"ROSALIE SEA TURTLE INITIATIVE" (RoSTI)

A project of the
Wider Caribbean Sea Turtle Conservation Network (WIDECAST)

ANNUAL PROJECT REPORT 2006

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Introduction

In April 2003, the Wider Caribbean Sea Turtle Conservation Network (WIDECAST) launched a new community-based project in the Commonwealth of Dominica. This project, entitled the "Rosalie Sea Turtle Initiative" (hereafter referred to as "RoSTI"), is the first comprehensive attempt to research and conserve endangered sea turtles on the island, and adds Dominica to the list of more than 30 other Caribbean states and territories with existing WIDECAST-affiliated sea turtle programmes.

Through its affiliation with the WIDECAST network, RoSTI, which was conceptualized to serve as a practical example of how the sustainable management of depleted sea turtle stocks can be accomplished at both community and national levels in Dominica, continues to benefit richly from the experience of others in the region. For example, data record forms and public outreach materials were based on materials in use in other Caribbean islands; project staff and partners had the opportunity to travel to neighbouring countries to learn from what others are doing; and members of the project, Forestry and Fisheries officers, and in some cases the Rosalie Estate development team, have participated in WIDE-CAST's annual meetings.

RoSTI is but a first step in providing Dominicans with experience in developing their own research priorities, creating their own conservation successes, and looking to a future that includes healthy populations of sea turtles. The purpose of this Project Report is to summarize progress made in 2006, including the objectives, methods and results. With consistent and heartfelt support from Government, the business community, the communities of the Southeast coast, and the citizenry of Dominica, the project has accomplished much. The information collected and the results obtained have set the stage for additional work in the coming years, and the development of an integrated and science-based agenda for sustainable turtle management in the country.

Study Site

The "Rosalie Sea Turtle Initiative" (RoSTI) is based in Rosalie Bay on the South Eastern side of Dominica, commonly referred to as "The Nature Isle" of the Caribbean. Dominica (754 km^2 in area) is situated in the Windward Islands, flanked by the French Departments of Martinique to the south and Guadeloupe to the north. The island has a rugged, mountainous terrain reflecting its volcanic origins. The highest point, Morne Diablotins, reaches to 1,447 m. Dominica is forested and has many streams and rivers. The climate can be described as humid and tropical, with an average temperature of about 27^{o}C and an average annual rainfall of 175 inches (most falling during the rainy season). Rainfall increases towards the central parts of the island, which receive approximately 400 inches of rainfall annually. Rock falls and landslides, particularly in the more mountainous regions, are common during the wet season. Dominica's location also places it in the hurricane belt; as a result, the island is particularly vulnerable to storms and hurricanes from June to November.

Dominica boasts a wide range of flora and fauna. According to Dominica's First National Report to the Conference of Parties to the Convention on Biological Diversity (Government of Dominica, 2002), the plant diversity includes approximately 155 families, 672 genera and 1226 species of vascular plants and several plant species which are recorded as endemic to the island; e.g. (*Sabinea carinalis*), locally referred to as Bwa Kwaib. Dominica's birds include 2 single-island endemics and 9 regional endemic species. Its 2 endemic parrots (the Imperial parrot or 'Sisserou', *Amazona imperialis*, and the Red-necked 'Jacquot', *Amazona arausiaca*) are both considered Threatened (cf. IUCN Red List). Eighteen species of wild

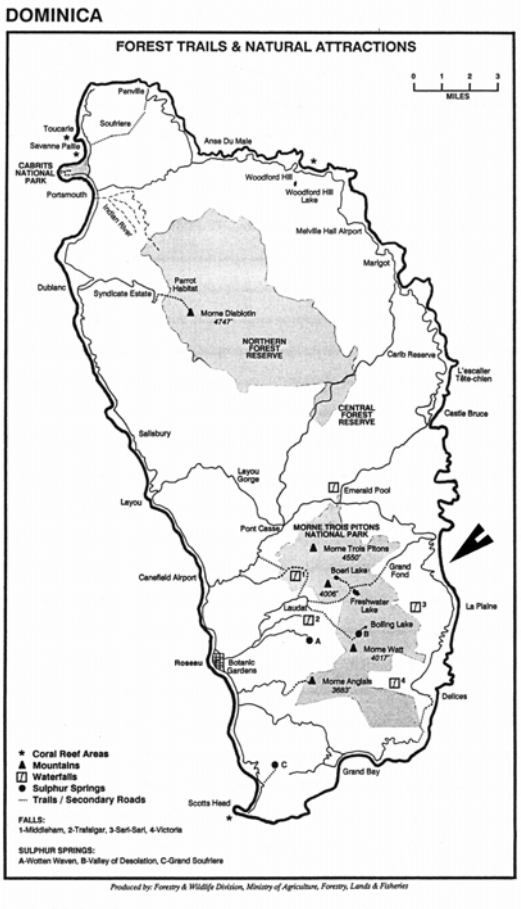
terrestrial mammals, including one species of opossum and one species of feral pig, and 19 reptile species have been recorded in Dominica. Of these, the Ground Lizard (*Ameiva fuscata*), Tree Lizard (*Anolis oculatus*), a snake (*Typhlops dominicana*) and a tree frog (*Eleutherodactylus amplinympha*) are endemic.

Dominica, a member of the Organisation of Eastern Caribbean States (OECS), has traditionally been an agriculturally based economy, focusing particularly on bananas until very recently. Still dependant on agriculture, the island remains highly vulnerable to climatic conditions and international market and economic developments. Tighter standards and costs associated with the banana industry, coupled with a shift in Government focus away from agriculture into areas such as tourism, have had an impact. Despite Government policy, however, development of the tourism industry has remained slow. This has been attributed to its relatively few beaches, rugged coastline, and absence of an inter-national airport. As a result of these and other factors, overall economic growth has been sluggish in recent years.

Rosalie Bay- The project's specific geographic focus is Rosalie Bay, an area that embraces four distinct sandy beaches: Rosalie Beach (also referred to as Coffee Beach), La Plaine (also referred to as Bout Sable Beach) and two much smaller 'pocket beaches' referred to as B'avine Cyrique and Secret Beach (Bot-la-me). Due to the bay's location on the Atlantic, rather than the Caribbean, coast, these beaches are typical windward facing "high energy" beaches. Surrounding Rosalie Bay are four villages. The largest of these, Grand Fond (to the north) and La Plaine (to the south), flank the smaller twin villages of Morne Jaune and Riviere Cyrique. Each village is at least 20 minutes' walk to the closest of the 4 beaches. Only La Plaine Beach and Rosalie Beach can be accessed by vehicle; the smaller beaches, B'avine Cyrique in particular, can only be accessed on foot during daylight in good weather.

Adjoining the Rosalie Estate, a former copra (coconut) plantation, Rosalie Beach (see insert) is the first beach in Rosalie Bay to be reached when approaching the area from the north. On its northern border flows the Rosalie River, one of the larger rivers in the area, and on its southern flank the beach abuts a high cliff face. Crossing the beach are two small streams.

