

Baobab Trust

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Sea Turtle Annual Report 2009



Supported By:

- Bamburi Cement Ltd.
- KESCOM (Kenya Sea Turtle Conservation Committee)

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- **About us:**

Baobab Trust was founded in 1991 as a non profit organization, formed out of Baobab Farm Ltd. (now Lafarge Eco Systems).

One of it's first conservation projects was the Sea Turtle Conservation programme. The first nest was sited in 1989 with 127 eggs and 37 hatchlings released. Since then, the Trust has dedicated itself to this programme. (see complete data on Table 2 on page 20)

Today, apart from the turtle programme, the Trust oversees many more projects which involve a lot of community work, health and education, farmer trainings, water harvesting, tree planting and environmental education.

Our Mission:

Sea turtles are listed as endangered species. All 7 species of marine turtles are listed on Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

3 of them are classified as Critically Endangered on the IUCN Red List.

Lots of predators such as crabs, dogs and birds often kill the hatchlings as they make their way from the nest to the sea, and when they reach the shallows, many more small turtles are taken by fish. The main concern is when humans harvest turtle eggs, disturb or degrade nesting beaches.

Baobab Trust has completed it's 20th year in the Turtle Conservation Project. Being one of it's first conservation programme, interest has grown over the years with the continued support and collaboration of the fishermen along various allocated beach points.

Five species of marine turtles are reported to nest on African beaches - the [green](#) (*Chelonia mydas*), the [hawksbill](#) (*Eretmochelys imbricata*), the [loggerhead](#) (*Caretta caretta*), the [leatherback](#) (*Dermochelys coriacea*), and the [olive ridley](#) (*Lepidochelys olivacea*).

Our Turtle Ranger, Jonathan Charo patrols the Jumba Ruins beach and ensures un-secured nests are brought to the Bamburi Hatchery and more important that the Red Fire Ants are immediately rid off. A mixture of *Neem solution* and *EM1* drove the ants away late September. This year they were lesser of a problem than 2008.

The Hatchery acts as an education centre. Kenya Wildlife Service and KESCOM (Kenya Sea Turtle Conservation Committee) visited the hatchery early July 2009. The main purpose of the visit was to view the hatchery's layout. The members had an opportunity to release some hatchlings.

What we have achieved

Our efforts and commitments are continuously carried out. Since the start of the project, the Trust saw other organizations adopting the same project successfully. Todate, under KESCOM, there are 18 Turtle Conservation Groups.

We have translocated un-secured nests and ensured hatchlings are released into the sea. In-situ nests have been monitored until hatched by fishermen on an incentive basis.

With our maintained data records, the monthly and annual reports are shared with other conservation groups. Nesting and hatching trends can be seen from the data collected from other groups and donors, compared and analysed.

We have been able to address and educate the local communities on marine conservation practically and lecture/ awareness on-site.

- 2009 Summary Report

This year, 1 Hawksbill turtle came up to lay at Vipingo beach on the 25th June 2009 and 108 Green turtles were sighted nesting on our beaches.

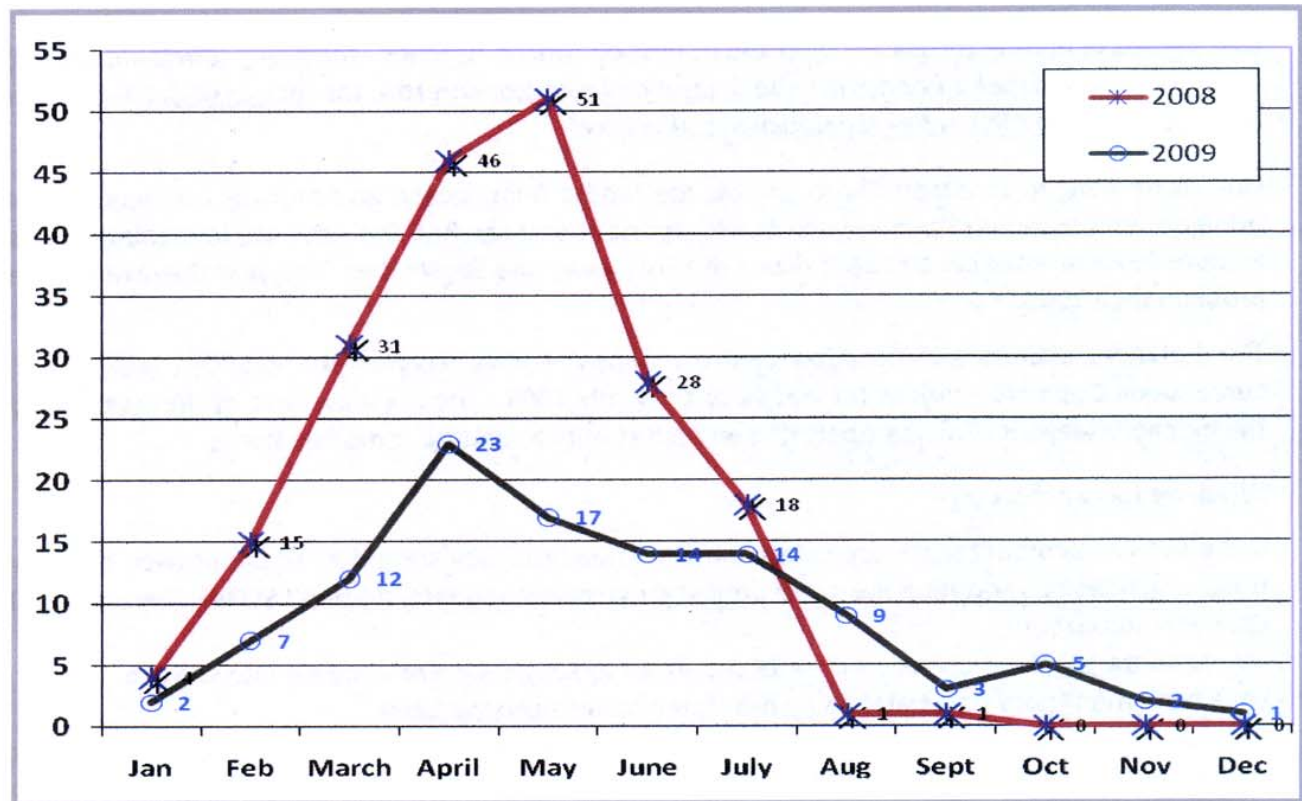
8,646 unsecured eggs were transferred to the hatchery from various beach sites, while 4,244 eggs were left in-situ.

Nesting and Hatching Report

Number of Nests	109
Species	Green : 108 Hawksbill: 1
Number of Eggs	12,890
Number of Hatchlings	10,084

Mortality Report	4 Green turtles
Tagged Turtles	3 Green turtles

Nesting Trend Comparison : 2008 & 2009



2009: 109 nests

2008: 195 nests

2009: Recorded 109 nests, 86 nests lesser compared to the previous year. The reason could be due to the amount of rainfall we received which was slightly lesser in 2008.

A detailed rainfall chart is shown on page 27.

Also, it has been observed again this year, that nests in-situ have a higher percentage hatching rate compared to the translocated nests. (See summary on page 12).

- **Sourced Information**

- i) **Why are Turtles important? Atlantic Sea Turtles (<http://www.fieldtripearth.org/>)**

Some sea turtles feed on sea grasses and soft sponges are thought to be an important predator keeping some animals and plants of the reef in check.

Without them, some species of seaweed, soft coral, or sponge might grow too much and cause other species of reef animals or plants to die off.

