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MARINE TURTLE UPDATE

**Recent News
from the WWF Africa & Madagascar
Marine Turtle Programme**



Number 3 – February 2007

In 2002 WWF launched a new Africa and Madagascar Marine Turtles Programme. Building on over 30 years of experience in marine turtle conservation, WWF's new initiative aims to provide strategic field interventions to help guarantee a future for these threatened species.

The long term goal of the programme (25 years) is: *Viable populations of all five species of Marine Turtles in African waters are conserved.*

The Programme has four targets

1. Loss and degradation of critical nesting, inter-nesting and foraging habitats reduced or prevented in at least eight key sites by 2010.
2. Measures to control unsustainable use and trade of marine turtles and turtle products enhanced in at least six countries by 2010.
3. Incidental capture of marine turtles reduced in the territorial waters of at least six countries and in at least two pelagic fisheries by 2010.
4. Capacity for monitoring, research and management of marine turtles and their habitats enhanced in at least eight countries by 2006.

For further information on the WWF Africa and Madagascar Marine Turtles Programme, check our website: <http://www.panda.org/africa/marineturtles>

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This edition of *Marine Turtle Update* was compiled and edited by Sarah Humphrey & Sandrine Jiménez.

Marine Turtle Update provides recent news on the conservation work undertaken and supported by WWF in Africa and Madagascar to conserve marine turtles. The update is aimed at WWF staff and WWF's partners such as range state governments, international and national non-governmental organizations, and donors. It will be published at least once per year.

Cover Pictures (top to bottom): Leatherback turtle hatchling leaps toward the sea © WWF-Canon / Carlos DREWS. Breaking waves © WWF-Canon / Anton VORAUS. Hawksbill turtle, female heading back to the sea after laying eggs © WWF-Canon / Martin HARVEY

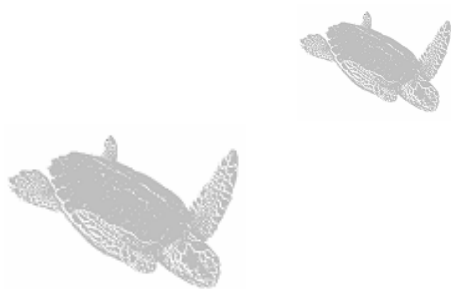
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Welcome!

Welcome to the third issue of the Marine Turtle Update, the occasional newsletter of the WWF Africa & Madagascar Marine Turtle Programme. This update features work undertaken by WWF together with national regional and international partners in Cape Verde, the Democratic Republic of Congo, Gabon, Guinea, Madagascar, Mozambique, Senegal and South Africa, contributing to conservation of the five species of marine turtles known to nest on the regions beaches.

The articles in this edition highlight the diverse threats faced by the region's marine turtles. Maria Honig reports on the findings of the Birdlife-WWF bycatch study in the South East Atlantic where a shocking 40,000 leatherback, loggerhead and olive ridley turtles are estimated to be captured by industrial longliners each year. Geraud Leroux of Geneva's Natural History Museum reports on the high incidence of the debilitating fibropapilloma disease amongst the green turtles of the Iles Barrens in Madagascar. And Bas Verhage reports on the consumption of olive ridley turtles observed during the first comprehensive study of turtles on the 40 kilometre coast of the Democratic Republic of Congo.

On a more positive note, these and other projects are beginning to engage a wide range of partners and stakeholders in turtle conservation initiatives. Alice Costa reports on the success of Mozambique's *Wanted Alive* campaign in meeting its target to reduce by 80% the volume of turtle products on sale in Maputo. WWF and other participants in Mozambique's first national marine turtle workshop are now looking forward to Mozambique signing the *MOU on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia*. And from West Africa, Mamadou Diallo and Birima Fall report on a successful campaign to reduce turtle meat consumption in Senegal, and on the role that a rapid assessment of marine turtle status in Guinea's remote Tristao archipelago played in mobilising community interest in conservation. Further south in Gabon, the ongoing beach monitoring programme in Gamba continues to see healthy numbers of leatherbacks nesting and has this year participated in WWF's transatlantic tracking programme.

We are grateful for the collaboration of many partners and for the support of the WWF network and other donors for the work described in this update.

Interdisciplinary project for conservation of marine turtles in the Maintirano region of Madagascar¹

Géraud Leroux, Field Coordinator
Geneva Natural History Museum

Background

Situated in the north-east of Madagascar, Maintirano is a small town and extremely cut off as a result of the absence or deterioration of roads and ports. The archipelago of the Iles Barrens extends between 15 and 65 kilometers from Maintirano and less than 500 km from the coast of the African continent. With its many kilometres of undeveloped and largely undisturbed beaches, the archipelago is frequented by the five species of marine turtles found in the Mozambique Channel (the green, hawksbill, loggerhead, leatherback, and olive ridley). The shallow waters harbour an abundant marine flora and fauna, rich in diversity but little known. The islands themselves are of coralline origin.



In the past the islands have been subject to occasional disturbance as a result of industrial fishing activities and for the extraction of phosphates. Nowadays the islands are visited only by traditional fishermen – the *Vezo* (meaning those who paddle) – who use the islands as a base for fishing expeditions lasting from ten days to many months. The fishermen are often considered to be semi-nomadic and make up a significant segment of the coastal population in Western Madagascar.