Rosalie Beach is comprised of black sand and, like others in the area, is very dynamic and its profile changes rapidly. Cycles of sand deposition and erosion expose large rocks, create a pebble beach or vary the length, width and/or depth of the sandy substrate. This is mostly a function of the rough Atlantic Ocean, but the streams present on the beach play a large role as well, particularly during the wet season. Typically, as the sand disappears, the southern end of the beach becomes inaccessible during high tides, as the waves dash against the large rocks which have become exposed. To the north, towards the river, the beach is usually comprised of stones and rocks, in times of unusually high deposition there may be limited amounts of sand for short periods of time. On the opposite side of the Rosalie River is a small, well-defined bay having a stony beach.



Offshore Rosalie Bay is a coral reef system, which protects the beach from powerful ocean swells and may provide important foraging habitat for resident sea turtle populations.

B'avine Cyrique is the next small pocket beach south of Rosalie Beach. It is a black sand beach at the bottom of a cliff with a small, high waterfall. It is closest to the La Crete area of Riviere Cyrique, and is accessed by single track and climbing down the cliff face using a tree for support. It is a very popular spot for line fishermen; however, even the fishermen avoid it when it is wet and at night. Secret Beach or "Bot-la-me" is also in the village of Riviere Cyrique. This beach is reached by passing through River Mahoe and following a single-track trail down the hillside to the beach. The actual beach is very small and has a tiny stream on one side.

La Plaine (Bout Sable) Beach is the other main beach in the area. The furthest south, it is closest to the village of La Plaine. It is accessible by road and is also crossed by two small streams. The first stream is near the access point, and south of the river's mouth is a usually stony beach that in periods of heavy deposition accumulates sand. It rounds off to form a small bay that marks the end of La Plaine beach. The beach north of the river mouth is long and narrow. This end of the beach is marked by a smaller but wider beach with a little stream bounded by a cliff. This stretch of beach is also very active; the depth of the sand varies enormously, sometimes eroding completely to create long sections of rocky beach. Typically at these times the waves lash against the cliff face, preventing access to the end of the beach. In addition, the cliff butting this beach is prone to some degree of landslides and rock falls during the wet season.

Traditionally the rivers and forests of the national landscape have been among the most important natural resources in Dominica's culture and psyche. Historically the coastal area of Rosalie (including the beaches) has been very important to the people in the surrounding villages. Years ago, even before the present settlements of Grand Fond, La Plaine, Morne Jaune and Riviere Cyrique existed, there were a single village in Rosalie; later the four present-day villages were formed. Most of the villagers still maintain a cultural link to Rosalie and it is a very popular area for picnics and get-togethers on Public Holidays. During the summer months, when a combination of no school and calm seas make the beach a popular spot, dozens of children and villagers, especially from Grand Fond, enjoy the area. As with B'avine Cyrique, Rosalie Beach is popular with line fishermen.

As a people very reliant upon, and with close ties to the land, Dominicans see harvesting their natural resources as their birthright. The fertile soil produces abundant crops, the rivers and streams crayfish, the forest manicou or opossum (*Didelphys marsupialis insularis*), agouti (*Dasyprocta leporinus*), and crapaud or mountain chicken (*Leptodactyllus fallax*), and the sea, fish and marine turtles. It is within this geographic, historical and cultural context that the RoSTI project was born and has flourished.

Project Objectives

RoSTI was planned as a three-year pilot project, Phase I (2003-2005) of which is now complete with Phase II (2006-2008) underway. To guide its development, several goals were set to ensure that the project stayed on course. These covered the four basic areas (Research, Education, Conservation, Community Considerations) described at the project's inception (see Byrne et al. 2005) as follows:

Research- to establish baseline information, and lay the foundation for obtaining the necessary scientific information for national management and conservation efforts directed toward sea turtles. The data will focus on the distribution, abundance, seasonality and species of sea turtles nesting along the South East

coast (and, in Phase II, the North East coast), and major threats to their survival. This information, combined with existing and historical data, will contribute to the development of a 'Sea Turtle Recovery Action Plan for Dominica' and support ongoing discussions about the protection of critical habitat.

Education- to inform adults and children of the complex biology of sea turtles, their role in local ecosystems, and the importance of managing threats to their survival with the aim of ensuring stable populations and sustainable use options for the future. The education component is envisioned to include initiatives such as workshops, public presentations, internships, fieldtrips and summer camp for children.

Conservation- to identify current threats and make recommendations to local community organisations, to Government, and to other stakeholders regarding mitigating options and alternatives. The project will emphasise the involvement of local communities in the design of conservation programs, and local hoteliers in implementing "turtle friendly" beach management protocols, such as finding alternatives to artificial lights shining on nesting beaches.

Community- to raise awareness of the biology and status of depleted sea turtle stocks as well as to encourage interest on the part of Dominicans to become involved in a locally run 'Turtle Watching' venture. The project will work with community leaders to identify ways in which sea turtle conservation can benefit the community, and meet community development needs. The project will recruit residents, including current poachers, to contribute information to the project, to patrol nesting beaches, to safeguard turtles and nests, and to share their knowledge with the area's residents, children and visitors.

Ultimately the goal is to have the project managed entirely by local staff, and includes a profit-making eco-tourism venture administered from within the community. With all of this in mind, RoSTI Project Managers and community beach patrollers tasked, each year, with the following *inter alia*:

- Identify the sea turtle species that utilize the Rosalie Bay area,
- Evaluate the relative importance of Rosalie Bay habitats to sea turtles in Dominica,
- Design and implement a regular schedule of beach patrols in order to estimate nest abundance, distribution and seasonality, and in such a way as to encourage trend assessments,
- Design and implement a nest monitoring program sufficient to estimate annual reproductive success and major causes of nest mortality,
- Document and report incidents of adult mortality (e.g. poaching, fisheries bycatch),
- Participate in public awareness campaigns designed to eliminate illegal sale of sea turtle products, such as polished shells and jewellery, in Dominica,
- Collaborate with law enforcement to develop a strategy to deal with illegal activity,
- Print and distribute locally and nationally, at least two public education/awareness items, such as a slide show, brochure, poster and/or leaflet,
- Visit a minimum of two schools each month of the term,
- Participate in at least two media events to promote the project and involvement by the community
- Give at least two print and /or radio interviews on RoSTI, local sea turtles, and current issues,
- Involve community members in research, public education, and habitat protection,
- Encourage community support for conservation efforts by sharing information about the biology and status of sea turtles in Dominica and worldwide, and by embracing community leaders in the development of specific conservation objectives, and
- Prepare recommendations to local stakeholders, including Government, for the ongoing management and conservation of the sea turtle resource.

