Activity Report on the

Dutch Caribbean Nature Alliance Sea Turtle Satellite Tracking Project 2005







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Introduction

In June funding from the Dutch Caribbean Nature Alliance (DCNA) was confirmed to initiate 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 the islands' nesting green and hawksbill turtles.

The purpose of this report is to summarise the activities of the DCNA Sea Turtle Satellite Tracking Project 2005, with specific reference to public awareness activities on St Eustatius and media coverage of the project.

Research Activities

The following is a summary of the research activities that were conducted as part of this project, from July to October, 2005.

- O In July, sea turtle biologist Dr Robert Van Dam conducted preliminary visits to St Eustatius and St Maarten. The object of these short visits was to determine the primary nesting beaches where females would most likely be encountered on each island, and to arrange the logistics for the research trips later in the season. In addition, training in the transmitter attachment procedure was given to the Sea Turtle Programme Co-ordinator and STENAPA Manager on St Eustatius, and researchers on St Maarten. A preliminary schedule for the attachments was drafted for September, and daily track surveys were organised to collect data on nesting females to calculate predicted nesting dates during that time. The initial plan was to attach five transmitters in total; three on St Eustatius, ideally on both species, and two on hawksbills on St Maarten.
- o Dr Van Dam returned to St Eustatius on September 20. Following a briefing regarding equipment and protocol, the night patrol was conducted with the Sea Turtle Programme Co-ordinator and a Working Abroad volunteer. At 10.45pm a green turtle was encountered on Zeelandia Beach; she went on to nest successfully and afterwards the satellite transmitter was attached (See Appendix 1), with the additional help of the STENAPA Manager.
- O Following reports from Dominique Vissenberg, NME Officer for the Dutch Windward Islands, of a hawksbill false crawl track on one of the monitored beaches on St Maarten on September 23, Dr Van Dam and the Sea Turtle Programme Coordinator travelled there on September 24 to attach a transmitter to the female should she return; unfortunately they did not encounter the individual, who had nested the previous evening.
- Night patrols during the next week were unsuccessful; no more green or hawksbill turtles were encountered on St Eustatius. Further detailed training was given to the Sea Turtle Programme Co-ordinator and STENAPA Manager regarding transmitter attachment; when Dr Van Dam left St Eustatius on September 28 nightly patrols continued until October 20 but no other females were encountered. The only turtle that was seen during that time was the same individual who returned to nest 11 days after her transmitter was attached. She was seen by the Sea Turtle Programme Co-

- ordinator and a STENAPA intern; she nested successfully and the transmitter looked in good condition.
- Or Van Dam returned to St Maarten on October 6 and conducted nightly patrols on two of the monitored beaches with Dominique Vissenberg and a volunteer. The hawksbill was encountered making a false crawl on October 9; researchers successfully attached her transmitter (See Appendix 2).

Public Awareness

- O At the beginning of September, to publicise the DCNA Sea Turtle Satellite Tracking Project, the Sea Turtle Programme Co-ordinator visited five of the schools on St Eustatius to give a presentation to students about satellite tracking and how it can be used to help researchers improve sea turtle conservation. The schools visited were Golden Rock School, Governor De Graff School, Seventh Day Adventist School, Statia Terminal School and Gwendolyn Van Putten High School. The level of detail and complexity of the presentation was varied depending on the age and comprehension of the students, which ranged from Cycle 1 Grade 12.
- During these talks the students were also invited to enter the "Name the Turtle" Competition organised by STENAPA. The entries were divided into three categories, depending on the grade or age of each student; they either had to draw a picture of a turtle, write an essay about the turtle's journey to her feeding ground, or make a model of a turtle out of recyclable materials. Each entry also had to include a name for the turtle. All of the school principals also received a letter informing them of the competition and provided with information about what the students were required to do (See Appendix 3).
 - Students were given approximately two weeks to send in their entries, which were collected from each school by the Sea Turtle Programme Co-ordinator on September 19, 2005.
 - A total of 106 entries were received from students in grades 1 10; from four of the five schools visited; no entries were received from the Gwendolyn Van Putten High School.
 - The winners from each category were given the opportunity to name one of the turtles that was to have a transmitter attached. They also won a subscription to STENAPA's Snorkel Club, a t-shirt, a boat trip around the island and a certificate. Due to the quantity and quality of the entries runners-up were chosen from each category. They won the boat trip and a certificate. Everyone who participated received a badge featuring "Scout", the mascot of the "Help out or sea turtles miss out" campaign.
 - All of the competition entries were included in an exhibition about the satellite tracking project that is on display at the public library (See Appendix 4).
 - The competition was featured in a press article that was printed in October (See Media Coverage below).
- The display in the public library features a map for the "Where's the Turtle?" Competition which is regularly updated by the Sea Turtle Programme Co-ordinator; details of the most recent location of each of the two turtles are given, in addition to an estimation of how far each turtle has swum from their release site.

