

## A brief report on the 2015/16 monitoring of marine turtles on the Sao Sebastiao peninsula, Mozambique

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### **Executive summary**

*The Sanctuary has successfully concluded its 6<sup>th</sup> year of marine turtle monitoring and protection. Turtle track numbers are slightly lower than last year, but still higher than the years before and since the first year of real protection and numbers of turtle nests have increased. The good news is that there were no reports of turtle poaching or nest robbing on Sanctuary shores, however, we do not know the impact of the commercial trawlers and longlines fishing along the East coast of Mozambique. The excellent news is that we have now confirmed that the **critically endangered leatherback turtle nests on Sanctuary**, an over 400 km northwards extension of their known nesting area. The around 25 km of shore patrolled by Sanctuary is effectively the only area where it is safe for turtles to nest for many kilometres north and south of Sanctuary. Sanctuary monitoring is now fully integrated with the Mozambican and international turtle monitoring network. Sanctuary turtle monitoring again benefitted the local community through monitor salaries and skill development.*



## Introduction

Worldwide, there are seven species of sea turtles; five of these are found in the waters of the Sanctuary. These are:

- **Loggerhead:** A carnivore, eats mainly shellfish, shrimp and lobster. Can weigh up to 300 pounds. Inhabits coral reefs, bays and estuaries. *Status: THREATENED*
- **Leatherback:** A carnivore, feeds mainly on jellyfish. The largest reptile alive it has endothermic capabilities (warm blooded) and weighs up to 2000 pounds. *Status: CRITICALLY ENDANGERED*
- **Green:** An herbivore, eats mainly sea grasses and can weigh up to 500 pounds and is named after the green fat in its body. *Status: ENDANGERED*
- **Hawksbill:** An omnivore that eats mainly sponges and can weigh up to 150 pounds. Lives near rocky places and coral reef. *Status: ENDANGERED*
- **Olive Ridley:** A carnivore, eats mainly crabs and shrimps and can weigh up to 100 pounds. *Status: ENDANGERED*

For the last six years the protection and monitoring of nesting turtles has been carried out on the eastern shore of Sanctuary. This brief report serves to present the information collected during the latest Turtle Season starting on 15 October 2015 and ending on 15 February 2016.

## Location and Methods

Sanctuary marine turtle monitoring takes place on the beaches of the eastern shore of the peninsula; starting from just south of “Lighthouse” northwards for about 25 kilometers up the shore to the end of the sand spit ( Figure 1).

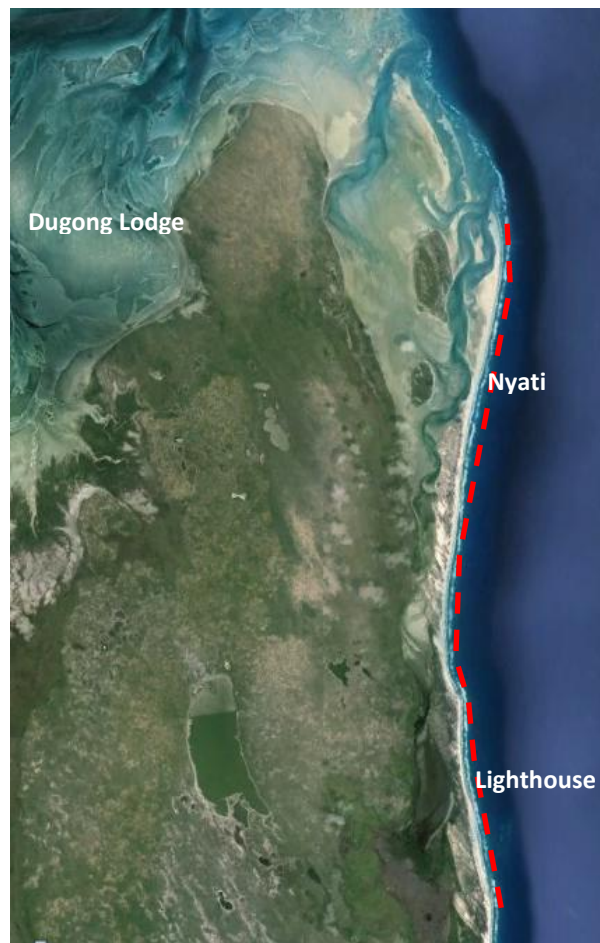


Figure 1. Google map of Sanctuary showing (red dashed line) location and extent of area of turtle monitoring and protection during the 2015/2016 season.