According to *Vezo* tradition, exploitation of turtles for their meat and eggs has always been practiced. Traditionally, turtles were hunted exclusively for subsistence consumption which would proceed according to a number of customary practices.

Depending on the size of the turtle, the meat would be shared amongst the family or amongst other community members. However in recent years exploitation has become commercialised and can be extremely lucrative.

In recent years, an estimated 300-500 marine turtles representing several species have been consumed each year in Maintirano and the surrounding area. This number may double if immature animals are included. Until now fishermen have been unconcerned about the sustainability of this activity as turtles remain numerous in the region. However a number of factors have justified an urgent intervention:

- increasing demographic pressure,
- a tendency to put short term financial gains before observance of customs,
- the current rehabilitation of the road that links Antananarivo and Maintirano which will substantially reduce the isolation of this area.

Before this project, there had been no scientific studies of awareness activities dedicated to marine turtle in the area though it is clearly an area of some importance in the population dynamics and ecology of turtles in the wider region.



The Project

The primary aim of our project is to address the current knowledge gap through a biogeographic study of the turtles and their habitats, as well as a sociological study on looking at the relationship between local people and turtles. Based on these results, the project will develop a conservation strategy that should be ecologically, economically and socially viable. This will entail both environmental education and awareness activities relating to marine biodiversity, and also the development of income generating activities that present acceptable alternative to turtle hunting. A feasibility study for a creation of a marine protected area is also envisaged.

The methodology employed for the studies is multidisciplinary – combining natural and human sciences – and above all entails a participatory approach with the local population. The project comprises collaboration amongst a dozen national and international organisations together with

¹ all pictures in this article are extracted from the project's website: www.tortuesilesbarren.org, except for leatherback and olive ridley shots above: © WWF-Canon / Roger LeGUEN and © WWF-Canon / Carlos DREWS, respectively.

private enterprises, each contributing according to their specialisation (See *Marine Turtle Update 2*).

The first year of operations on the ground has been dedicated to information gathering concerning the five species of marine turtles and their habitats and also the local population's interactions with turtles. A research database is being established.

One of the characteristics of the project is that we are, as far as we know, one of the few projects that has focused its data gathering on the capture of turtles at sea. Turtles are trapped using a large meshed net as they come to forage on reefs surrounding the islands. This highly skilled and very physically demanding technique is practiced from a traditional pirogue by a team of experienced fishermen. The project employs four fishermen of whom three are Vezo and all of whom were previously involved in hunting turtles or the sale of turtle products.



Before being released, the turtles are measured and tagged and samples are taken for genetic analysis. Each expedition lasts ten or more days and during this time we camp on the islands, bringing with us all the materials and supplies required for the duration of the stay (drinking water, food, camping gear, tarpaulins, petrol, and research materials). During the nesting season from December to March, we collaborated with a dozen US Peace Corps volunteers to set up a surveillance programme on nesting beaches. We were able to ensure a regular presence at the most important nesting beaches in order to prevent nest poaching (and capture of nesting females). Each nest is marked on a map and nesting dates recorded.

We have also established a collaboration with a fisheries association (*les pêcheries du Menabe et du Melaky*) which sometimes has an incidental catch



of turtles while fishing in the sediment rich waters near to the coast and is now tagging these animals. This has proved particularly complementary since we mainly encounter green and hawksbill turtles

around the islands while the fishermen report more loggerhead and olive ridley turtles.

In total during the past year, we have captured and/or studied over 350 turtles of which about a dozen had come to nest. Representation amongst species is very unequal with approximately 20 hawksbills, 10 olive ridleys, two leatherbacks and one loggerhead turtle recorded. The remainder were green turtles. Part of the data including some samples is currently being analysed at the laboratories of IFREMER on Réunion.

One of the more alarming discoveries of the project has been the high incidence of turtles affected by fibropapillomatosis, that was evident in more than 50 of the animals studied.



This illness is characterised by tumours on the softer areas of the turtles' skin that can grow as large as a tennis ball.

Often the disease appeared to be at an advanced stage with growths around the eyes seriously impeding the animals' vision and in some cases seeming to be infected themselves by small wormlike parasites. Remarkably all of the infected animals were captured around a single island, Nosy Maroantaly. Of the 220 turtles captured around this island, 23% were visibly affected by this disease yet not a single case has been found around the other islands. It's not clear whether this is pure chance or whether there is some other explanation. As far as we are aware, these are the first cases of fibropapillomatosis reported in the South West Indian Ocean.

One of the highlights of our excursions to the islands was the discovery in May 2006 of a coelacanth measuring 171 cm in length. It had been netted at some 140 metres depth by shark fishermen near to Nosy Lava.



The coelacanth was still alive when it was brought to the surface but had died by the time we joined the fishermen as they came ashore on the island. We were able to take some samples before the fishermen started to slice up the fish in order to dry the flesh for later sale. Unfortunately it would have been logistically impossible for us to bring this “dinosaur fish” to Maintirano before it rotted.

In conclusion, a little more than one year after the start of the project we can be satisfied with two main results:

- Firstly, thanks to the capture of over 350 turtles, we have been able to establish a database for research purposes. We expect to double this number in 2007.

