



Activity Report on the

Dutch Caribbean Nature Alliance

Sea Turtle Satellite Tracking Project

2006



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Introduction

In June 2005 funding was obtained via the Dutch Caribbean Nature Alliance (DCNA) to initiate the first phase of a satellite tracking project of sea turtles on St Eustatius and St Maarten, with collaboration from the St Eustatius National Parks Foundation (STENAPA) and the Nature Foundation St Maarten. The object of this study was to determine the migration pathways and feeding grounds of nesting green and hawksbill turtles from two of the Windward Islands of the Netherlands Antilles.

The first year of the project was relatively successful, with two turtles receiving transmitters; a green turtle on St Eustatius and a hawksbill on St Maarten. These two turtles were followed for several months, and provided the research team with some very interesting data (see Harrison, 2005). Unfortunately, insufficient turtles were encountered on nesting beaches in 2005 to deploy all of the transmitters purchased for the project. The three unused transmitters were stored until 2006, with the aim of attaching one on St Maarten, and the remaining two on St Eustatius.

The purpose of this report is to summarise the activities of the DCNA Sea Turtle Satellite Tracking Project that were conducted on St Eustatius in 2006.

Research Activities

The following is a summary of the research activities that were conducted as part of this project, from July to September, 2006.

- Following some minor problems with the two transmitters that were deployed in 2005, with regard to battery life and data recording Dr Robert van Dam decided to re-programme the remaining transmitters. The intention was to alter some of the settings, to try and improve the longevity of the battery, and hence increase the amount of time that the transmitter was able to send signals. A reprogramming kit was received from Telonics and in July 2006 the Programme Co-ordinator, assisted by Dr Robert Van Dam successfully made the necessary adjustments to the transmitter programmes. Obviously it was still unclear until deployment of the transmitters whether these changes would actually solve the problems encountered in 2005.
- To ensure that the primary personnel that were going to be involved in the attachment process were knowledgeable of the protocol, a 'refresher training session' was held on St Eustatius in July; timed to coincide with the scheduled monthly visit of Dominique Vissenberg (Education Co-ordinator for the Windward Islands) to the island. The Programme Co-ordinator and Ms Vissenberg practised the entire attachment process using a model transmitter. To assist in the training of volunteers on St Maarten, Ms Vissenberg filmed the entire session. Overall this was a very beneficial activity, and provided valuable practise in the attachment methods for those involved. However, several problems were encountered during this session, primarily with the reactivity of the fibreglass resin; these issues were addressed with Dr van Dam and he made suggestions for slight alterations to the ratios of resin and hardener to be used.
- As a result of the difficulties associated with encountering sufficient turtles in 2005, it was decided to advance the start date of the project in 2006 by several weeks; thus a schedule was set for the beginning of September.

- To assist in the timing of patrols, daily track surveys were organised on both islands from July. These were used to collect data on nesting activity, with the hope of determining nesting patterns for individual turtles which could be used to predict dates when they might return to the beach. On St Eustatius the primary nesting beach, Zeelandia, daily morning and night-time patrol are conducted from mid-March to October, as part of the research protocol. However on St Maarten no regular monitoring of nesting beaches occurs, thus such data would be extremely important to try and determine the inter-nesting interval of specific females to focus night-time patrols on certain nights with a higher probability of encountering a turtle.
 - Unfortunately, only one green turtle track was encountered on St Maarten during this observation period, and it was unclear as to whether or not she nested. Thus in August it was decided to deploy all three transmitters on St Eustatius, with the assistance of Ms Vissenberg if she was on the island.
- During August the equipment list was reviewed, and all necessary supplies were purchased on St Eustatius and St Maarten. A holding box was constructed; the dimensions were increased slightly from the original diagram since the green turtle encountered in 2005 barely fit in the box which caused considerable problems for the research team.
- In early September the Programme Co-ordinator gave a brief presentation to the group of Working Abroad volunteers about the Satellite Tracking Project 2006.
 - Basic information about satellite telemetry was provided; how it works and why it is used for sea turtles. In addition, they were given a more detailed overview of the transmitter attachment process, including a review of all the equipment, as they were going to be assisting the Programme Co-ordinator during the procedure.
- Night patrols commenced in early September that were specifically focused on encountering either green or hawksbill turtles for transmitter attachment. Whenever possible Turtle Beach was also patrolled in addition to Zeelandia Beach, as it was frequently used by turtles during 2006.
- The first turtle was encountered on 7 September, 2006 at approximately 1.00am. It was a hawksbill female; the first turtle of this species to be observed on night patrols since 2004 (See Appendix 1).
 - She was intercepted on her way back to the sea at the northern end of Zeelandia Beach, and she was checked for tags. She then crawled back up the beach and nested among large boulders close to the cliff. She laid 143 eggs; a small temperature was placed in the nest to monitor temperature during incubation. From these data it will be possible to determine the sex ratio of hatchlings from this nest, as temperature determines the gender of hatchlings. This is part of a larger study on factors affecting hatching success being conducted by a marine biologist in Florida.
 - This turtle was named 'Lisa'; chosen by one of the competition winners from the 2005 craft and writing competition held for students of the island schools.
 - 'Lisa' was average size for a Caribbean hawksbill, measuring 85.5cm curved carapace length. However, she was incredibly strong and was able to move around in the large holding box, creating some problems during the transmitter attachment.
 - Despite the changes made to the resin mixture following the practice session in August, the fiberglass took a longer time than expected to set, and thus 'Lisa' was not released until daybreak on 8 September.
 - Following her release, signals were received within days, indicating that the transmitter was secure, and was functioning correctly.
 - 'Lisa' immediately left the waters of St Eustatius, swimming initially towards the vicinity of St Bart's. From there she travelled to Scrub Island, off Anguilla, and data

suggest that she may have nested on 24 September. She then moved westwards towards St Croix (US Virgin Islands). Here she remained for several days, causing researchers to believe that she had reached her feeding ground. However, signal data from the transmitter again indicated that she may have nested on 8 October. A few days later she was on the move again, heading back towards Anguilla and St Maarten. Since 18 October she has remained in one area, 20-35m deep waters at the western tip of Ile Fourche, located between St Bart's and St Maarten (Van Dam, 2006). Since her release she has swam over 700km, though her foraging area is just 50km straight-line distance from her nesting beach on St Eustatius.