In October a follow-up visit was arranged at each of the five schools; the Sea Turtle Programme Co-ordinator, assisted by Dominique Vissenberg, gave a short presentation about the success of the project and announced the winners of the "Name the Turtle" Competition. In addition the details of a second contest were also given; this was entitled "Where's the Turtle?" and involved the students guessing how far they thought the turtles would swim, and where they would go on their migrations to feeding grounds. Again, students from Cycle 1 – Grade 12 were visited; following these visits it was decided that any future activities relating to this particular project should be limited to students in Grades 3 and higher.

Media Coverage

- The DCNA Sea Turtle Satellite Tracking Project 2005 was featured in five articles that appeared in the Daily Herald newspaper between September and November (See Appendix 5).
 - On September 24 there was an article of an interview with Dr Van Dam and the Sea Turtle Programme Co-ordinator
 - The winners of the "Name the Turtle" Competition were announced in an article of October 7.
 - An article from October 19 gave details about the attachment of the transmitter to the hawksbill "Archy" from St M aarten.
 - Another article printed in October (not shown in Appendix 5), detailed the winners of the competition organised on St Maarten.
 - November 1 saw a weekly update on the location of "Archy" featuring a map of her track.
 - Another update appeared on November 8, giving details about the locations of both turtles "Miss Shellie" and "Archy".
- A radio interview was broadcast on Statia Radio in September which mentioned the DCNA Sea Turtle Satellite Tracking Project 2005.
 - The Sea Turtle Programme Co-ordinator talked about project in detail; questions were answered about how satellite telemetry works, how it is used to aid turtle researchers; and the details of the "Name the Turtle" competition were repeated.
- The September issue of the STENAPA newsletter, which is published quarterly, featured a front-page article about the DCNA Sea Turtle Satellite Tracking Project 2005; this newsletter is sent to a wide variety of interested parties, both locally, regionally and internationally (See Appendix 6).
- The STENAPA website (www.statiapark.org) has several pages dedicated to the project, with a direct link from the homepage. There is a brief introduction to satellite telemetry and the attachment procedure; a separate page provides details of each turtle, including a live link to maps on the seaturtle.org website.

APPENDICES

Appendix 1

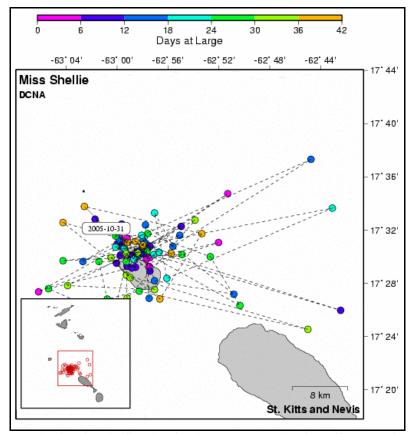
Photographs of "Miss Shellie" showing the attachment of a satellite transmitter and a recent map showing her current location (Available on-line via the STENAPA website – www.statiapark.org).



