



WIDER  
CARIBBEAN  
SEA TURTLE  
CONSERVATION NETWORK

# **PROGRESS REPORT FOR 2005**

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**January 2006**

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## Letter from the President

Dear sponsors and members,

Please find enclosed the Sea Turtle Conservation Bonaire Progress Report for 2005. Last year can be characterized by successes on a front broader than ever before. In 2005, Sea Turtle Conservation Bonaire (STCB) was able to make considerable advances with many of its research, conservation, strategic partnerships/networks, and outreach and educational objectives.

**Research:** The satellite-tracking project was more successful than ever with four turtles tracked and daily reports in newspapers on Bonaire.

**Conservation:** In the southern part of Bonaire, nesting beaches were protected from vehicles with the placement of large boulders and other obstacles. STCB focused public attention on the sand mining-activities at Boca Onima and spearheaded the effort to restore the beach.

**Strategic partnership/networks:** STCB (Netherlands) President Pieter Borkent and STCB Project Assistant Gielmon Egbrechts represented STCB at the 2005 Annual International Symposium on Sea Turtle Biology and Conservation in Savannah, Georgia.

**Outreach and educational:** The year was highlighted by the completion of the very successful educational campaign 'Proteha nos Turtuganan'. This was a public awareness and participatory outreach program, focusing largely on school children, and was a collaborative effort with the Dutch Caribbean Nature Alliance and STINAPA Bonaire.

Furthermore, the STCB 2006-2010 Strategic Plan, "A 5-Year Framework for Action," was developed and approved by the Board of Directors. This represents an ambitious working plan for STCB for the next five years. Last but not least was the expansion of our staff with a full-time Project Director, Mabel Nava.

On behalf of the entire Board of Sea Turtle Conservation Bonaire, thank you for your time, participation and donations. We greatly appreciate our supporters' and sponsors' help. In 2005, STCB received a record amount of money from sponsors in addition to funding from the Dutch government. With the additional funds we have received from sponsors and donors, we have been creating a reserve that will help ensure our continued operation in the future. These monies are also being used as matching funds in our ongoing efforts to secure new grants.

Thanks also go to board members in transition: to retiring board members Judy Diaz, Kitty Handshuh and Jan Kloos, our sincere gratitude. And to Andy Uhr, a dedicated volunteer stepping up as Treasurer in June, 2005, welcome aboard!

Sea Turtle Conservation Bonaire's mission is to ensure the protection and recovery of Bonaire's sea turtle populations throughout their range. Should you have any questions, please do not hesitate to contact us.

Sincerely,  
Imre Esser – President

## Thanks!

The success achieved in 2005 would not have been possible without the support and assistance of many people and organizations both on the island and abroad. STCB Staff and Board members would like to extend thanks to the following for the contributions that we have received throughout the year:



Figure 1. STCB's Staff members

### Major Funding:

- **The Netherlands Antilles' Department of Environment & Nature Conservation through a major grant from the Kingdom of the Netherlands**

### Corporate Friends:

- **Prince Bernard Cultuurfonds**
- **Foundation to Preserve Klein Bonaire**
- **Cees van Leede**
- **Rudi van der Meer**
- **Rotterdam Zoo**
- **Michael and Jenni Stanfield**
- **Stichting Dierenrampenfonds**
- **Truus and Gerrit van Riemsdijk Foundation**

### Friends

- **Bruce Brabec and Marlene Robinson**
- **Frank and Martine Broker**
- **Michael Carey**
- **Martin Dijkstra**
- **Dive Club Bonaire**
- **Floor Esser**
- **Edith Foks Ferrageau**
- **De Freewieler NV**
- **Freewinds cruise ship**
- **Bert Heite**
- **Tully Kellner**
- **Michael Kusek**
- **Barbara Moakley**
- **Rob Prikker**
- **Robbie Revel**
- **Jolande van der Wiete**
- **Becky Starkweather**

### Ongoing Support and Services:

- **BITS (Hanny Kalk and Gijs Hoogerkamp)**
- **Bruce Bowker's Carib Inn**
- **Cargill Salt Bonaire NV**
- **Chat n Browse**
- **Gaia Productions**
- **Harbor Village**
- **Julia Horrocks**
- **Ralph "Moogie" Stewart**
- **Selibon NV**
- **STINAPA**
- **Sand Dollar Grocery**
- **Sun Rentals**
- **Support Bonaire Inc.**
- **Wanna Dive**
- **WIDECAST**

## Summary

2005 was a very successful year for Sea Turtle Conservation Bonaire as we built upon the accomplishments of 2004. In all the program areas, staff and volunteers worked hard to move us forward in pursuit of our mission: to ensure the protection and recovery of Bonaire's sea turtle population throughout their range.

On the research front, we observed sea turtle nesting in 2005 at lower levels than during 2004, with a total of 61 nests recorded for all the beaches of Bonaire and Klein Bonaire. The in-water surveys on the turtle foraging grounds yielded a total of 105 turtles handled, of which 21 were recaptures from 2003 and 2004. Satellite tracking of breeding turtles was again a success, with four turtles fitted with transmitters: three on hawksbills and one on a loggerhead turtle, all at Klein Bonaire. We successfully followed all tracked turtles during their long-distance migrations to their foraging grounds. We generated daily maps and gave relevant information via our news e-letter to the public, creating awareness about the situation of the sea turtles around the globe.