- Turtles were encountered on several night patrols between 9 – 16 September; unfortunately they did not nest and the decision was taken to not attach transmitters to these females prior to them laying eggs.
- On 17 September a green turtle was observed by the patrol team at 10.15pm, while digging the body pit (See Appendix 2).
 - She measured 106cm curved carapace length, average for a green turtle in this region. She laid 129 eggs, and had a temperature recorder placed in the centre of the nest to monitor changes during incubation.
 - Once nesting was completed she was placed in the holding box and a satellite transmitter was attached. Since she fit the dimensions of the box better than the hawksbill turtle she was properly restrained and did not move around too much, so the attachment process was much quicker than for the first turtle. In addition, further modifications were made to the fibreglass resin ratios to speed up the drying time.
 - She was named 'Grace' by the final winner of the craft competition from 2005. She was released at 2.30am, just as a storm approached the nesting beach.
 - Signals were received from her transmitter the following day and she remained close to Zeelandia Beach until 29 September, when she returned to lay another clutch of eggs; she was spotted by the patrol team and the transmitter was observed to be in good condition.
 - After this ultimate nest of the season she was tracked heading southeast towards St Kitts, and since 18 October has remained at the southeastern tip of the island, between St Kitts and Nevis. She is thought to be residing in shallow water, where presumably there are good quality sea grass beds for her to forage. Her location is approximately 60km straight-line distance from the nesting beach where she was released.
- Night patrols were continued until 20 October, but following the encounter with 'Grace' on 29 September, no further turtle activity was recorded on St Eustatius. The third transmitter was stored to be returned to Dr van Dam when possible; it might be feasible to re-fit the transmitter with a new battery and use it either on St Eustatius or another tracking project.

Public Awareness

- The Programme Co-ordinator attended the 26th International Symposium on Sea Turtle Biology and Conservation held on Crete, Greece from 3 April, 2006 to 8 April, 2006.
 - There she presented a poster entitled "A Satellite Tracking Project in the Windward Islands of the Netherlands Antilles" (See Appendix 3). It detailed the activities of the DCNA Sea Turtle Satellite Tracking Project and discussed the interesting results from 2005.
- The Programme Co-ordinator gave a presentation about the research activities of the St Eustatius Turtle Programme at the first public meeting organised by STENAPA on 16

August. One of the topics presented was the Satellite Tracking Project; not only were the results from 2005 discussed but also the fact that this was an on-going project due to be continued later in the year.

Media Coverage

- The DCNA Sea Turtle Satellite Tracking Project was featured in 7 articles that appeared in the Daily Herald newspaper between March 2006 and January 2007 (See Appendix 4).
 - To advertise their attendance at the International Symposium of Sea Turtle Biology and Conservation in April 2006, an article appeared on 18 February which also mentioned the poster due to be presented by the Programme Co-ordinator discussing the interesting results of the Satellite Tracking Project obtained in 2005.
 - On 11 September the second article gave details about the successful deployment of the first transmitter on the hawksbill turtle 'Lisa'; it included a photo of her returning to the sea with her transmitter.
 - An article on 22 September gave information about the green turtle 'Grace' and also included a map showing the migration of 'Lisa'.
 - Maps of both tracked turtles were published in articles on 9 and 24 October.
 - An article published 18 November was featured in a weekend edition that gave a summary to date of both tracked turtles.
 - An article published on 6 January, 2007 provided an overview of the migration routes of 'Lisa' and 'Grace', including maps of their current locations.
- STENAPA's monthly broadcast on the local radio station featured an interview with the Programme Coordinator in November 2006; the topic was the DCNA Sea Turtle Satellite Tracking Project, with basic information about satellite tracking as well as an update of the location of both turtles tracked in 2006. An update was also given in December 2006 to the latest information of the tracked turtles.
- The December 2006 issue of the STENAPA newsletter featured an update article about the locations of the two turtles fitted with transmitters on St Eustatius in 2006. This quarterly newsletter is sent to a wide variety of interested parties, both locally, regionally and internationally (See Appendix 5).
- The STENAPA website (www.statiapark.org) provides information about the project; there is a brief introduction to satellite telemetry, followed by details of each turtle fitted with a transmitter in 2005 and 2006. It also includes a live link to maps of the migration tracks featured on the seaturtle.org website.

References

Harrison, E. 2005

'Activity report on the Dutch Caribbean Nature Alliance Sea Turtle Satellite Tracking Project 2005'. Unpublished report presented to St Eustatius National Parks Foundation. 13 pages.

Van Dam, R. 2006

'Principal project results: DCNA Turtle Tracking Project 2006: St Maarten, St Eustatius, and Curaçao'. Unpublished report presented to St Eustatius National Parks Foundation, The Nature Foundation St Maarten and CARMABI, Curaçao. 5 pages.

APPENDICES

Appendix 1

Photographs of the hawksbill turtle 'Lisa' during the satellite attachment process.