- Secondly, since our establishment in the Maintirano area, the behaviour of local people towards turtles has substantially changed. While turtles and their eggs are still being consumed by fishermen on the islands it’s now extremely rare to find turtles for sale in Maintirano. This represents significant progress since before the presence of the project it was possible to consume turtle meat daily at the homes of the towns “turtle butchers”.

For further information about this project, contact Géraud Leroux geraud.leroux@freesurf.ch or visit the project website where a wide selection of photographs can also be found: www.tortuesilesbarren.org.



Towards long term monitoring in Gamba Complex, Gabon

Introduction

WWF has been training local staff to monitor marine turtle activities in the Gamba complex in the south west of Gabon, together with the local NGO Ibonga (www.ibonga.org) since 2002. Now, for the fifth consecutive season, a part of the world’s largest leatherback nesting population is being closely monitored by a six man strong team every night during the six-month nesting period (October-March) in order to unravel the still largely unknown population dynamics, foraging behaviour, nest ecology and threats. The focus of this programme is on leatherbacks because of their predominant presence in the area, though olive ridleys are also present and green turtles and hawksbills are recorded occasionally. The main objective of our Marine Turtle Programme is to conserve marine turtles by assisting the Government of Gabon in developing capacity to effectively manage the parks and reserves in the Gamba Complex by protection, monitoring, scientific research, building capacity and awareness-raising.

Methodology

The Monitoring Programme is executed on a daily, weekly and monthly basis. The daily monitored zone is 5.75 km of beach near Gamba. An additional 75 km of beach to the north and south of

the daily monitored zone is monitored on a weekly basis by quad bike. During the 2005/2006 and the 2006/2007 (current) season, the whole Gabonese coastline has been monitored by plane every month between November and March in cooperation with the partners of the “Marine Turtle Partnership of Gabon” (see *Marine Turtle Update 2*). This season (2006-2007), thanks to increased funding through the USFWS Marine Turtle Act to the Marine Turtle Partnership, we have been able complement ongoing aerial surveys with joint awareness-raising material and capacity building to create a state owned national database.



External (Monel) tags or transponder (PIT) tags
© WWF Gabon

Monitoring

Monitoring results show that leatherback nesting numbers vary every year (*Figure 1*). After just four

years of data collection, no population trend can yet be determined. In comparison, in Suriname long term data collection shows that the nesting population fluctuates annually, but an upward trend can be confirmed after 37 years (*Figure 2*). A continuous monitoring programme in Gabon is therefore of utmost importance in order either to confirm conservation success or to signal the need for a different approach to protection.

Figure 1
Numbers of leatherbacks and olive ridleys from 2002-2006 in Gamba

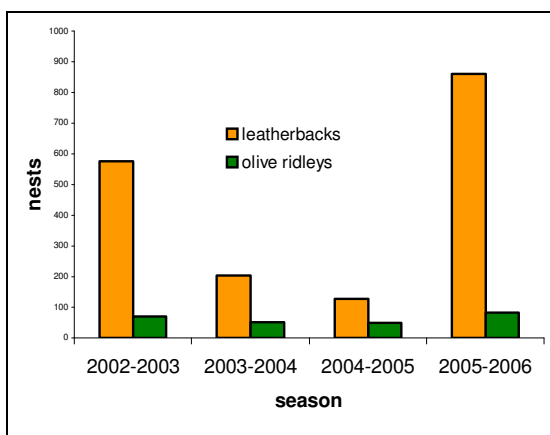
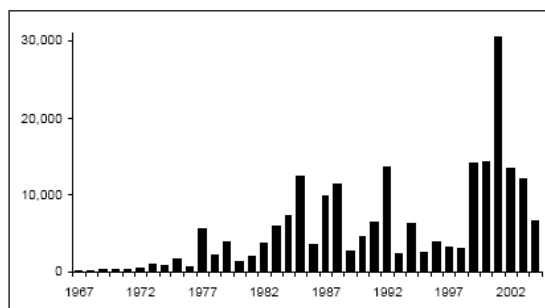


Figure 2
Nesting numbers in Suriname from M. Hilterman and E. Goverse (2004)



Threats

The main threats from human activities in the Complex are egg poaching as well as pollution of the beach with trash, light and oil. Thanks to the long term presence of the Ministry of Forest Economy (MEF) (since 1985), WWF (since 1992) and Ibonga (since 1999) direct human pressures are no longer at a level that endangers the survival of marine turtles. However significant numbers of dead turtles are found every year on the beaches in the south of Gabon between September and October. This might be caused by one of the many and still little monitored marine threats (fisheries, pollution). The greatest threat to the eggs and the hatchlings on the beach are natural: erosion,

inundation, destructive roots and predation by ghost crabs, monitor lizards and civet cats. A hatchery has proved effective in protecting eggs from these threats and has served at the same time as a tool to raise awareness amongst school children and tourists. Nest temperatures were higher in the nests in the hatchery than on the beach which led to shorter incubation periods. However, hatching success was comparable.

