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

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SPECIAL CONSIDERATIONS RELATED TO THE IMPACTS OF THE INDIAN OCEAN TSUNAMI

1. In the immediate aftermath of the Indian Ocean tsunami, in response to requests for information on the status of turtle conservation projects around the region, as well as the tsunami's impact on vital turtle habitats, the Secretariat compiled preliminary assessments for most of the countries affected by this calamity (Annex 1). The Secretariat also provided daily updates through its "online clipping service", featured in the Headlines section of the IOSEA website. Approximately 50 tsunami-related news stories were posted on the site from the end of December through mid-March (see also the Report of the Secretariat, Document MT-IOSEA/SS.3/Doc. 5) for details.

2. This general overview was meant to address an immediate need to provide available information on these particular aspects of the tsunami disaster. The scope of the review was intentionally narrow. It did not purport to address the wider issue of human casualties or property damage, nor the urgent humanitarian relief effort – about which information was available from other sources. Much of the content was available in the public domain, but had not been compiled in one place. Having served their intended purpose, most of the assessments were last updated in early February.

3. Since that time, the United Nations Environment Programme (UNEP) released the report of its Tsunami Task Force, titled: "After the Tsunami: Rapid Environmental Assessment". The report is said to be the product of close cooperation between UNEP and national environmental authorities and experts. It provides a preliminary ground-level look at the tsunami's impact on various sectors of the region's environment, with a particular focus on Indonesia, Maldives, Seychelles, Somalia, Sri Lanka, Thailand and Yemen.

4. The report highlights problems in need of immediate attention, underscoring the strong link between environment and sustainable livelihood and the need for improved early warning and disaster preparedness systems. For several countries, the report provides information on the tsunami's impact on marine turtles and related habitats, including coral reefs, mangroves and sea grass beds – complementing that which appears in Annex 1. The assessment for Indonesia is particularly useful, as information on the tsunami's impact on marine turtles and their habitats in that country was lacking.

5. The 140-page report is available for downloading in PDF format, in its entirety or by individual chapters, from the publications section of the UNEP website (www.unep.org). The report is too voluminous to reproduce here; however the Secretariat has extracted the most relevant pages of each of the country assessments and will make these available as a separate information paper to be circulated at the meeting.

6. Within a couple of weeks of the disaster, an unprecedented mobilisation of resources took shape, with pledges of direct governmental support and involvement of a wide range of United Nations agencies and nongovernmental organisations. The massive relief effort that is well under way presents challenges of ensuring that the available funds are put to best use and, indeed, that there is adequate national capacity to absorb them efficiently.

7. Notwithstanding the devastating toll on human life and infrastructure in many of the affected countries, the picture that has gradually emerged over the past three months is that of the marine environment's considerable resilience. For example, though coral reefs were badly scarred in some locations, the overall incremental damage is much less than originally predicted, bearing in mind that many reefs had already been degraded by human activities before the tsunami struck.

8. Of the countries most badly affected by the tsunami, only Sri Lanka and Thailand are Signatory States to the IOSEA Marine Turtle MoU. A number of marine turtle projects run by non-governmental organisaions in both countries were badly impacted. Among them, the Turtle Conservation Project – TCP in Sri Lanka; and the Naucrates (Koh Phra Thong) and Wild Animal Rescue Foundation (Baan Talae Nork) projects in Thailand. Details of the damage inflicted, including loss of life, are described in Annex 1. The Secretariat has accepted a request from the director of the Turtle Conservation Project to present a first-hand account of the situation in Sri Lanka, and this presentation will be accommodated at a suitable juncture of the meeting. Reports from other countries would also be welcomed.

9. These and other affected projects have embarked on fund-raising drives to help rebuild their facilities and the local communities with whom they interact. Their plight has attracted considerable international attention and outpourings of support, as evidenced by their respective websites and various facilities set-up to receive charitable contributions (eg. through the www.seaturtle.org website). There is every reason to believe that all of these projects will recover and will be operational within a relatively short space of time, perhaps even within a year.