A live turtle is worth more than a dead turtle

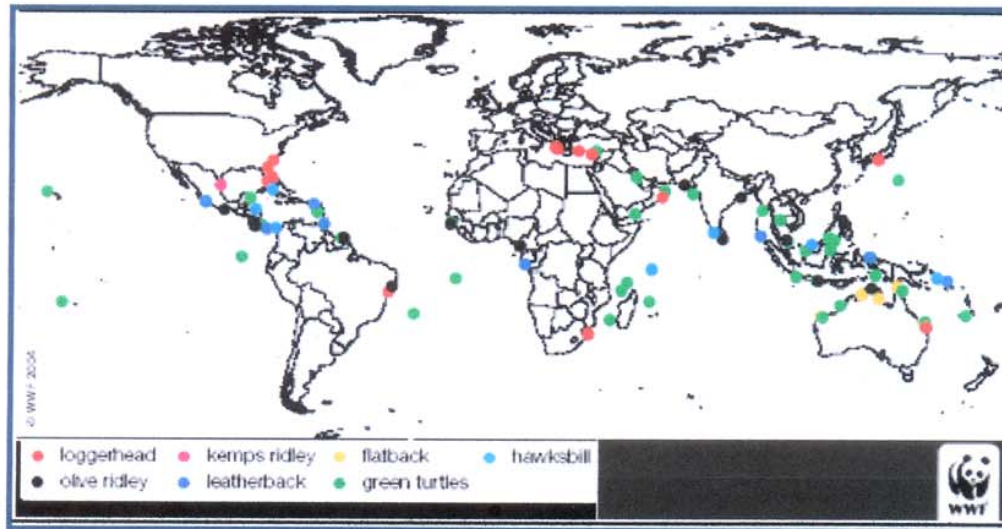
Marine turtles are economically important to humans. Coastal communities in developing countries use marine turtles as a source for food. Also, the catch of fish and invertebrates that are used for human consumption or commerce ultimately depend on healthy marine turtle populations.

In recent years, marine turtles have become increasingly important as an ecotourism attraction. This has led to a rise in tourism operations that in turn provide jobs and income to seaside communities throughout the tropical and subtropical part of the world. Marine turtle watching increases people's interest in marine and coastal issues and inspires commitment to support conservation efforts. Marine turtles are flagship species that attract help to themselves as well as to the many species with which they co-exist.

- ii) **Marine turtles - Population & Distribution**

Source:

[http://www.panda.org/what we do/endangered species/marine turtles/marine turtles population distribution/](http://www.panda.org/what_we_do/endangered_species/marine_turtles/marine_turtles_population_distribution/)



- **Donors**

Our project this year has been funded by Bamburi Cement Ltd. and private donors, which has been successfully carried out by Baobab Trust.

The donors have been kept updated on the project during the year with data and information via reports. Thank you Bamburi Cement, the main donor!

In between the year, we also received funding through KESCOM via their CDF Grant.

<u>Donor</u>	<u>Amount</u>
• Bamburi Cement Ltd.	Ksh.400,000.00
• Kescom-Community Development Trust Grant Fund	Kshs.16,000.00
• Private Donors	Kshs.30,000.00

Funding Impact

- Recorded 109 nests from Vipingo, Bamburi, Nyali and English Point: 29 nests left in-situ and 80 nests translocated to the Bamburi Hatchery
- Released 10,322 hatchlings
- We have been able to maintain the ‘Bamburi Hatchery’ for translocated nests and ensure hatchlings are released in time.
- Keeping predators such as mongoose away, and red fire ants invasion has been kept under control at the Bamburi Hatchery.
- We have been able to mobilize a vehicle immediately when an un-secured nest has been reported.
- Establish and strengthen the nesting areas. Carry out awareness of the project on-site with the communities by getting involved and benefit from reporting and protection.
- A Turtle Ranger is employed for night patrol of laying and nesting beaches and to communicate with the Fishermen.

- Received and responded to a concerned visitor's email query earlier in April 2009, who spotted and assisted a turtle stuck in roots at Severin Beach. With the tag number given, we traced back our records with following information:
 - Turtle species: Green
 - Tag number KE 0406
 - Turtle was tagged at Jumba Ruins on 14.05.2002
 - Has come out to lay and recorded 10 times at Jumba Ruins beach and in May 2009 at Severin Beach (approximate distance 15km from original site)
 - Extracted from our records, below are further details on KE 0406 turtle:

Laying Date	No. of Eggs	Nest Site	Hatching Date	No. of Days	No. of Hatchlings
14/05/02	82	Jumba	17/02/02	64	78
02/06/02	139	Jumba	31/07/02	59	135
09/06/02	87	Jumba	12/08/02	64	86
12/07/02	79	Jumba	11/09/02	61	77
28/07/02	99	Jumba	29/09/02	63	86
27/08/02	105	Jumba	26/10/02	60	98
08/05/04	182	Jumba	05/07/04	64	181
28/05/04	128	Jumba	30/07/04	64	120
22/03/08	126	Jumba	25/05/08	64	121
09/08/08	106	Jumba	11/08/08	63	101
05/05/09	92	Bamburi	10/07/09	66	77
				1,225	1,160

<u>Expenses for 2009:</u>	<u>Kshs.</u>
Fishermen Incentive	77,176.00
Turtle Ranger	103,360.00
Communication	3,693.50
Transport and Logistics	137,574.00
Bamburi Hatchery:building & maintenance	30,000.00
<u>Administration & misc.</u>	<u>148,430.50</u>
Total Expenses	500,235.00

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Table 1: 2009 Detailed Nesting and Hatching Data

Nest No.	Laying Date	Turtle Species	No. of eggs	Nest Site	Hatching Date	Hatching Days	No. of Hatchlings	Hatching %	Incubation Details	Release Site
1	8-Jan-09	Green	121	Jumba	11-Mar-09	62	119	98.3	In-Situ	Jumba
2	30-Jan-09	Green	120	Vipingo	30-Mar-09	59	11	9.2	Translocation	Bamburi Hatchery
3	7-Feb-09	Green	46	Vipingo	30-Mar-09	51	6	13.0	Translocation	Bamburi Hatchery
4	10-Feb-09	Green	139	Jumba	12-Apr-09	61	139	100.0	In-Situ	Jumba
5	16-Feb-09	Green	94	Nyali	16-Apr-09	59	83	88.3	Translocation	Bamburi Hatchery
6	17-Feb-09	Green	123	Nyali	6-May-09	78	118	95.9	In-Situ	Nyali
7	19-Feb-09	Green	147	Vipingo	17-Apr-09	57	61	41.5	Translocation	Bamburi Hatchery
8	20-Feb-09	Green	134	Vipingo	20-Apr-09	59	68	50.7	Translocation	Bamburi Hatchery
9	26-Feb-09	Green	84	Kikambala	20-Apr-09	53	40	47.6	Translocation	Bamburi Hatchery
10	1-Mar-09	Green	148	Vipingo	1-May-09	61	55	37.2	Translocation	Bamburi Hatchery
11	1-Mar-09	Green	128	Jumba	7-May-09	67	125	97.7	In-Situ	Jumba
12	5-Mar-09	Green	138	Vipingo	14-May-09	70	131	94.9	In-Situ	Vipingo
13	9-Mar-09	Green	97	Jumba	12-May-09	64	95	97.9	In-Situ	Jumba
14	11-Mar-09	Green	122	Jumba	10-May-09	60	119	97.5	In-Situ	Jumba
15	11-Mar-09	Green	142	Jumba	12-May-09	62	137	96.5	In-Situ	Jumba
16	14-Mar-09	Green	140	Kikambala	24-Apr-09	41	99	70.7	Translocation	Bamburi Hatchery
17	21-Mar-09	Green	132	Sun'n sand	12-May-09	52	70	53.0	Translocation	Bamburi Hatchery
18	21-Mar-09	Green	127	Vipingo	12-May-09	52	45	35.4	Translocation	Bamburi Hatchery
19	28-Mar-09	Green	114	Shariani	16-May-09	49	106	93.0	Translocation	Bamburi Hatchery
20	28-Mar-09	Green	150	Shariani	24-May-09	57	98	65.3	Translocation	Bamburi Hatchery
21	4-Apr-09	Green	90	Vipingo	29-May-09	55	54	60.0	Translocation	Bamburi Hatchery
22	5-Apr-09	Green	152	Vipingo	30-May-09	55	150	98.7	In-Situ	Vipingo
23	6-Apr-09	Green	133	Vipingo	4-Jun-09	59	88	66.2	Translocation	Bamburi Hatchery
24	4-Apr-09	Green	135	Nyali	29-May-09	55	128	94.8	In-Situ	Nyali
25	5-Apr-09	Green	151	Nyali	2-Jun-09	58	127	84.1	Translocation	Bamburi Hatchery
26	6-Apr-09	Green	146	Nyali	31-May-09	55	140	95.9	In-Situ	Nyali
27	6-Apr-09	Green	94	Nyali	3-Jun-09	58	65	69.1	Translocation	Bamburi Hatchery
28	7-Apr-09	Green	123	Nyali	1-Jun-09	55	102	82.9	Translocation	Bamburi Hatchery
29	7-Apr-09	Green	153	Nyali	1-Jun-09	55	142	92.8	In-Situ	Nyali
30	10-Apr-09	Green	140	Jumba	9-Jun-09	60	138	98.6	In-situ	Jumba
31	11-Apr-09	Green	131	Vipingo	10-Jun-09	61	106	80.9	Translocation	Bamburi Hatchery