In the area of education and public awareness, our year long education and outreach campaign that started in 2004 and done in collaboration with the Dutch Caribbean Nature Alliance, STINAPA Bonaire, and Coral Resource Management was completed. The very successful and well-received campaign focused on sea turtles and provided a year of constant attention through the distribution of newsletters, posters, flyers, buttons, school and community presentations, beach clean-ups and press releases. Our regularly scheduled 'Sea Turtles of Bonaire' slide presentation continued to draw the interested public. During the year, we generated a record number of press releases in our effort to bring attention to sea turtle conservation and alert the public to vital issues.

This last year we were able to take a step forward in the organizational arena. Our staff team grew with the addition of Dr. Robert van Dam as our Scientist Coordinator, Eric van der Keuken as our financial advisor and accountant, and a part-time field assistant. Volunteer support and assistance was significantly increased with the addition of three new island residents contributing their time and talents in a consistent fashion. We were also contacted by scores of people offering to assist on an ad-hoc basis.

Our website and electronic newsletters became important and very effective tools for us to share information about the endangered sea turtles and inform about our continuing efforts to protect these animals.

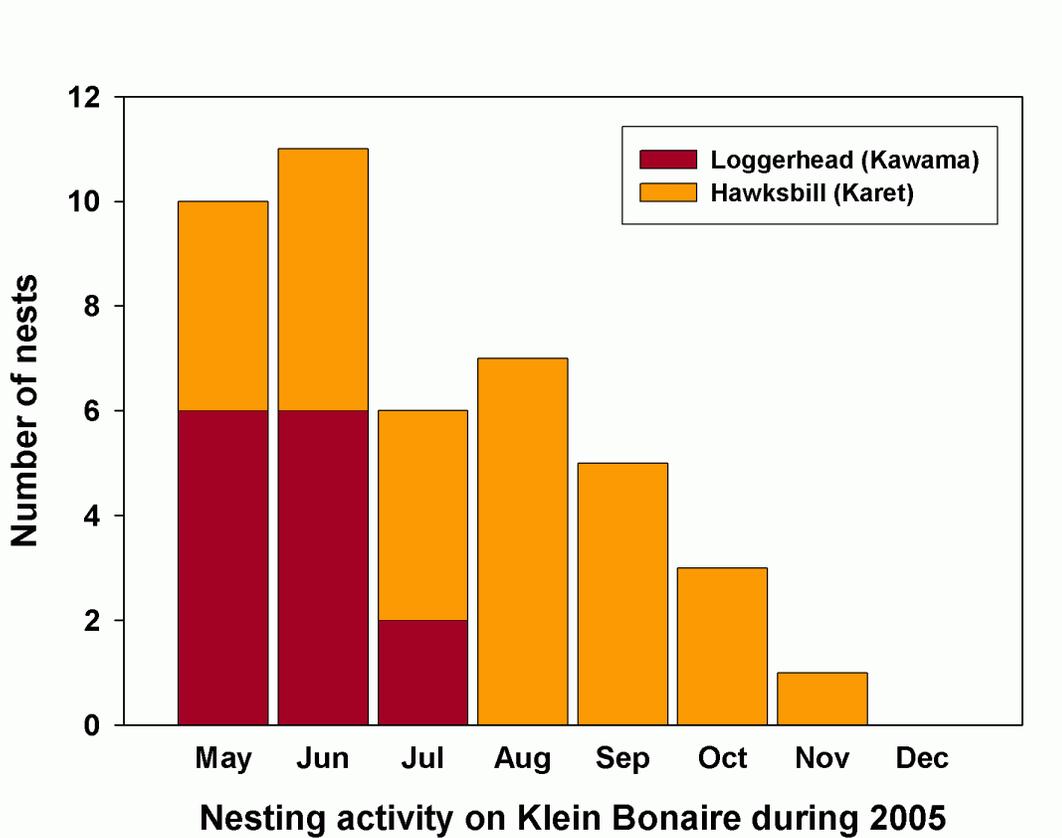
The launching of a new line of products with the STCB Bonaire logo and turtle designs became a reality. Sales of these products will provide another source of revenue and allow STCB to achieve a greater degree of program sustainability and ensure our ability to continue to operate.

## Research

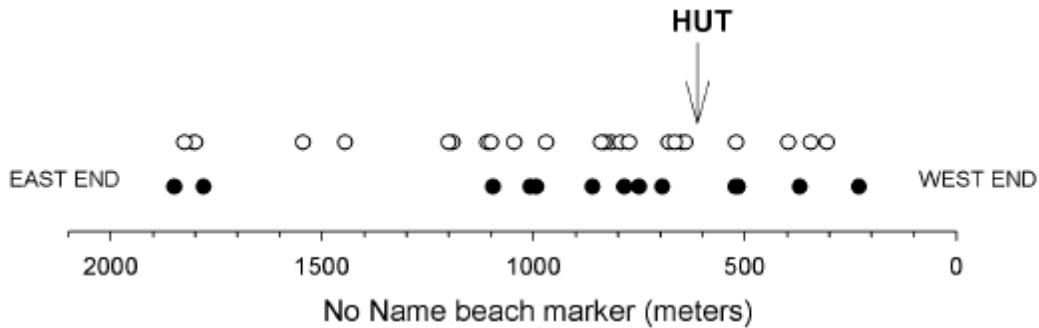
### Nesting Beach Monitoring

All beaches of Bonaire were periodically surveyed for sea turtle nesting activity, with emphasis on the most actively used turtle-nesting beach "No Name" on Klein Bonaire. No Name beach was visited with greatest frequency and is Bonaire's index beach for measuring annual fluctuations in nesting activity.