Migration

The use of external (Monel) tags and transponder (PIT) tags have shown that leatherbacks cover at least 100 km during intra-seasonal migrations and that their inter-seasonal migrations cover the entire Atlantic basin. The latter was demonstrated by the capture of a leatherback near the coast of Argentina in 2005 tagged in Gamba in 2003 (Billes *et al.*, 2006). WWF-LAC's Trans Atlantic Migration Programme is providing its additional information on the extraordinary migration of the heaviest reptiles in the world.

Thanks to funding of the European Union through RAPAC (*Réseau des Aires Protégées d'Afrique Central*), The Dutch Cooperation through CAFAP (*Central African Forest and Poverty Alleviation Programme*) and the United Nations Foundation through CAWFHI (*Central African World Forest Heritage Initiative*) WWF and Ibonga continue to work towards long term monitoring to protect locally, to safeguard nationally and to conserve globally.

For further information, contact:

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Transatlantic Voyagers: An update on Leatherback Migrations

During 2006, WWF's Latin American and Caribbean (LAC) Marine Turtle Programme expanded its satellite tagging programme to Africa in order to shed light on the migration patterns of leatherback turtles nesting in Gabon. Working in collaboration with WWF's Gamba programme the team tagged three adult female turtles – Caroline, Ibonga and Quasimoda – on Kinkere Beach in the Pongara National Park on 4-5 March, in each case after they had finished nesting.

The tracking is about to enter its second year with two of the three satellite transmitters still operational.

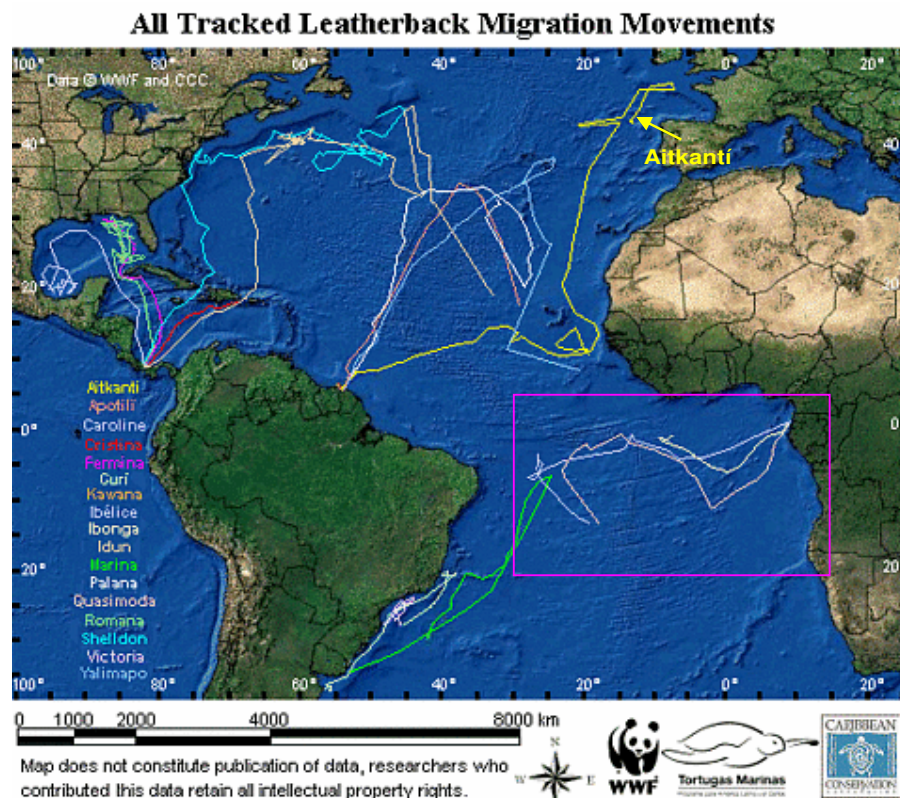
- Caroline was distinguished by the many shells on her carapace of 160 cm in length. Twenty nine sets of data have been transmitted since she was tagged, indicating that Caroline has travelled 6,764 km with a maximum recorded dive depth of 715 m. She reached within 1000 km of the Brazil coast in October but more recently has veered southeast and away from the coast.



Caroline © WWF-Canon

- Quasimoda – the smallest of the tagged turtles at 143 cm in shell length – was named after an unusual hump on her carapace. The 23 signals received from her transmitter indicate she has travelled some 6,337 km, and like Caroline is now travelling southeast after a long westward journey towards South America.
- The last contact with Ibonga was in July 2006, by which time she had travelled 2,814 km and had one recorded dive of 965m. Ibonga's transmitter may have been lost or damaged.

The migration routes highlighted in the box below show the connection between the turtles' African nesting sites and feeding grounds in the South-Western Atlantic, along the South American coast.



Location of tagging sites and current turtle locations map created by Dan Evans, Caribbean Conservation Corporation – Situation as of 29th January 2007. © WWF-CCC

In the meantime, Aitkantí whose journey from Suriname towards Cape Verde was reported in *Marine Turtle Update 2* has continued to transmit information on her epic voyage (shown in yellow). She has now travelled over 12,500 kilometres in cumulative distance, reaching within 215 km of the British coast in October 2006, some 17 months after her transmitter was attached.