Measuring 'Lisa' before the transmitter was attached



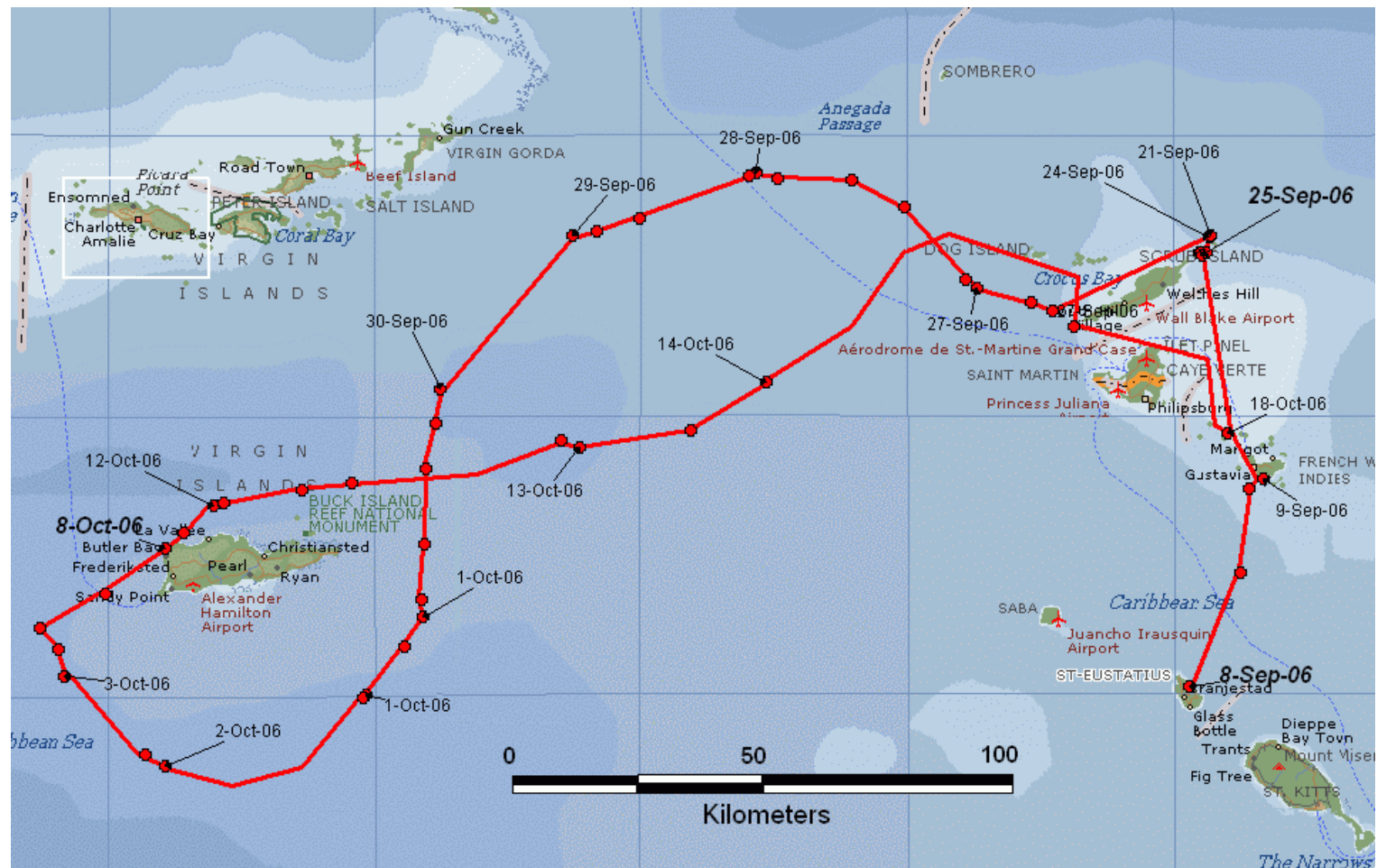
Using fibreglass to hold the transmitter in place



'Lisa' returning to the sea with her transmitter

Appendix 1 Continued

Map showing the migratory track of 'Lisa' following her release on St Eustatius (Reproduced with permission of Dr Robert van Dam).



Map showing the migratory route of 'Lisa' from St Eustatius to Ile Fourchue, close to St Bart's. She travelled via Scrub Island (close to Anguilla) and St Croix before returning to St Bart's.

Appendix 2

Photographs of 'Grace' during the attachment of a satellite transmitter. A map of her migration route from St Eustatius is also shown (Reproduced with permission of Dr Robert van Dam). Further information is available at the STENAPA website – www.statiapark.org.