Nest No.	Laying Date	Turtle Species	No. of eggs	Nest Site	Hatching Date	Hatching Days	No. of Hatchlings	Hatching %	Incubation Details	Release Site
32	13-Apr-09	Green	111	Vipingo	1-Jun-09	49	83	74.8	Translocation	Bamburi Hatchery
33	13-Apr-09	Green	120	Nyali	9-Jun-09	57	96	80.0	Translocation	Bamburi Hatchery
34	16-Apr-09	Green	136	Nyali	16-Jun-09	61	98	72.1	Translocation	Bamburi Hatchery
35	17-Apr-09	Green	154	Vipingo	14-Jun-09	58	154	100.0	In-situ	Vipingo
36	18-Apr-09	Green	147	Vipingo	18-Jun-00	61	120	81.6	Translocation	Bamburi Hatchery
37	17-Apr-09	Green	148	Nyali	8-Jul-09	82	143	96.6	In-situ	Nyali
38	18-Apr-09	Green	156	Vipingo	18-Jun-09	61	132	84.6	Translocation	Bamburi Hatchery
39	18-Apr-09	Green	128	Vipingo	15-Jun-09	58	126	98.4	In-situ	Vipingo
40	25-Apr-09	Green	112	Nyali	22-Jun-09	58	101	90.2	Translocation	Bamburi Hatchery
41	25-Apr-09	Green	34	Vipingo	3-Jul-09	68	15	44.1	Translocation	Bamburi Hatchery
42	25-Apr-09	Green	136	Nyali	27-Jun-09	62	130	95.6	In-situ	Nyali
43	26-Apr-09	Green	158	Nyali	3-Jul-09	67	127	80.4	Translocation	Bamburi Hatchery
44	4-May-09	Green	156	Vipingo	4-Jul-09	61	102	65.4	Translocation	Bamburi Hatchery
45	4-May-09	Green	100	Nyali	12-Jul-09	67	53	53.0	Translocation	Bamburi Hatchery
46	5-May-09	Green	151	Nyali	5-Jul-09	61	146	96.7	In-situ	Nyali
47	5-May-09	Green	92	Vipingo	8-Jul-09	64	62	67.4	Translocation	Bamburi Hatchery
48	7-May-09	Green	93	Nyali	7-Jul-09	61	81	87.1	Translocation	Bamburi Hatchery
49	7-May-09	Green	74	Nyali	16-Jul-09	70	60	81.1	Translocation	Bamburi Hatchery
50	8-May-09	Green	152	Vipingo	10-Jul-09	63	148	97.4	In-situ	Vipingo
51	9-May-09	Green	92	Nyali	17-Jul-09	69	83	90.2	Translocation	Bamburi Hatchery
52	10-May-09	Green	119	Nyali	11-Jul-09	62	111	93.3	In-situ	Nyali
53	5-May-09	Green	92	Bamburi	10-Jul-09	66	77	83.7	Translocation	Bamburi Hatchery
54	13-May-09	Green	158	Kikambala	20-Jul-09	68	85	53.8	Translocation	Bamburi Hatchery
55	13-May-09	Green	66	Bamburi	20-Jul-09	67	58	87.9	Translocation	Bamburi Hatchery
56	22-May-09	Green	106	Bamburi	27-Jul-09	65	76	71.7	Translocation	Bamburi Hatchery
57	22-May-09	Green	94	Nyali	27-Jul-09	65	60	63.8	Translocation	Bamburi Hatchery
58	23-Mar-09	Green	114	Kikambala	23-May-09	60	110	96.5	In-situ	Kikambala
59	26-May-09	Green	56	Nyali	20-Jul-09	55	52	92.9	Translocation	Bamburi Hatchery
60	25-May-09	Green	156	Vipingo	24-Jul-09	60	148	94.9	In-situ	Vipingo
61	26-May-09	Green	137	Vipingo	20-Jul-09	55	99	72.3	Translocation	Bamburi Hatchery
62	1-Jun-09	Green	134	Nyali	20-Aug-09	80	114	85.1	Translocation	Bamburi Hatchery
63	10-Jun-09	Green	140	Kikambala	23-Aug-09	74	114	81.4	Translocation	Bamburi Hatchery

Nest No.	Laying Date	Turtle Species	No. of eggs	Nest Site	Hatching Date	Hatching Days	No. of Hatchlings	Hatching %	Incubation Details	Release Site
64	11-Jun-09	Green	152	Vipingo	28-Aug-09	78	123	80.9	Translocation	Bamburi Hatchery
65	12-Jun-09	Green	77	Kikambala	31-Aug-09	80	56	72.7	Translocation	Bamburi Hatchery
66	13-Jun-09	Green	132	Nyali	23-Aug-09	71	92	69.7	Translocation	Bamburi Hatchery
67	13-Jun-09	Green	56	Vipingo	24-Aug-09	72	48	85.7	Translocation	Bamburi Hatchery
68	17-Jun-09	Green	131	Kikambala	22-Aug-09	66	121	92.4	Translocation	Bamburi Hatchery
69	18-Jun-09	Green	149	Vipingo	27-Aug-09	70	129	86.6	Translocation	Bamburi Hatchery
70	18-Jun-09	Green	64	Bamburi	21-Aug-09	64	46	71.9	Translocation	Bamburi Hatchery
71	22-Jun-09	Green	90	Bamburi	3-Sep-09	73	72	80.0	Translocation	Bamburi Hatchery
72	25-Jun-09	Green	70	Vipingo	2-Aug-09	38	61	87.1	Translocation	Bamburi Hatchery
73	25-Jun-09	Hawksbill	176	Vipingo	2-Sep-09	69	120	68.2	Translocation	Bamburi Hatchery
74	26-Jun-09	Green	123	Kikambala	1-Sep-09	67	82	66.7	Translocation	Bamburi Hatchery
75	27-Jun-09	Green	64	Vipingo	2-Sep-09	67	57	89.1	Translocation	Bamburi Hatchery
76	1-Jul-09	Green	115	Vipingo	9-Sep-09	70	93	80.9	Translocation	Bamburi Hatchery
77	3-Jul-09	Green	89	Vipingo	20-Sep-09	79	73	82.0	Translocation	Bamburi Hatchery
78	3-Jul-09	Green	104	Vipingo	9-Sep-09	68	93	89.4	Translocation	Bamburi Hatchery
79	10-Jul-09	Green	38	Vipingo	19-Sep-09	71	35	92.1	Translocation	Bamburi Hatchery
80	11-Jul-09	Green	98	Vipingo	23-Sep-09	74	72	73.5	Translocation	Bamburi Hatchery
81	15-Jul-09	Green	139	Jumba	18-Sep-09	65	135	97.1	In-situ	Jumba
82	15-Jul-09	Green	115	Vipingo	20-Sep-09	67	80	69.6	Translocation	Bamburi Hatchery
83	17-Jul-09	Green	120	Vipingo	24-Sep-09	69	78	65.0	Translocation	Bamburi Hatchery
84	17-Jul-09	Green	147	Kikambala	13-Sep-09	58	142	96.6	In-situ	Kikambala
85	18-Jul-09	Green	91	Vipingo	22-Sep-09	66	80	87.9	Translocation	Bamburi Hatchery
86	25-Jul-09	Green	157	Kikambala	21-Sep-09	58	153	97.5	In-situ	Kikambala
87	25-Jul-09	Green	151	Jumba	20-Sep-09	57	149	98.7	In-situ	Jumba
88	29-Jul-09	Green	172	Jumba	27-Sep-09	60	169	98.3	In-situ	Jumba
89	29-Jul-09	Green	153	Jumba	30-Sep-09	63	150	98.0	In-situ	Jumba
90	7-Aug-09	Green	169	Jumba	2-Oct-09	56	168	99.4	In-situ	Jumba
91	7-Aug-09	Green	100	Kikambala	14-Oct-09	68	65	65.0	Translocation	Bamburi Hatchery
92	7-Aug-09	Green	63	Vipingo	16-Oct-09	70	40	63.5	Translocation	Bamburi Hatchery
93	13-Aug-09	Green	162	Kikambala	4-Oct-09	52	158	97.5	In-situ	Kikambala
94	19-Aug-09	Green	43	Kikambala	22-Oct-09	64	26	60.5	Translocation	Bamburi Hatchery
95	20-Aug-09	Green	98	Vipingo	25-Oct-09	66	72	73.5	Translocation	Bamburi Hatchery