Track the Atlantic voyagers online at:

http://www.panda.org/about_wwf/where_we_work/latin_america_and_caribbean/our_solutions/marine_turtle_programme/leatherback_tracking_project/tracking_logs/index.cfm

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A first stab at estimating turtle bycatch in the Benguela Current Large Marine Ecosystem

Maria Honig, Birdlife South Africa / WWF-South Africa Responsible Fisheries Programme

The Benguela Current Large Marine Ecosystem (BCLME) is a rich and diverse ecosystem off the coasts of Angola, Namibia and South Africa that supports five species of sea turtles, including the critically endangered leatherback and hawksbill. A three year project on bycatch in the BCLME (See *Marine Turtle Update 2*) has recently closed with some dramatic findings regarding the levels of bycatch in the South East Atlantic.

The Birdlife and WWF South Africa collaborative project, funded by the BCLME programme, the International Association for Antarctic Tour Operators (IAATO) and the Royal Society for the Protection of Birds (RSPB), tackled bycatch in the BCLME in a hands-on manner focusing on the urgent need to increase understanding of the little-known bycatch problem through the collection of verifiable data that could help in the practical management of these fisheries.

Data on bycatch was gathered through a variety of means including at-sea data collection and interviews. One of the key conclusions from our research, together with data extrapolation, is that approximately 40,000 sea turtles are being caught in the BCLME per annum. The project was able to map the catches in different zones and demonstrated marked differences in bycatch according to the level of fishing effort and presence of turtles. In South African waters approximately 200 sea turtles are caught each year by the South

African longline fishery, whilst in Namibia, the figure for the national pelagic longline fishery is 700. The remainder of the longline bycatch is accounted for by distant-water fleets including significant fleets from the Far East. In Angola, where large numbers of sea turtles nest, turtles are also caught by artisanal fisheries for consumption and for the market place. In South Africa, 16% of catches were the critically endangered leatherback sea turtle and 60% were the endangered loggerhead sea turtle.



©Thomas P. Petrik

Full details of these findings will be available in March 2007 when the major project outputs including final assessment papers (4 publications) on the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the BCLME will be launched.

A key component of the project was its outreach strategy that was delivered through training and awareness workshops, interviews, sea trips, development of a training manual, brochures and a range of related activities. The project organized numerous industry workshops with rights holders, boat owners and skippers and government agencies involved in research and compliance as well as scientists. Workshops were facilitated by Dr Deon Nel of the WWF Sanlam Marine Programme or by Samantha Petersen of Birdlife SA & WWF-SA Responsible Fisheries Programme. The Birdlife & WWF Responsible Fisheries Programme & Albatross Task Force made presentations on our work assessing and mitigating the impacts of the fishery concerned on seabirds, turtles and sharks as appropriate. In general the workshops were very well received and have provided a foundation for an ongoing working relationship with the industries and actors involved. Additional outreach activities included the distribution of over 2,000 sea turtle brochures on the impact of longline fishing on sea turtle species in South African waters during *marine week* in collaboration with a Coast Care project.

Although the pelagic longline sector can clearly be highlighted as a priority, another issue that requires further attention is the lack of bycatch data for other fisheries operating in the region. The need for education and awareness is also critical to resolving this issue and should be targeted at fisheries observers, managers, compliance officers and the fishing industry. Further engagement with the industry is imperative as their involvement is vital to ensure the implementation of solutions. There is also a major need for further development and demonstration of mitigation measures to reduce sea turtle bycatch.

At present, there are no mitigation measures in place that cover the entire BCLME region. The project has made recommendations to government based on its findings, with the hope that appropriate changes can be made in the fisheries. Since a large amount of this bycatch occurs on the high seas by distant water fleets we are also engaging with ICCAT (International Convention for the Conservation of Atlantic Tunas) through their ecosystem working group.

Acknowledgements: Now that the project has come to an end, we would like to extend our thanks to the RSPB, IAATO save the albatross fund, CapFish Observer agency, Percy FitzPatrick Institute

University of Cape Town, BirdLife International, BCLME, Marine and Coastal Management Department of Environmental Affairs, the specialised observers (Albatross Task Force and Namibian fisheries Research technicians), the skippers and fishing rights holders.

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First marine turtle conservation activities in Congo (DRC)

WWF has been supporting the first systematic investigation on marine turtle nesting and consumption along the 40 kilometer coastline of Africa's third largest country since September 2006. The local development NGO ACODES (*Action Communautaire de Développement et d'Encadrement Social*) was invited by WWF DRC to conduct a baseline study on marine turtles in the *Parc Marin de Mangroves* (Mangroves Marine Park) in the delta of the River Congo, the second largest river of the world, which encompasses the entire Congolese coastline.



© WWF DRC

The study involves nightly patrols on five stretches of five kilometers of beach and market surveys on the five most important ports and markets. Patrols and surveys are conducted three times a week in collaboration with the Park authorities (ICCN). Initial results indicate high numbers of turtles caught by fishermen and low nesting activities indicating a need for urgent conservation measures. In both cases the majority of animals observed were olive ridleys, with occasional observations of greens and leatherbacks.

Contact has been made with an NGO called Renatura (<http://renatura.9online.fr>) that deals with the same issues in the Republic of Congo. Renatura has initiated a programme where fishermen receive material support to fix their nets that are destroyed when they release live marine turtles. Comparable activities may be implemented next season in DRC if resources allow.

