multi-species groups, to specific questions regarding the post-hooking survival benefits of using de-hooking devices, clarifications of the recent closure and effectiveness of circle hooks used by the Hawaii-based shallow-set longline fishery, to more difficult questions concerning overfished stocks, ensuring sustainability of fisheries and approaches for ecosystem-based management.

Discussion regarding the longline moratorium debate centered on cultural, political and economic investments, livelihoods, trust and enforceability. Although the threat of fishery closures may

increase awareness, it degrades trust and inhibits collaborations between industry, scientists and resource managers □ essential components to finding and implementing solutions. Panelists overwhelmingly agreed that while time and area closures are common tools in fisheries management, a blanket moratorium is not a viable, enforceable or financially realistic option. Panelists concluded that a great deal can be accomplished in terms of technological developments that will allow fisheries to continue with less negative impact on livelihoods, ecosystems and protected species.

Overall, the panel session provided symposium participants with an excellent opportunity to ask questions and receive answers and information directly from resource managers actively working with fisheries and fishermen. Reference papers and background documents regarding current fishery mitigation research and activities (i.e., published literature and reports) and resolutions by international fishery management organizations were also provided to attendees of the session. This was the first public policy debate pertaining to longline fisheries at the sea turtle symposium and we hope that additional interactive forums on other gears, such as coastal gillnets, are held in the future.

*Acknowledgements:* The WPRFMC would like to thank the panelists and moderator for their involvement and participation, and the symposium organizers, specifically Dr. Dimitris Margaritoulis and Thanos Belalidis, for their vision and help in making the panel session possible.

## Second International Guanahacabibes Sea Turtle Conservation Workshop

**Fernando Bretos<sup>1</sup>, Rogelio Diaz-Fernandez<sup>2</sup> & Marydele Donnelly<sup>3</sup>**

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From September 11-16, 2005 the Centro de Investigaciones Marinas of the University of Havana hosted the “Second International Guanahacabibes Sea Turtle Conservation Workshop: Engaging Local Communities in Conservation.” Held in Havana and Guanahacabibes National Park, Cuba, the workshop was an energetic gathering of 30 Cuban and international specialists from the United States, Puerto Rico, Brazil and the Netherlands Antilles, including participation from local Cuban communities. The event focused on advancing the community outreach objectives of the University’s eight-year volunteer-based sea turtle nest monitoring program, the “Proyecto Universitario para el estudio y conservacion de las tortugas marinas en Cuba” (University Project to Study and Conserve Sea Turtles in Cuba). Each year dozens of students monitor nine beaches where green (*Chelonia mydas*) and loggerhead (*Caretta caretta*) turtles nest within the borders of Guanahacabibes National Park and UNESCO Biosphere Reserve (Figure 1), at the extreme western tip of the country.

Along the 70km long southern coastline of the Guanahacabibes peninsula, 10km of sandy beach are surveyed regularly. Due to the rugged nature of the coastline, which is interrupted by limestone cliffs, these 10km of beach represent the bulk of the sandy shoreline of the southern coast. Surveys are conducted continuously from May to September to correspond with peak nesting.

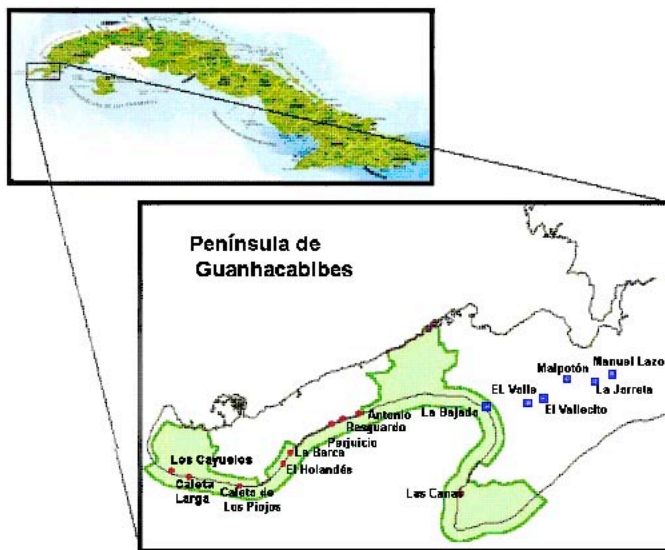
The Proyecto Universitario has five principal objectives:

1. To determine the principal sea turtle nesting areas in Guanahacabibes National Park.
2. To collect data on green and loggerhead sea turtles, nests and eggs.
3. To examine the genetic diversity of marine turtle populations that nest in the zone and through tagging, gain an understanding of their movements.
4. To engender an appreciation for the natural environment and its conservation in the local community and among university students participating in the project.
5. To develop an educational program and partnerships with local communities to engage them in the research and conservation of sea turtles and coastal resources.

Since its inception in 1998, more than 1,000 University of Havana students have participated in the project (Ibarra-Martín *et al.* 1999; Ibarra-Martín *et al.* 2002; Ibarra-Martín *et al.* 2005). Eight years later, the PU is the largest sea turtle monitoring program in Cuba and one of the fastest growing projects of its kind in the wider Caribbean.