Nest No.	Laying Date	Turtle Species	No. of eggs	Nest Site	Hatching Date	Hatching Days	No. of Hatchlings	Hatching %	Incubation Details	Release Site
96	23-Aug-09	Green	112	Vipingo	20-Oct-09	58	68	60.7	Translocation	Bamburi Hatchery
97	28-Aug-09	Green	96	Vipingo	28-Oct-09	61	77	80.2	Translocation	Bamburi Hatchery
98	31-Aug-09	Green	106	Vipingo	28-Oct-09	58	70	66.0	Translocation	Bamburi Hatchery
99	18-Sep-09	Green	62	Kikambala	20-Nov-09	63	58	93.5	Translocation	Bamburi Hatchery
100	25-Sep-09	Green	168	Mtwapa	27-Nov-09	63	125	74.4	Translocation	Bamburi Hatchery
101	25-Sep-09	Green	79	Nyali	27-Nov-09	63	50	63.3	Translocation	Bamburi Hatchery
102	8-Oct-09	Green	106	Kikambala	12-Dec-09	65	87	82.1	Translocation	Bamburi Hatchery
103	6-Oct-09	Green	129	Kikambala	15-Dec-09	70	92	71.3	Translocation	Bamburi Hatchery
104	17-Oct-09	Green	152	Kikambala	21-Dec-09	65	118	77.6	Translocation	Bamburi Hatchery
105	23-Oct-09	Green	120	Vipingo	28-Dec-09	65	82	68.3	Translocation	Bamburi Hatchery
106	24-Oct-09	Green	127	Nyali	29-Dec-09	66	90	70.9	Translocation	Bamburi Hatchery
107	28-Nov-09	Green	113	Vipingo	18-Jan-09	80	51	70.8	Translocation	Bamburi Hatchery
108	28-Nov-09	Green	71	Kikambala	16-Jan-10	65	49	91.5	Translocation	Bamburi Hatchery
109	6-Dec-09	Green	125	Kikambala	28-Jan-10	93	53	74.4	Translocation	Bamburi Hatchery

Summary: Nesting and hatching data

Number of nests: 109
 Number of eggs: 12,890
 Number of hatchlings: 10,322
 Hatching percentage: 80%

Translocated Nests

Number of Eggs: 8,646
 Number of hatchlings: 5,963

In-Situ Nests

Number of Eggs: 4,244
 Number of hatchlings: 4,121
 Hatching percentage: 97%

- Green Sea Turtle Information

The green turtle is a large, weighty sea turtle with a wide, smooth carapace, or shell. It inhabits tropical and subtropical coastal waters around the world and has been observed clambering onto land to sunbathe.

It is named not for the color of its shell, which is normally brown or olive depending on its habitat, but for the greenish color of its skin. There are two types of green turtles—scientists are currently debating whether they are subspecies or separate species—including the Atlantic green turtle,

normally found off the shores of Europe and North America, and the Eastern Pacific green turtle, which has been found in coastal waters from Alaska to Chile.



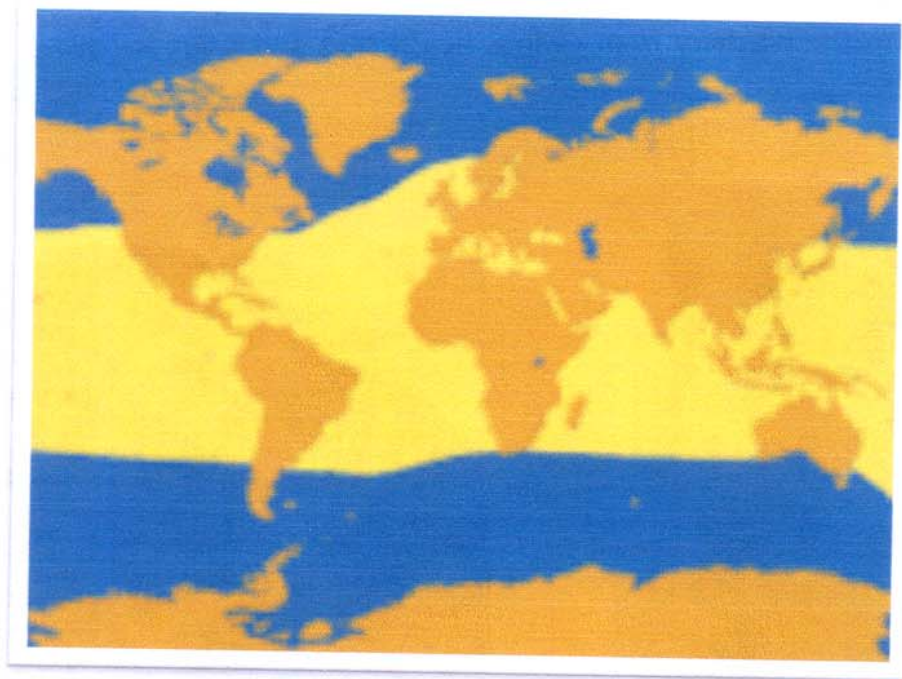
Weighing up to 700 pounds (317.5 kilograms) green turtles are among the largest sea turtles in the world. Their proportionally small head, which is nonretractable, extends from a heart-shaped carapace that measures up to 5 feet (1.5 meters). Males are slightly larger than females and have a longer tail. Both have flippers that resemble paddles, which make them powerful and graceful swimmers.

Unlike most sea turtles, adult green turtles are herbivorous, feeding on sea grasses and algae. Juvenile green turtles, however, will also eat invertebrates like crabs, jellyfish, and sponges.

While most sea turtles warm themselves by swimming close to the surface of shallow waters, the Eastern Pacific green turtle will take to land to bask in the sun. Occasionally seen sunbathing alongside seals and albatrosses, it is one of the few marine turtles known to leave the water other than at nesting times.