In the five months from September to January, 574 turtles were recorded as captured for consumption while 50 turtles were recorded nesting on the beaches (Figure 1). Given the 3-day-a-week presence, the inability to monitor all fishing activities, and the coverage of 25 out of 40 km coast, and extrapolating results to six months, we estimate that the true figures will be at least four times higher. Based on this calculation, we estimated that 2,000 turtles are slaughtered per season and that some 200 turtles nest on the 40 km of coastline of which 95% are olive ridleys. The majority of turtles caught in September and October are male olive ridleys indicating that there may be an important breeding area off the Congolese coast.

The numerous awareness raising campaigns launched by ACODES, revealed that the fishermen

still consider marine turtles as by-catch (though appreciated) and are willing to release them for a very small compensation. The fishermen appreciate the importance of the marine ecosystem and link this with their concerns to secure their future fish stocks. An interesting detail is that the fishermen have observed the mostly-Asian industrial fleet releasing turtles from their ships.

WWF DRC plans to strengthen its marine turtle conservation activities in the Park in the coming season to meet to the regional standards set by PROTOMAC (*Protection Tortues Marines Afrique Centrale*) and the Gabon Turtle Partnership (See *Marine Turtle Update 2*).

This article results from an invitation to the author from WWF DRC to reinforce local capacity for marine turtle conservation in the DRC.

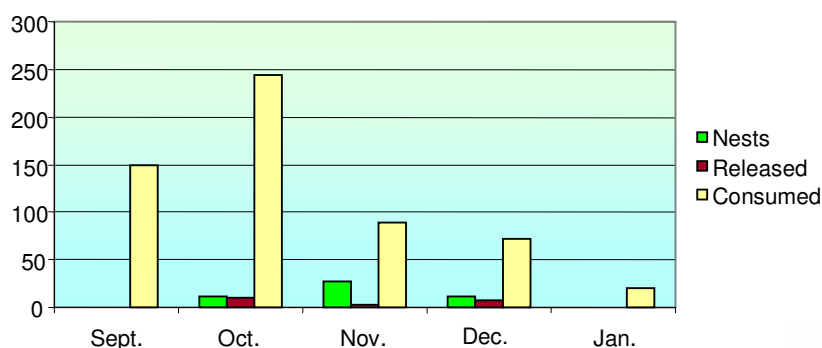
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Figure 1. Nesting, consumption and release of turtles recorded from Sept 06 to Jan 07



National workshop advances marine turtle conservation in Mozambique

In November 2006, the Centre of Development and Sustainable for Coastal Zones (CDS-MICOA), Mozambique Marine Turtle Working Group (GTT), and WWF organized the *First Workshop about Marine Turtle Conservation in Mozambique*. The workshop brought together 46 participants including Mozambican government institutions (Fisheries, Environmental and Agriculture), national and international NGOs, research institutions, the Senior Advisor for CMS/IOSEA, and experts from South Africa and Brazil.

The workshop provided the opportunity for all stakeholders working with

marine turtle conservation to identify areas of common concern, to harmonize the conservation programmes activities around the Mozambican coastal waters and to create a network of institutions and individuals contributing for the conservation of marine turtles in Mozambique and in the region. It provided a platform for the exchange of knowledge and experiences amongst practitioners, scientists and others involved in the protection of marine turtles in Mozambique.



Additionally, the workshop aimed to disseminate information on measures to protect marine turtles such as the use of TEDs by the shrimp fishing industry and of awareness campaigns to curtail the illegal curio market, and to agree on urgent actions to improve the conservation of these endangered species.



© WWF Mozambique

Objectives were:

- > To present the Mozambique marine turtle status report;
- > To publicize the turtle conservation work carried out in Mozambique and put national stakeholders in contact with turtle conservation programmes both regionally and internationally;
- > To discuss and identify practical management options at a local level that also satisfy national, regional and international responsibilities (such as marine protected area conservation targets, compliance with fisheries regulations);
- > To identify capacity building opportunities and strategies for local communities to ensure their active involvement in local monitoring programmes, and,
- > To present and discuss the draft strategy and action plan for marine turtle conservation in Mozambique.

The recommendations included the following:

- That the final version of the strategic and action plan for marine turtle in Mozambique prepared by the Mozambique Marine Turtle Working group be submitted to the Ministry of Action for Coordination and Environmental Affairs by the end of March 2007;
- That the Ministry of Action for Coordination and Environmental Affairs create a mechanism to formalize the adoption of the strategic and action plan;
- That the Ministry of Action for Coordination and Environmental Affairs accelerate the process for Mozambique to sign the IOSEA MoU by the end of 2006;
- That the strategic and action plan be adopted as the legal instrument to orientate the marine turtle conservation programmes in Mozambique.