Several small communities live within the biosphere reserve and subsist through artisanal fishing. Sea turtles are protected by law,





**Figure 1.** Guanahacabibes Peninsula and PU study sites. Shading represents the boundaries of Guanahacabibes National Park, with the dots indicating the nine nesting beaches patrolled in 2005. Squares mark local subsistence communities. (From Ibarra-Martín *et al.* 2005).

and while some poaching of eggs and adults has occurred, it appears that outsiders rather than the local residents are responsible. With a lack of adequate enforcement within national park boundaries, the continuous presence of project volunteers has led to a steep decline in the poaching of sea turtles and other animals, such as hutias and deer, for meat. The deterrent provided by the volunteers was demonstrated by an abrupt increase in poaching during the volunteers' three week absence in July 2004 after Hurricane Ivan ravished the peninsula (Díaz-Fernández *et al.* 2004).

Since the beginning of the Project, locals have been participating with University students in monitoring activities. During the nesting season, Project staff give classes in eight local schools and organize educational excursions. Recently, project organizers have boosted efforts to educate local inhabitants in and near the park on the ecological and economic value of sea turtles to the area.

The September 2005 workshop was sponsored by The Ocean Conservancy, the Centro de Investigaciones Marinas and the Harte Research Institute for Gulf of Mexico Studies. The event was a follow-up to a 2002 workshop organized by The Ocean Conservancy and the Centro de Investigaciones Marinas to explore the project's strengths, challenges and opportunities. While the first workshop provided an opportunity to exchange information on methodology and results, strategize on ways to bring Cuban scientists and students into the mainstream of international sea turtle biology and conservation, meet with local residents, and develop a blueprint for an ambitious future, the 2005 workshop focused on boosting

community outreach efforts in Guanahacabibes and reviewing the project's successes and shortcomings since 2002. Participants' recommendations included the incorporation of new research practices and ways to increase institutional collaboration within Cuba as the project now serves as a model for other universities interested in undertaking sea turtle nesting beach projects in other regions of Cuba.

The following are highlights of the recommendations made by the workshop participants:

- Continue to increase institutional collaboration within Cuba .
- Elevate the project's public profile outside Cuba through scientific exchanges and publication in international peer reviewed journals.
- Improve camp conditions.
- Ensure sea turtle protection in advance of planned increases in tourism.
- Establish institutional links with researchers abroad.
- Increase community involvement in monitoring and project supervision.
- Continue expansion of project to other parts of Cuba.
- Engage Cuban policymakers in making good decisions for sea turtles and the local community.

### Future of Proyecto Universitario

Using the consensus recommendations made during the 2002 and 2005 workshops, the Proyecto Universitario will continue to expand its scientific work and community outreach in and around Guanahacabibes National Park. In the next three years, the Proyecto Universitario hopes to promote the role of the local community in the conservation and sustainable use of natural resources to ensure that local residents are fully engaged stakeholders in future decisions made for the natural resources of the park

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# The Role of the IUCN Marine Turtle Specialist Group in Setting Priorities for Sea Turtle Conservation

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## Annual MTSG General Meeting 2006

Sea Turtle Symposium XXVI on the Island of Crete served as the venue for the 2006 Annual General Meeting (AGM) of the MTSG, which took place from 09:00 – 13:00 on Saturday, April 8. A new format was adopted for this AGM, different from recent years in that the Co-Chairs invited presentations from Regional Vice Chairs on MTSG-related activities in their respective areas of influence. Following these presentations, an open-mike session was conducted at which numerous issues arose pertaining to priority-setting, and in particular the procedures, processes, and controversy relating to the Red Listing of sea turtles. Given the importance of this topic to the work of the MTSG and its implications on conservation and research as a whole for our field, the authors felt that it would be a worthy topic to address in this article. Full minutes from the AGM are available on the MTSG website <<http://www.iucn-mtsg.org>>, along with copies of the presentations made by the Regional Vice-Chairs. As always, MTSG members are encouraged to review these materials, and to communicate directly with the Co-Chairs at <[mtsg.co-chairs@conservation.org](mailto:mtsg.co-chairs@conservation.org)>, or among members of the regional sub-groups using the relevant email listserves.

## Setting Priorities for Sea Turtle Conservation

The MTSG envisions “*marine turtles fulfilling their ecological roles on a healthy Planet where all peoples value and celebrate their continued survival.*” This is a worthy direction in which to head for sure, but as we settle-in to determining how we actually move toward it, we find ourselves wondering where to begin, and how to proceed in the face of numerous constraints. Priority setting is critical to the success of any conservation effort. The MTSG approaches global-scale taxonomic priority setting through the IUCN Red Listing process, and we also use IUCN Red Listing methodologies to take taxonomic priority setting to the regional scale. The MTSG uses the annual Burning Issues Assessment to further refine priorities that combine taxonomic with hazard-based considerations at global, regional and local scales. Moreover, the MTSG partners with the State of the World’s Sea Turtles (SWoT) initiative to develop a global database which, over time will allow our community to monitor global-scale trends. The first *State of the World’s Sea Turtles (SWoT) Report* was released on March 20. It contains the first-ever comprehensive, up-to-date, global-scale map of leatherback nesting, plus a variety of articles presenting a clear picture of the present status of sea turtles and related conservation efforts around the world. A new website was launched at <<http://www.SeaTurtleStatus.org>>, as a source of information and conservation tools associated with SWoT. In the sections that follow, we provide updates on these endeavors.