Green turtles, like other sea turtles, undertake lengthy migrations from feeding sites to nesting grounds, normally on sandy beaches. Mating occurs every two to four years and normally takes place in shallow waters close to the shore. To nest, females leave the sea and choose an area, often on the same beach used by their mothers, to lay their eggs. They dig a pit in the sand with their flippers, fill it with a clutch of 100 to 200 eggs, cover the pit and return to the sea, leaving the eggs to hatch after about two months. The most dangerous time of a green turtle's life is when it makes the journey from nest to sea. Multiple predators, including crabs and flocks of gulls, voraciously prey on hatchlings during this short scamper.

Green turtles are listed as an endangered species, and a subpopulation in the Mediterranean is listed as critically endangered. Despite this, they are still killed for their meat and eggs. Their numbers are also reduced by boat propeller accidents, fishnet-caused drowning, and the destruction of their nesting grounds by human encroachment.



■ Green Sea Turtle Range

Fast Facts

Type: Reptile

Diet: Herbivore

Average life span in the wild: Over 80 years

Size: Up to 5 ft (1.5 m)

Weight: Up to 700 lbs (317.5 kg)

Protection status: Endangered

Did you know? Like other sea turtles, the green turtle cannot pull its head into its shell.

Size relative to a 6-ft (2-m) man:

- **Bamburi Hatchery** – a secured nesting site

There are 36 hatcheries with a total of 121 bins. Unsecured nests from the Trust's allocated sites are brought to the Bamburi Hatchery and left until the eggs are hatched. The hatchlings are then released during incoming tide.

8,646 eggs were brought to the hatchery from various beach sites and 5,963 hatchlings were released, a 69% hatching rate.

Bin No.28 & 33

Hatchlings from Nest no.95



Many Offsprings.....few Survivors

Nest no.97:

96 eggs laid on 28th August 2009 at Vipingo

77 hatchlings hatched on 28th October 2009 at Bamburi Hatchery

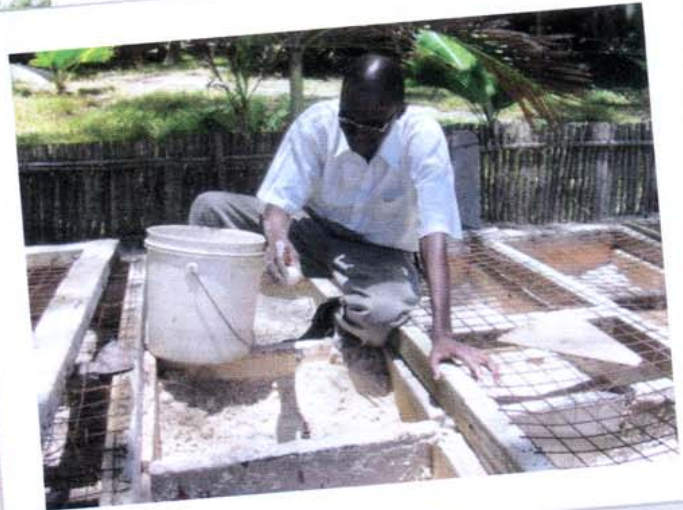


The hatchlings make their way into the sea to begin their life journey

Jonathan Charo, turtle ranger transfers eggs brought in from Vipingo, to the hatchery bins

Nest no.105: November 2009

- Species: Green Turtle
- 120 eggs laid
- 82 hatchlings released



- Kenya Wildlife Service members visit the Hatchery

A view of the hatchery's layout – guided by Jonathan Charo.



Hatchlings from Bin 35



All excited, the hatchlings were released into the sea

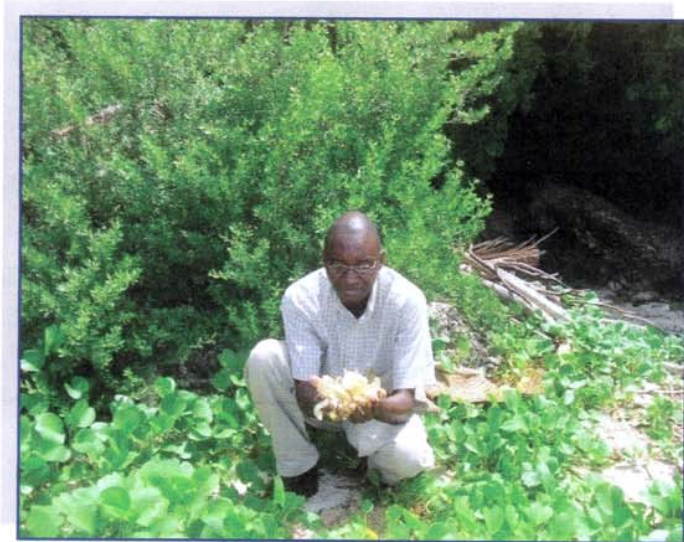
- Photo Journal : Other Nesting Beach Sites



Nest no.29: in-situ at Nyali



Nest no.35 : empty egg shells at Vipingo



Jonathan counts the empty egg shells



Nest No.53: Eggs transferred from Severin to Bamburi Hatchery



Donated sign board placed at Jumba Ruins

- **Problems Faced**

We faced just two problems which are on-going. Littering of plastic on the beaches is still a concern. Though awareness through clean-ups and lectures are raised on regular basis, it is still a slow process and we hope one day the beaches will be litter-free and cleaner marine environment.

Red Ants invaded another site this year, Vipingo Beach as well at Bamburi Hatchery. They continue to be a problem as they eat up the eggs and hatchlings. A treatment was used to eliminate them.

An article on the Red Ants was included in the 2008 annual report.



Nyali Beach :

Plastic littering is still a problem even though it is addressed annually during regular clean-ups. However, it is still emphasized continuously.



Vipingo Beach:

Red ants invaded nests at Vipingo Beach as well as the Bamburi Hatchery.



Vipingo Beach:

Hatchlings eaten/attacked by the Red Fire Ants.

- **Plastics-at-sea Catastrophe**

(source: Velador – Issue 4, 2009)

Archie Carr, was one of the first scientist to announce non-degradable debris pose a threat to sea turtles and other marine life.

The problem of buoyant plastic debris in driftline communities consist of numerous invertebrate and vertebrate species, the presence of so much persistent pollution in this critical habitat prompted him to describe the problem as “progressive disruption of the ecologic organization of marine systems.”

Little sea turtles appear to be the most vulnerable to the pollution and observed from the Atlantic on the impact of plastic on larger sea turtles in the Pacific. Documented plastic entanglement and ingestion in 79 turtles, including consumption of fishing line, plastic bags, beads and vinyl film. One dead turtle had swallowed a sheet of heavy plastic that measured 10 by 12 feet.

Today, marine plastic pollution has catastrophic proportions and is a pervasive problem in even the most remote and pristine seas. In the last 25 years, billions of tons of plastic have been purposefully dumped or accidentally swept into the oceans from rivers and coasts. And despite prohibitions on the ocean disposal of plastics by Annex V of MARPOL, the International Marine Pollution Treaty, this practice continues.



Because plastic bags in the ocean resemble jelly fish, and sea turtles eat jelly fish, turtles like this Green Sea Turtle, eat plastic bags that clog up their digestive tract and even kill them.