Acknowledgements:

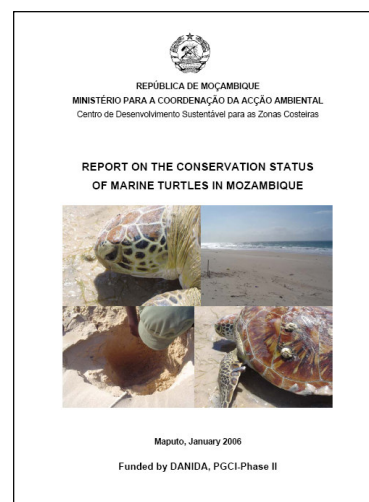
The workshop was co-organized by the Ministry of Action Coordination and Environmental Action Affairs (CDS-MICOA), Mozambique Marine Turtle Working Group (GTT), WWF, Centro Terra Viva (CTV) and *Forum para a Natureza em Perigo* (FNP). With support of WWF, Conservation International (CI), and the IUCN/SSC Marine Turtle Specialist Group (MTSG).

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Further reading:

Louro, C. M. M, Pereira, M A M, Costa, A. (2005). Report on Conservation Status of Marine Turtles in Mozambique. 45 pp. Maputo, Report submitted to MICOA.
Available online at :

http://www.ioseaturtles.org/MessageBoard/MZ_TurtleConsStatusRpt-CDS-ZC_Jan2006.pdf



***Wanted Alive!* Campaign update**

WWF Mozambique's three year awareness campaign about marine species in Maputo City has achieved its goal to reduce the volume of turtle shell sold in the curio markets in Maputo city by 80% compared to levels measured during the April 2004 baseline study for the awareness (See *Marine Turtle Update 2*).



Shell market curio sales (April 2004)
© WWF Mozambique

The initial study revealed that the marine turtle products inside shops and galleries consisted of well-crafted and high quality jewellery, apparently fashioned within the shops and mostly using hawksbill carapaces. Some products were further elaborated with wood and ivory. Products available on the pavement markets were poorly crafted and prices varied between USD 1-150 per item. Entire varnished green and loggerhead turtle carapaces were also found, priced from USD 50 -200.

A follow-up survey undertaken in October 2006 indicated a substantial reduction of turtle shell

products in the markets after more than a year of public awareness work (Costa & Motta, 2006). One year later, a survey of 14 shops in Maputo city conducted by TRAFFIC in November 2006, has confirmed that there are fewer products overall and that these show less diversity. Some shops no longer stock turtle shell products: instead there is considerably more bone on sale.

Rapid assessments have also been undertaken in other provinces. The results from Beira in Sofala Province, where 10 shops were visited, are typical. They suggest that marine species, and particularly turtle shell products, are not a major focus of the curio trade. Instead the market is targeting products such as skins and horn from non-marine species.

However in Pemba, the capital of Cabo Delgado Province in the north of Mozambique, it is still common to see turtle products on display on pavement stalls and in curio shops. We plan to launch the *Wanted Alive* campaign here during 2007 and look forward to similar success to that we have seen in Maputo.

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Reference

Costa, A & H. Motta. 2006. *The marine turtle products in Maputo city markets*. The 26th Sea Turtle Symposium 3-8 April 2006, Island of Crete, Greece



"Tortoiseshell" leopard in Maputo shop (April 2004)
© WWF Mozambique

Successful public awareness campaign in Joal Fadiouth (Senegal)

A survey conducted during WWF WAMER's 2006 public awareness campaign for the protection of marine turtles has indicated that there has been a decrease in marine turtle capture, trading and consumption. In the past, between 10 and 50 marine turtles were landed per year by the fishermen of Joal Fadiouth. According to the survey there are now only occasional landings and the number of marine turtle traders has decreased from 60 to five.

Large numbers of turtles are found in Senegal's coastal waters during the June to September rainy season. At the same time, the inhabitants of Joal Fadiouth, about 115 km from Dakar, are known for their taste for marine turtle meat. During the 2006 rainy season, WWF collaborated with the community of Joal Fadiouth to design and implement a series of actions with the goal to reduce the capture, the trade and consumption of marine turtles. The participatory approach is at the heart of the project's success.

The campaign was launched by a community-organized clean-up operation of the main marine turtle nesting site in Joal Fadiouth. Around 200 people were mobilised and were rewarded with T-Shirts emblazoned with the message "*I protect marine turtles*". The event was covered by over a dozen journalists from print, radio and TV and resulted in extensive national media cover.

Ten days later WWF collaborated with local fishermen association to organize a wrestling competition, drawing on the strong attraction of Senegal's national sport. Further T-shirts and leaflets were distributed. A series of further events provided opportunities to reach different segments of the community with messages about the need to protect marine turtles:

- Elderly people play a key role in the community in Joal Fadiouth and a special dialogue was organised with them to discuss the need to protect marine turtles;
- Youngsters were targeted through the organisation of a rap concert;
- Women and the young people were reached through a traditional dance party organized at the end of the campaign.

The results of the general survey conducted during the campaign have been shared with the community and a further survey to assess the effectiveness of the different communication tools used during the campaign is being conducted by a student. As a follow up and to prevent traders in particular from slipping back into their former activities, WWF is

developing a credit support programme to help those that were involved in the trade of marine turtles to develop alternative income generating activities.



Youth of Joal Fadiouth rap for turtles
© WWF WAMER.

Acknowledgements: WWF WAMER coordinates the Marine Turtle Programme within the Regional Programme for Marine Conservation in West Africa (PRCM), a partnership initiative with FIBA, IUCN and Wetlands International.