Methodology

To determine the sea turtle species using the beaches of Rosalie Bay and, now in Phase II, Londonderry beach as well, project staff established a schedule of foot patrols and used record-keeping forms designed in 2003 (see Appendix I) to document the distribution, abundance, and seasonality of sea turtle nesting and the fate of eggs laid during regular night patrols and early morning surveys.

The 2006 research season extended from 1 March to 10 August in Rosalie Beach; and on Londonderry beach was from 1 April to 30 June 2006. Nocturnal patrols were conducted 5-7 nights per week on Rosalie and La Plaine beaches, as well as on Londonderry Beach. The night-time presence of research personnel acted substantially as a countermeasure and deterrent to repeated cases of attempted turtle poaching (illegal under Dominican law), as documented by RoSTI staff. While serving to immediately reduce the problem of poaching, the patrols also facilitated the tagging and measurement of nesting females and education of community members who were in attendance nearly every night. In order to conduct an accurate survey of nesting activity, each beach was patrolled hourly, meaning that no beach sector was left unattended for more than one hour (the average time required for nesting).

Night-time patrols lasted till dawn (typically, 7.30 PM to 5.30 AM), providing an excellent record of the night's nesting activity at Rosalie, La Plaine, and Londonderry beaches. When beaches could not be patrolled due to heavy rains or swells, patrols were conducted early the following morning. During these patrols, activities or factors present on the beach, which might have affected nesting females, or hatchlings were also noted. These included abiotic factors (e.g. beach erosion, pollution, beach litter/ debris) as well as man-induced factors (e.g. poaching, vehicle on beaches, sand mining, patterns of beach use, presence of domestic animals).

When a turtle crawl was encountered, RoSTI and Forestry staff determined (or made an informed judgment) whether or not eggs had been laid. Eggs laid in high risk areas, such as too close to the surf, were carefully excavated within 12 hours of deposition and re-buried in a beach cavity dug to mimic the nest's original dimensions (depth, width), but placed higher on the beach platform. .

Record-keeping protocols for the field data were designed to ensure data accuracy, consistency, and the practicality of data organization, archival, and retrieval. The RoSTI data sheet was used to record all sea turtle activity encountered during patrols, including nesting attempts, hatchings, and incidents of poaching. The reverse side featured a map drawn to aid in locating the nest site at a later date (such as at hatching, or to allow follow-up after a storm event).

Late in the season when it became evident that eggs were being lost even from relocation sites due to substantial beach erosion, project staff began monitored beach erosion. Data collection on beach erosion and seasonal changes in beach profiling remains incomplete, and improving our understanding of beach dynamics will be a priority for future years. Forestry officers have been collection this information since 1987, and these data are sure to be useful as well.

In support of conservation objectives, and to further encourage community participation, locally popular annual beach clean-ups were held in June on Londonderry. Hatchling Day on Rosalie Beach attracted more than 1,000 persons (Appendix II)! These events provide excellent opportunities to educate the public in a hands-on and enjoyable way, and with plenty of community spirit.

2006 Results

The 2006 research season began on 1 March and ended on 10 August on Rosalie and Bout Sable Beaches. Research on Londonderry beach took place during the peak leatherback nesting season only (1 April - 1 July). During this time, RoSTI staff and concerned residents (the latter by reporting sightings to the national Sea Turtle Hotline; see Appendix III) documented a combined total of 134 sea turtle sightings at Boute Sable, Rosalie, Londonderry, and several other beaches around the island (Table 1). The first recorded activity occurred on 29 March 2006, the last on 30 July 2006. Rosalie Beach was the most active beach for these turtle sightings, accounting for 44 (32.8%) of the total. Boute Sable and Londonderry accounted for 32 (23.9%) and 41 (30.6%) of the sightings respectively, while the remaining 17 (12.7%) sightings were documented on other beaches in the Commonwealth of Dominica, including Woodford hill, Portsmouth, Castle Bruce, Melville Hall, Scott's head, Cabaña, Thibaud and Hatton Garden Beach.

Table 1: 2006 Total Sea Turtle Sightings by Beach in the Commonwealth of Dominica.

Sightings* by Beach		
Beach	**Sightings**	**Percentage**
Boute Sable	32	23.9%
Rosalie	44	32.8%
Londonderry	41	30.6%
Other	17	12.7%
TOTAL	**134**	**100%**

**A sighting is defined as the observation of an adult or juvenile turtle, hatchling(s) or a nest. Data recorded from "other" locations was recorded opportunistically, and does not reflect a complete total. Data from Boute Sable and Rosalie beaches is considered to be complete for the survey period 1March – 10 August, and at Londonderry from 1 April to 1 July 2006.*

As in previous years, RoSTI confirmed three species of endangered sea turtles nesting on the beaches of Dominica. These are the Leatherback (*Dermochelys coriacea),* Hawksbill (*Eretmochelys imbricata)* and Green (*Chelonia mydas)* turtle, with the majority of sightings consisting of the Leatherback (Table 2).

Table 2: 2006 Sea Turtle Sightings by Species in the Commonwealth of Dominica with particular reference to Rosalie Bay and Londonderry beach.

Species Sightings		
Species	**Sightings**	**Percentage**
Leatherback	111	82.8%
Hawksbill	17	12.7%
Green	6	4.5%
TOTAL	**134**	**100%**

Egg-laying **-** There were 51 confirmed nests documented during the 2006 season. A nest was documented as "confirmed" only when eggs were visually or physically verified in the nest chamber. Due to the immense size of Leatherback nests and the extent of their disguising, it was sometimes impossible to

confirm eggs. As a result, 21 sightings could only be labeled as "suspected nests". Together, these 72 confirmed and suspected nests comprised 56.2% of all results, with false crawls (unsuccessful nesting attempts) occurring at a frequency of 43.8% (Table 3). Though according to results in 2005, there were clear nesting result patterns between Rosalie and La Plaine beaches, the 2006 data revealed no true patterns in the nesting results (Table 4).

Table 3: 2006 Results of Sea Turtle Nesting Activities in the Commonwealth of Dominica on the beaches of Rosalie Bay and Londonderry.

Result of Turtle Activities		
Result	**Activities**	**Percentage**
Confirmed Nest	51	39.8%
Suspected Nest	21	16.4%
False Crawls	56	43.8%
TOTAL	**128**	**100%**

Table 4: 2006 Sea Turtle Nesting Results in the Commonwealth of Dominica. N=Confirmed Nest, SN=Suspected Nest, FC=False Crawl. Percentages are given in parentheses.