## Red Listing

One of the responsibilities of the MTSG is to use its global network to conduct regular assessments of sea turtle species, to be included in the IUCN-World Conservation Union’s *Red List of Threatened Species*, which attempts to provide a global overview of plants and animals at risk of extinction. *Red List* assessments have been extremely valuable in defining conservation priorities such as Important Bird Areas (IBAs), Key Biodiversity Area’s (KBAs), as well as Hotspots, Major Tropical Wilderness Areas, and Eco-Regions. The *Red List* criteria have evolved over decades, and are generalized to be useful for all types of organisms. Not surprisingly, the “one size fits all” framework of the Red Listing Criteria poses distinct problems when assessing things in Nature. For instance, the criteria call for analyzing data for “ten years or three generations, whichever is longer,” which for sea turtles could require reliable data sets of nearly one hundred years duration, something rare for sea turtles. Because of the nature of sea turtles, “Endangered” on the *Red List* may not equate to a high risk of extinction in the wild, as it might with lesser ranging taxa such as amphibians or terrestrial mammals; moreover, the *Red List* cannot appropriately address threats to smaller populations, nor provide regional or local resolution requisite for conservation planning on these subglobal scales. The shortcomings of the *Red List* criteria for sea turtles have been addressed on several past occasions (Mrosovsky 2003, Mrosovsky 2006; Seminoff 2004; Webb & Carillo 2000). Nonetheless, despite their limitations, evaluations of sea turtle status as per the *Red List* criteria are a valuable tool for influencing policy and for conservation priority-setting.

Global *Red List* assessments are intended to be updated every 10 years. Done properly, a *Red List* Assessment requires broad consultation and can take thousands of hours to complete. Given the enormity of the task and the available volunteer-power to conduct it, the MTSG has lagged behind schedule in conducting re-assessments, though we intend to catch-up in the coming three years. In cases in which assessments were conducted more than ten years ago, the most recently conducted assessment is maintained in the *Red List* (Table 1). The MTSG Red List Focal Point is Jeffrey Seminoff, assessor of the 2004 Green Turtle Assessment, who serves as the official MTSG liaison with the IUCN Red List Authority in the UK, as well as the coordinator of the individuals and teams involved in the re-assessment work. An itinerary for completion of the remaining assessments has been developed by the authors (Table 2), compilers have been selected, and in some cases are already at work. In addition, the MTSG has raised money for stipends to the assessors and their collaborators, and to offset communications and research costs involved in preparing the global re-assessments.

<i>Species</i>	<i>Red List Status</i>	<i>Year Assessed</i>	<i>Assessor</i>
Leatherback	Critically Endangered	2000	L. Sarti-Martinez
Hawksbill	Critically Endangered <sup>1</sup>	1996	RL S & PS
Kemp's ridley	Critically Endangered	1996	MTSG
Olive ridley	Endangered <sup>2,3</sup>	1996	RL S & PS
Loggerhead	Endangered	1996	MTSG
Green	Endangered	2004	J. Seminoff
Flatback	Data Deficient <sup>4</sup>	1996	RL S & PS

**Table 1.** Summary of Red List Status for the world's seven sea turtle species.

<sup>1</sup> This revised assessment is a ruling made by the Red List Standards and Petitions Subcommittee (RL S&PS) in response to a petition that challenged the Critically Endangered status (for further details see the IUCN SSC web site).

<sup>2</sup> This revised assessment is a ruling made by the Red List Standards and Petitions Subcommittee (RL S&PS) in response to a petition that challenged the Endangered status (for further details see the IUCN SSC web site).

<sup>3</sup> The MTSG is currently drafting a response to an official appeal to IUCN for MTSG to develop a new assessment based on 2001 Red List Criteria.

<sup>4</sup> This revised assessment is a ruling made by the Red List Standards and Petitions Subcommittee (RL S&PS) in response to a petition that challenged the Vulnerable status (for further details see the IUCN SSC web site).

A regional approach would clearly benefit sea turtle status assessments and conservation efforts, but it is important to keep in mind that such assessments may not always qualify for inclusion on the *IUCN Red List*. Simply stated, the *Red List* only includes regional subpopulations that are genetically isolated, a qualification that is impossible to meet for most regional populations. For a highly migratory taxon such as sea turtles, the global crisscrossing undertaken by individuals often maintains high gene flow, and thus, lack of isolation of many stocks. However, exclusion from the *Red List* is by no means a reason not to undertake such assessments. It is with this in mind that the MTSG is working toward the development of Regional assessments for sea turtles throughout the world; the first of which are MTSG assessments for green turtles, loggerheads, and leatherbacks in the Mediterranean Sea. To complete similar assessments for all regions and all species will take years to, but we are nonetheless confident that their development will ultimately lead to more informed conservation planning and action.