The same six turtle monitors who had been employed in recent years were again employed, equipped and stationed near Nyati Beach Lodge and at Lighthouse to protect and monitor the study area during the peak period of turtle breeding. The monitors were issued with uniforms, data sheets, measuring tapes and digital cameras. They walked their allocated areas nightly and identified and noted all turtles encountered and recorded all turtle tracks seen. This year signs were introduced and used to mark nests for easy reference to go back to each nesting site towards the end of the season to check hatching success.



## Results

A total of 21 turtle tracks were encountered during the latest survey period and 18 nests (Table 1). The highest concentration of nesting activities is near Nyati.

The most exciting result of this year's monitoring is that we have confirmed that at least one critically endangered leatherback turtle nested on Sanctuary. Conclusive evidence in the form of photos of tracks (Photo 1) was obtained this year while, before this, although there was strong anecdotal evidence we could not obtain scientific proof. This is really exciting news as the previous most northerly confirmed breeding by this species was near Xai Xai, over 400 km south of Sanctuary. Commenting on our new record Dr. George Hughes, a world renowned turtle expert, said that although he was surprised and delighted he thought that Sanctuary possibly corresponds to the northern breeding limit for both loggerhead and leatherback turtles.



**A typical leatherback turtle track, the first proof of them nesting on Sanctuary.**

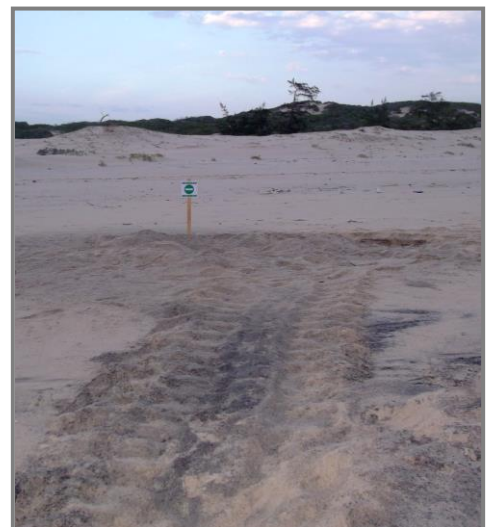


**Table 1. Sighting and locality records for the 2015 2016 season. Turtle (T) or spoor (S) sighting of its tracks and whether or not it nested (Y= nested, N = no nest)**

No.	Date	Zone	S or T	Nest (Y/N)
1	09/11/2015	Lighthouse	S	Yes
2	12/11/2015	Lighthouse	S	Yes
3	04/12/2015	Lighthouse	S	Yes
4	19/12/2015	Lighthouse	S	Yes
5	04/01/2016	Lighthouse	S	No
6	01/11/2015	Pescada	S	Yes
7	06/11/2015	Pescada	S	No
8	17/11/2015	Pescada	S	Yes
9	05/12/2015	Pescada	S	Yes
10	02/01/2016	Pescada	S & T	Yes
11	09/01/2016	Pescada	S	Yes
12	29/10/2015	Nyati	S & T	Yes
13	30/10/2015	Nyati	S & T	Yes
14	01/11/2015	Nyati	S & T	Yes
15	05/11/2015	Nyati	S	No
16	12/11/2015	Nyati	S & T	Yes
17	15/11/2015	Nyati	S	Yes
18	17/11/2015	Nyati	S & T	Yes
19	18/11/2015	Nyati	S & T	Yes
20	18/11/2015	Nyati	S	Yes
21	27/11/2015	Nyati	S	Yes

Several photographs have been taken of Sanctuary nesting turtles this year and, so far, all have been loggerhead turtles. Many photos have been taken of the tracks of nesting turtles and it was some of these that proved the presence of the leatherbacks.

The photo of one turtle track last year was identified, by Dr. George Hughes, as that of a green turtle. Monitors had measured a few tracks substantially larger than most and the local people talked of a turtle they call “igandaganda” which is Zulu for tractor. Leatherback turtles had been seen and photographed close offshore from our beaches and, from the tracks measured, it seemed that a small number of these behemoths at least occasionally nested on Sanctuary beaches. Now we have proof.