10. The Meeting of Signatory States is invited to consider what role the IOSEA Marine Turtle MoU might play in the overall recovery scheme, commensurate with its modest resources. For example, through what means might the MoU be used to:

- offer moral and other support to the affected projects, to assist in their speedy rehabilitation, hopefully strengthened in the process;

- ensure that important turtle habitats (such as nesting beaches, coral reefs, sea grass beds, and mangroves) are the focus of more detailed assessment studies, and thereafter recovery/rehabilitation projects;

- coordinate the collection and analysis of baseline data from around the region to determine short- and longer-term impacts on turtle nesting;

- influence zoning and reconstruction of coastal areas in such a way that sites of importance for marine turtles receive less disturbance from vehicle traffic, artificial lighting, and other threatening factors;

- focus attention on the specific problem of fishing nets that were washed out to sea by the tsunami, and were so transformed into "ghost nets" that could contribute to turtle mortality for years to come?

11. These are just some of the issues that the Meeting may wish to consider in more depth. The Advisory Committee, which meets on 28 March 2005, is invited to expand and elaborate on this list, and to make additional recommendations that seek to use the potential of the IOSEA Marine Turtle MoU to effect positive change.

Preliminary assessment of tsunami impacts on Indian Ocean turtle projects and habitats

India	
Contact Person(s)	IOSEA Focal Point: Not applicable
Overview	Extensive damage in Andaman and Nicobar Islands, and the States of Andhra Pradesh, Karela, Tamil Nadu and UT of Pondicherry. Extensive devastation to coastal fishing communities - high mortality and displacement of people. The tsunami affected a total of 2,260 km of the coastline, besides the entire Nicobar Islands. Death toll exceeds 9,000 and is likely to increase taking account of missing persons in the Nicobar group of islands (*Source: UN Office for the Coordination of Humanitarian Affairs - UNOCHA*)
Coral Reefs	No significant damage reported at any of 11 island sites and one mainland site surveyed in the **Gulf of Mannar** by the Suganthi Devadason Marine Research Institute *(Source: CORDIO/IUCN report of 25.01.05: www.cordio.org)* Reefs at **South Andaman Island** and **North Bay** (near Port Blair) not significantly damaged. Assessment of impacts on coastal marine biodiversity to be carried out by Reef Watch from 23 January. *(Source: CORDIO/IUCN report of 25.01.05: www.cordio.org)* India's Zoological Survey plans to initiate a detailed assessment of the damage caused by the tsunami to the reefs of the Andaman and Nicobar archipelago (Source: BBC News) Tuticorin-based Fisheries College and Research Institute (FCRI) is studying the impact of the tsunami on biodiversity and fisheries biomass, including coral reefs, from a base camp at Nagapattinam. Marine research institute attached to Manonmanian Sundaranar University reports that coral reefs in Ramanathapuram and Tuticorin districts have not been affected.
Nesting Beaches	Turtle nesting beaches of **South Andaman**, **Little Andaman** and **Nicobar Group** of islands have almost vanished -- impacting the reproductive potential of the turtles using these islands as nesting sites (Leatherback, Green, Hawksbill, Olive Ridley). *(Source: CORDIO/IUCN report of 25.01.05: www.cordio.org)* **Gahirmatha marine sanctuary** in Kendrapara district, famous for mass nesting of Olive ridley turtles, was affected by the tsunami but apparently experienced only minor impacts. However a number of fishing vessels were badly damaged. Forest Department personnel were there when the tsunami struck, but they escaped harm as their camps are erected at a safe distance from the coast. Nesting at Gahirmatha occurs on a cluster of islands: Barunei, Nasi-1, Nasi-2, Babubali and Agarnasi. Waves surged into the Babubali and Agarnasi nesting grounds, but there was only minor and negligible fragmentation and erosion of the sandy beach in some pockets. There was no indication of the tsunami surge in Nasi-1, Nasi-2 islands. *(Source: New Kerala, based on Forest Dept report)*
Other marine habitat	Gulf of Mannar, near the islands of Kariyachalli and Vaan: considerable amounts of seagrass washed ashore, but meadows adjacent to reef sites remained intact. *(Source: CORDIO/IUCN report of 10.01.05: www.cordio.org)*