Turtle nesting activity was first registered on May 3, when a loggerhead nest was found on No Name beach, Klein Bonaire, followed the next day by a hawksbill nesting on the same beach. The last nest of 2005 was found on November 12 and was laid by a hawksbill. For 2005, a total of 29 hawksbill and 14 loggerhead nests were recorded on No Name beach, with the months of May and June showing the greatest nesting activity for loggerheads, whereas hawksbills were most active in August and September (Figure 2). Hawksbill nests were fairly uniformly spread out along No Name beach, whereas loggerheads came ashore to lay only in areas with substantial amounts of beach sand.



**Figure 2.** Number of nests recorded by month laid by loggerheads and hawksbills on No Name beach, Klein Bonaire.



**Figure 3.** Locations of individual hawksbill nests (open circles) and loggerhead nests (dots) along No Name beach, Klein Bonaire.

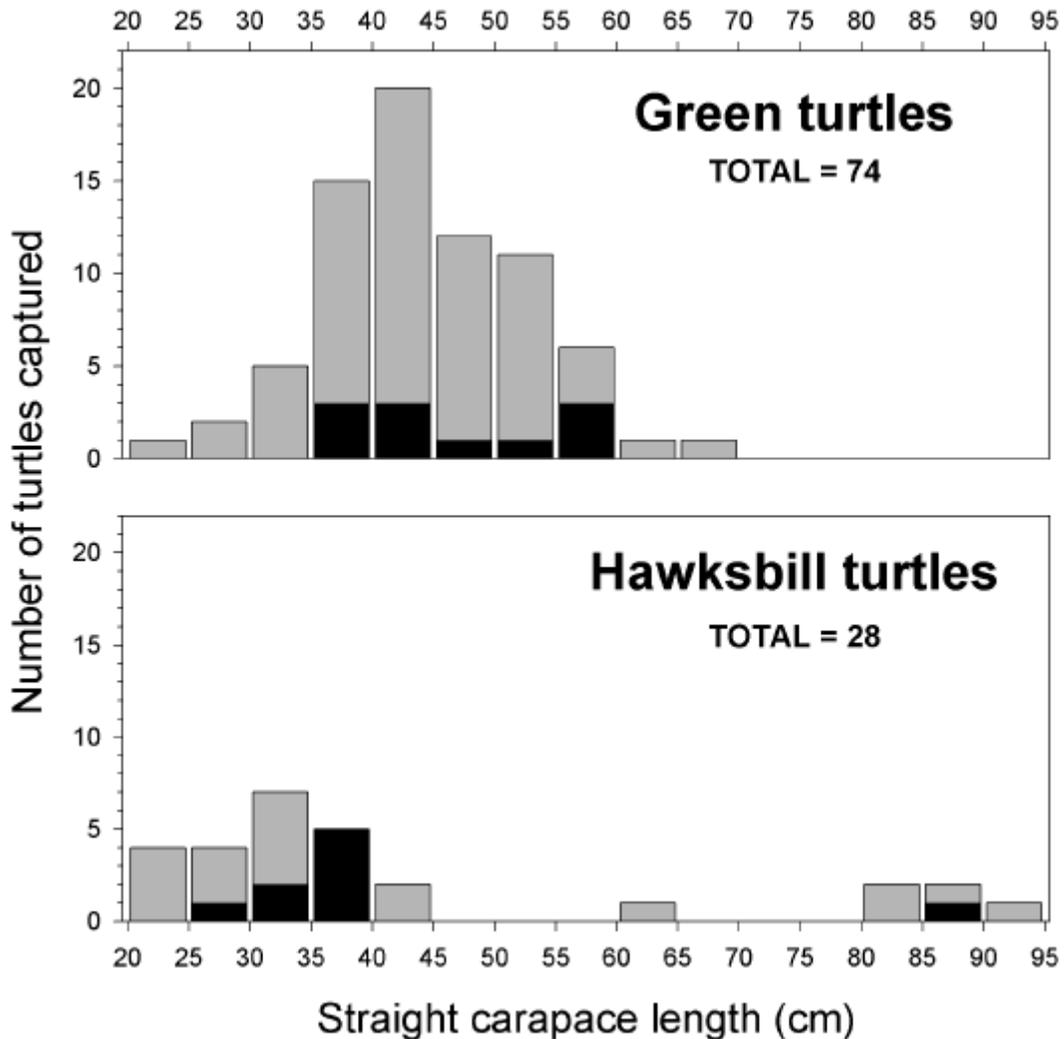
In addition to Klein Bonaire, other beaches showing nesting activity include Slagbaai and Playa Chikitu within the Washington Park, Boca Onima on the east coast of Bonaire, and several small beaches along the south-west coast (see Appendix III). The 10 green turtle nests recorded in a period from July 14 to October 5 at Playa Chikitu were probably laid by at least two individual turtles. Similarly, two loggerheads were likely responsible for the five nests found along the south-west coast. The Boca Onima nests were apparently green turtle nests, but no further post-hatching confirmation could be carried out since the nests were destroyed by sand mining activities (see below).