Working Abroad volunteer, STENAPA manager and Sea Turtle Coordinator with "Miss Shellie"



"Miss Shellie" in the holding box, waiting for the fibreglass resin to dry before her release



Track of "Miss Shellie" showing her most recent location off St Eustatius

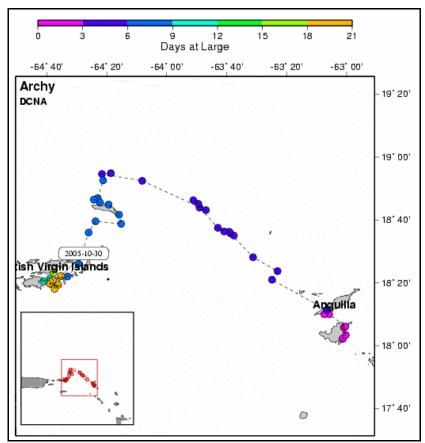
Attachment of a satellite transmitter to "Archy" and a map showing her current location.



"Archy" on her way back to the sea with her transmitter



Researchers on St Maarten with "Archy"



Track of "Archy" showing her current location in the Virgin Islands

Copy of a letter sent to school principals summarising the DCNA Sea Turtle Satellite Tracking Project 2005 and providing details of the student competitions.



1 September, 2005

Dear Principal and Teachers,

Subject: Details of the "Name a Turtle" and "Where's the Turtle?" Competitions

At the end of September, as part of the St Eustatius Sea Turtle Conservation Programme, STENAPA will be conducting a special project together with the Nature Foundation of St Maarten. We are planning to attach satellite transmitters to several female turtles so that we can follow them when they leave their nesting beach on the island and migrate to their feeding grounds.

To inform the local community I am planning on visiting all the island schools to give a brief presentation to all students. In addition, the project will be discussed in the local media, both in the newspaper and on radio.

To actively involve the local school children we are planning to organize two different competitions in relation to this project. The first of these is the "Name a Turtle" Competition, which will give the winners the opportunity to name one of the turtles that we will follow on-line. The second competition, "Where's the Turtle?", will allow the students to guess where they think the turtles will end up after their migration, and how far they will have swum to get to their feeding ground.

Attached is a copy of the competition details.

For the "Name a Turtle" Competition students will be requested to return their entries to their school and someone from STENAPA will come to collect them on the dosing date (Friday 16th September). We will also receive entries at the STENAPA office in Gallows Bay. For the "Where's the Turtle?" Competition the entries will all be at the library, and collected from there by STENAPA staff. The dosing date will be dependent on the turtles and so can't be set right now!

I hope that this gives you sufficient information about our special Satellite Tagging Project and our competitions. If you would like further information please contact me at the STENAPA office on the phone number below.

Thank you in advance for your school's participation in this exciting project.

Sincerely,

Emma Harrison Programme Coordinator St Eustatius Sea Turtle Conservation Programme Tel/Fax: 318-2884

Appendix 3 Continued

"Name the Turtle" Competition Details

The idea behind this competition is for students to produce a piece of art, a story or a model of a turtle. There will be different entries depending on their grade in school.

For students lower than grade 4

- Draw a picture of a turtle with a transmitter on her back, showing where she might end up when she leaves Statia. Remember to put the turtle's name in the picture!

• For students in grade 5 and 6

- Write a story about the journey the turtle will make when she leaves Statia, describing what she may see on her way. Don't forget to write the turtle's name!

· For students higher than grade 6

- Make a turtle (with a transmitter on her back) out of recyclable materials you find at home. Make sure that you put the name of the turtle somewhere!

Winners will be given the opportunity to name one of the turtles that will have a satellite transmitter attached. This name will be used for the turtle while she is tracked on-line. The winners will also receive a free subscription to STENAPA's Snorkel Club (or Junior Ranger Club if they have already participated in Snorkel Club). They will be announced in the local media and their entries displayed in the library.