	Nesting Results by Beach			
Beach	**N**	**SN**	**FC**	**TOTAL**
Castle Bruce (%)	**1** (50.0%)	**1** (50.0%)	**0** (00.0%)	**2** (100%)
Rosalie	**11** (24.4%)	**11** (24.4%)	**23** (51.1%)	**45** (100%)
Boute Sable	**15** (60.0%)	**4** (16.0%)	**6** (24.0%)	**25** (100%)
Cabaña	**2** (100%)	**0** (00.0%)	**0** (00.0%)	**2** (100%)
Londonderry	**18** (41.9%)	**5** (11.6%)	**20** (46.5%)	**43** (100%)
WoodfordHill	**3** (100%)	**0** (00.0%)	**0** (00.0%)	**3** (100%)
Melville Hall	**0** (00.0%)	**0** (00.0%)	**4** (100%)	**4** (100%)

Tagging **-** RoSTI staff tagged 30 Leatherback, 5 Hawksbill, and one Green turtle for a total of 36 turtles tagged (Table 5a). Tagging was only conducted during patrols by trained RoSTI staff and forestry officials. Of those turtles tagged, 16 of them were documented returning to nest again.

Table 5b show the recurrence of each of these 16 leatherbacks to the beach as well as their nesting habits over the season. All turtles were tagged as they left the beach or while depositing eggs in to the nest chamber, and not before so as not to frighten the animal or change its course of action. Tagging was undertaken mostly in the month of May, corresponding with the higher amount of activities recorded in that month (Chart 1).

In 2006, there were five incidences of tag loss. There were also 10 incidents (8 different turtles in all) where the tags were found to be damaged and had to be replaced.

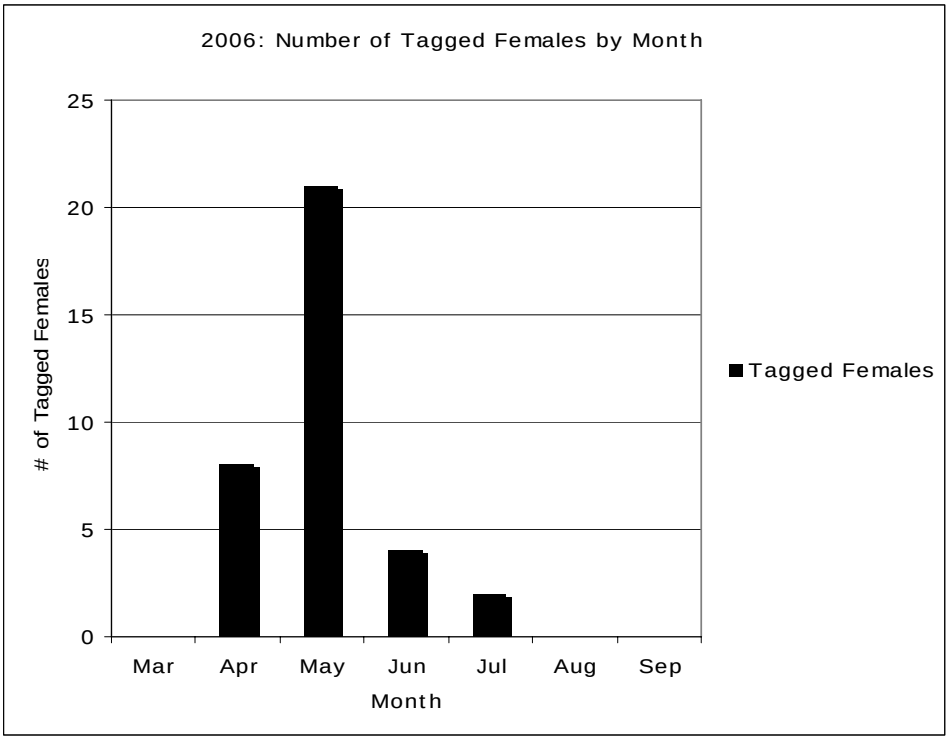
Table 5a: 2006 tagging dates in the Commonwealth of Dominica.

	Species		
Date	**Leatherback**	**Hawksbill**	**Green Turtle**
2-Apr		1	
6-Apr	2		
7-Apr	1		
21-Apr	1		
24-Apr	2		
27-Apr	1		
1-May	1		
2-May	1		
4-May	1		
7-May	1		
8-May	1		
11-May	1		
14-May	2		
16-May	2		1
17-May	2		
18-May	1		
19-May	2		
21-May	1		
25-May	1		
26-May	1		
27-May	1		
29-May	1		
30-May	1		
6-Jun		1	
7-Jun	1		
11-Jun	1	1	
8-Jul		1	
14-Jul		1	
TOTALS	**30**	**5**	**1**

Table 5b: 2006 Recurrence of Nesting Habits of Adult females Turtles. SN=Suspected Nest, FC=False Crawl, N=Confirmed Nest. ** Discrepancies are due to some incomplete data sheets.*

Tag Number	# of times appearing	Nesting Habit		
		SN	FC	N
WC3415*	6		3	2
WC3430*	6		3	1
WC3417	2		1	1
WC3422*	2			1
WC3434	2		2	
WC3435	2			2
WC3437	2			2
WC3440	2			2
WC3449	2			2
WC3467*	3		2	
WC3470*	5	1	1	2
WC3476*	3			2
WC3478*	2	1		
WC3486*	4		1	1
WC3491*	2		1	
WC3492	3			3

Chart 1: 2006 Tagged Female Sea Turtles (all species) in the Commonwealth of Dominica.



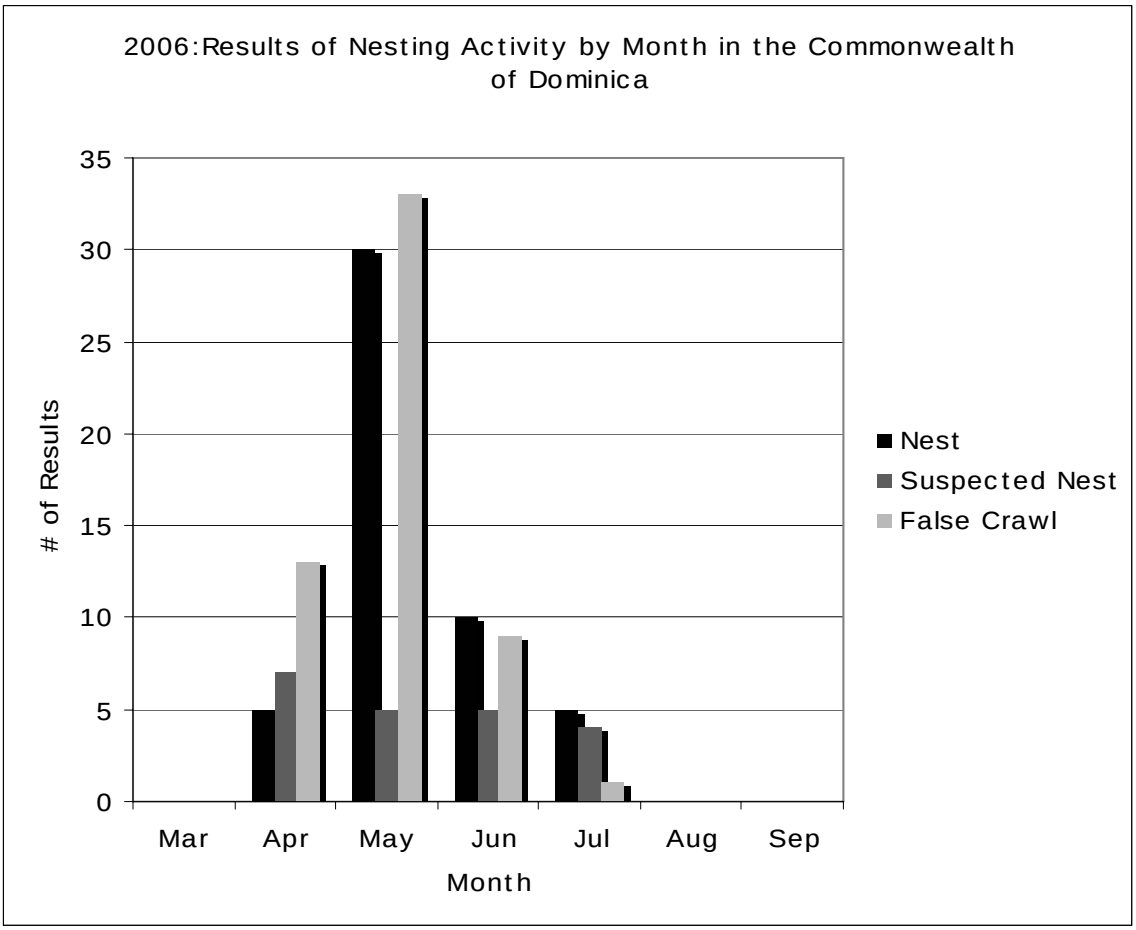
Measurements **-** The 2006 average CCL for leatherbacks measured was 152.9cm (range 53 to 187cm). The average CCW was 115.5cm (range 87 to 180cm). Measurements were taken to the nearest centimeter. All measurements were taken from adult nesting females.

