

## Project Update: December 2013

### Sea Turtle Nesting Monitoring

High North National Park, Carriacou, Grenada, West Indies

#### 1. INTRODUCTION

The Critically Endangered Hawksbill (*Eretmochelys imbricata*) and leatherback (*Dermochelys coriacea*) turtles nest on Carriacou beaches. Chronic anthropogenic impacts affecting sea turtles include: loss of suitable nesting beaches due to coastal development, beach sand mining (a very destructive and increasing, though illegal, activity in Carriacou), accidental and targeted capture of turtles, poaching of nesting turtles and eggs. This year we recorded one Green turtle (*Chelonia Mydas*) nest and one attempt.



A Carriacou nesting leatherback was found in Nova Scotia by a Canadian conservation research vessel on July 28, 2012. This turtle was tagged by KIDO in 2009 in Petit Carenage

In the proposed High North National Park and Protected Seascape (Carriacou north - N 12°30.45, W 61°26.45) three distinct sea turtle nesting beaches within and on the fringe of the Park area were monitored from December 7, 2012 to December 31, 2012 and from March 1 to December 7, 2013: Petit Carenage, Anse La Roche and Sparrow Bay. Big Field (North West), placed in between Anse La Roche and Petit Carenage, was monitored occasionally by kayak, as there is no footpath access.

**Petit Carenage (North East)** is a nesting beach buffered by a mangrove forest and the nearby village of Windward. PC, a white coarse sand and coral rubble beach, extends 0.80 km and is one of the longest continuous stretches of beach on the island.

**Anse La Roche (North West)** is a 0.35 km of fine white sand along a dense littoral forest;

**Sparrow bay (West)** includes: Bogles beach (a narrow stretch of 0.30 Km of fine black sand abutting a three foot high earth step to cattle pastures & deciduous forest) & Craigston beach (a stretch of 0.30 Km of fine white and black sand): increasingly preferred by nesting hawksbills and highly threatened by poaching of turtles, eggs and sand mining (this beach runs along a residential estate).

#### 2. METHODS

A minimum of two-person team composed by project staff and volunteer/s monitor Petit Carenage beach nightly from 8:00pm to 5:00am. This schedule is flexible due to the fact that sea turtles may come to nest occasionally on an early morning, thus extending the monitoring time

for the Turtle Team on the beach. Anse La Roche and Sparrow bay are monitored by Kido staff on early morning. Trained guide Solomon Stafford and Emmanuel & Camilla Bethel started the Kido Foundation 2013 Sea Turtle Nesting Monitoring season by patrolling Petit Carenage Beach and Anse La Roche beach from March 1<sup>st</sup> 2013 before dawn every morning. The full night patrols began middle of March. They worked with overseas volunteers to monitor and protect the critically endangered species of turtles nesting in the High North proposed National Park beaches of Carriacou. Dario Sandrini and Dr. Marina Fastigi, founders & directors of KIDO, monitor the beaches when needed. From September to December 2013, when KIDO volunteers are gone, early morning patrols, excavation of overdue nests and releasing of hatchlings were performed by Dario & Marina.



Hawksbill hatchlings make it safely to the sea, July 27, 2013 Anse La Roche

Sea turtle nesting activity data are recorded as either:

- confirmed nests (eggs deposition observed, eggs found, emergence of hatchlings recorded, turtle packing or disguising activities recorded),
- unconfirmed nests (when egg deposition or turtle activities of packing and disguising is not observed, but mound with emergence and dispersal crawls to and from the mound is recorded)
- attempted nests (evidence of body pits)
- dry runs (no evidence of nesting activity other than tracks on the beach).

Sea turtles encountered during monitoring are tagged *after* nesting is completed using Monel (for *Dc*) and Inconel (for *Ei*) flipper tags and standard morphometric data are recorded.

The tagging and data collection operations follow WIDECAST (Wider Caribbean Sea Turtle Conservation Network) protocol procedures.

### 3. RESULTS

From December 7, 2012 to December 7, 2013 we recorded **293 nesting activities**: 124 confirmed nests (38 Leatherback, 85 Hawksbill, 1 Green) / 71 unconfirmed nests (22 Leatherback, 49 Hawksbill) / 61 attempted nests (7 Leatherback, 53 Hawksbill, 1 Green) / 37 dry runs (6 Leatherback, 31 Hawksbill)

8 new Leatherbacks (three of which had only one tag placed by Ocean Spirits), 11 new Hawksbills and 1 new Green turtle were tagged. 13 Hawksbills were pre-tagged by Kido. 4 Leatherbacks were pre-tagged, three by Kido Foundation and one by Ocean Spirit, in Grenada.