On April 27, 2006, the MTSG Co-Chairs and Red List Focal Point, after consultation with Mediterranean Regional Vice Chair, Dimitris Margaritoulis, elected to withdraw the listing of the Mediterranean green turtle as Critically Endangered. Although there is equivocal evidence of genetic isolation for this regional population (an important qualification for inclusion on the *Red List*), the lack of documentation for the original Mediterranean green turtle assessment called for a removal of this listing. Further, because the original assessing organization no longer exists, we were unable to answer important questions about what data were used in the original assessment. However, as mentioned, the MTSG (with Andreas Demetropolous as the assessor) is currently drafting a regional assessment for green turtles in the Mediterranean. Although this document was originally planned to be a non-*Red List* assessment (see above), we will submit this assessment for inclusion in the *Red List* if, as indicated by some of the members from the Mediterranean, we are able to unequivocally demonstrate the genetic distinctiveness and isolation of this regional population.

### The Burning Issues Assessment

The Burning Issues Assessment endeavors to go a step further than the global-scale *Red List*, with the intent to encourage on-the-ground conservation action in the places where experts agree they are most urgent and can have the largest impact in preventing extinctions. The first Burning Issues Assessment was undertaken in late 2003 (see MTN 104:20-22), and this was followed up by a second Burning Issues Assessment (BI2) conducted by a group of MTSG members hailing from several countries and representing knowledge of all the world's major sea turtle stocks, who gathered in Washington, DC in August 2005 (see MTN 110:13-15). One of the products from this gathering was a draft Top Ten List of most threatened global sea turtle populations.

The Top Ten List draws attention to some of the sea turtle *populations* that are most in need of *urgent* conservation attention, considering one or more of the following criteria: recent precipitous declines, small population size, high degree of threat, or irreplaceable nature. It is a dynamic assessment that attempts to include all the major regions where sea turtles live, and it is based on best available data and expert opinion as its principle resources. The Top Ten List is reviewed annually to assure its accuracy and timeliness. It is part of a larger priority-setting process for sea turtle research and conservation that also includes a list of Critical Research Needs, recognizing that for many areas of the world and populations of sea turtles we simply do not have enough data to accurately assess urgency and degree of threat.

The results of the BI2 meeting were used in the production of a poster that outlines the global Hazards to sea turtles, and the Top Ten Most Threatened Sea Turtle Populations; copies of the poster can be seen at <<http://www.SeaTurtleStatus.org>>, or obtained by contacting the MTSG Program Officer, Brian Hutchinson (see address above). Drs. Alan Bolten and Milani Chaloupka are Co-Chairing BI3, to take place in Washington, DC in August 2006. The BI3 gathering will be preceded by a membership-wide email survey to help fine-tune and add depth to the Top Ten List.

<i>Species</i>	<i>Spatial Resolution</i>	<i>Assessor Expected</i>	<i>Completion Date</i>
Hawksbill	Global	J. Mortimer	2006
Loggerhead	Regional (Mediterranean)	B. Lazar w/others	2006
Leatherback	Regional (Mediterranean)	P. Casale	2006
Green	Regional (Mediterranean)	A. Demetropolous	2006
Olive ridley	Global	A. Abreu-Grobois w/others	2007
Loggerhead	Global	B. Lyon	2008

**Table 2.** Summary of ongoing MTSG sea turtle assessments

## Conclusion

The realities are these: Nowhere on Earth are sea turtles thriving as they have in past centuries, and the ubiquitous threats to their continued survival are more intense than ever in history. There are sizeable gaps in even our simple descriptive knowledge of sea turtles and their habitats, and an understanding of their "ecological roles" is still well outside our grasp, floating in a sea of inter-related mysteries about life on Earth. To make things even more challenging, even if we did know enough about turtles to properly conserve them, we would still need to muster the needed financial and human resources, not to mention the political will to take on the countless conservation interventions that would be needed to properly pursue the MTSG's audacious vision.

Time is not on our side, and we cannot wait to act. We must approach our conservation actions as wisely as we know how; we must constantly measure and monitor our results; and we must be prepared to change our approaches as new information becomes available. Hence, it is of the utmost importance that we select priorities as strategically as possible, always based on the best available science, and the best available scientific opinion when data are lacking. We must focus our research and conservation attention on those taxa, regions, habitats and hazards that are most critical to

preventing extinctions and other irreversible damage.

Broad participation and consensus building is important to the success of all of the aforementioned priority setting efforts. We again encourage the nearly 300 MTSG members worldwide to become more engaged with the work of the MTSG through such efforts as the IUCN Red Lists, the Burning Issues Assessment, and SWoT. Visit our website, use our listserves, participate in the numerous annual gatherings where subsets of us congregate in pursuit of the MTSG vision. We are a powerful volunteer network that depends on each of you to contribute time and expertise.