In 2006, tagged adult female hawksbills had an average CCL of 83.2cm (range 62 to 92cm), and an average CCW of 76.8cm (range 53 to 89). None of these measurements were replicated.

In 2006, two adult female Green Turtles were measured and found to have an average CCL of 73.3cm (range 53.5 to 93cm) and an average CCW of 59.5cm (range 53 to 89cm).

Seasonality **-** A seasonal trend in Leatherback nesting, revealed in 2003, 2004 and 2005 data is also reflected in 2006. Leatherback turtles prefer to nest in April, May and June (Chart 2), for the Green and Hawksbill turtles, however, seasonal trends could not be determined due to low-density nesting. Later in the year especially the months of Aug to November Hawksbills have been reported nesting across the island.

Chart 2: Nesting Results by Month for all species.



Results: Details by Species

Rosalie Beach had a total of 44 sightings, while Boute Sable and Londonderry beaches had 31 and 41 sightings respectively (Table 1). Leatherback turtles were by far the dominant species at each beach. Like in 2005, Green and Hawksbill turtles were mostly observed at Rosalie beach (Table 6). Little can be interpreted from the nesting date per species, as the number of Green and Hawksbill turtles observed was so low. It would appear, however, that the incidence of false crawls was relatively higher between these two species in 2005 than among the Leatherbacks (Table 7).

Table 6: 2006 Sea Turtle Sightings by Species. Percentages are given in parentheses.

	Species Sightings By Beach			
Beach	**Leatherback**	**Hawksbill**	**Green**	**TOTALS**
Londonderry	**39** (95.1%)	**2** (04.9%)	**0** (00.0%)	**41** (100%)
Woodford Hill	**6** (100%)	**0** (00.0%)	**0** (00.0%)	**6** (100%)
Portsmouth	**0** (00.0%)	**0** (00.0%)	**1** (100%)	**1** (100%)
Castle Bruce	**3** (100%)	**0** (00.0%)	**0** (00.0%)	**3** (100%)
Melville Hall	**1** (100%)	**0** (00.0%)	**0** (00.0%)	**1** (100%)
Rosalie	**31** (70.5%)	**9** (20.5%)	**4** (09.1%)	**44** (100%)
Scotts Head	**1** (50.0%)	**1** (50.0%)	**0** (00.0%)	**2** (100%)
Boute Sable	**28** (90.3%)	**2** (06.5%)	**1** (03.2%)	**31** (100%)
Cabaña	**0** (00.0%)	**2** (100%)	**0** (00.0%)	**2** (100%)
Thibaud	**0** (00.0%)	**1** (100%)	**0** (00.0%)	**1** (100%)
Hatton Garden	**1** (100%)	**0** (00.0%)	**0** (00.0%)	**1** (100%)
TOTALS	**110**	**17**	**6**	**133**

Table 7: 2006 Sea Turtle Nesting Results by Species. N=Confirmed Nest, SN=Suspected Nest, FC=False Crawl.

Nesting Results by Species						
	Leatherback		**Hawksbill**		**Green**	
Result	**Amount**	**Percentage**	**Amount**	**Percentage**	**Amount**	**Percentage**
N	41	38.0%	8	53.3%	2	40%
SN	16	14.8%	3	20.0%	2	40%
FC	51	47.2%	4	26.7%	1	20%
TOTAL	**108**	**100%**	**15**	**100%**	**5**	**100%**

Results: Details by Month

As in years past, the peak months for nesting in 2006 were April, May and June. Both Rosalie and Boute Sable beaches had similar sighting volumes, with Londonderry and other beaches on the island generally having lower volumes, except in May when Londonderry had the most activity (Chart 3). All the species

were represented early on in the season, with Leatherbacks being seen the most and the Hawksbills were seen the least in the beginning. This season May was the last month in which Green turtles were seen. Hawksbill sighting volumes increased steadily peaking in June, and ending in July, while Leatherbacks maintained a significantly higher volume throughout the season, first appearing in May, greatly peaking in June and ceasing to be seen in July (Chart 4).

Chart 3: Sea Turtle Sightings by Month at all locations in the Commonwealth of Dominica.