Projects known to have been affected	Status
Andaman Nicobar Environment Trust (ANET)	Research project at Campbell Bay in Great Nicobar, included four scientists studying Leatherback and Olive ridley turtles. An online NDTV media report from 2 January (see Headline of 3 January) indicating that the lead researcher, Mr Ambika Prasanna Tripathy, had been found alive, was apparently incorrect. Aarthi Sridhar, Research Fellow, Ashoka Trust for Research in Ecology and the Environment, reported on 10 January that none of the researchers had been located. The Calcutta Telegraph reported on 12 January that a field assistant, Santosh Augu, had been found alive but badly injured, near Campbell Bay, 17 days after the tsunami. He had not seen any of his companions after being separated from them when the tsunami struck.
World Wide Fund for Nature	All WWF staff working in India's Andaman Islands and along the coastal regions of Chennai and Kerala are reported to be safe. They are currently assessing damage and the environmental impacts of several projects, including those involving devastated fishing communities along the coast.
Other remarks	
Information sources	UNOCHA, BBC News, New Kerala, WWF, CORDIO/IUCN
Last updated	7 February 2005

Indonesia	
Contact Person(s)	IOSEA Focal Point: Not applicable
Overview	As at 31 January 2005, death toll in Aceh and North Sumatra stood at more than 105,000 persons, and 125,000 missing, with more than 425,000 displaced people are living in temporary shelters and camps. Severe, widespread damage to infrastructure. (*Source: UN Office for the Coordination of Humanitarian Affairs - UNOCHA*)
Coral Reefs	No information available: does anyone know of any preliminary damage assessments?
Nesting Beaches	No information available: does anyone know of any preliminary damage assessments?
Other marine habitat	Unknown
Projects known to have been affected	**Status**
It is not known whether there were any turtle conservation projects operating in this part of Indonesia, that might have been affected. Operation Wallacea, in Suluwesi, was not affected and is helping to mobilise humanitarian relief efforts in Aceh.	
Other remarks	
Information sources	UNOCHA
Last updated	8 February 2005
Contact Person(s)	IOSEA Focal Point: Not applicable

Overview	Though fatalities are relatively low (less than 100), extensive flooding and infrastructure damage, and severe disruption to at least a third of the local human population. About 14 of 200 inhabited islands evacuated; and 29 of 85 resort islands severely damaged. (Source: UN Office for the Coordination of Humanitarian Affairs - UNOCHA)
Coral Reefs	Marine Research Centre reported that most damage occurred on the eastern side of the atolls in the central section. Some impacts reported in Northern section, but no damage reported south of the one and a half degree channel. (Source: CORDIO/IUCN report of 10.01.05: www.cordio.org) Coral reefs in Ari Atoll reported to be in good shape. An Australian team led by CSIRO (Commonwealth Scientific and Industrial Research Organisation) will assist with reef assessment/recovery.
Nesting Beaches	No information available: does anyone know of any preliminary damage assessments?
Other marine habitat	Unknown
Projects known to have been affected	Unknown
Information sources	UNOCHA, various newspaper accounts (Bangkok Post), CORDIO/IUCN
Last updated	7 February 2005

Maldives	
Contact Person(s)	IOSEA Focal Point: Not applicable
Overview	Though fatalities are relatively low (less than 100), extensive flooding and infrastructure damage, and severe disruption to at least a third of the local human population. About 14 of 200 inhabited islands evacuated; and 29 of 85 resort islands severely damaged. (*Source: UN Office for the Coordination of Humanitarian Affairs - UNOCHA*)
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Nesting Beaches	No information available: does anyone know of any preliminary damage assessments?
Other marine habitat	Unknown
Projects known to have been affected	Unknown
Information sources	UNOCHA, various newspaper accounts (Bangkok Post), CORDIO/IUCN
Last updated	7 February 2005

Seychelles	
Contact Person(s)	IOSEA Focal Point: Ministry of Environment, Director of Conservation; e-mail: chm@seychelles.net; Dr. Jeanne Mortimer (IOSEA Advisory Committee): e-mail: jmort@nersp.nerdc.ufl.edu
Overview	Extensive infrastructural devastation on coastline, damage to roads, private property on Mahe, as well as Praslin and La Digue. Greatest impact in areas with shallow offshore approaches and also in certain bays. Few human fatalities. (*Source: UN Office for the Coordination of Humanitarian Affairs – UNOCHA; Dr. Jeanne Mortimer*) Variable damage estimates (from 1% to 27% of colonies damaged) at four sites on the east and north-eastern coast of Mahe, surveyed at end of December. Extremely turbid water and considerable deposit of sediment on adjacent reefs. *(Source: CORDIO/IUCN report of 10.01.05: www.cordio.org)*
Coral Reefs	Greatest impact was on coral reefs below the reef crest, especially where corals were growing on a "rubbly" foundation. *(Source: Dr. Jeanne Mortimer*)
Nesting Beaches	Impact of waves was negligible, with little erosion. Outer islands, surrounded by deep waters, were almost entirely unaffected. *(Source: Dr. Jeanne Mortimer*)
Other marine habitat	Considerable amounts of debris caught in the mangroves. Some sea grass beds have been damaged, but no extensively. *(Source: CORDIO/IUCN report of 10.01.05: www.cordio.org)*
Projects known to have been affected	**Status**
None known to have been affected	
Other remarks	
Information sources	UNOCHA, Dr. Jeanne Mortimer, CORDIO/IUCN
Last updated	8 February 2005