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Scoping mission mobilises turtle conservation in Tristao Archipelago

A recent scoping mission in the Guinea's Tristao Archipelago generated the commitment of the regions' 23 villages to protect marine turtles. This mission also enabled us to gather preliminary information on the status and utilisation of marine turtles in this remote part of the WAMER ecoregion, including through the surveying of some 20 km of beach:

- We found carcasses of adult female green tortoises (*Chelonia mydas*) that appear to have been discarded by trawlers before being washed ashore. It's not yet possible to assess the scale of the bycatch.
- We investigated anecdotes regarding the nesting of the hawksbill turtle (*Eretmochelys*

imbricata) but could not verify these. One informant claims to have seen about ten sets of tracks associated with a double nesting season (April-May and August-November). The animals are reportedly captured both offshore and during nesting and killed for their meat. Eggs are also harvested and consumed. We found one carapace of about 30cm in length that supports the reported presence of immature hawksbills in the area.

- Several informants said that leatherbacks (*Dermochelys coriacea*) used to nest locally and recalled that a female with eggs was killed one January about ten years ago. There is no current evidence of nesting on the islands but corpses have been found on the beaches. The meat of the leatherback turtle is considered too fatty for consumption, although one informant said that fat is sometimes burnt off the meat to make it palatable.



Community meeting in Tristao Archipelago
© WWF WAMER

We organised a community meeting to discuss our findings with representatives of the 23 villages constituting the archipelago of Tristao. The discussions reinforced our understanding that the populations of turtles has significantly declined in the archipelago. Two main causes were identified as fisheries (incidental and deliberate capture by the small-scale fishery, trawler bycatch) and the consumption of eggs. The discussions concluded in a consensus on the urgent need to protect marine turtles. The village representatives made honour-bound statements to ensure the conservation of the marine tortoises in the archipelago.

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Training group assists in Cape Verde satellite tracking programme

During September 2006, WWF organized a training camp on the island of Boa Vista for 13 participants active in marine turtle conservation from five of the six countries of the West African Marine Ecoregion (Cape Verde, the Gambia, Guinea, Mauritania and Senegal). The participants were able to develop their knowledge and capacities in field techniques related to species identification, the identification and counting of nests and tracks, and techniques for attachment of transponders for satellite tracking. Each will apply these in skills in their home country.



Attachment of a satellite transponder

During the course, participants assisted in the fitting of a satellite tag to an exceptionally large female loggerhead turtle (91 cm in shell length). The turtle was named *Fogo* after one of the islands in Cape Verde archipelago. After the nesting season, Fogo swam eastwards towards the Banc d'Arguin National Park in Mauritania. She has stayed in this area since November 2006.

Track Fogo's progress online at:
<http://www.seaturtle.org/tracking/index.shtml?keyword=Fogo>

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WWF's International Smart Gear Competition

Fisheries bycatch is the leading threat to many endangered marine mammals, cetaceans, sea turtles, seabirds and certain fish species.

WWF and our partners created the International *Smart Gear* Competition to inspire innovative, practical, cost-effective ideas that allow fishermen to “fish smarter” – to better target their intended catch while reducing bycatch.



\$30,000 GRAND PRIZE

TWO \$10,000 RUNNER-UP PRIZES

Entry Deadline: July 31, 2007

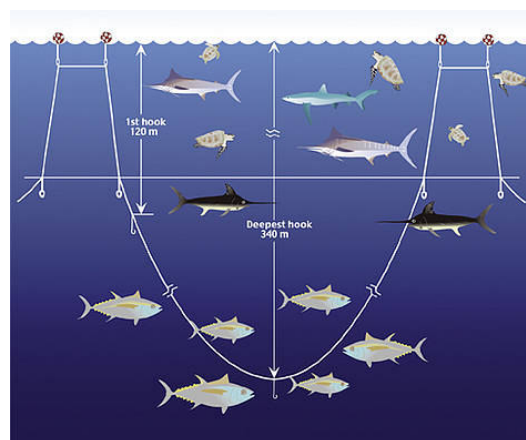
What's **your** innovative idea
for reducing bycatch?

The competition is open to all – fishermen, professional gear manufacturers, teachers, students, engineers, scientists and backyard inventors.

For details on how to apply for the 2007 competition, see <http://smartgear.panda.org/>

In 2005, the grand prize was awarded to an innovation specifically designed to address marine turtle bycatch: “*Deep longline setting to catch more targeted fish and avoid bycatch*”.

The new gear modifies the longline fishing technique for tuna and day swimming swordfish. It sets all baited hooks below 100 m, out of range of most sea turtles and other bycatch species, but within the optimum range of the main target species, using lead weights and paired floats and the mainline as long floatline.



© Smart Gear / Youngmi Choi

The first prize was voted unanimously. The idea is simple, inexpensive, relies on basic ecological research and modifies existing gear so fishermen will not have to buy or be trained on complicated new gear.

More information:

http://smartgear.panda.org/smartgear_winners/



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WWF is the world's largest and most experienced independent conservation organization. It has 5 million supporters and a global network active in 100 countries.

WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature by:

- conserving the world's biological diversity
- ensuring that the use of renewable natural resources is sustainable
- promoting the reduction of pollution and wasteful consumption.



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