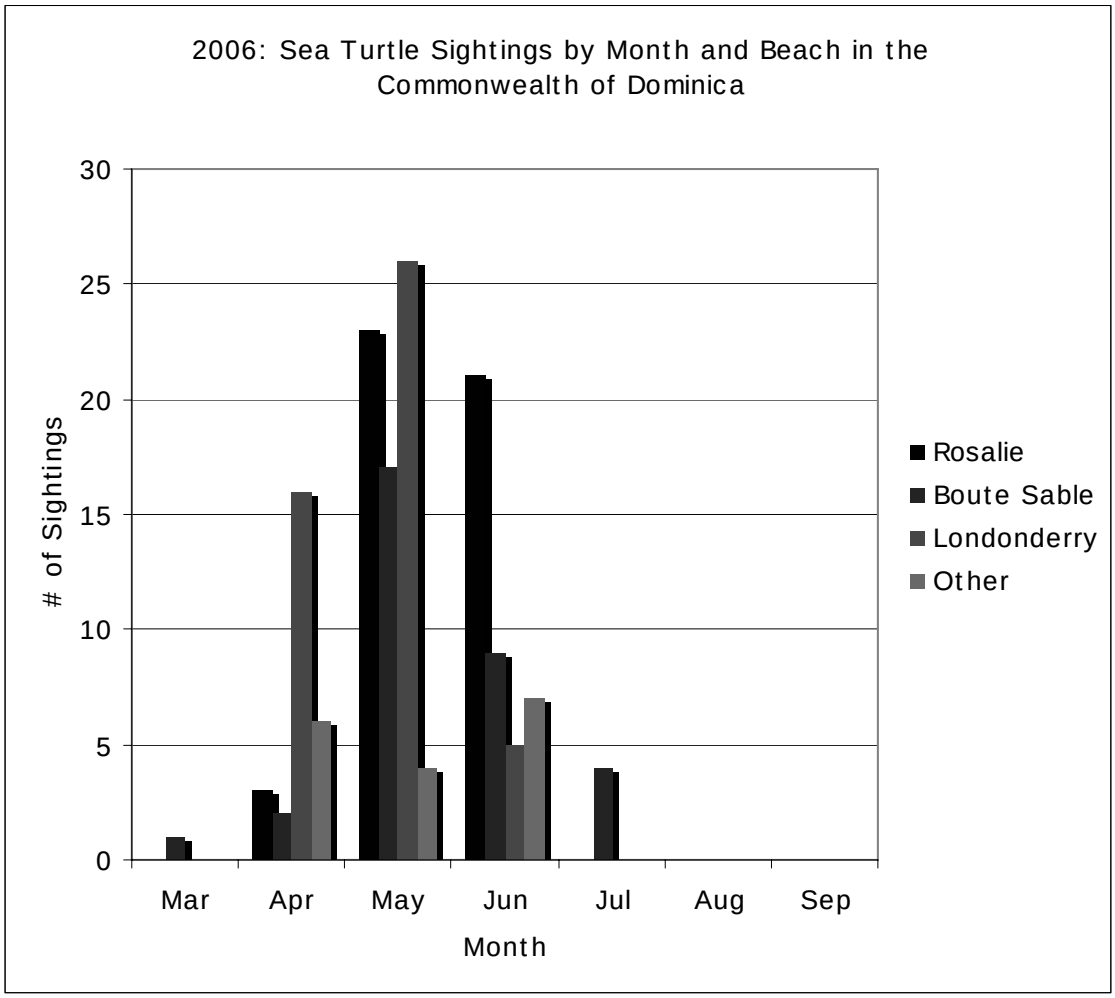
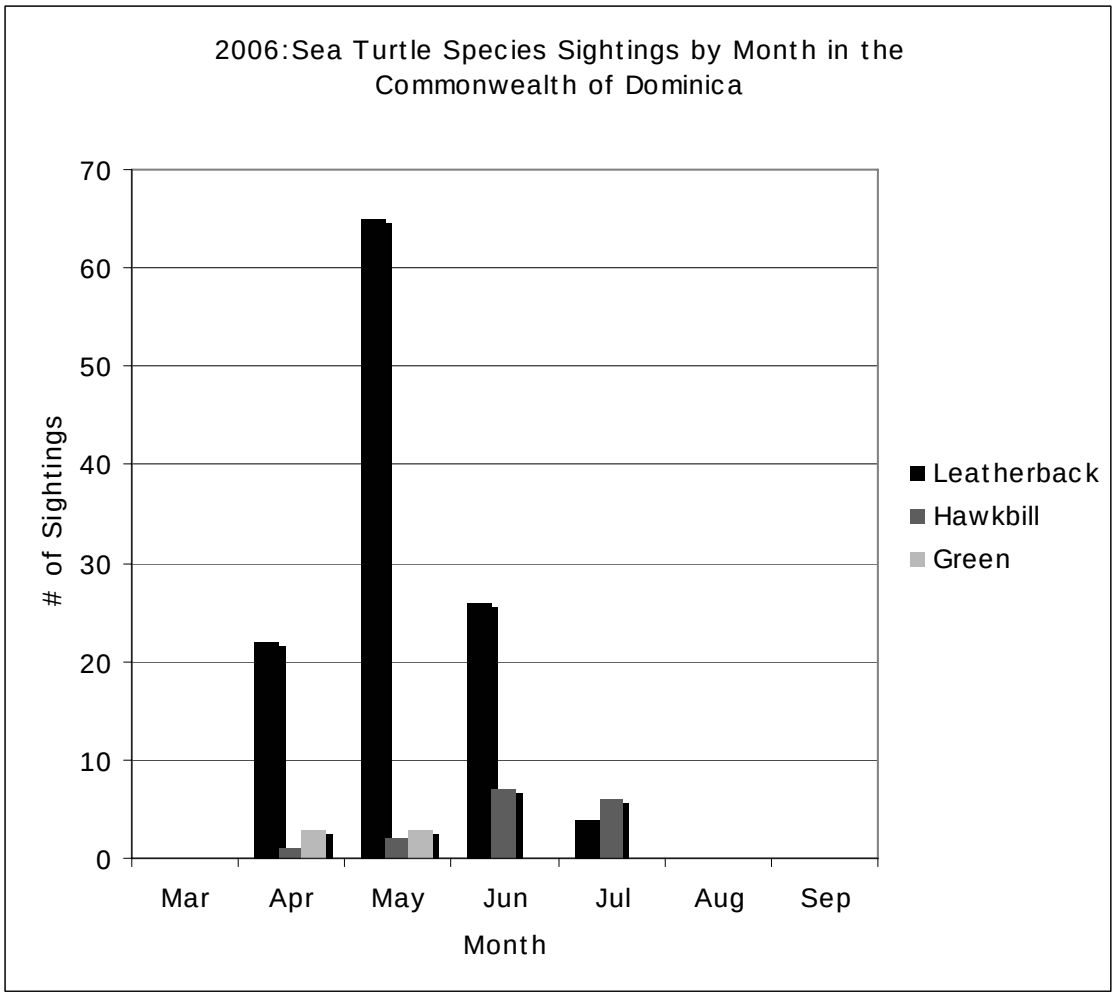


Chart 4: Sea Turtle Species Sightings by Month at all Locations in Rosalie Bay (Rosalie and Bout Sable) and Londonderry beach the Commonwealth of Dominica.



Nest Hatchling Success

During the 2006 season, 182 hatchlings (66 green turtles, including an amelanistic one, and 116 leatherbacks), and approximately 2,481 yolked eggs (439 hawksbill and 2,042 leatherback) were found. Numerous hatchlings were released back to the sea but not all emergences were observed. A large number of empty nests were observed; suggesting large numbers of hatchlings were protected successfully. Around the island local community members based on "sea turtle hotline" reports reported nests. Community members, forestry officers and RoSTI staff helped release hatchlings across the island and still continue to do so late in the season

Post-hatching, each nest is exhumed and its contents categorized to determine hatch success (the number of live hatchlings emerging from the nest, suspended embryonic development due to bacterial infections

nest flooding, or other factors), genetic abnormalities (e.g. twinning, albinism), the proportion of undeveloped eggs and evidence of nest predation etc.

