

Coastal development in South Africa Implications for sea turtle conservation

George R. Hughes

183 Amber Valley, Private Bag X 30, HOWICK 3290, South Africa
Email: george.hughes@juncapped.co.za

As an introduction it must be pointed out that South Africa is a marginal country for sea turtles and is host to the southernmost nesting populations of loggerhead (*Caretta caretta*) and leatherback (*Dermochelys coriacea*) turtles in the world. Both species nest on the east coast immediately south of the border with Mozambique, with which country the two nesting populations are shared.

South Africa, like many countries, went through a long phase of unplanned coastal development with predictable results where developments encroached on beaches. Recent extreme weather events have caused extensive damage in many areas. Over the past 50 years, a series of more effective coastal planning legislation has been promulgated and this has greatly improved development impacts. However, South Africa shares the problems of many developing countries when it comes to mega-projects, be they harbours or industrial complexes. The sheer magnitude and costs of such schemes overwhelms legislative controls accompanied by the granting of exemptions from normal restrictions, all in the “national interest”.

The benefits of long term planning

When the regional conservation authority of the day, the Natal Parks Board, became aware that there were sea turtles nesting on the beaches under its jurisdiction (then the province of Natal), it was fortuitous that the area was very remote and completely undeveloped. Access to the beaches was difficult in the extreme, requiring many hours of travel over unpaved roads and bush tracks and necessitating the crossing of large rivers by boat.

When the first turtle season had been investigated it was decided that obtaining formal protection for the nesting area would be a priority. The first proposal to have the beaches included in a marine reserve was made in 1966 but there was little

official state interest because the area was under the control of the Central Government Department of Bantu Administration. It was only through the Department of Sea Fisheries that the first section of the coast was declared as the St. Lucia Marine Reserve in 1976 with the most important sea turtle nesting beaches being included in the Maputaland Marine Reserve in 1979. In a parallel move, the coral beaches offshore and the adjacent coast were registered as a Ramsar site. Thereafter followed another two achievements which saw the terrestrial area adjacent to the beaches proclaimed in 1984 as the Maputaland Coastal Reserve by the then Bureau of Natural Resources of the KwaZulu Self Governing Territory and later in 1990 the former Sodwana State Forest was incorporated into the Greater St Lucia Wetland Park.

In 1999 the Greater St Lucia Wetland Park in its entirety was listed as a World Heritage Site (Natural) making the management of the sea turtles accountable to the global community. This is the highest level of protection that any country can achieve for its biodiversity. As a closing note the name of the protected area has been changed in 2007 to the iSimangaliso Wetland Park.

The World Heritage Site listing effectively provides global protection to a site as the signatory country is now accountable to the World Heritage Site Convention which, if linked with the country’s membership of the Convention on Biodiversity, the Ramsar Convention, Cites and CMS all emphasise the value of the site and the animals associated with it.

The necessity for public awareness

For most elements of biodiversity conservation, and that certainly includes marine turtle conservation, it has proved essential to pursue the Precautionary Principle with dedication in order to

ensure the highest degree of protection. In South Africa's case, the marine turtle beaches are now totally contained within a World Heritage Site and theoretically buffeted against undesirable development threats by a broad selection of binding and non-binding instruments, one of which is the IOSEA Memorandum of Understanding.

However, before all these instruments were in place there were regular threats to the beaches which survived through combinations of the protection measures in place at that time along with a constantly strengthening public awareness and support for the nesting turtle populations.

The first threat was a political move to give Swaziland access to the sea through South African territory in order to develop a deep water harbour, the mouth of which would have been situated right in the heart of the most densely utilised loggerhead nesting beaches. The public (see for example Hughes, 1982) and political outcry over this project resulted in the State abandoning the concept. This was followed in 1993 by the refusal of a heavy mineral sand mining concession in the south of the protected area and, as a result of the consolidation of the diverse sections of the Park, the very positive timed removal of exotic timber plantations established by the Department of Forestry in earlier years. All these results, achieved through an aware and concerned public, have greatly enhanced the integrity of the protected area.

Development by choice

Having placed the entire South African nesting beaches within a formally protected area managed by a responsible conservation authority, it has proved possible to dictate, to a satisfying degree, the speed, models and scale of developments. Within South African protected areas all developments are controlled through appropriate management plans. It is therefore possible and practicable to define the conditions under which tourism developments may proceed.

In the specific case of the turtle beaches, apart from the St Lucia village (a local authority established long before the discovery of the value of the adjacent beaches as turtle nesting grounds, and now completely surrounded by the protected

area) there are both private sector and public sector tourism developments. In South Africa, there are a number of conservation authorities that enjoy para-statal status and run extensive tourism businesses, the profits of which are used to support conservation. In KwaZulu-Natal, the income derived by Ezemvelo KZN Wildlife (the successor to the Natal Parks Board) from business activities runs into millions of Rands per year.

However funded, all tourism developments must meet strict standards:

- The development must be limited in size – generally less than 200 units.
- No high rise designs.
- The development must be well setback from the beaches. Presently, these setback lines are set at hundreds of metres.
- Construction must be of natural materials (thatched roofs, wooden or reed walls).
- Waste disposal must meet extremely high standards.
- Energy saving measures must be part of the design.
- The management of tourists must be defined in the master plan especially those involving interaction with the sea turtles.
- Private sector developments must include an arrangement with the local community to guarantee benefits either through profit sharing or equity (shareholding).

Ezemvelo KZN Wildlife has an extremely successful system which levies modest charges on every tourist activity and the funds are channeled into a Community Development Fund. Since introduced by the Natal Parks Board in 1998 this Fund has provided over R 30 million for community projects.