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## ANNOUNCEMENTS

### The 27<sup>th</sup> International Symposium on Sea Turtle Biology and Conservation

**Michael S. Coyne**

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The "27th Annual Symposium on Sea Turtle Biology and Conservation" is now only seven months away. The 2007 symposium will be held at the Kingston Plantation on the Atlantic Ocean in Myrtle Beach, South Carolina, USA. This is a great facility allowing us to place all symposium events within close proximity to one another. We anticipate having a variety of local and regional tours and activities available for meeting attendees. Listed below is specific information regarding the 27th Annual Symposium on Sea Turtle Biology and Conservation. Additional details will be posted on the symposium website (<http://www.seaturtle.org/symposium/>) and published in the next issue of the MTN.

**Symposium dates:** Thursday 22 February - Wednesday 28 February 2007. Main dates: 25-27 February.

**Venue:** Kingston Plantation, Myrtle Beach, South Carolina, USA (<http://www.kingstonplantation.com/>).

**Room prices:** Standard Room for up to four persons will be \$109 per night. The price includes a full breakfast buffet (for all persons in the room) and a nightly "happy hour". Room prices will be the same for three days before and after the Symposium dates if you wish to stay and vacation in the area.

**Transportation:** The hotel is approximately 13 miles (20 km) from the Myrtle Beach International Airport. The airport is similar in size to the Savannah airport, for those who attended the 25th Symposium. Specific instructions and approximate costs for local transportation and alternative routes will appear on the Symposium website (<http://www.seaturtle.org/symposium/>).

**Meeting agenda:** There will be a special session on sea turtle projects in the Carolinas that will emphasize the work and commitment of volunteers and other participants in the monitoring of sea turtles in North & South Carolina. In addition, Brendan Godley is organizing a special plenary session entitled "Tracking of Marine Vertebrates for Conservation". This special session is sponsored by Inter-Research (IR - <http://www.int-res.com>) and will form part of a high profile series of symposia (<http://www.ir-symposia.com>). The Program Committee is finalizing the remaining sessions with appropriate specialist chairpersons in each subject area. If you have suggestions for Workshops, Special Sessions or other side-events please contact the Symposium Program Chairs: Matthew Godfrey ([mgodfrey@seaturtle.org](mailto:mgodfrey@seaturtle.org)) and Lisa Campbell ([lisa.m.campbell@duke.edu](mailto:lisa.m.campbell@duke.edu)).

**Regional meetings:** The usual regional meetings (e.g., African, IOSEA, Latin American, Mediterranean, WIDECAST) are scheduled for the dates 22-24 February.

MTSG meeting: 28 February.

**Registration:** All those who will attend the Symposium must register. Registration will be on-line through the Symposium website (<http://www.seaturtle.org/symposium/>). It is highly preferred that registration fees are paid on-line using a credit card. If you must mail your payments, please consult the Symposium website for specific instructions.

**Abstracts:** All abstracts must be submitted on-line through the Symposium website and must follow the Instructions for Abstract Submission posted there (<http://www.seaturtle.org/symposium/>).

The deadline for submission is 15 October 2006. You will be asked to register and pay before submitting your abstract.

All abstracts will be reviewed by a Program Committee made up of panels of subject specialists, to ensure the best possible content for the Symposium. All abstracts should be of highest quality. Due to increasing numbers of abstracts submitted, some abstracts may be rejected by the Program Committee.

**New this year:** Each lead author may submit only one abstract to be considered for an oral presentation and one abstract to be considered for a poster presentation. Lead authors are assumed to be the presenting author, unless otherwise indicated in the submission. In past years, multiple abstracts have been submitted by individuals on behalf of others, due to restricted internet access. This practice can continue; when submitting abstracts, you will be asked to clearly identify the lead author.

Please note that accepted abstracts will appear in the Symposium's Proceedings available at the meeting. There will be no opportunity to submit a revised version of the abstract for the proceedings.

**Travel grants:** The deadline for travel grant applications is 15 October 2006. Instructions for Travel Grants can be found on the Symposium website. Hopefully, we will be able to cover a good part of travel expenses for those in need. Of course, matching funds will be essential; so, please, start looking from now for potential sponsors.

**Hotel reservations:** Reservations for hotel rooms will be made

through The Zenith Group (<http://www.thezenithgrp.com/>) as soon as the necessary reservation forms are ready. Deadline for hotel room reservations is 22 January 2007. After that time room reservations will be subject to availability and room rates will not be guaranteed.

**Visas:** If you will require a visa to enter the USA to attend the 27th Annual Sea Turtle Symposium, you should immediately begin the application process. A number of people were not able to attend last year's symposium due to delays associated with obtaining visas. Information regarding visas will be included on the Symposium's website.

**Auction items:** Please start thinking about items that you might donate for the live auction and silent auction. The live auction and silent auction represent a major avenue for raising funds to help support travel grants for the Annual Sea Turtle Symposium, so please try to contribute an auction item. Information forms for auction items will be available from the Symposium's website - you can fill out the form prior to arriving at the symposium.

**Vendors:** We are hoping to locate the poster sessions, coffee breaks, and vendors within close proximity to one another, as well as the oral presentation room. Information for vendors who would like to reserve space at the 27th Annual Sea Turtle Symposium will be available on the Symposium's website.