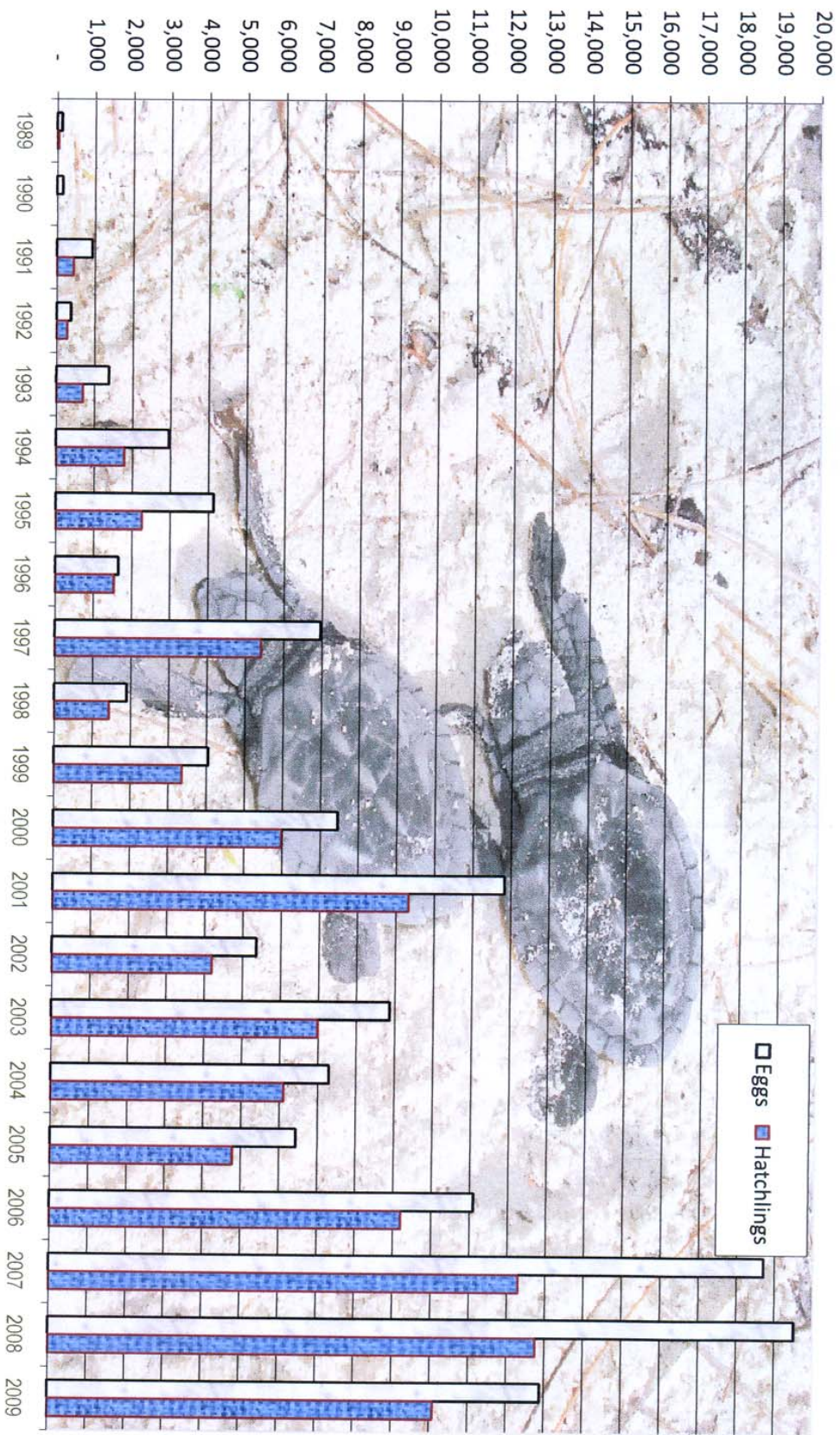
Plastic marine debris affects sea turtles in numerous ways. Turtles caught in lost or abandoned plastic fishing gear may be injured or drowned. Those that mistake floating debris for food are at risk from intestinal compaction or tearing, digestive suppression and exposure to chemical toxicants absorbed by the plastics. Leatherbacks for example are believed to mistakenly eat floating plastic bags instead of jellyfish, a primary food. Miscellaneous debris, such as plastic rings can cut, maim or amputate limbs and cause severe and sometimes lethal infections. At least 100,000 marine animals are estimated to die as a result of plastic marine debris each year.

Samples of ingested material collected from the mouths of these small turtles, he has found balloons, fishing line, plastic film and a wide variety of rigid plastic shards. Plastic polymers have been implicated as hormone disruptors in a number of species and are believed to contribute to other health problems.

• Table 2: 1989 – 2009 Detailed Nesting & Hatching Data

Year	Green			Hawkbill			Olive Ridley			Total			Hatching %
	Nests	Eggs	Hatchlings	Nests	Eggs	Hatchlings	Nests	Eggs	Hatchlings	Nests	Eggs	Hatchlings	
1989	-	-	-	1	128	37	-	-	-	1	128	37	28.9
1990	-	-	-	1	153	-	-	-	-	1	153	-	0.0
1991	7	791	428	1	141	2	-	-	-	8	932	430	46.1
1992	3	375	276	-	-	-	-	-	-	3	375	276	73.6
1993	7	670	308	5	711	383	-	-	-	12	1,381	691	50.0
1994	18	2,322	1,436	4	640	346	-	-	-	22	2,962	1,782	60.2
1995	34	3,804	2,195	2	333	61	-	-	-	36	4,137	2,256	54.5
1996	14	1,659	1,534	-	-	-	-	-	-	14	1,659	1,534	92.5
1997	56	6,770	5,399	1	190	-	-	-	-	57	6,960	5,399	77.6
1998	15	1,714	1,352	1	190	80	-	-	-	16	1,904	1,432	75.2
1999	34	3,844	3,154	1	204	200	-	-	-	35	4,048	3,354	82.9
2000	59	6,455	5,203	5	683	650	7	322	125	71	7,460	5,978	80.1
2001	87	10,612	8,918	6	1,089	301	1	135	103	94	11,836	9,322	78.8
2002	47	4,950	3,901	3	283	160	1	132	128	51	5,365	4,189	78.1
2003	77	8,584	6,751	3	285	231	-	-	-	80	8,869	6,982	78.7
2004	53	6,974	6,104	4	542	260	2	174	51	59	7,289	6,415	88.0
2005	68	6,437	4,776	-	-	-	-	-	-	68	6,437	4,776	74.2
2006	111	10,078	8,335	5	757	622	2	265	240	118	11,100	9,197	82.9
2007	161	18,041	11,954	4	666	330	-	-	-	165	18,707	12,284	65.7
2008	195	19,511	12,744	-	-	-	-	-	-	195	19,511	12,744	65.0
2009	108	12,714	10,202	1	176	120	-	-	-	109	12,890	10,322	80.1
TOTAL	1,154	126,305	94,970	48	7,171	3,783	13	1,028	647	1,215	134,103	99,400	74.1