Nest size and productivity was measured through nest revisions after hatching. At No Name beach, revision of 20 nests yielded an average hawksbill nest size of 138.7 eggs (range 71 – 181) and average hawksbill hatching success was 76.8%. Revision of 15 loggerhead nests yielded an average nest size of 120.2 eggs (range 51 - 143) and hatching success of 81.9%. Both hawksbill and loggerhead hatching success rates resulted higher in 2005 than in 2004, but are slightly below 2003 values. The extreme rainfalls experienced during 2004 were mostly absent in 2005, likely resulting in drier beach sand conditions and contributing to higher hatching success rates.

In 2005, the estimated number of hatchlings produced at Klein Bonaire can be calculated from the total number of nests, average nest size and average hatching rate. The 28 hawksbill nests laid along No Name resulted in approximately 3000 live hawksbill hatchlings emerging, plus almost 1500 loggerhead hatchlings emerging from their 15 nests. The total of 4500 hatchlings produced in 2005 is substantially lower than the 7000 hatchlings reported for 2004 and reflects the lower number of nests deposited by fewer reproducing turtles. Whereas this apparent decline may be of concern, it should be realized that substantial annual variation in nesting activity is common in marine turtles, especially where populations are relatively small. Only nesting trend information collected longer-term (more than 10 years) will be truly indicative of population status.

### Foraging Ground Surveys

Foraging ground surveys were conducted by snorkeling along the entire west coast of Bonaire and all around Klein Bonaire. In addition, turtle surveys using the netting technique were done at Lac Bay. The purpose of these surveys is to tag, sample and measure individual turtles, and to establish catch-per-unit-effort measures of turtle abundance. Combined, the surveys yielded a total of 28 hawksbills and 74 green turtles, of which 9 and 11 were recaptures, respectively (Figure 4). Five of the captured hawksbills were breeding adults.



**Figure 4.** Size distribution of hawksbill and green turtles captured, tagged and measured at Bonaire. Black bars indicate recapture of turtles tagged in previous years.

For primarily logistical reasons, Klein Bonaire was the most consistently surveyed area both during 2005 and previously, thus providing a basis for detecting trends in turtle abundance on these foraging grounds. East and West Klein Bonaire turtle habitats were separated in this analysis because of the great differences in local turtle abundance, with East Klein Bonaire defined as the area from Ebo's reef to Sampler Buoy and the remaining coast referred to as West Klein Bonaire. Catch-per-unit-effort was defined as the number of turtles sighted and/or captured by trained observers in one hour of survey time. Observations of adult turtles were excluded, since these are most likely seasonal visitors and not foraging ground residents. Table 1 shows the results of the 2003 and 2005 in-water surveys at Klein Bonaire. Total survey durations are remarkably similar between these years, which helps validate the comparison. Most significantly, East Klein Bonaire saw a substantial drop in green turtle abundance between 2003 and 2005, from 6.0 turtles sighted per hour to 2.9 per hour. Elsewhere around Klein Bonaire green turtle numbers - and those for hawksbills in both areas - remained relatively constant. It is not yet clear what the cause for the green turtle decline along East Klein Bonaire might be. The high density of juvenile green turtles along East Klein Bonaire appears related to the foraging opportunities present in the shallow fringing lagoon, where green turtles feed on sea grasses, in particular Manatee Grass (*Syringodium filliforme*).

	Green turtles		Hawksbill turtles		Total survey hours	
	2003	2005	2003	2005	2003	2005
<b>East Klein Bonaire</b>	6.0 ± 3.7	2.9 ± 2.2	1.6 ± 1.1	1.2 ± 1.3	21.0	21.0
<b>West Klein Bonaire</b>	0.7 ± 1.2	1.0 ± 1.4	0.3 ± 0.8	0.8 ± 1.6	4.9	4.0

**Table 1.** Comparison of 2003 versus 2005 catch-per-unit-effort survey results at Klein Bonaire.

Recaptures of previously tagged and measured turtles provide information on movement and somatic growth rates. Only one recaptured turtle had moved a significant distance from its earlier point of capture: juvenile green turtle 03-017 was first tagged at Karpata on 24 January, 2003 then recaptured at Lac Bai on 1 December, 2005.

Measured somatic growth rates varied by individual, with carapace length increasing about 2-5 cm/year for hawksbills, with the exception of turtle 03-064 from Andrea, which grew at the high rate of 6.4 cm/year (see Figure 5). Green turtles showed even greater variation, with a significant difference between the very fast growing turtles of Lac Bai and those found along the reefs at the rest of Bonaire and Klein Bonaire. Lac Bai green turtles grew between 5-9 cm/year and tended to be larger in size than other green turtles. The high growth rate of green turtles at Lac Bai indicates that the foraging conditions are exceptionally good there.