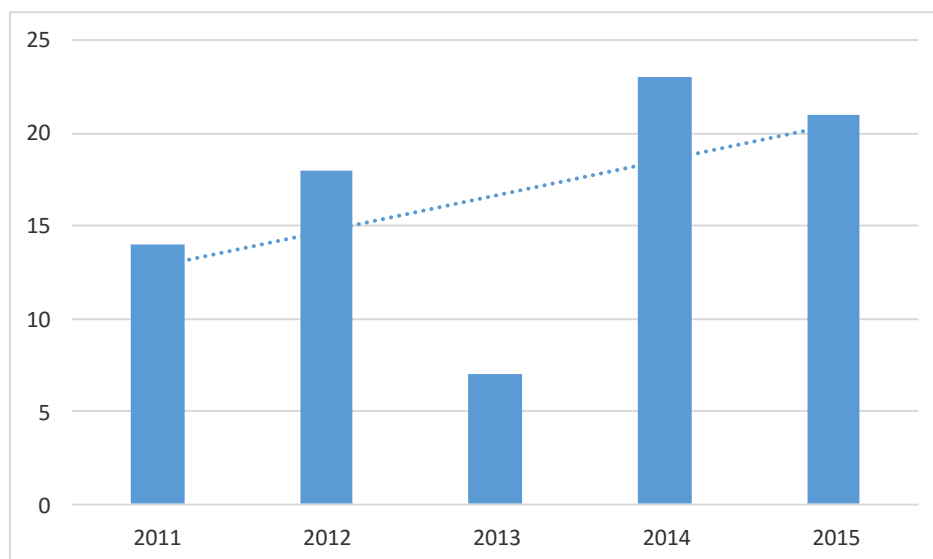


**Table 2. Breeding activity presenting the % emergence by month, total emergences and % by locality.**

Category	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016
October	28.6	N.A.	0	0	9.5
November	7.1	44.4	14.3	52.2	61.9
December	42.9	55.6	57.1	17.4	14.3
January	21.4	0	14.3	26.1	14.3
Feb & March	0	0	14.3	4.3	0.0
<b>Total tracks/turtles</b>	<b>14</b>	<b>18</b>	<b>7</b>	<b>23</b>	<b>21</b>
Nyati	35.7	50	42.8	26.1	47.6
Pescada	7.1	11.1	14.3	17.4	28.6
Lighthouse	57.1	38.9	42.8	56.5	23.8

Activity trends indicate the months November and December have the highest emerging percentage on Sanctuary, and Nyati to be the highest concentration of turtle activity during the last season.

The total number of turtle tracks recorded in the last six years (Figure 2) show an overall increase in numbers.



**Figure 2. The total numbers of turtle tracks recorded each year from 2011 to date**

Our monitoring during the 2015 2016 season thus shows that at least 21 marine turtles beached on Sanctuary and laid at least 18 nests, all of which appear to have hatched successfully. All information suggests that this year only loggerhead turtles and one leatherback turtle nested on Sanctuary with no mortalities or nest robbing reported.

### Discussion and Conclusion

Turtle nesting in this area is seen by Sanctuary as an important aspect of conservation and our management of the region. It is clear that the shores on the east of Sanctuary are suitable for several marine turtle species to breed and that a few individuals do so each year. The presence of monitors along the study area during peak nesting time appears, once again, to have prevented the killing of any turtles, or the robbing of nests, on Sanctuary beaches.

Monitoring of marine turtles on Sanctuary has recorded some important achievements to date. It has shown that:

- at least five species of marine turtle are to be found regularly in Sanctuary waters
- at least three and possibly four species of marine turtle nest on Sanctuary
- marine turtles nest on Sanctuary beaches each year and most nests hatch successfully
- current protection seems to prevent turtle poaching on the beach and nest robbing
- marine turtle work is benefiting the community through wages and skills development
- Sanctuary is capable of running a successful monitoring scheme
- marine turtles are still under severe pressure in the entire region

The future of marine turtles on Sanctuary could be very bright and Sanctuary can be proud of what has been achieved so far.

Sanctuary works closely with the Mozambican Turtle Monitoring and protection network and our data feeds directly into their annual report. Ours is among the top programs in Mozambique and one of the very few outside the far south of the country. The Mozambique Turtle Monitoring network is thanked for its interest in and support of our initiative on Sanctuary.

The identification, protection and monitoring of a substantial marine turtle breeding area on the mainland of Africa is a significant achievement in worldwide marine turtle conservation. It will also be a valuable conservation and tourism asset to Sanctuary and contribute towards the conservation of these charismatic and endangered species.

Turtles have proved to be an extremely lucrative drawcard for tourism in many parts of the world where they generate substantial revenue and create employment for local people. While current Sanctuary monitoring is modest, and numbers of turtles are not great, the future seems full of promise.

The marine turtle monitoring has been mostly sponsored by the Dugong Trust for which the Sanctuary is very grateful. Dr. George Hughes is thanked for being on hand to comment upon the monitoring and for giving advice on the program.