• Figure 1 : Chart showing Eggs & Hatchling Data – 1989 : 2009

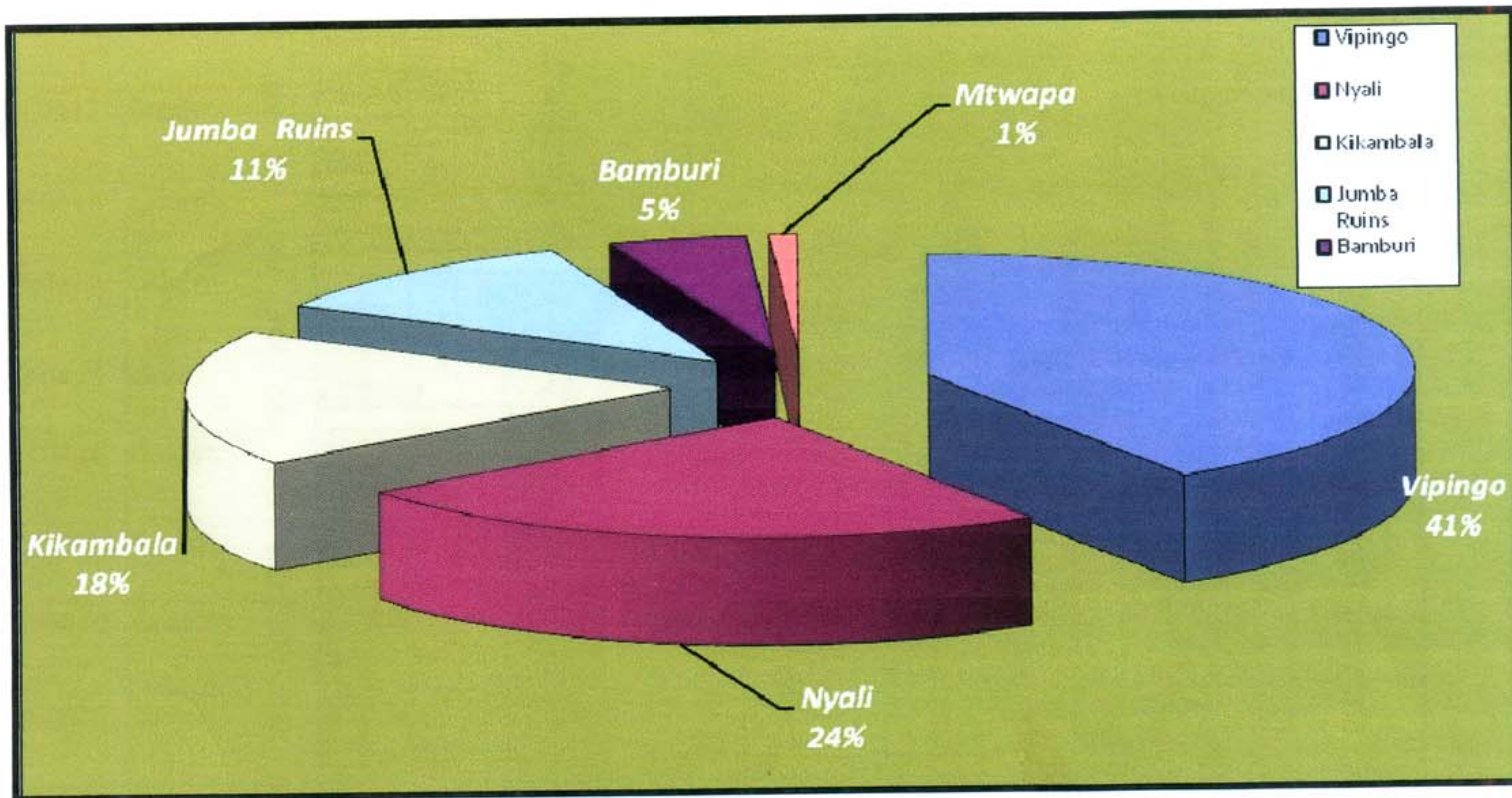


• **Table 3: Number of nests and species from 6 sites – 2009**

Vipingo Beach nesting site recorded the largest number of nests laid followed by Nyali and Kikambala

Nesting Site	No. of Nests:
Vipingo	45
Nyali	26
Kikambala	20
Jumba Ruins	12
Bamburi	5
Mtwapa	1
Total nests	109

• **Figure 2: Percentage of nesting sites - 2009**



• Table 4: Tagging data & Chart 2002 – 2009

Tag No.	Species	Laying Date	Measurement Length & Width	No. of Eggs	Nest site	Incubation
KE0401	Olive Ridley	04.04.2002	61cm x 58cm	132	Jumba Ruins	Translocated
KE0402	Green	08.04.2002	87cm x 91cm	100	Jumba Ruins	Translocated
KE0403	Green	19.04.2002	102cm x 110 cm	121	Jumba Ruins	Translocated
KE0404	Green	21.04.2002	96cm x 83cm	Only tagging was done – Jumba Ruins		
KE0405	Green	24.02.2002	101cm x 107cm	106	Jumba Ruins	Translocated
KE0406	Green	14.05.2002	78cm x 75cm	82	Jumba Ruins	Translocated
KE0407	Green	07.07.2002	98cm x 99cm	93	Jumba Ruins	Translocated
KE0408	Green	05.09.2002	71cm x 69cm	Turtle trapped in fishing net - Public Beach		
KE0409	Green	06.02.2003	105cm x 93cm	139	Jumba Ruins	Translocated
		11.04.2003		121		“
KE0410	Green	08.02.2003	103 x 105	126	Jumba Ruins	Translocated
		02.05.2003		127	“	Translocated
		29.05.2003		122	“	
KE0411	Green	15.02.2003	103 x 105	125	Jumba Ruins	Translocated
		28.02.2003		132	“	In Situ
		30.04.2003		83	“	“
KE0412	Green	10.03.2003	98 x 104	122	Jumba Ruins	Translocated
		24.04.2003		149		
KE0413	Green	12.03.2003	105cm x 101cm	148	Jumba Ruins	In Situ
		17.03.2003		132		
KE0414	Green	24.04.2003	115 cm x 105cm	106	Jumba Ruins	In Situ
		20.05.2003		120		
KE0415	Green	03.05.2003	107cm x 109cm	121	Jumba Ruins	Translocated
KE0416	Green	07.05.2003	110cm x 98cm	93	Jumba Ruins	In Situ
		20.05.2003		134		“
KE0418	Green	10.06.2003	96cm x 103cm	105	Jumba Ruins	In Situ Translocated
		24.06.2003		152		
KE0419	Green	12.06.2003	92cm x 106cm	141	Jumba Ruins	In Situ
		24.06.2003				
KE0420	Green	24.06.2003	107cm x 102cm	118	Jumba Ruins	In Situ
		12.07.2003				
KE0422	Green	25.06.2004	97cm x110cm	102	Jumba Ruins	In-Situ
KE0423	Green	25.06.2004	88cm*100cm	159	Jumba Ruins	Translocated
		31.08.2004		172		“

Tag No.	Species	Laying Date	Measurement Length & Width	No. of Eggs	Nest site	Incubation
KE0425	Green	24.04.2005	119cm x 108cm	135	Jumba Ruins	In-situ
KE0426	Green	16.06.2006	147cm x 132cm	103	Jumba Ruins	In-situ
KE0427	Green	22.06.2006	128cm x 106cm	82	Jumba Ruins	Translocated
KE0428	Green	21.07.2006	138cm x 129cm	103	Jumba Ruins	In-situ
KE0429	Green	05.08.2006 20.08.2006	109cm x 102cm	68 130	Jumba Ruins	In-situ
KE0430	Green	16.02.2007	120cm x 106cm	141	Jumba Ruins	In-Situ
KE0431	Green	22.02.2007	98cm x 81cm	127	Jumba Ruins	In-situ
KE0432	Green	21.09.2007	109cm x 92cm	107	Jumba Ruins	In-situ
KE0433	Green	23.09.2007	117cm x 109cm	108	Jumba Ruins	Translocated
KE0434	Green	16.12.2008	108cm x 92cm	No eggs laid	Jumba Ruins	In-situ
KE0435	Green	24.04.2008	119cm x 109cm	127	Jumba Ruins	In-situ
KE0436	Green	24.04.2008	109cm x 89cm	123	Jumba Ruins	In-situ
KE0437	Green	26.04.2008	112cm x 106cm	96	Jumba Ruins	In-situ
KE0438	Green	16.05.2008	119cm x 108cm	72	Jumba Ruins	In-situ
KE0439	Green	17.05.2008	115cm x 105cm	92	Jumba Ruins	In-situ
KE0440	Green	21.05.2008	119cm x 98cm	102	Jumba Ruins	In-situ
KE0441	Green	01.03.2009	121cm x 99 cm	128	Jumba Ruins	In-Situ
KE0442	Green	25.07.2009	130cm x 112cm	151	Jumbai Ruins	In-Situ
KE0443	Green	06.08.2009	128cm x 106cm	169	Jumba Runs	In-Situ