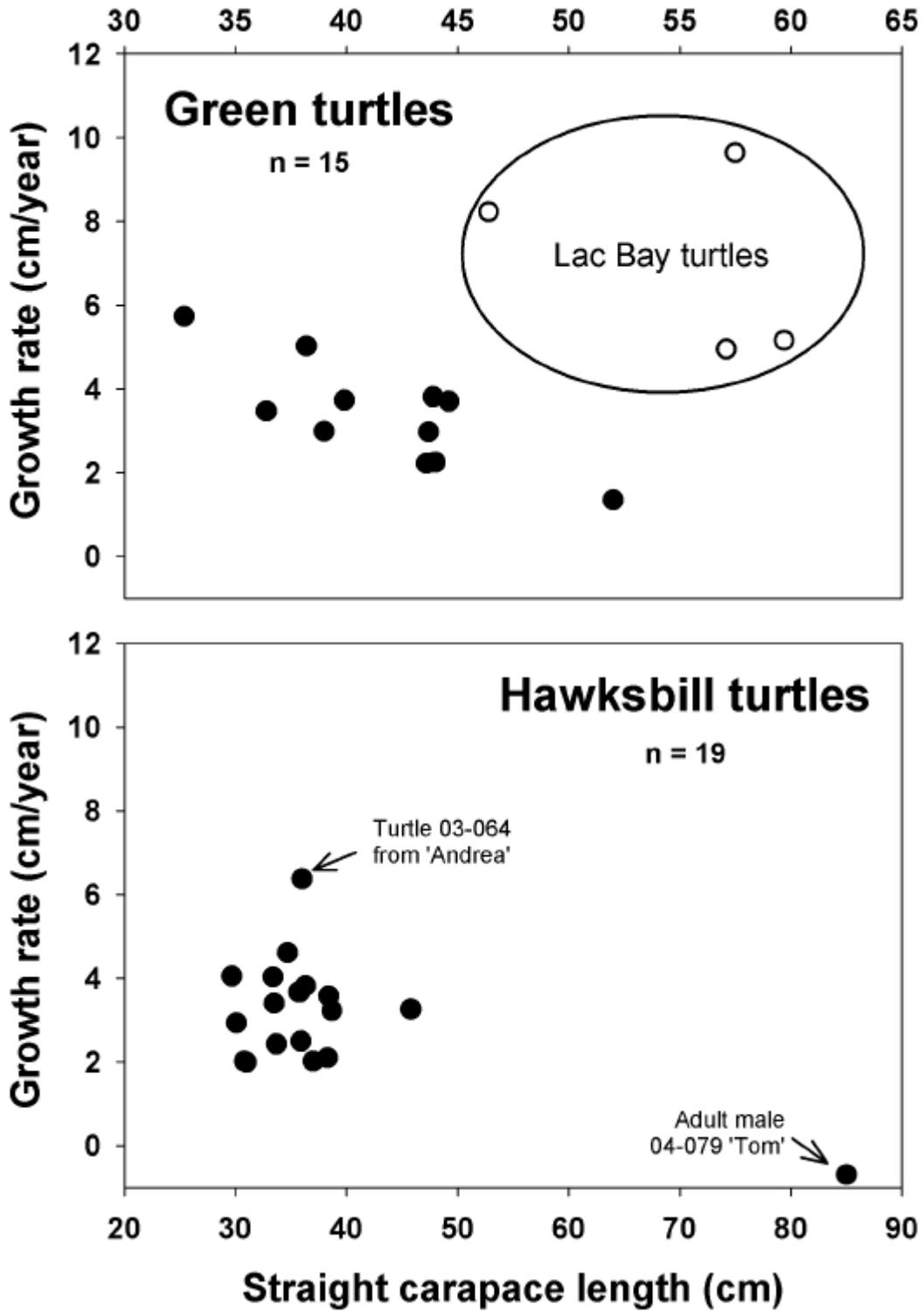


Figure 5. Somatic growth of hawksbill and green turtles at Bonaire.

## Turtle Tracking Study

As in 2004, four adult turtles were satellite-tracked from Bonaire in 2005. Two female hawksbills, 'Jenni' and 'Mariposita', a male hawksbill, 'Albert', and a female loggerhead, 'Happy', were fitted with transmitters. The objectives of this study are to identify the locations where turtles breeding at Bonaire live outside the nesting season, and to learn the routes that these animals take to reach their potentially distant foraging grounds. Increasing our understanding of the movements of "our" animals helps identify priorities for conservation actions benefiting sea turtles.

Transmitters used in this study are model ST-20 made by Telonics (Mesa Arizona, U.S.A.), with a saltwater on-off switch so that the transmitter turns on only when the turtle is at the surface, and duty-cycled to extend battery life. Attachment to the carapace is with fiberglass tape covered with resin. Turtle tracking works through signals sent out by the transmitter, which is switched on whenever the turtle comes to the surface to breathe. These transmissions are then collected by Argos system receivers onboard weather satellites that circle the globe, yielding location data for each turtle that are e-mailed daily to us. Turtle location data are then plotted on digital maps and sent out whenever deemed newsworthy.