Important things for the students to remember:

- Put a name for the turtle somewhere on their entry
- Write their full name, age, grade, teacher's name, school name and contact phone number on their entry
- Hand their entry in to their school or at the STENAPA office
- The dosing date will be Friday 16th September
- Winners will be announced the week commencing Monday 19th September

"Where's the Turtle?" Competition Details

This competition is designed to make students think about where the turtles may go during their migration to feeding grounds. It will be open to all interested students.

- This competition will begin once the turtles have been released and start to send us information from their transmitters – probably towards the end of September or beginning of October
- For each turtle there will be 2 chances to win giving 6 possible winners if we get all 3 turtles
- We want students to guess where she will be at the end of her journey and how far you think she will have swum to get there
- To make if fair for everyone we will have a lottery for the location
 - A map of the Caribbean will be divided into squares and each square given a number
- Each person will pick a number from a bag and their name will be written down in that square
- Each person will then have the chance to guess at the total distance the turtle has swum during her journey
- The competition will run until the researchers believe that the turtle has finished her journey and arrived at her feeding ground and winners will be announced after that time – so no closing date can be announced at this time
- The winners will be, for each turtle, the person with their name in the square where she ends her journey (or the next dosest square if no-one's name is in the exact square) and the person who guesses closest to the final distance she traveled
- The prize will be a STENAPA T-shirt

Photographs of the library exhibit about the DCNA Sea Turtle Tracking Project 2005, and competition entries and winners.



Photograph showing library exhibit



Part of library exhibit showing competition artwork and details of the "Where's the Turtle?" Competition and map



Photograph of board detailing the project and each turtle



Photograph of library exhibit showing winning entries from the "Name the Turtle" Competition

Copies of newspaper articles featuring the DCNA Sea Turtle Satellite Tracking Project 2005.



Turtle experts Robert van Dam and Emma Harrison. Harrison is holding one of the small transmitters used to track turtle migration.

Turtles on Statia are fitted with transmitters to track migration

ST. EUSTATIUS-Robert van Dam from the Netherlands, an expert an sea turtle tracking, is ar St. Euskatup this week to help turtle project manager Emma Harrison.

Van Dam and Harrison are attaching specially made transmitters to the backs of turtles that come to Statia beaches to nest.

Van Dam, who is currently living in Mexico, is a free-lance consultant on turtles and turtle migration. He will spend this week in Statia, then next week will work in St. Maarten. The Dutch Caribbean Nature Allance is funding Van Dam's work.

Van Dam explained that the transmitters, which are fastened to the turtle's shell with fibreglass and epoxy, are activated by a special salt water switch, which turns the transmitter on when the turtle comes to the surface to breathe.

The signal is picked up by a satellite, which automatically posts the data to a Website. Researchers and others can then access the site to determine the location of the turtle at any time.

The transmitters are expected to continue transmissions for approximately six months,
The turtle team, consisting of van Dam, Harrison, Parks Manager
Nicole

Esteban and volunteer Hannah Linner, recently was excited to discover a large green turtle nesting or Zealandir Beach

They attached a transmitter to her and have already received signals from this unit.

Marrison said offat cain and thunder had enveloped the beach just as they had begun to work, but the team was undeterred.

Harrison is conducting a programme among the school children of Statia that has generated intense interest. Contests are being held, and children are making sea turtle models from recycled materials and drawing pictures of sea turtles, showing their expected migration patterns.

They are also proposing names for the turtles; one child suggested the name "Miss Shelley." The winners of the contests are to be announced next week.

Van Dam has brought five of the transmitters with him and hopes to install all of them in Statia and St. Maarten during his stay here.

Appendix 5 Continued

Winners announced in Statia's **Turtle Tracking Program contest**

a tuttle might make once Statie, 12, of Statia Terminal she leaves the nesting School, made a model of beaches, while students in grades 7 and higher were plates and a water bottle.