**Coffee-break sponsors:** Please consider becoming a coffee break sponsor. You will be able to sign up to be a sponsor during on-line registration on the Symposium's website.

## NEWS AND LEGAL BRIEFS

This section is compiled by Kelly Samek. You can submit news items at any time online at <http://www.seaturtle.org/news/>, via e-mail to [news@seaturtle.org](mailto:news@seaturtle.org), or by regular mail to Kelly Samek, 127 E 7th Avenue, Havana, Florida 32333, USA. Many of these news items and more can be found at <http://www.seaturtle.org/news/>, where you can also sign up for news updates by E-mail.

### GLOBAL

#### **Saving Wildlife Also Saves Humans**

A study by the World Wildlife Fund (WWF) says that the so-called "species work" to protect threatened animals and plants in fact helps promote sustainable development in rural areas of countries such as Costa Rica. The report analyses case studies involving threatened species, including marine turtles in Costa Rica. The WWF study explains how poor rural communities are gaining through employment, social empowerment, income generation and access to meat from current conservation programmes. Gross revenues from sea turtle tourism in Tortuguero, Costa Rica in 2002 alone was estimated at 6.7 million dollars, mainly from lodging and transportation services, as well as souvenir sales, and national park and guided tour fees. The research shows significant improvements in the management and conservation of natural resources in the countries where such projects are based. In Tortuguero, Costa Rica, green turtle nesting reportedly increased by an estimated 417 percent between 1971 and 2003. Source: *Inter Press Service*, 21 March 2006.

#### **Sea Turtle Conservation and Shrimp Imports**

On April 28, 2006 the Department of State certified 38 nations and one economy as meeting the requirements set by Section 609 of P.L. 101-162 for continued importation of shrimp into the United

States. Section 609 prohibits importation of shrimp and products of shrimp harvested in a manner that may adversely affect sea turtle species. This import prohibition does not apply in cases where the Department of State certifies annually to Congress, not later than May 1, that the government of the harvesting nation has taken certain specific measures to reduce the incidental taking of sea turtles in its shrimp trawl fisheries -- or that the fishing environment of the harvesting nation does not pose a threat to sea turtle species. Such certifications are based in part on verification visits made to countries by teams of experts from the State Department and the U.S. National Marine Fisheries Service. Source: *U.S. State Department press release*, 2 May 2006.

### AFRICA

#### **A Side to Post-War Mozambique**

The tourist boom in post-war Mozambique is threatening a number of endangered marine species with local extinction. South African conservation organisations working in Mozambique are particularly worried about sea turtles and dugongs. Helena Motta, director of the WWF in Mozambique, said while tourism had contributed to the turnaround of the economy, more local people were turning to poaching protected species because some tourists paid money for their products. The WWF had embarked on a nationwide campaign to curb the sale of sea turtle shells in curio shops and stalls. Five

of the world's seven types of sea turtles are found along the Mozambican coastline. Under Mozambican legislation it is illegal to buy marine products as souvenirs or for art collections, but poor enforcement has resulted in an escalation of poaching. The WWF recently launched a "Wanted Alive" programme to educate school children about the dangers to marine species. Source: *Mail & Guardian*, 9 April 2006.

## THE AMERICAS

### **Scientists Urge Government to Keep Protected Areas for Endangered Sea Turtles**

On March 9th, 2006 the Pacific Fisheries Management Council will take its final vote to allow drift gillnets, also known as "curtains of death," and longlines back into vast protected areas along the Pacific Coast. A statement released by 133 scientists from 24 countries (74 from the U.S.) urges the Council not to proceed with the expansion of these two destructive fishing practices that injure and kill large numbers of sea turtles, marine mammals, seabirds and valuable non-target fish. Source: *Sea Turtle Restoration Project press release*, 7 March 2006.

### **Green Turtle Nesting Up**

Last year was the second best on record for green sea turtle nesting activity in Palm Beach County. There were 2,252 green sea turtle nests recorded in the county during the sea turtle nesting season, March 1 through Oct. 31 2005, according to Palm Beach County Environmental Resources Management. Palm Beach County numbers are generally representative of statewide turtle nesting activity, and 2005 was the best year ever recorded for green turtle nests statewide, Carly de Maye, environmental analyst with Palm Beach County, said. Leatherback nesting activity also has been increasing in the county and state, although not as dramatically, she said. The countywide total for leatherback nests last year was 284, including 35 in Palm Beach. For loggerheads, nest numbers in recent years have flattened or even decreased countywide and statewide, she said. Source: *Palm Beach Daily News*, 8 March 2006.

### **Student's Research Finds Raccoons Getting Bad Rap**

The removal of raccoons will likely continue on some Florida beaches, despite a scientific paper indicating that the ring-tailed rascals eat ghost crabs, which also eat sea turtle eggs. A paper by former University of Central Florida student Brandon Barton, a 24-year-old graduate working on a doctorate at Yale, challenges the practice of trapping and removing raccoons to protect sea turtle nests. The increase in ghost crabs after raccoons are trapped nullifies the benefit to sea turtles, Barton said. Seasoned biologists find the study interesting but not convincing. The Merritt Island National Wildlife Refuge has removed 25 to 30 raccoons from the beach each year for several decades. Biologists believe this practice has reduced the loss of sea turtle nests from 90 percent to an average of 6 percent. Source: *Florida Today*, 19 March 2006.