'Albert' was the first turtle fitted with a transmitter in 2005 and was named in honor of one of the founding members of Sea Turtle Conservation Bonaire, Albert de Soet. 'Albert' was caught off Ebo's Reef, Klein Bonaire on June 9 and brought aboard our boat, Nancy Too. 'Albert' was tagged and measured (83.1 cm SCL) and his weight was estimated at 94 kg. After approximately 2 hours, he was released back into the water where he had been taken, wearing his transmitter. He did not leave Bonaire until November 7 and based on our experience with 'Tom' last year, there was concern that his signal would be lost before he made it back to his home foraging grounds. 'Albert's westerly journey took him 20 days and he swam some 1530 km to get to his home on an unmanned bank approximately 260 km off the coast of Honduras and over 1420 km from Bonaire. His location is in the same general area as that of three of the turtles we tracked in 2004. Amazingly, the two other hawksbills we tracked this year also ended up on the same unnamed bank! 'Albert's transmitter was sponsored by the cruise ship Freewinds.

'Happy' was the second turtle fitted with a transmitter, but the first we tracked. This adult female loggerhead was caught near the Southwest Corner dive site off Klein Bonaire in approximately 15 meters of water on the evening of June 24 and brought aboard our boat for transmitter placement. Within two hours the turtle was released near the point of capture. 'Happy' measured 99 cm SCL and weighed an estimated 130 kg. Five days later, on June 29, 'Happy' headed due north across the Caribbean toward the Dominican Republic and then turned east toward Puerto Rico. 'Happy' ended her migration in the Vieques Passage between Puerto Rico and the island of Vieques. Until this time it was thought that Puerto Rico did not have a resident population of loggerheads. It took 'Happy' 20 days to travel home having first entered the Vieques Passage on July 18. To reach her destination she swam over 1100 km and she ended up approximately 735 km from Klein Bonaire. 'Happy' was sponsored by the Rotterdam Zoo.

The third turtle to be fitted with a transmitter during 2005 was a large female hawksbill turtle nesting at No Name Beach on Klein Bonaire. Based on the pattern of hawksbill turtle nesting activity observed on Klein Bonaire during the prior few weeks, STCB staff predicted the possible return of a hawksbill turtle to the beach on Wednesday or Thursday night, October 12 or 13. A field team consisting of Fernando

Simal (Manager, Washington-Slagbaai National Park, STINAPA), Patricia Gorrin (film crew), Gielmon "Funchi" Egbreghts and Mabel Nava (STCB), set out each night to monitor No Name Beach. On Thursday at around 9:15 pm, 'Jenni' was discovered on the beach digging a nest. As soon as she began laying eggs she was measured (93.6 cm SCL) and tagged on her front flippers. An hour later, after she finished her nesting activity, the approximately 130 kg turtle was intercepted by the team on her way towards the sea and a transmitter applied to the top of her carapace. At 12:30 am, 'Jenni' was released and she quickly departed into the calm waters off Klein Bonaire. On October 20, less than one week after being fitted with her transmitter, 'Jenni' departed Bonaire in a northwesterly direction, eventually swimming west en route to her home. 'Jenni's path was quite circuitous and she stayed at several different sites for extended periods during her migration. Her journey took 47 days and she traveled well over 2000 km. She shares her home foraging area with 'Albert' and while we can't say that we literally saw their paths cross, their satellite-plotted paths did intersect. 'Jenni's transmitter was sponsored by Michael and Jenni Stanfield.

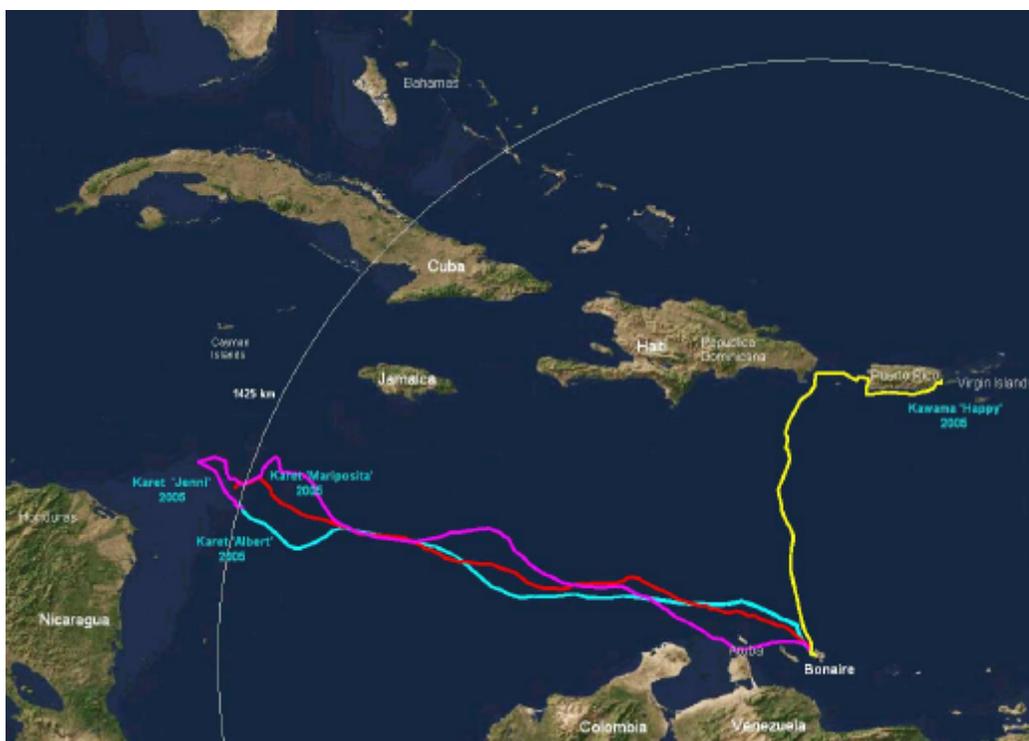
The fourth turtle to be tracked was the last known breeding turtle of the season, a female hawksbill turtle nesting on Klein Bonaire. Working into the early hours of Thursday, October 27, a team of STCB staff members and volunteers released 'Mariposita' at 2:45 am, after affixing a satellite transmitter to her carapace. The turtle came ashore at No Name Beach, Klein Bonaire at approximately 9:15 pm the previous evening to lay a nest. 'Mariposita' is the smallest adult female we have observed nesting on Bonaire and we think she is quite young. She measured only 80 cm (SCL) and her weight was estimated to be only 60 kg. Typically it takes anywhere from 15 to 30 years for a hawksbill to reach maturity. Students from the local high school, SGB, submitted names for this turtle as part of the year-long sea turtle conservation education campaign initiated by the Dutch Caribbean Nature Alliance (DCNA) and conducted by STINAPA and STCB. The winning name was submitted by freshman Angelina Maria Julia Rodriguez. 'Mariposita' is Spanish for 'Little Butterfly, an absolutely perfect name for this tiny hawksbill. 'Mariposita' arrived at her home feeding grounds around Christmas Day, traveling some 44 days. In that period of time she covered almost 1600 km and was 1450 km from Bonaire. 'Mariposita's transmitter was sponsored by the Rotterdam Zoo.