Krystell Statie, Naomi asked to make a model of a Smith, and Evan Hassell are the winners in a contest hedd by Stenapa, the St. Eustaius National Parks Foundation, as point of the tracked with satellite part of the statility of the state o category chose the names given to the turtles that are being tracked with satellite transmitters attached to their St. Eustainus National
Parks Foundation, as
part of its satellite turde
tracking program. Over
100 students from local
schools participated in
this art, craft, and essay
contest held over the past
few weeks.

The youngest students were asked to draw a turtle, showing where she might go on her migration. The contest for 5th and 6th graders consisted of a short essay about the journey of wrote her essay about the journey journey of "Grace," while a turtle might make, once Statie, 12, of Statia Terminal Statie, 12, of Statia Terminal Statie, 12, of Statia Terminal



contest winner Krystell Statie, dia after laying her eggs. The seen attached to her shell. can be se



Krystell Statie, left, with her certificate, while turtle coor Emma Harrison holds Statie's model.

Runners-up, who received Interested persons can also a certificate and also were follow these turtles on-Rumnersey, and also were invited on the boat tour, were Edricenna Brandao of Golden Rock School and Faraha 'Ishmael, Kimberly Statie, and Erick Espina, at Statia Terminal School, at Statia Terminal School, the week of the school of the scho

All of the contest entries are now or display at the public library. A map of the Caribbean is also included in the display, which will be updated with the current location of each turtle during her migration to feeding grounds hundreds of miles from St Eustatius.

follow these turtles line, on the Stenapa

Copy of article from the Daily Herald October 7, 2005

St. Maarten, Statia sea turtle tracking project swims off

POINTE BLANCHE-The online at www.naturefound first St. Maarten hawksbill ationsxm.org, sca turtle Archy was fitted http://www.seaturtle.org/ last week as a part of the Alliance (DCNA), Nature 2005). Foundation St, Maarten and ing programme.

Coordinator.

In St. Maarten, the first towards Anguilla." hawksbill nest on the Guana September 19 and was estimated to be about a week old. On September 24, the Gibbs Bay.

Nature Foundation conof volunteers Martine van 't Laar, Sylvia Cloose and team patrolled both beaches from 8:00pm to 4:00am.

got lucky and finally found the hawksbill turtle that they had been looking for those improve protection and conthree rain-filled nights," she added

The medium-sized hawksbill came ashore on Guana Bay beach, in front of The Boardroom café, at 11:30pm. lucky to have caught her in time, "She remained calm throughout the transmitter was released again at 1: 30am."

Archy's whereabouts since her release can be viewed org or call 542-0267.

with a satellite transmitter tracking/ and click on number 97 in the list (Nether-Dutch Caribbean Nature lands Antilles turtle tracking

Following her release with St. Eustatius National Parks the transmitter, the team Stenapa sea turtle monitor- was able to see that Archy returned to the beach the To date, nothing is known next night to finally make about where these animals her nest. "The day after go once they leave the that it looked like she was islands, according to Domi- heading off on her migration nique Vissenberg, Nature to her potentially distant Foundation Educational foraging grounds as her signals formed a straight line

The other turtle, to be Bay beach was reported on called Track, will hopefully be caught before the nesting season ends this month.

A total of five transmitters first track was reported at will be attached to three females in Statia and two individuals in St. Maarten cluded it had to be the same under the supervision of hawksbill and estimated her Dr. Robert Van Dam, a return to either of these two physicist with many years beaches around Saturday, of experience using satellite October 8. With the help telemetry to track turtles in the Caribbean.