'Grace' finishing the nesting process before the transmitter was attached



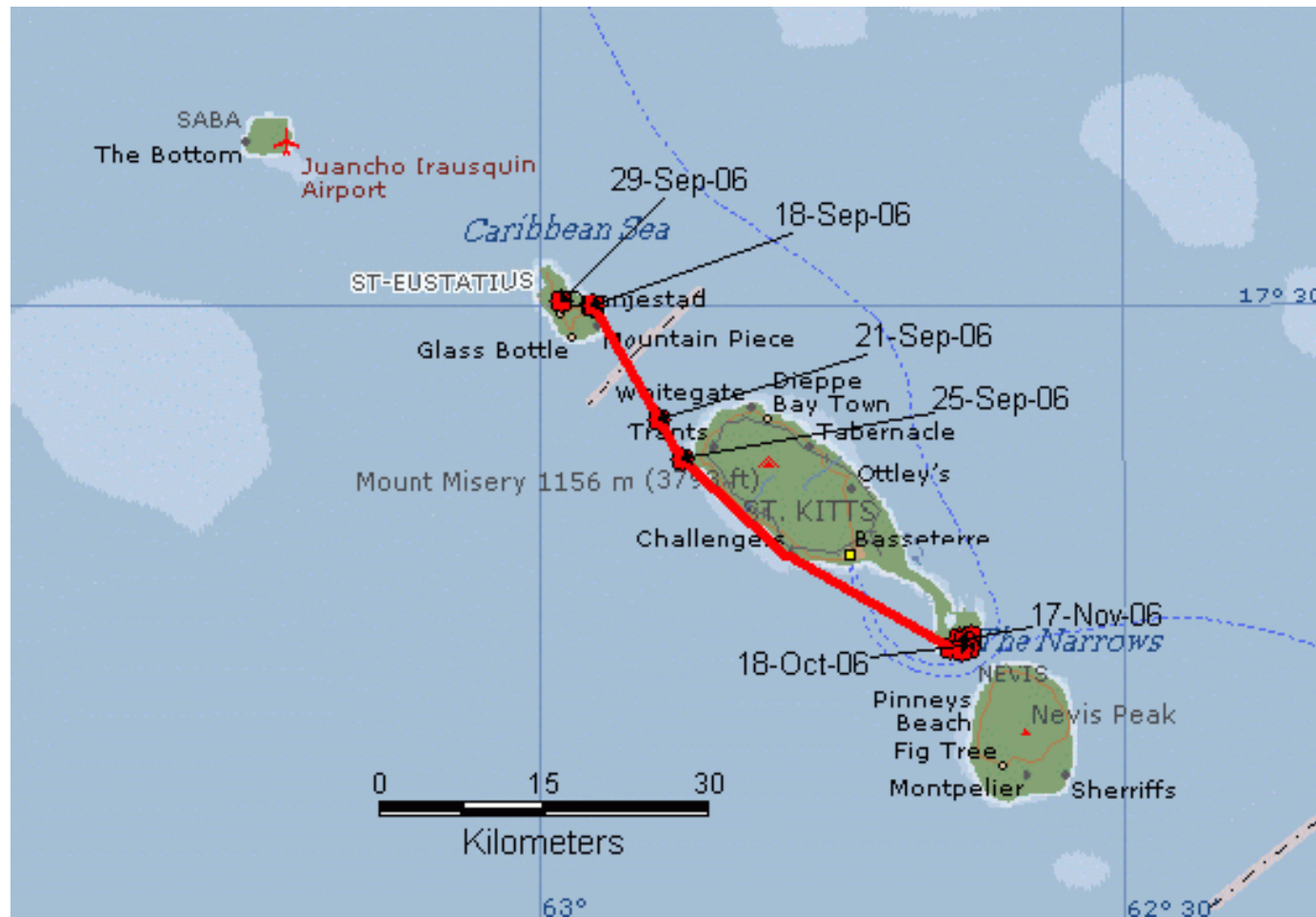
'Grace' in the holding box before her release



**'Grace' reaching the sea as a rain storm hits the beach
(Photo by Duncan Kirkby)**

Appendix 2 Continued

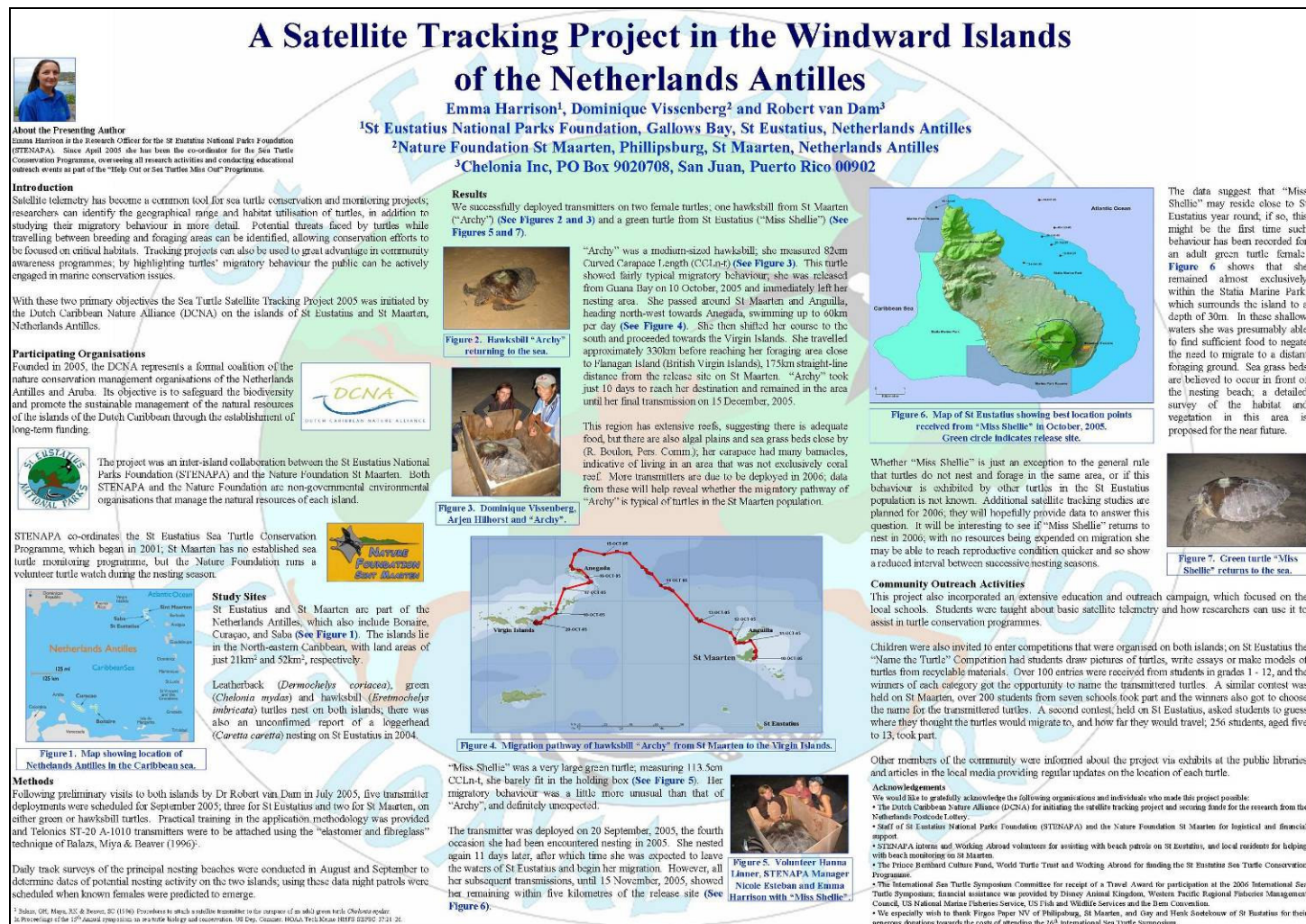
Map showing the migratory track of 'Grace' following her release on St Eustatius (Reproduced with permission of Dr Robert van Dam).