**Figure 6.** Mariposita and STCB staff "Funchi"

If the proximity of 'Albert' and 'Jenni' to one another was not evidence enough, the fact that 'Mariposita's last recorded position was within 60 km of them certainly underscores the importance of the western Caribbean to Bonaire's breeding population. Three of our 2004 turtles also ended up in the same general area. One of the major goals of our 2006-2010 Strategic Plan is to work with the Range States (nations that share management responsibility for Bonaire's sea turtles) to help protect "our" turtles.

Back in 2003, we tracked a female hawksbill named 'Schillie' back to Mona Island off Puerto Rico. This year, 'Schillie' was recaptured and her transmitter removed by Robert van Dam, the former STCB Project Director, while he was working on another project off Mona Island. Subsequently, 'Tom,' the male hawksbill whose signal we lost in 2004, was recaptured right here off Klein Bonaire by STCB staff. His transmitter was also removed. In our 2004 Progress Report it was noted that males may return to Bonaire each year to mate and that appears to be confirmed with the recapture of 'Tom'. Tests of the two transmitters indicated that the batteries were still functioning but on both units the antenna was missing. Both transmitters will be shipped back to the manufacturer for refurbishing and be used in the 2006 tracking project.



**Figure 7.** Tracks outbound from Bonaire for the four turtles tracked during 2005.

The turtle tracking study continued to attract lots of public attention to our turtles, with lots of press coverage both on Bonaire and elsewhere. Whenever turtles were moving, tracking updates were produced and sent via our new E-Newsletter to the press and whoever else expressed interest. As a result, several sponsors have already been identified for our 2006 tracking project.

## Conservation Actions

Our primary goal in the area of conservation has been to reduce and/or eliminate all threats to sea turtle survival on Bonaire. In 2005, we continued monitoring all of the most vulnerable beaches and on several occasions had to move or cover nests that were in danger of being destroyed. Beach erosion and crab tunneling are normally the primary culprits, but this past year we also relocated one nest due to its proximity to the water line. Frequent monitoring of the nesting beaches, along with our in-water activities, provided us with opportunities to assist in the enforcement of local laws related to environmental issues and the Bonaire National Marine Park regulations.

In 2005, STCB and STINAPA worked as partners on a number of conservation and other activities and today the partnership is stronger than ever. Regular communication was maintained throughout the year, and joint projects were executed as well as new plans developed for future implementation. We also enhanced our relationship with other island entities such as: DROB, the island's governmental organization responsible for the management of natural resources; Selibon, the organization responsible for island's sanitation, and Cargill Salt Bonaire NV, a private company which runs the salt ponds and manages the flamingo sanctuary.

### Of special note in 2005:

- Acting promptly on the observation of a resident at the beginning of the nesting season, STCB, STINAPA, Cargill Salt Bonaire and Selibon cooperated to protect confirmed and potential nesting sites at the Atlantis dive site and points further south. Under the guidance of STCB and the BNMP, large rocks and other objects were positioned to prevent vehicles from driving over the sandy portions of the beaches. Flyers and posters were sent to dive operators and placed in key locations around the island to inform the public about the action and the reasons for it. Two informational and educational signs were installed at key places at the beaches to explain the reason for and importance of not driving over the sites. This is the first time that STCB has taken steps to prevent driving on nesting beaches.