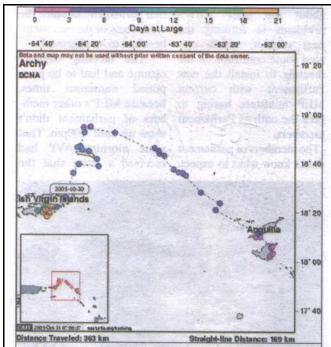
The project's aim is to track Arjen Hilhorst, the research the turtles as they migrate from the nesting beach to from Friday until Sunday their foraging grounds. "Learning their movement "On the last night, the team patterns gives us a clearer picture of their geographical range, allowing us to servation efforts, not just on the nesting beaches, but also in other vital habitats."

Satellite tracking also identifies migration pathways. By knowing these any potential As she returned to the ocean threats turtles may face en right away without nesting, route between foraging and the research team was very nesting areas, such as fisheries interactions, can be determined.

Persons with information attachment procedure and about turtle tracks they have found or who have questions about this project can e-mail info@naturefoundationsxm.

Copy of article from the Daily Herald October 19, 2005

Appendix 5 Continued



St. Maarten sea turtle Archy appears to have reached her first feeding ground in the British Virgin Islands (in photo). In one week she travelled only 40 km, compared to her first week when she moved more than 300 km, according to Nature Foundation St. Maarten. She was fitted with a satellite transmitter last month as a part of a sea turtle conservation and preservation project in the Dutch Windward Islands. Interested persons can keep track of Archy online at www.naturefoundationsxm.org, or http: //www.seaturtle.org/tracking/ and click on number 97 in the list (Netherlands Antilles turtle tracking 2005).

Copy of article from the Daily Herald November 1, 2005

Miss Shellie stays in Statia waters,

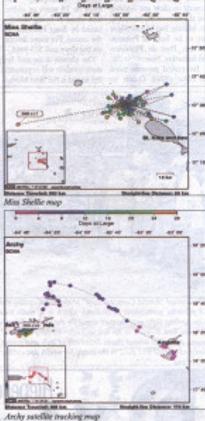
PHILIPSBURG/STATIA-Miss Shellio, the sea turtle that was tagged with a satellite transmitter in Statia in October, is proving at be a "true Statia girl," as she has stayed just a few kilometres from the beach where she was released, according to the tracking information.

Her behaviour is a bit of a mystery to the turtle experts, according to Nature Foundation St. Maarten Education Coordinator Dominique Vissenberg, "It is a common belief that female turtles swim between feeding grounds and nesting habitats, and that those aren't in the same place. It seems as if Miss Shellio might have found a good sea grass bed just off Statio and for now at least, she is showing no signs of migrating elsewhere. She is a true Statia girl."

In contrast Archy, the St. Maarten hawkshill turtle, has shown more typical behaviour. She left the area almost immediately after her transmitter was attached in October and swam about 400km to the British Virgin Islands, about 180km from St. Mearten.

However, her track shows that she didn't go directly there. "Initially, she went North, but then seemed to correct herself stacles, such as blands, that and go South, eximming they encounter on route, were tagged with satellits right around the island of This is why their routes transmitters by Stenapa is Anogada. Anthy appears may not seem the 'smart- St. Eustatius and Nature to reside in the 4km wide our from our perspective," Foundation in St. Maarten. channel between St. John, Vissenberg stated. US Virgin Islands, and Norman Island, British fact that Archy had lots of nurtles go since they left the Virgin Islands,"

Archy's pattern is "very II- her transmitter attached the nesting season. lustrative of the navigation-suggested that she lives in Keep track of Miss Shells al methods turtles use that an environment other than and Archy online at probably rely on the Earth's coral roofs. Time will show http://www.scaturtle.org magnetic field to guide whether Flanagan Island tracking and click on their their way. As they don't is her final feeding ground names on the list (Nether use maps as we would, they or if she will continue her lands Antiles Turtle Track simply deal with any ob- journey."



barracles when she had islands waters at the end of

The two female sea turtle Both organisations are She continued, "The excited to see where the

Copy of article from the Daily Herald November 8, 2005

Copy of the front page of the September issue of STENAPA newsletter featuring the DCNA Sea Turtle Satellite Tracking Project 2005.