Map showing the migratory route of 'Grace' from St Eustatius to St Kitts

Appendix 3

Copy of the poster presented at the 26th International Symposium on Sea Turtle Biology and Conservation in Greece, April, 2006.



Appendix 4

Copies of newspaper articles featuring the DCNA Sea Turtle Satellite Tracking Project 2006.

THE DAILY HERALD, Saturday, February 18, 2006 www.thedailyherald.com

Local sea turtle project to be showcased in Greece



features "Scout" the mascot. The Dutch Caribbean Nature Alliance (DCNA) implemented this project for Saba, St. Eustatius and St. Maarten with the aim of raising awareness about sea turtles.

Although the focus was on the community in general, the primary focus was on the island schools; 143 classes in 24 different schools on the three islands were involved in this programme. There was considerable positive feedback from all three island communities and a great deal of encouragement to continue this successful sea turtle conservation and environmental education projects in general, Vissenberg said.

Harrison will give information on the Sea Turtle Satellite Tracking Project, initiated last year by DCNA. Two adult female turtles were fitted with satellite transmitters to allow researchers to observe their migratory behaviour.

This project was an inter-island collaboration between Stenapa and Nature Foundation St. Maarten and was the first tracking study to be carried out in the Windward Islands. In addition to the biological research, it incorporated an extensive education and outreach campaign in the local communities.

More information on this symposium that is being held in the Mediterranean area for the first time can be found at www.seaturtle.org.

Dominique Vissenberg and Dr. Emma Harrison with "Help Out or Sea Turtles Miss Out" featuring Scout the Sea Turtle.

POINTE BLANCHE--The "Help Out or Sea Turtles Miss Out" conservation programme and Turtle Satellite Tracking Project in the Windward Islands will be shared with sea turtle biologists and researchers from around the world at the 26th Annual Symposium on Sea Turtle Biology and Conservation in Greece April 3-8.

Dominique Vissenberg of Nature Foundation St. Maarten and Dr. Emma Harrison of St. Eustatius National Parks Stenapa were invited to the symposium and are raising funds to attend.

Both researchers are still acquiring funds to finance their trip. People willing to offer financial support can contact Nature Foundation at 542-0267 or STENAPA in St. Eustatius at 318-2884.

Research on sea turtle conservation in the Windward Islands achieved in 2004 and the pride the islands have for sea turtles still living and nesting here will be highlighted at the gathering. Beside this, the symposium is an opportunity for them to learn from other turtle projects in the Caribbean and worldwide, and to further develop the turtle conservation projects in St. Maarten and St. Eustatius.

Vissenberg will represent the "Help Out" educational outreach project that

Copy of the 18 February article about the International Sea Turtle Symposium 2006

Appendix 4 Continued



Hawksbill turtle Lisa returning to the sea with her newly installed transmitter.

Turtle nests on Statia, fitted with transmitter

ST. EUSTATIUS--A small hawksbill turtle made a nest on Zeelandia Beach and was fitted with a satellite transmitter by staff and volunteers of the St. Eustatius National Parks Foundation (Stenapa) before being allowed to return to the sea at daybreak on Friday.

The activity is part of the Sea Turtle Conservation and Monitoring Programme, which is funded by the Dutch Caribbean Nature Alliance (DCNA).

The turtle, a member of the critically endangered hawksbill species, was only 85 centimetres in length, which is small for a mature female of this species.

She laid 143 eggs and her nest will be carefully watched over the next two months to make sure it is not disturbed before the hatchlings emerge.

Once she had finished nesting, she was restrained in a wooden box (to prevent injury to herself and the Stenapa crew) while the team carefully cleaned her carapace (shell) and then attached the transmitter using a fibreglass resin. This device will allow the team to track her movements over the next few months as she travels from Statia to her foraging grounds somewhere in the Caribbean.

The turtle has been named "Lisa" by Evan Hassell, a student in grade 4 at Governor de Graaff School. Evan was a winner in an arts-and-crafts competition held during the

last school year.

The Stenapa team was tired but elated after spending most of the night working with Lisa. Probably Lisa felt the same way. During the time she was restrained -- for about two and a half hours -- Lisa was closely monitored to make sure she was not uncomfortable as the resin set. She was also tagged with small metal identifying tags in her front flippers, so that she can be recognized when she returns to nest again.

In addition, a small skin sample was taken from her neck. This will be analyzed and data will be included in a genetic study of Caribbean hawksbills.

The sea turtle project began in 2005, when two turtles were outfitted with

transmitters and tracked.

A green turtle from Statia, Miss Shellie, remained in the vicinity of the island, while the hawksbill tagged in St. Maarten travelled to the Virgin Islands.

Data from the project are used to provide information about migration routes and to identify the threats turtles face while migrating.

Lisa's transmitter should begin sending information immediately and it will then be possible to track her movements online via a link from the Stenapa Website www.statiapark.org. Further information about the tracking project and other turtle research activities is available at the Stenapa headquarters at Gallows Bay.