Somalia	
Contact Person(s)	
Overview	About 200 deaths and significant damage of property reported along the coastline. Attention to date has been focussed on humanitarian relief efforts; little has been reported on damage to the coastal and marine ecosystem
Coral Reefs	Somalia does not have significant coral reefs, as compared to other parts of the Eastern African Marine Ecosystem.
Nesting Beaches	Somalia has some important nesting areas in the south that may have been impacted; surveys needed to evaluate actual extent of damage.
Other marine habitat	
Projects known to have been affected	**Status**
Information sources	A. Ngusaru, WWF-TPO
Last updated	6 January 2005

Sri Lanka	
Contact Person(s)	IOSEA Focal Point: Mr. Dayananda Kariyawasam, Director General, Department of Wildlife Conservation; e-mail: director@dwlc.lk
Overview	As at 31 January 2005, nearly 31,000 human fatalities, more than 5,000 missing, and over 550,000 displaced persons. 12 of 25 districts in the country have been severely affected, including considerable damage to infrastructure. Among them, the coastal districts of Jaffna, Mullativu, Trincomalee, Batticaloa, Ampara, Hambantota, Matara and Galle. *(Source: UN Office for the Coordination of Humanitarian Affairs - UNOCHA)*
Turtles	Along the coast between Mannar and Talaimannar, fishermen are reported to be killing turtles and selling the meat, which is said to be in high demand at 200 rupees/kg. Evidently, the public's aversion to eating fish rumoured to be contaminated by the effects of the tsunami has led the fishermen to resort to other ways of earning a livelihood. *(Source: BBC Sinhala.com, 01.02.05)*
Coral Reefs	In general, the reefs appear to have suffered much less damage than initially feared. Coral reefs were surveyed at 5 sites on south and south-west coasts, and one east coast site. Impacts were highly variable (patchy) among and within these (mostly shallow) sites -- ranging from almost unaffected to severe. Extreme mechanical damage at Dutch Bay (Trincomalee). Damage to southern/southwestern reefs was very patchy. Abundant litter and debris, and coral smothering, at some sites. Surveys were conducted by CORDIO, IUCN, NARA and Sri Lanka Sub Aqua Club *(Source: CORDIO/IUCN report of 25.01.05: www.cordio.org)*
Nesting Beaches	Severe beach erosion observed in east and southwest, but impact was patchy. *(Source: CORDIO/IUCN report of 25.01.05: www.cordio.org)* Tsunami impact on Rekawa beach was minimal. The Department of Wildlife Conservation had a field station directly on the beach, but staff were apparently able to flee to safety. Bundala beach, including its turtle hatcheries, was also spared due to presence of undisturbed sand dunes *(Source: Kapurusinghe, in Daily News, 04.02.05)* Kosgoda nesting beach, on the south coast, was struck by a wave 6m high, which traveled 1.5 km inland.
Other marine habitat	Only minor damage to seagrass beds on south/southwest coasts. *(Source: CORDIO/IUCN report of 25.01.05: www.cordio.org)*
Projects known to have been affected	Status
Turtle Conservation Project (TCP): www.tcpsrilanka.org	Project site at Kosgoda (operational since August 2003, employing 17 local nest protectors and six research officers): 3 nest protectors were killed, and all homes were destroyed within 200 m of shore. Kosgoda beach hut was washed away. Foreign volunteers and researchers escaped unharmed. TCP field station, located 1 km inland, sustained soil infiltration and heavy water damage to equipment, educational material and other property; however building structure remains intact. Immediate priority is to assess damage and provide basic humanitarian aid to local staff and their families. Damaged equipment and educational materials will need to be replaced. As of early February, the TCP project had recommenced volunteer beach patrols, and was attending to beach restoration activities. (Source: Kapurusinghe, in Daily News, 04.02.05)
Seacology Mangrove Resource Centre, Kiralakele: www.seacology.org	Tsunami relief fund will focus on rebuilding the local economy and infrastructure, to meet immediate needs of the village (fishing equipment, water supply systems, etc.)
Turtle hatcheries	Turtle hatcheries (for commercial tourism) along the coast have been largely destroyed and the turtles washed away. The hatchery at Bentota reported losing nearly 20,000 hatchlings and most of the juvenile-adult turtles kept in captivity (Greens, Olive ridleys and Hawkbills). Four