### **Federal Agency Cuts off Fishing for Isle Swordfish**

Hawaii-based longline fishing boats cannot fish for swordfish for the rest of 2006, a federal agency announced. Since January the 30 longline vessels fishing for swordfish have met their limit of 17 interactions with threatened loggerhead turtles per fishing year, said a

release from the National Oceanic and Atmospheric Administration's Fisheries Service. The cap on interactions, regardless of whether the turtle was killed from being hooked by the longline fishers, was set in 2004 as a condition of allowing Hawaii-based fishers to target swordfish again. Source: *Honolulu Star-Bulletin*, 23 March 2006.

### **Red Tide Causes El Salvador Turtle Deaths**

Wildlife Conservation Society scientists say a "red tide" event off the coast of El Salvador last year directly caused the deaths of some 200 sea turtles. WCS and other organizations released the results of tests conducted in January off the southern coast of El Salvador, to help determine why the ocean-going reptiles were dying in such high numbers. Tissues collected from dead turtles, and analyzed by U.S. biologists and researchers from the Mexican Autonomous University, revealed the culprit: saxitoxin, which is produced by the species of algae and sea plankton that cause the phenomenon known as "red tide," said WCS veterinary pathologist Julie White, who collected tissue samples in January. Source: *United Press International*, 23 March 2006.

### **Feds Slow to Act on Beach Walls**

Federal officials in charge of enforcing laws protecting endangered species were slow to get involved last year when property owners in Walton County began erecting sea walls at a frantic pace to protect their homes. Records show that a U.S. F.W.S. worker attended a July 12 board meeting where county commissioners approved the use of an emergency Florida statute that allows construction of temporary sea walls on sea-turtle nesting beaches to protect structures from falling into the sea. But it wasn't until November that the agency held a workshop to educate residents and government officials about requirements under the E.S.A. In January, the agency sent county commissioners a letter notifying them that the sea walls clearly violate federal law by harming threatened sea turtles and their environment. Source: *Tallahassee Democrat*, 26 March 2006.

### **Ocean Environmentalists to Sue Feds**

Oceana announced it will sue the federal government over funding cuts to NOAA Fisheries Service's Northeast observer program, which monitors how often fishing vessels interact with sea turtles, whales and other threatened or endangered marine mammals. Representatives from Oceana said the funding cuts will drastically reduce the number of days that observers ride on fishing vessels and gather catch data. Oceana sent a letter of intent to Dr. William Hogarth giving the head of the fisheries service a 60-day advance notice of the group's intent to file a lawsuit concerning violations of the Endangered Species Act. In March, AIS Inc. of New Bedford laid off 95 of its 120 fisheries observers after learning the fisheries service wanted it to observe 75 percent fewer sea days than in 2005. Source: *The Standard-Times/SouthCoastToday.com*, 6 April 2006.

### **Sea Turtle Deaths Rising in Southwest Florida**

An increase in sea turtle deaths so far this year has scientists concerned that remnants of the deadly 2005 red tide is lingering off the southwest Florida coast. Monitors recorded 76 turtle strandings between Pinellas and Collier counties this year compared to 66 for the same period in 2005. In 2005, red tide is believed to be the cause of 216 sea turtle strandings on beaches from Pasco to Collier counties between July and mid-October. Most of the turtles died.

Red tide is a microscopic algae bloom that emits a toxin that can kill fish and cause respiratory illness in humans. Remains of an offshore red tide may be responsible for the higher level of 2006 turtle deaths, said Allen Foley, a wildlife biologist at the Florida Wildlife Research institute in St. Petersburg. Source: *Associated Press*, 25 April 2006.

### **Endangered Turtles Make a Comeback**

Kemp's ridley sea turtles almost became extinct, but 50 nestings have been recorded in Texas and more than 4,000 eggs recovered for incubation this year. Sea turtle preservationists are growing more and more optimistic that a nearly 30-year project to save the ancient species from extinction is paying off. As recently as 1994, preservationists were pleased to see just one Kemp's nesting annually in Texas. Source: *UPI*, 13 May 2006.

## **ASIA**

### **Turtles Face Extinction from Nets, Resorts**

The marine turtle population in the Andaman Sea and the Gulf of Thailand has fallen to just 1,500, a senior official at the Natural Resources and Environment Ministry said. The number of hawksbill, green, ridley and leatherback turtles in the Andaman Sea and the Gulf of Thailand had fallen drastically over the past decade, said Marine and Coastal Resources Department director-general Maitree Duangawat. Sea turtles are dying in fishing nets while seaside resorts and tourist activities are destroying their egg-laying grounds, Maitree said. The number of leatherback turtles laying eggs on Phang Nga's Thai Muang beach and Phuket's Mai Khao beach had fallen to just a few over the past two years. Thailand has signed an inter-governmental agreement to conserve marine turtles and their habitat in the Indian Ocean and Southeast Asian region. Under the agreement, "the year of marine turtle conservation" campaign will be launched today, Maitree said. Source: *The Nation*, 1 March 2006.