Appendix 4 Continued

THE DAILY HERALD, Friday, September 22, 2006

Second sea turtle receives tracking device on Statia

ST. EUSTATIUS--Statia Marine Park staff and volunteers were out on the beach at night again this week to attach a second satellite transmitter to a nesting turtle as part of the Sea Turtle Satellite Tracking Project. This time, the recipient was an endangered green turtle, which nested on Zeelandia Beach.

Earlier, a hawksbill turtle named Lisa also had a transmitter fitted. The green turtle female nested successfully, after which researchers fixed the small tracking device to her carapace. She laid 129 ping-pong-ball sized eggs.

This turtle was much larger than the hawksbill female, measuring 106 centimetres in length. However, she was much calmer throughout the two-hour long attachment procedure, making it easier for the team to get the transmitter fitted properly. Fortunately, the team was able to release her back to the sea just before a huge rainstorm began.

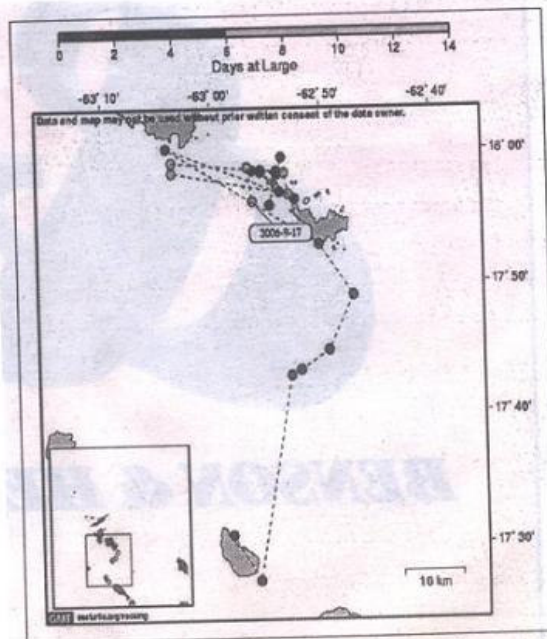
The turtle was given the name Grace, chosen by Naomi Smith (11), who was one of the winners of the arts and craft competition organised by Stenapa last

year. Naomi wrote a story about the migration of a green sea turtle.

The Sea Turtle Monitoring and Conservation Programme is funded by the Dutch Caribbean Nature Alliance. Coordinator Dr. Emma Harrison has been following the movements of the two turtles since they left the nesting beach. On her release, Lisa travelled directly towards St. Barths, a distance of almost 50 kilometres. She has remained close to the uninhabited islands off the north-western coast of the island for the last week, occasionally moving closer to St. Maarten.

Having been recently released, Grace has only sent a couple of location points, which show her to be just off the nesting beach on St. Eustatius. Both turtles can be followed on-line via a link from the Stenapa website www.statiapark.org. The website also includes further information about each turtle.

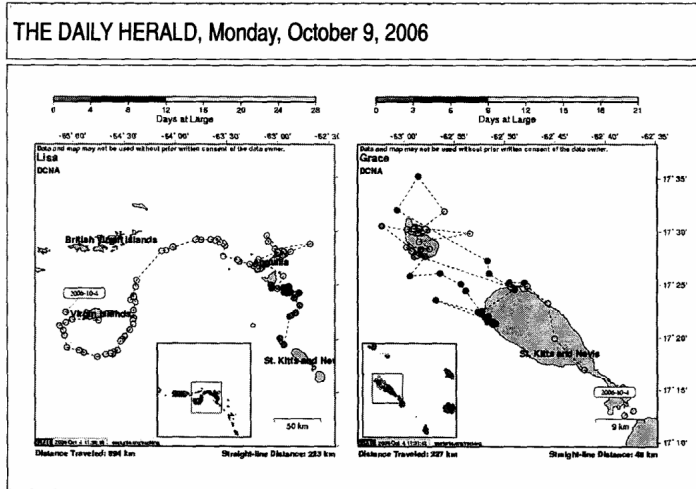
Interested parties can contact the coordinator or Parks Manager Nicole Esteban at the Stenapa visitors' centre at Gallows Bay.



The track of hawksbill turtle Lisa to St. Barths and St. Maarten after nesting on Statia.

Copy of the article announcing the second tracked turtle 'Grace' from 22 September

Appendix 4 Continued



Tracks showing the travels of hawksbill turtle Lisa (left) and green turtle Grace (right).

Two turtles tagged in Statia complete nesting for 2006

ST. EUSTATIUS--The two sea turtles nicknamed Lisa and Grace, which were fitted with satellite transmitters by STENAPA, the St. Eustatius National Parks Foundation, in September, appear to have finished nesting for 2006.

Information from their transmitters indicates that they are heading in opposite directions on their migrations to foraging grounds.

The small hawksbill turtle, Lisa, has travelled the furthest. She first visited St. Barths, St. Maarten and Anguilla. She is currently close to St. Croix in the U.S. Virgin Islands on a journey that has taken her more than 220 km (straight-line

distance) from St. Eustatius. Whether this is her final destination or simply another stop along the way remains to be seen.

Grace, the green turtle, hasn't gone nearly so far. She has swum only about 50 km straight-line distance from the release site. Initially, she headed around the northern end of Statia before spending several days close to St. Kitts. Last week, it looked as if she was heading back towards Statia and Turtle Project personnel wondered if she would return to the beach to make another nest.

Their assumptions were confirmed on Friday, September 29. The night pa-

trol on Zeelandia Beach radioed around 10:15pm that they had just seen Grace heading back to the sea! They had checked her transmitter and everything appeared to be in good condition. Since then, she has moved south again and as the map indicates, her latest signal places her in the channel between St. Kitts and Nevis.