	hundred hatchlings and a handful of adult turtles were saved. In the aftermath of the tsunami, a new opportunity may present itself for the Department of Wildlife Conservation to reassert control over privately-owned hatcheries, with a view to having them conform to internationally accepted guidelines on hatchery management.
Information sources	UNOCHA, TCP project leader Thushan Kapurusinghe, CNN online, BBC online, CORDIO/IUCN
Last updated	7 February 2005

Thailand	
Contact Person(s)	IOSEA Focal Point: Dr. Maitree Duangsawasdi, Director-General, Department of Marine and Coastal Resources; e-mail: maitree@dmcr.go.th
Overview	High number of human fatalities (ca. 8,600 dead or missing) and extensive damage to coastal areas (holiday resorts, hotels, and private property) in the provinces of Phang Nga, Krabi and Phuket, which account for over 95% of the deaths reported (Source: *UN Office for the Coordination of Humanitarian Affaires - UNOCHA*)
Coral Reefs	The Department of Marine and Coastal Resources (Phuket Marine Biological Centre) reports that, in the broadest perspective, the tsunami impacts on coral reefs were small (i.e. less than expected, and less than that arising from other phenomena, such as depression storms, outbreaks of crown of thorns starfish, and coral bleaching). The department took the lead in conducting/coordinating assessments of nearly 175 coral reefs, in collaboration with marine scientists from eight universities. Only 13% of 174 coral sites surveyed were badly impacted, notably at Ranong, Surin Islands, Similan Islands and Phi Phi Island. Coral reefs around Satun, Phuket, Trang and Phang Nga were left virtually untouched. However, for those reefs that were badly impacted and which have been buried in sand since the tsunami struck, time is running out. The delicate recovery work needs to be done without delay (i.e. by mid-February), but the PMBC reports that there are insufficient funds to organise volunteer divers for this purpose. At least four reef areas of Koh Phi Phi and the Surin archipelago were reported to have been severely damaged. One survey indicated that half a square km of the total 8 square km of reef at Surin was ravaged by the tsunami. Damage to reefs around Phi Phi Islands was estimated at 20-25%. *(Source: Kasetsart University marine scientist Thon Thamrongnawasawat; and Niphon Phongsuwan, Phuket Marine Biological Centre).* There were early reports of severe damage to several shallow water coral reefs and woodlands along 10 tsunami-affected beaches in Phuket province. Shattered coral along 1 km stretch of Nai Yang beach (*Initial survey by Assoc. Prof. Somchai Sakulthap, Rajabhat Phuket University*) It was initially thought that about 5-10 percent of coral reefs were destroyed, with the remainder threatened by debris. Patong reefs were reported to be the most severely damaged. (*Survey of Kamala, Bang Tao, Kata, Naiyang and Patong beaches, by Sak-akan Plathong, Prince of Songkhla University*)