The most important threats to hatchling success were poaching of eggs from the nest and erosion from the sea, occurring days, weeks or months after egg-laying. In 2006 hatchery areas had substantial difficulty with stray dogs digging up nests near full term and destroying both hatchlings and eggs. Some nests were lost on Rosalie while a large amount of nests were lost to birds, crabs and especially dogs in the Londonderry hatchery area.

Poaching

On 3 May, a female leatherback was found slaughtered at 5:30 AM on Toti Beach Woodford Hill. No green turtles were found dead during the season, but reports of at least seven poached hawksbills and green turtles were received. These reports were all from the north coast. On other beaches, such as Woodford Hill, Walkers Rest, Thibaud, Marigot Pagua Bay, and Hamstead, up to 12 leatherbacks had been reported poached.

No instances of poaching occurred on Londonderry, La Plaine or Rosalie Beaches. No poaching has been recorded on Rosalie since 2003 season, but reportedly this is the first time that Bout Sable and Londonderry were free from poaching activity, based on information form local communities. This is conservation success story is probably due to the high traffic of RoSTI officials in these areas, and the overwhelming numbers of turtle watchers in these communities.

Table 8: Poaching During the 2003-2006 Sea Turtle Nesting Seasons in the Commonwealth of Dominica.

Species	**2003**	**2004**	**2005**	**2006**
Leatherbacks	3	2	1	1
Hawksbills	0	0	1	0
Green	0	1	2	0
TOTAL	**3**	**3**	**4**	**1**

**These poaching events have not been included in the data for the preceding tables and charts.*

The Laws of Dominica (Forestry and Wildlife Act, Chapter 60:02, Section 21, Ninth Schedule) prohibit the collection of eggs or the disturbance "of any turtle nest" and prohibit any "attempt to take any turtle laying eggs or on the shore engaged in nesting activities" at all times of the year. Furthermore, the law prohibits the killing of *any* sea turtle during an annual closed season from 1 June and 30 September (Appendix IV).

Poaching was evident around the island, in some areas more than others, but as a result of the RoSTI project, poaching was remarkably reduced within the study site (i.e. Rosalie Bay Londonderry and Woodford hill especially). RoSTI staff received countless calls from citizens concerned about the poaching, willing to report illegal incidents, and expressing their commitment not to eat turtle eggs or meat in the future.

Outreach and Educational Programmes

This year was another very successful year for the outreach and educational programme of RoSTI. The project continually worked with community groups, village councils, government officials, hoteliers, youth groups, school children, tourists and individuals nationwide. The project again saw increased numbers of tourists visiting beaches in the hope of seeing a nesting sea turtle. The year started with Woodford Hill H4 Club on Woodford Hill beach clean-up on 17 March 2006. These students from Woodford hill Primarily School learned all about sea turtle conservation, and vowed to help protect the *cawine* (leatherbacks) that nest on local shores every year. This enthusiasm and commitment on the part of youth groups was replicated on numerous other occasions; in most cases, RoSTI partnered with the Ministry of Agriculture and Ministry of Tourism.

The RoSTI project engaged with great success many community members from Marigot, Wesley, and Woodford Hill who were actively involved in 'sea turtle watching' and beach patrolling. On one stretch of nights the project encountered over 2,000 visitors to Londonderry beach alone, with PBS TV on site filming the whole night with Forestry, and RoSTI staff and local communities in prominence. This filming will reach millions of new potential visitors and advertise Dominica as a sea turtle preserving island for tourists to come to Dominica for this exact activity. This was also reinforced by the hundreds of telephone calls that were received on the Sea Turtle Hotline and via email. The project also had numerous photos internationally published from Dominica in BBC Wildlife magazine, reaching millions of readers, and other dive magazines worldwide with many articles written for websites and newspapers. Logs of these can be seen on www.marinecreatures.com.

Following numerous meetings with Project Director (Mr. Rowan Byrne) and the Venezuelan Ambassador, a sea turtle presentation was organized for all the military crew at Melville Hall airport in early March 2006. The purpose of this presentation was to sensitize military personal (labouring to extend the runway at the airport) to the nesting turtles that would be nesting at Londonderry, in front of the construction site, and to be aware of the opportunity for them to observe sea turtles at night and to be actively involved in sea turtle monitoring as their time permitted. All personnel were very receptive to the presentation, and each night they were seen watching out for turtles on Londonderry and assisting RoSTI with field patrols.

In March 2006 a remarkable story unfolded. Along with Marpin news, RoSTI and the Honourable Minister of Agriculture – with help from Forestry, Parks and Wildlife, Fisheries divisions, Staff at Princess Margaret's hospital, Benjos sea moss, Oceanographic institute, and Park rangers and forestry officers and community members from Portsmouth – worked together to successfully rehabilitate and release an injured juvenile green turtle. This was a phenomenal story where all Dominican organisations helped in education of more community members island-wide. As ever, RoSTI worked with media partners. In working together, we were able to preserve this endangered juvenile, a first for Dominica.

During the year, project personnel worked continuously with all media partners and advertised frequently in local newspapers, and radio stations on the plight of sea turtles on Dominica. This was done in partnership with the Forestry division and ensured that sea turtles had an ever presence on Dominica airways and print media.

RoSTI, in association with the DHTA, had special 'turtle watching' nights with the DHTA Tourism Month in May and sponsored by the Ministry of Tourism. On other occasions, private hoteliers, such as

the Tamarind Tree Hotel, held a special guest chef night with RoSTI Project Director, Rowan Byrne. We are deeply appreciative for all these partners who, despite being very busy themselves, were committed to enabling the conservation message and ensuring that it was heard by many more people. Many persons were in attendance, and as they became more aware of the impending turtle nesting season they vowed their support to keep their eyes and ears open for nesting activity in 2006.

Over the Easter weekend a "turtle camp" was organized on Londonderry Beach with many excited persons and campers waiting all weekend to see a nesting leatherback. Many thanks for all that were in attendance that weekend, your presence – which was in the region of 30 plus persons and numerous trucks – was well appreciated.

RoSTI regularly, after many meetings with village officials, was proud to sponsor the prizes for community youth teams as part of the Woodford Hill Sports Club Committee prize giving ceremony. RoSTI also sponsored and continues to do so the national champions Ladies Rounders Teams of Riverie Cyrique, and the La Plaine National football team. RoSTI also sponsored a variety of local events throughout the year, as well as government social groups, and Mr. Rowan Byrne was an invited participant in the President's annual Fund-Raising Dinner at Fort Young.