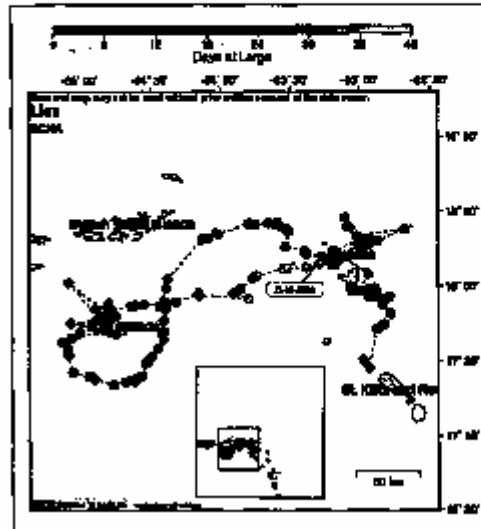
It is unlikely that she will remain in that location, but where she may go remains uncertain.

Both turtles can be followed on-line via a link from the STENAPA Website, www.statiapark.org.

Update article from 9 October, featuring both turtles

THE DAILY HERALD, Tuesday, October 24, 2006

Statia turtles roam neighbouring islands



The 42-day track of hawksbill turtle Lisa, from Statia to St. Barths, St. Maarten, Anguilla, and St. Croix, and finally back to Anguilla.

ST. EUSTATIUS—During this sea turtle nesting season, St. Eustatius National Parks Foundation (Stenapa) Turtle Project fitted two turtles with transmitters, which activate when the turtles surface in order to

breathe. "Lisa" is a hawksbill turtle released from Zeelandia Beach on September 8, while "Grace" is a green turtle who made a second nest on Statia on September 29.

As detailed in the previous update, Lisa travelled first to St. Barths and then spent time around Anguilla before swimming to St. Croix. She remained there for nine days, and the team, headed by Turtle Coordinator Emma Harrison, assumed that she had reached her feeding ground - a coral reef area where she could find her favourite food items: sponges. But they were wrong.

On October 12, Lisa was on the move again, heading back towards Anguilla. The latest information from the transmitter, which is still sending signals each time she surfaces, indicates that she is just to the west of Anguilla.

Since her release, she has travelled over 1,000 km on a journey that has taken her to several different islands in the region. Turtle watchers don't know whether Anguilla is the end of her travels, or where she may go next, Harrison says. "All we know for sure is that she has us a little confused about where her final foraging area is, to say the least!"

In contrast, it seems that Grace has already found her foraging ground. Since her return to the nesting beach at the end of September, which was presumably her last for the season, she has travelled to the southern end of St. Kitts, and has remained there ever since.

Her latest location signal, from October 15, was from the channel between St. Kitts and Nevis. This area appears to be one of relatively shallow bays. Such underwater terrain would provide suitable conditions for sea grasses, her main diet item. She has swum over 100 kilometres in total, travelling between St. Eustatius and St. Kitts, though at present she is just 50 kilometres straight-line distance from her release site.

Just like "Miss Shellie", the green turtle that was tracked from St. Eustatius in 2005, the two turtles which had transmitters attached this year do not appear to be displaying typical migration behaviour. However, tracking these turtles is providing added insight into what is "typical" for them and their species.

Both turtles can be followed online via a link from the Stenapa website. www.stenapa.org.

Sea Turtle Update

The adventures of two sea turtles from Statia

BY ARTURO HERRERA*

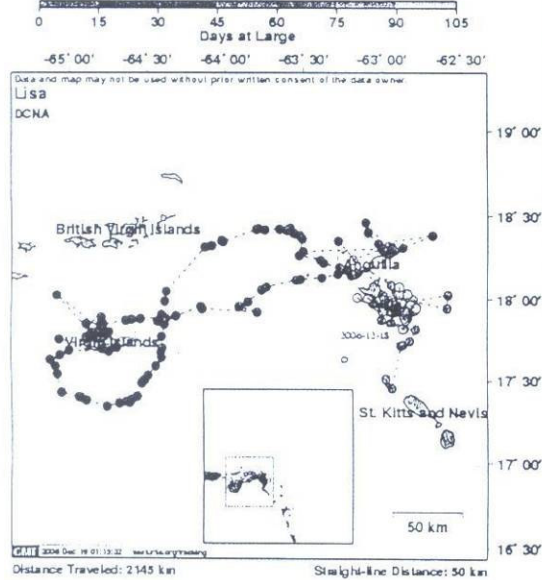
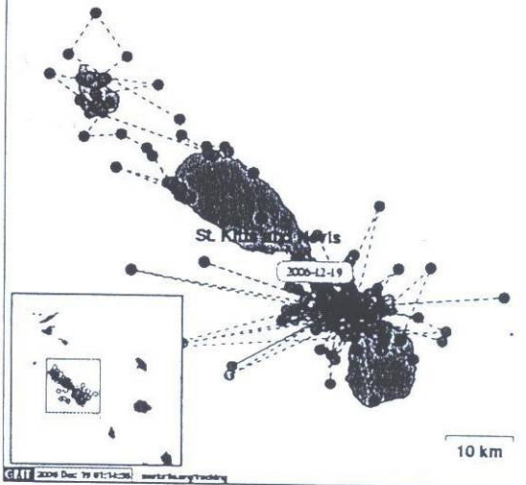
"Lisa" and "Grace" have reached holiday destinations in the Eastern Caribbean. The two sea turtles that were tracked from St. Eustatius have made their way to holiday foraging grounds, and one may have been busier than originally thought. In September, two sea turtles were outfitted with satellite tracking transmitters as part of a migration behaviour study.

A Hawksbill turtle named Lisa was fitted with a satellite transmitter on Zeelandia Beach on September 8 and a Green turtle, Grace, was given a transmitter on September 18. Since the last update, Lisa has been busier than her monitors at first thought. Lisa departed from St. Eustatius, going north to St. Barths and then to Scrub Island, east

of Anguilla. Lisa remained around Scrub Island for several days and, based on the signal strengths, may have nested on the ample sandy beach there on the night of 24-25 September, 16 days after nesting on St. Eustatius. This nesting behaviour, in which nests are built at different locations, is typical for Caribbean Hawksbills.