### **UN Applauds Sultanate's Turtle Conservation Efforts**

The Sultanate of Oman's turtle conservation programme has aided in conservation and preservation of two renowned species of turtles, a UN environmentalist said. The two renowned populations of sea turtles (loggerhead and green turtles) have nesting sites on Oman's southern coastline and they are not only important for this region but also internationally. And Oman's long-term monitoring programme of the two important species of turtles has helped in conserving these turtles, Douglas J. Hykle, coordinator/ senior adviser, UNEP, said this to Times of Oman, on the sidelines of the Fourth Meeting of the Signatory States to the IOSEA Marine Turtle MoU, an international meet on protection of sea turtles. Source: *Times of Oman*, 13 March 2006.

### **Tsunami Wall Adds to Turtle Extinction Crisis**

Turtle populations in the Andaman Sea are at dire levels, with some species hovering on the brink of extinction because of natural and human causes such as tsunami walls. Wildlife experts estimate that there are less than five leatherback turtles left in an area that once teemed with them, while hawksbill and olive ridley turtles each number less than 100. One of the most important spawning sites for the four main species of Andaman Sea turtles that are critically endangered is the island of Phang Nga. As one of the worst-hit

areas in the tsunami disaster, local authorities have now built a 2.5-kilometre-long and one-metre-high concrete wall to try to minimise the effects of any future sea disasters. Instead, this wall is creating a disaster for the turtles. "The area is the last site along the Andaman coast where all four of the Andaman turtle species can be found spawning. The concrete wall is causing them great problems in trying to lay their eggs on the beach," said Songpol Tippayawong, the World Wildlife Fund (WWF) Thailand's head of marine and coastal resource unit. Source: *The Nation*, 16 April 2006.

## **EUROPE**

### **Mackerel Bait Reduces Sea Turtle Bycatch**

Earthwatch-supported scientists reveal that loggerhead turtle mortality by longline fisheries in the Mediterranean Sea can be reduced by as much as 80 percent if fishermen bait their hooks with mackerel and fish at slightly deeper depths. Scientists Ricardo Sagarminaga van Buiten (Spanish Cetacean Society) and Ana Canadas (Alnitak and University Autonoma of Madrid) spent 30 days working with local fisherman onboard a longline fishing vessel, where they conducted 15 experiments using a normal long line with forty baited hooks. When the fisherman substituted their traditional squid bait for mackerel and fished the hooks slightly deeper, the results revealed a significant reduction in turtle bycatch numbers, while the target swordfish catch remained the same. Source: *Earthwatch press release*, 2 March 2006.

### **Loggerhead Turtles in the Mediterranean under Threat**

Uncontrolled tourism and rapid development of Greece's beaches continue to effect the long-term survival of the largest nesting population of Mediterranean loggerhead turtles on the Greek island of Zakynthos. Some 800-1,100 loggerhead nests can be found in the National Marine Park of Zakynthos, but poor management and lack of government support is threatening the future of this endangered marine turtle. In January 2002, the European Court of Justice declared that Greece had failed to protect the loggerhead turtles in Zakynthos and was in violation of European Union law. WWF and other organizations focused on sea turtle conservation in the Mediterranean believe that the Greek government has not been enforcing a European Union decision to implement effective measures to protect the endangered loggerhead turtles. These issues are being put to the Greek government at the annual Symposium on Sea Turtle Conservation & Biology taking place in Crete, Greece from 2-8 April. Source: *WWF press release*, 5 April 2005.

## **OCEANIA**

### **\$700,000 for Turtle and Dugong Plan in the Torres Strait**

A plan for the management of traditional fishing for dugong and turtle in the Torres Strait will be boosted with an additional \$700,000 in funding, Australian Fisheries Minister Senator Eric Abetz, and Torres Strait Regional Authority Chair John T Kris, announced. Senator Abetz said the \$700,000 would be provided over two years from the Government's Natural Heritage Trust. "The additional funds will be provided through the NHT-funded North Australian Indigenous Land and Sea Management Alliance (NAILSMA) Dugong and Marine Turtle Project," he said. Source: *ABC Message Stick*, 15 May 2006.

## RECENT PUBLICATIONS

This section is compiled by the Archie Carr Center for Sea Turtle Research (ACCSTR), University of Florida. The ACCSTR maintains the Sea Turtle On-line Bibliography: (<http://accstr.ufl.edu/biblio.html>).

It is requested that a copy of all publications (including technical reports and non-refereed journal articles) be sent to both:

- 1) The ACCSTR for inclusion in both the on-line bibliography and the MTN. Address: Archie Carr Center for Sea Turtle Research, University of Florida, PO Box 118525, Gainesville, FL 32611, USA.
- 2) The editors of the Marine Turtle Newsletter to facilitate the transmission of information to colleagues submitting articles who may not have access to on-line literature reviewing services.

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