Turtle tour concessions

Additional values of private sector development lies in their involvement in turtle protection and research. Within the protected area certain private sector facilities are so situated that they can operate turtle tours during the nesting season. There is considerable competition for turtle tour concessions and they are eagerly sought after as high value assets.

Each year, the three available concessions have to be tendered for and are annually attracting higher fees, those in the premier sections of beach paying as much as R 100 000 for a concession. Once a concession is granted, the private sector staff has to undergo training in order that they are fully integrated into the seasonal research and monitoring programmes. Staff tag nesting turtles, record their statistics and record all nests and tracks. All such records are regularly submitted to Park researchers. In addition, the presence of tourists on the beaches acts as a deterrent to would-be poachers and reduces the destruction of nests by feral dogs or even more natural predators such as jackals.

If the concession is very successful, as most are, there are often bonus benefits such as voluntary contributions towards the turtle project. These take many forms; paying salaries of local staff, the purchase of equipment such as tags and satellite transponders, sponsorship of local school educational programmes and the raising of funds from tourists who are often only too willing to make a contribution to the turtle work.

It is noteworthy that immediately north of the border in Mozambique (which shares the nesting populations) several private sector operations carry out sea turtle monitoring programmes at least one of which has direct links with the South African programme using flipper tags from the local programme. At the end of each season a full report is supplied to the mother programme and the data integrated into the South African report.

It must be concluded that the inclusion of the research and monitoring programmes in the publicity materials of the concessionaire has proved of great value but not as much as the public support derived from direct participation in the turtle work. Such participation has been beyond price.

Public awareness

Successful turtle conservation depends to a very marked degree on high levels of public awareness. As mentioned above, over the past forty five years

the support and empathy derived from influential citizens (political, public and private) has helped enhance the integrity of the protected area and ensured the maintenance of the turtle beaches in a pristine state. In South Africa, the sea turtle has achieved an icon status as a result of the programmes to enhance public awareness through education, publicity and participation. All this has been achieved in a country which is a marginal sea turtle habitat.

Recommendations

The recommendations are:

- Plan for the long term; it is never too early to start calling for enhanced protection.
- Mobilise every possible conservation and protection instrument, local, national and global.
- Publicise the turtle programme, especially to influential politicians.
- Encourage public and private sector involvement in the protection programme.
- Encourage, dictate and control tourism developments.
- Integrate tourism activities into turtle conservation programmes. (However, take care not to introduce tourist activities that put the turtle populations at risk).
- If at all possible, structure conditions attached to tourism that promotes flows of real benefits to local communities.

Conclusions

There are encouraging signs that in other countries in the south western Indian Ocean similar programmes are bringing benefits to nesting sea turtles. There are numerous protected areas with monitoring showing clear signs of increasing populations and there are many programmes where tourism is being of great help with private sector operators taking the initiative to protect nesting turtles.

However, there are problems as coastal development planning is still weak in Mozambique and Madagascar and there are plans to develop a deep water harbour in southern Mozambique

which, if built, will definitely influence the future survival of nesting sea turtles in Southern Africa. On the other side of the coin Mozambique is about to declare a huge marine reserve which

will include the Primeira and Segundo Islands north of the Zambezi River estuary which will include green and hawksbill turtle nesting beaches.

Literature cited

Hughes, G.R. 1982. The beacon fades at Bhanga Nek. *African Wildlife* 36 (4-5): 131-134.

Local communities and the Dharma debate: An interview with Mangaraj Panda, Coordinator of the OMRCC

Aarathi Sridhar

*Dakshin Foundation, 2nd Floor, "Gowri Nilaya", Behind Baptist Hospital, Vinayak Nagar, Hebbal, Bangalore 560024, India
Email: aarthisridhar@yahoo.co.uk*

The most audible opponents of the Dhamra Port project have been conservation organisations such as Greenpeace, turtle biologists and environmentalists from across the country and beyond. The positions of some of these organisations have been recorded in previous issues of the IOTN (Issue 1 and 8). Most of these groups are galvanised into action around the impacts this port poses to the olive ridley turtles that come to this region. The main point of contention is that this port, located on the Orissa coast is minor only in classification¹ and in reality will have several negative impacts on the ecosystems of the region.

This port project along with several coastal infrastructure projects has been opposed by fisherfolk organisations who believe that these projects negatively affect the traditional fisher communities of the region. The National Fishworkers Forum and the Orissa Traditional Fish Worker's Union have documented their protest against the Dhamra Port project.

The Orissa Marine Resources Conservation Consortium (OMRCC) is an independent body

comprising of traditional fishworkers, scientists, civil society organisations and individuals concerned with the conservation of marine resources and livelihood security in Orissa's coastal areas. The Orissa Traditional Fish Workers' Union (OTFWU) is a member of the OMRCC. I interviewed Mangaraj Panda, the Convenor of the OMRCC who spoke about the opposition to the Dhamra port project and the nature of the agitation against it.

Aarathi Sridhar: From your point of view, what will be the impacts of the Dhamra Port on the marine life, ecosystems and livelihoods?

Mangaraj Panda: The Dhamra port is very close to the Gahirmatha Marine Sanctuary, so definitely it will have a negative ecological impact especially on the endangered (saltwater) crocodile, horseshoe crab and olive ridley turtle. Definitely, the people who depend on coastal and marine resources will be deprived and only outsiders who are technically sound - technical experts will get benefits from this. The others whose literacy level is low, and who don't have any expertise in any other sort of income generation other than fishing, will be deprived and they will become the servants of those officials and officers and the women will become housemaids to earn a livelihood. All sorts of notorious elements will arrive such as stevedore

¹ According to the Indian Ports Act, any port governed by the State Government is classified as a minor port and other ports are classified as Major Ports.