	Most deeper water reefs around Phuket and Phi Phi islands reported to be largely intact. Shallow water reefs around Nui, Lohlana and Pai islands partially damaged, under piles of debris, which needs to be cleared quickly to prevent irreparable damage. Currents are already helping to remove some of the sediment. Impact was most severe around Tonsai Bay: 80% of shallow water reefs covered by debris. Phi Phi Don and Yoong islands only slightly damaged. Similan Islands (95 km NW of Phuket): Most reefs were virtually unaffected; 10-20% were somewhat affected; and two sites severely damaged.
Nesting Beaches	Damage reported to beaches (not necessarily turtle nesting beaches) in: Phang Nga (approx. 8 sq km), Krabi (17 km severe, 12 slight), and Satun (< 1 sq km) Provinces. Damage to beaches reported to be "slight" to "none" in Phuket, Ranong and Trang Provinces. *(Source: UN Resident Coordinator Field Site Report #7, 12.01.05)* Extensive damage to large trees lining Mai Khao turtle nesting beach, Phuket. (*Survey by Assoc. Prof. Somchai Sakulthap, Rajabhat Phuket University*)
Other marine habitat	Damage to mangroves reported in Phang Nga (approx. 3 sq km) and Ranong Provinces (severe: < 1 sq km). No significant damage reported to mangroves in Krabi, Phuket and Trang Provinces. *(Source: UN Resident Coordinator Field Site Report #7, 12.01.05)*
Projects known to have been affected	**Status**
Wild Animal Rescue Foundation: Sea Turtle Conservation and Wildlife Sanctuary Project, Baan Talae Nork, Ranong Province: www.warthai.org	All project volunteers safe and accounted for; but many deaths were reported among local villagers on whom the project depends for day-to-day operations. The village at Baan Talae Nork (population less than 100) has been completely wiped out (at least 30 fatalities). WAR project site (bungalows, kitchen, main hall, garden, toilet etc) destroyed. Funding needed for immediate welfare needs and rebuilding.
Naucrates: Turtle conservation project, Koh Phra Thong, Phang Nga Province: www.naucrates.org	Project camp and infrastructure of the Golden Buddha Beach resort, in which the camp was situated, have been completely obliterated. Two project staff died, along with a number of residents/local staff of the resort. Project director, Monica Aureggi, has returned to Italy; all project activities have been suspended for the time being.
Tap Lamu naval base, Phang Nga	Breeding/conservation centre run by the Thai navy is in ruins; 2,000 turtles reported to have been lost.
Phuket Marine Biological Centre	Lost 18 breeding Olive ridley turtles from its ponds, but otherwise was not badly affected by the tsumami, as a nearby island shielded the facility from the full force of the impact.
Other remarks	Seven national parks on the Andaman coast have been closed indefinitely. Officials are conducting damage assessment, and restoration plans have been drafted. Four universities -- Chulalongkorn University, Kasetsart University, Prince of Songkhla University and Burapha University, will participate in the programme.
Information sources	UNOCHA, MCRD, various newspaper accounts (Bangkok Post, The Nation), project websites, personal communications.
Last updated	8 February 2005

United Republic of Tanzania	
Contact Person(s)	IOSEA Focal Point: Mr. Winfried Haule, Assistant Director of Fisheries; e-mail: wvhaule@yahoo.co.uk
Overview	Most significant impact was along the Dar es Salaam coast (11 fatalities reported, damage to fishing vessels)
Coral Reefs	Potential damage from sedimentation, wave impacts; further surveys needed in the coming months.
Nesting Beaches	Unusual sediment/sand accumulation on northern shore beaches
Other marine habitat	Large accumulations of fresh, green sea grasses on beaches, suggesting damage to bottom structures and potential effect on benthic communities
Projects known to have been affected	**Status**
None known to have been affected	**Mnazi Bay Marine Parks** reports no loss of life and no equipment/infrastructure damage. No damage to marine life reported; however sea is murky, suggesting that sedimentation may be an issue for corals. **Mafia Island Marine Park** reports unusually high and strong waves (about 3m high), but not very significant impact: no loss of life and no equipment/infrastructure damage. **Tanzania Turtle & Dugong Conservation Programme**: all the community turtle monitors and volunteers in Tanzania are reported to be safe and well.
Other remarks	No sign of fish, animal or turtles washed along the beaches north of Dar es Salaam.
Information sources	A. Ngusaru, WWF-TPO; Catharine Muir
Last updated	6 January 2005

Southern/Eastern Africa - other (Kenya, South Africa)	
Contact Person(s)	
Overview	Waves up to 3m high caused some damage and loss of life, but generally the impacts of the tsumami on these countries appear to have been negligible.
Coral Reefs	
Nesting Beaches	
Other marine habitat	
Projects known to have been affected	**Status**
None known to have been affected	Kenya: **Kiuanga Marine National Reserve** reports no loss of life or equipment/infrastructure damage South Africa, KwaZulu Natal coast: High (3m) waves reported, but damage may have been mitigated by the fact that the turtles normally climb far and high to avoid the normal 2m tidal change.
Information sources	A. Ngusaru, WWF-TPO; Dr. Ronel Nel, EKZN Wildlife
Last updated	6 January 2005