RoSTI continued to work with numerous local businesses and groups. For example, in association with Auto Trade Ltd provided bins for the coastal clean-up along with the Marigot Development Corporation on Londonderry. Hundreds of people turned up over the weekend and now with the new bins the area will be kept clearer for future 'turtle watching' and other events. RoSTI, again in association with Western Union of Whitchurch, Parks and Wildlife (Ministry of Agriculture), and the Marigot Development Corporation, developed a new sign for sea turtle watching guidelines on Londonderry Beach near Melville Hall airport. In association with the national bank of Dominica, these sea turtle guidelines were placed on the bank's website to help advertise proper behaviour in the presence of a nesting sea turtle. This proved to be a big success, both local Dominicans and international visitors sent emails to say this was a good idea and enjoyed being able to reference them on the web.

RoSTI, along with www.marinecreatures.com and The Beverley LLC., published a new book entitled "Savings Dominica's Endangered Sea Turtles". This book, set to be launched at the beginning of next year, is a photographic history of the first four years of the RoSTI project and has been very well received among Dominican communities.

In June, RoSTI, in association with the ministries of Tourism and Agriculture, held a national press conference where both the Honourable Minister of Tourism and the Honourable Minister of Agriculture publically showed their support to sea turtle conservation and for RoSTI by asking community members to act responsibly on the beaches and give turtles a chance to lay their eggs. This was again publicized regionally and locally on all airways and in all newspapers.

RoSTI, in association with DIGICEL and the National Bank of Dominica, saw with over 1,000 visitors come to Rosalie Beach to actively take part in RoSTI's Sea Turtle Hatchling Day (Appendix II) in July. This event, now in its second year, proved to be a huge success with hundreds of tourists, local community members, visitors and journalists in attendance, all enjoying the day. This was a massive undertaking and all visiting persons and families went home with information on sea turtle preservation, and a vision of how sea turtles can act as a draw for ecotourism development in Dominica.

Project Support - 2007

It is a recommendation that steps be taken to generate sustainable funding for sea turtle conservation at the local level, with an aim to provide sustainable income to the project in the future, such as:

- Unique 'upscale' product sales, such as T-shirts, posters, caps and hats. More yellow bumper stickers (RoSTI) to include, this time, the Sea Turtle Hotline cell number. More items featuring the RoSTI logo!

- 'Adopt-a-Turtle Campaign' (or pledge) to the project: this is an idea suggested by the Ministry to target tourists and local businesses, and could be advertised during public presentations to tourists island-wide.

Equipment Needed - 2007

- Stockpile of posters, calendars, stickers, bookmarks, brochures, and other outreach materials
- Technical reports and Dominican books and photos to share, especially for Dominican Media
- Medical kit for beach patrollers (and injured sea turtles)
- Digital video and still digital cameras with appropriate housings produce a Dominican DVD.
- Laptop computer for mobile and office-base work and public presentations
- PIT tags and reader(s) to enhance tag longevity
- A supply of burnable CDs, mobile USB external storage devices

Literature Cited

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APPENDIX I

WIDECAST
Wider Caribbean Sea Turtle Conservation Network

2006 Sea Turtle Sighting Form
Rosalie Sea Turtle Initiative (RoSTI)
Dominica, West Indies

Date _____ Time _____ AM / PM Page Number _____

Observer_____ Tel/contact: _____

Location: Lat _____ Long _____ Name/Locale: _____

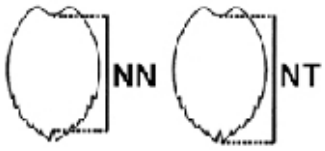
Distance between Nest (or Suspected Nest) and Landmarks, or Turtle and Landmarks:
Landmark A (name / distance) _____ / _____(m)
Landmark B (name / distance) _____ / _____(m)
Landmark C (name / distance) _____ / _____(m)

If at sea: Water Depth (m) _____ Water Temperature _____

Turtle Species: _____ Gender: ♂ / ♀ / unk

Identified by: ☐ Adult ☐ Juvenile ☐ Hatchling ☐ Alive ☐ Dead
or, ☐ Crawl/Nest Pit Crawl Width: _____ m Pattern: Symmetrical / Alternating

Size: CCL NT _____cm SCL NT _____cm CCL NN _____cm SCL NN _____cm
CCW _____cm SCW _____cm Carapace Intact? Y / N



Description / Illustration : Parasites and Injuries

Result: ☐ Nest (eggs confirmed) ☐ Suspected Nest ☐ False Crawl (no eggs)

Notes (e.g. evidence of poaching or other threats, contact information for observer):
_____
_____
_____
_____
_____
_____

APPENDIX II

SEA TURTLE HATCHLING DAY SPONSORED BY DIGICEL WATCH THE BABY TURTLES RUN TO THE SEA ROSALIE BEACH SUNDAY JULY 16TH 2006 12PM

RoSTI
Rosalie Sea Turtle Initiative

Sponsored by DIGICEL

SEA TURTLE HATCHLING DAY IS HERE AGAIN!
WATCH THE HATCHLINGS RUN TO THE SEA.
SUNDAY JULY 16TH ROSALIE BEACH 12 TO 4 PM.

Tons of prizes, free giveaways *VIA UPGRADED COMMUNITY ACCESS ROUTE* for all who attend early. Prizes include T shirts, Cell phones, Top up cards, Personal CD players, Sports equipment and Scuba gear, Masks, Snorkels and lots more!

Enter teams or families on the day for the sea turtle quiz, sea turtle sand sculpturing competitions, and games with tons of fun! Food and non-alcoholic beverages will be available on the day!

Special thanks to the National Bank of Dominica for their help.

Call 616 TOTI (8684) FOR DETAILS

WIDECAST
Wider Caribbean Sea Turtle Conservation Network

APPENDIX III

PLEASE REPORT ANY SEA TURTLE ACTIVITY FROM AROUND THE ISLAND ON THIS NUMBER.

Sea Turtle Hotline Contact Number 24/7

Day or Night

Cell: 616 TOTI (8684)

The Rosalie Sea Turtle Initiative (RoSTI) is a project of the Wider Caribbean Sea Turtle Conservation Network (WIDECAST) implemented in partnership with local communities, the private sector, and Government of Dominica.

APPENDIX IV

Laws of Dominica

Forestry and Wildlife Act

Chapter 60:02, Act 12 of 1976

Amended by Act 35 of 1982

Amended by Act 12 of 1990

Chapter 60:02

Section 21

Ninth Schedule

Regulations for the taking of sea turtles

1. The word 'turtle' shall be deemed not to include the tortoise or land turtle (*Geochelone carbonaria*).

2. No person shall:
   - catch or take or attempt to catch or take any turtle between the 1st June and the 30th September, both dates inclusive,
   - catch or take or attempt to catch or take any turtle which is under twenty pounds in weight, or
   - disturb any turtle nest or eggs or take any turtle eggs, or take or attempt to take any turtle laying eggs or on the shore engaged in nesting activities.