One of these leatherbacks, tagged by Kido in 2009, was hauled by a sea turtle conservation research vessel in Nova Scotia on July 2012 (see the studies of researcher Dr. Michael James) [http://science.dal.ca/RESEARCH/Researcher\\_Profiles/Mike\\_James.php](http://science.dal.ca/RESEARCH/Researcher_Profiles/Mike_James.php) After 4 years and wandering for thousands of miles in the Atlantic Ocean, she returned to nest in Petit Carenage on July 2013!

<b>Dec.7,2012 Dec.7,2013</b>	<b>Nests</b>	<b>Petit Carenage</b>	<b>Anse La Roche</b>	<b>Sparrow bay</b>	<b>Big Field</b>	<b>L'Esterre</b>	<b>Totals</b>
<b>LKB</b>	<b>Confirmed</b>	30	7			1	38
	<b>Unconfirmed</b>	1	20	1			22
	<b>Attempted</b>	7					7
	<b>Dry run</b>	4	2				6
<b>HWK</b>	<b>Confirmed</b>	43	24	18			85
	<b>Unconfirmed</b>	15	6	20	8		49
	<b>Attempt</b>	33	8	12			53
	<b>Dry run</b>	23	4	3	1		31
<b>GREEN</b>	<b>Confirmed</b>	1					1
	<b>Attempted</b>	1					1
<b>Totals</b>		158	71	54	9	1	<b>293</b>

52 nests were relocated, for the following reasons:

- 19 because too close to the high water mark
- 12 because there were a risk of inundation
- 6 because there were too many roots in the nest
- 5 because there were too many rocks in the nest
- 3 because there was a risk of poaching
- 3 because the nests were laid in an area with a grass too thick for the hatchlings to crawl through
- 2 because the nest depth was too shallow
- 1 because it was laid on an older nest
- 1 because some of the eggs were washed by sea waves in Craigston. The nest was relocated in Anse La Roche and the rescued eggs hatched successfully approximately one month later.

83 hatching activities were recorded: 36 leatherback and 47 hawksbill. 19 of these hatching activities came from relocated nests, including the hawksbill nest relocated from Craigston beach to Anse La Roche beach.

**Nest Disturbance and Poaching**

Prior to the beginning of Kido Foundation’s monitoring activities, we recorded as many as thirty-five (35) destroyed sea turtle nests during one nesting season



KIDO volunteer with a clutch of leatherback eggs to be relocated to safer ground, April 21 2013



(2001). The majority of the destruction was clearly the result of human poaching, evidenced by a telltale 'probing stick' left protruding from the excavated nest. Sea turtle eggs remain a traditional delicacy for men on the island who believe turtle eggs are aphrodisiac. Eggs are sold at 6 EC\$ each on the local black market. In contrast, following the start of the nest monitoring activities (2002), we noted a great reduction of poaching activities. Our physical presence in the field during the nesting season deterred the poaching

activities during the night and the anti-poaching strategies applied (turtle nest and tracks disguising after every nesting event and relocation of the entire nest) discouraged the poachers searching for eggs during their early morning prowls. The same strategy was applied during our early morning patrols of nesting beaches that could not be monitored all night long.

During the 2013 nesting season we did not record any poaching activity.

One attempt to poach a leatherback turtle nest in Anse La Roche beach by the crew of a foreign fishing boat was interrupted by the timely arrival of KIDO patrol team, who reached the 'crime scene' at 6 am while the illegal digging was carried out. Luckily one of the KIDO patrol team this year was a former police officer from Finland, who chased the three poachers back to their ship. This incident was duly reported to the Chief of Police of Carriacou and the poachers were identified through the photographic evidence KIDO patrol team have produced.

After her eventful voyage to Nova Scotia leatherback mother nests in Petit Carenage again on July 18, 2013

#### **4. CONCLUSION**

As the nesting habitats of sea turtles become increasingly threatened and reduced by land development, sand mining, erosion and other anthropogenic impacts, small secluded beaches on islands such as Carriacou offer important patches of alternative nesting habitat for sea turtles in the region.

Our ongoing nesting monitoring program has demonstrated that effective protection of nesting beaches enables a general increase in nesting activities and a relevant reduction of nest poaching; additionally, the ongoing project offers training, subsistence salaries for local nature guides and volunteer positions to local and foreign students and research assistants.