LISA THEN MOVED WEST, through deeper waters, to St. Croix in the U.S. Virgin Islands. She stayed just off the north western tip of St. Croix and may have nested again, perhaps on the night of October 8-9. After this possible nesting, Lisa swam eastward again, towards Anguilla and St. Maarten, eventually settling around Ile Fourchue, an uninhabited cay located between St. Barths and St. Maarten, as her destination for the holidays. As of mid-

Grace
DCNA



December 2006, Lisa has been transmitting from this location. Although Lisa is currently only some 50 kilometres from St. Eustatius, she has swum over 2,150 kilometres after possibly nesting on two different islands. Grace, the Green turtle, has taken quite a different route. She initially started moving towards St. Kitts, but reappeared on September 29 on Zeelandia Beach in Statia. Grace was then checked to see if her transmitter was still in good working order. Soon after, Grace started moving to the southeast, toward the west coast of St. Kitts, moving around to the south-eastern point of that island, along the coast facing Nevis - roughly 50 kilometres from Zeelandia. She has since been transmitting from what seems to be her favourite foraging habitat. These are areas of shallow sea grass beds with some sediment flows from rivers on Nevis. Green turtles are herbivores and often seem to frequent such sea grass beds. As of late De-

cember, Grace has travelled over 1,800 km.

THE TWO TURTLES are part of an inter-island project funded by the Dutch Caribbean Nature Alliance (DCNA), involving St. Eustatius National Parks Foundation (STENAPA) and the Nature Foundation of St. Maarten. The aim of this study is to develop a more comprehensive understanding of the habits and travels of the sea turtles which nest on Windward Island beaches.

The migration habits of these species are not well known, and these types of studies are needed to help scientists recognize the hazards turtles may face in their travels, and thus to give these endangered creatures a better chance of survival.

Notes:

1. Arturo Herrera is Statia's Turtle Coordinator.
2. This article was submitted by Lynn Kennedy, our correspondent on St. Eustatius.

Article featured on 6 January, 2007 providing details of the migration routes of both tracked turtles

Appendix 5

Copy of the article featured in the December 2006 STENAPA newsletter.

St Eustatius: National and Marine Parks and Botanical Gardens



National Parks Office
Gallows Bay
St. Eustatius, Netherlands Antilles
Phone/Fax 599-318-2884
Email: semp@goldenrocknet.com
info@statiapark.org

www.statiapark.org

STENAPA is an environmental not-for-profit foundation on St Eustatius and was established in 1988. The objectives of STENAPA are to upkeep the natural environment, to preserve and protect endangered or endemic species (flora and fauna) and to educate the community about the importance of the protection of the natural environment.

Areas of responsibility include management of the marine park, the national parks and the Miriam C. Schmidt Botanical Gardens. STENAPA is legally delegated by the Island Council to manage these protected areas.

President:	Irving Brown
Vice President:	Ronnie Courtar
Treasurer:	Jana Mason
Secretary:	Jessica Berkel

Next edition of STENAPA Update available soon with articles on:

- Find out about our Objectives for 2007
- Visit by botanists to finish the Corallita pilot research project
- Snorkel Club graduation
- Outcome of our Willingness to Pay survey about park fees

Check our web site for previous editions of this quarterly newsletter!

'Lisa' and 'Grace' reach their Holiday Destinations in the Eastern Caribbean

The two turtles that were tracked from St. Eustatius have made their way to holiday foraging grounds, and one may have been busier than originally thought.

In September, two sea turtles were outfitted with satellite tracking transmitters as part of a migration behaviour study. A hawksbill named Lisa was fitted with a satellite transmitter on Zeelandia beach on September 8th and Grace, the green turtle, on September 18th.

Since the last update, Lisa has been busier than first thought. Lisa departed from Statia, going north to St Barth's and to Scrub Island, east of Anguilla. Lisa remained around Scrub Island for several days and, based on the signal strengths, may have nested on the ample sandy beach on the night of 24-25 September, 16 days after nesting on Statia. This is normal of the typical inter-nesting behaviour shown by Caribbean hawksbills. The hawksbill moved west through deeper waters, onto St. Croix in the U.S. Virgin Islands. Lisa then stayed just off the north-western tip of St Croix and again may have nested, perhaps on the night of October 8-9. After this possible nesting, Lisa swam eastwards, towards Anguilla and St Maarten, eventually settling around Ile Fourchue as her destination,

an uninhabited cay located between St Barth's and St Maarten. As of mid-December 2006, Lisa has been transmitting from this location. Although Lisa ended up only some 50 km from Statia, she has swum over 2150 km after possibly nesting on two different islands to reach her "holiday" feasting grounds.



Grace, on the other hand, has taken quite a different approach to her holiday destinations! She initially started moving towards St Kitts, but reappeared on September 29th on Zeelandia. Grace started moving towards the southeast and west coast of St Kitts, moving around to the southeastern point of that island, along the coast facing Nevis island – roughly 50km from Zeelandia. She has since been

transmitting from what seems to be her foraging habitat. These are areas of shallow seagrass beds with some sediment flows from rivers on Nevis. Green turtles are herbivores and often associated with such seagrass beds. As of late December, Grace has traveled over 1800 km.

The two turtles are part of an inter-island project funded by the Dutch Caribbean Nature Alliance. The aim of this study is to have a more comprehensive understanding of where sea turtles travel to when they leave our waters. The migration habits of these species are not entirely known and these studies are needed to help recognize hazards turtles may face by providing more information about their migration routes between nesting and foraging habitats.