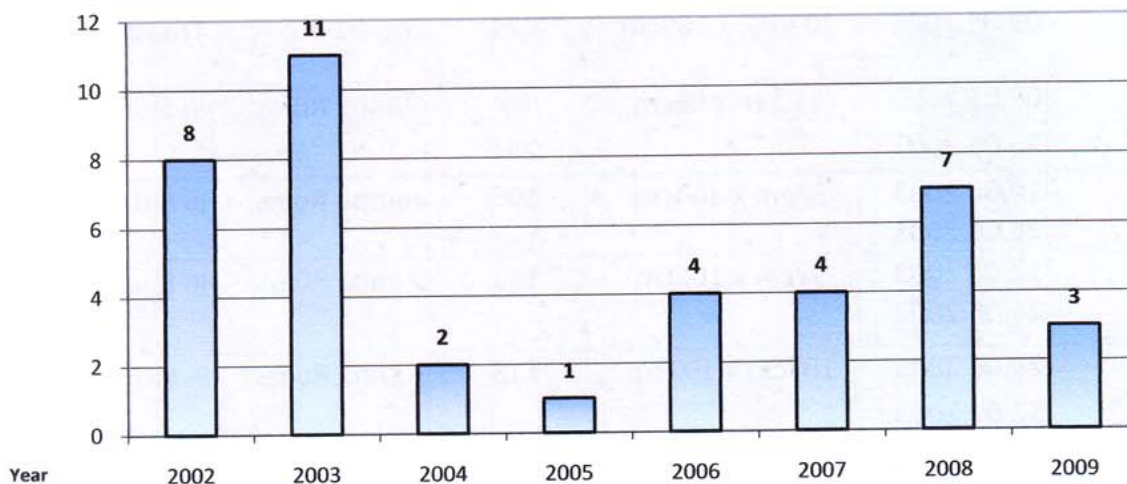


Chart showing number of Tagging done since 2002

Dead turtle at Serena Beach 18th November 2009



Measuring the turtle

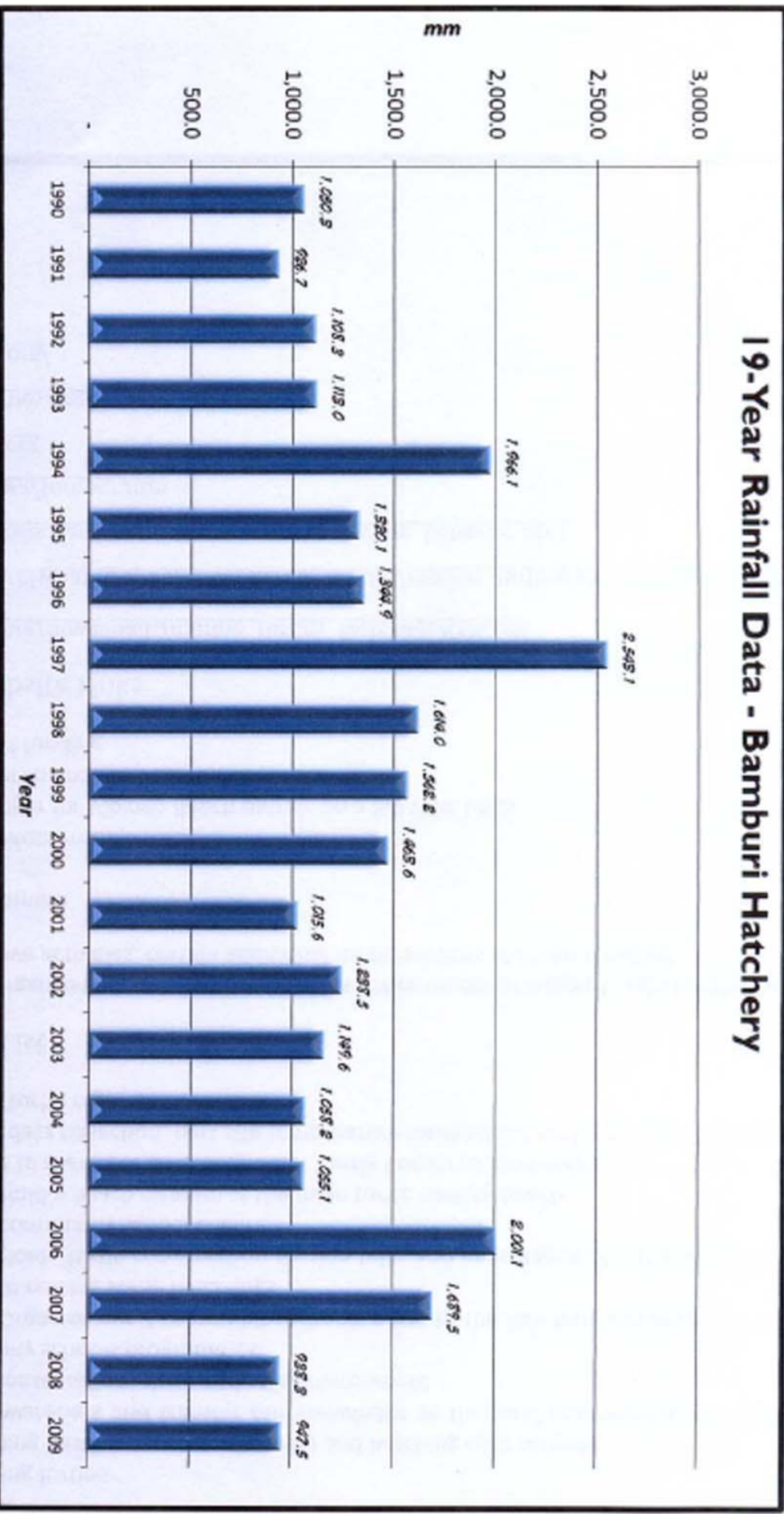


Tumor observed underneath



On the way to be buried on site

Figure 3: Chart showing rainfall in mm from 1990 – 2009



Baobab Trust maintains an excellent record of rainfall readings for many years. The above chart shows the rainfall trend from 1990 – 2009. These data are also shared with the Ministry of Agriculture.

Dead turtle at Serena Beach 18th November 2009



Measuring the turtle



Tumor observed underneath



On the way to be buried on site

- **Our Planned Activities for 2010**

- a) Carry on with protecting, securing and releasing hatchlings in collaboration with the fisherfolk
- b) Tag nesting turtles
- c) Maintaining nesting, tagging, mortality and hatching data records
- d) Create awareness and transfer our knowledge to the local communities on importance of marine conservation, clean and safe environment
- e) Community schools programmes:
 - i. Organise our 3 community schools a trip to the Bamburi Hatchery with a possibility to release some hatchlings
 - ii. Hold 'turtle conservation session talks and importance of our environment' for the community school children
 - iii. Hold a beach cleanup at the main turtle nesting beach
- f) Continue to share our data with other Turtle Conservation Groups
- g) Improve data collection, nest site temperature incubation/ analyzing egg data after hatching
- h) Improve turtle night observations

- **Our Wish List**

As a non-profit organization, our funding depends entire on donor support. And for the Trust to carry out the above activities, certain additional items/services shall be required:

1. Digital Camera
2. GPS
3. Soil thermometer
4. Night ranger for Vipingo Beach patrols on a full time basis
5. Volunteer to analyze data and statistics
6. Transport funding

- **Useful Website Links**

http://assets.panda.org/downloads/marine_turtles_factsheet2006.pdf

[http://www.panda.org/what we do/endangered species/marine turtles/african marine turtles/](http://www.panda.org/what_we_do/endangered_species/marine_turtles/african_marine_turtles/)

http://www.nova.edu/ocean/seaturtles/sea_turtle_nesting_behavior.htm

<http://www.turtles.org/tumour.htm>

<http://www.cccturtle.org>

<http://www.ioseaturtles.org/>

<http://www.kescom.org/>