Figure 8. Signage placed at nesting beaches

- On August 9, sand mining activity at Boca Onima completely destroyed the beach. Two green turtle nests were also destroyed as massive volumes of sand were trucked away. Compounding the tragic loss of the nests, that same night a turtle came ashore to lay a nest only to discover there was no sand left in which to deposit her eggs - her tracks were discovered the next day during our beach patrols. Acting promptly and working in conjunction with STINAPA, STCB quickly organized a public demonstration to protest the act. Approximately 35 Bonaireans and tourists gathered at Boca Onima to voice their disapproval. Both STINAPA and STCB requested that the Island Prosecutor review the matter. As a result, STCB negotiated a beach remediation plan with DROB, the responsible Bonairean governmental unit, to restore the beach in time for the 2006 nesting season.



**Figure 9.** Public demonstration at Boca Onima

- In 2005 we, in partnership with STINAPA, organized and conducted two beach clean-ups. Beach clean-ups are a very important part of our conservation activities. Without clear and unobstructed access to the beaches, female turtles cannot nest. Beaches littered with debris also prevent a nesting turtle from being able to dig her nest.
  - The Earth Day Clean-Up on April 24, in conjunction with the youth center Jong Bonaire, was conducted in preparation for the nesting season. Two nesting beaches were selected to be cleaned: Lagoen and Playa Chikitu. Approximately 50 people participated and 125 bags of trash were removed from the beaches.



**Figure 10.** Earth day beach clean up at Lagoen

- The Ocean Conservancy International Clean-Up on September 25 was conducted at No Name beach on Klein Bonaire, our primary and most important nesting site. This event was part of the annual International Coastal Clean-up effort sponsored by the Ocean Conservancy. The effort was a big success with 75 people participating and 75 bags of trash collected. The trash is inventoried and the data sent to the Ocean Conservancy, which uses data collected world-wide to develop strategies for keeping debris from entering our oceans. Most of the volunteers for this clean-up were teenagers from Bonaire with groups from SGB (the high school), Jong Bonaire and the scout troop, "Grupo Trupial."
- Release of hatchling hawksbill from Lagoen: on November 20, STCB's Project Assistant, Gielmon "Funchi" Egbreghts received a call about a captive hawksbill hatchling being kept by a local family at Lagoen. They had found the hatchling by the bay of Lagoen and kept it in a bucket for three months, changing the seawater daily and feeding it. After collecting the necessary data that we normally gather as part of our tagging program and fitting the juvenile turtle with a PIT tag (a small device that is inserted in the flipper of turtles too small to be tagged in the normal fashion), the hatchling was released.



**Figure 11.** Hawksbill found in Lagoen

- In April, a dead leatherback turtle washed ashore on the east coast and it was reported to STCB. The badly decomposed turtle was checked for tags and examined to see if there were any external indications of why it had died, i.e. a boat propeller strike or fishing line entanglement. Nothing was readily apparent. The event and results of the examination were reported to WIDECAST.



**Figure 12.** Dead Leatherback on the East coast

## Education and public awareness

During the year we continued working together with the STINAPA NME Officer (Nature and Environmental Education), in the development of educational strategies and materials to maintain and enhance the effectiveness of our elementary school education program. As in past years we provided support for a wide range of activities such as the snorkel program, “Tortuganan di Boneiru”, turtle workshops, PowerPoint presentations and field trips for the children.



**Figure 13.** STCB staff showing a group of schoolchildren and adults a hawkbill hatch on Klein Bonaire

STCB issued 30 press releases during the year, coordinating many with STINAPA to maximize the impact of the messages.

In December 2005, the 14-month “Protehá nos Turtuganan” campaign was successfully concluded. As noted previously, this was a collaborative effort with the Dutch Caribbean Nature Alliance and STINAPA, designed to educate the public, especially school children, on sea turtle conservation. The effort was extremely effective and well received. Posters in Papiamentu and English, buttons, and a sea turtle fact sheet printed in Papiamentu, Dutch and English were distributed island-wide. Presentations were given to every classroom on the island and a newsletter was distributed to the elementary grade classes each month that school was in session. Each issue of the newsletter included a contest, and prizes were awarded. Ralph “Moogie” Stewart, a popular island musician, contributed his time and talent to write and record a “sea turtle jingle” about sea turtle conservation that was played regularly on the radio. As part of this campaign, a contest was conducted at the SGB (high school) to choose the name of our last satellite-tracked turtle (see the turtle tracking study section above).

# PROTEHÁ NOS TURTUGANAN

Turtuganan di laman ta protehá no solamente pa nos leinan lokal di Medio Ambiente Marino, pero tambe pa leinan internashonal. Ta prohibí pa transportá turtuga óf parti di turtuga a traves di fronteranan internashonal.



Aki na Boneiru ta prohibí pa mata óf pa tin turtuga óf kualke parti di turtuga den bo poder. Tambe ta prohibí pa hasi daño óf destruí nêshi di turtuga óf pa kòhe webu di turtuga.

## KIKO BO POR HASI PA YUDA PROTEHÁ TURTUGA DI LAMAN I NAN PLAYANAN DI PONE WEBU

- \* Nunka no kòmpre nada trahí di kaska di turtuga.
- \* No kome karní ni webu di turtuga.
- \* Bai kas bèk for di playa ku tur bo sushi.
- \* Si bo wak un turtuga no kore kumí ni no purba kore riba su lomba.
- \* No kore vehíkulo riba playa unda nan ta pone webu.
- \* No laga ophoto manera stul ku mesa riba playa unda nan ta pone webu.
- \* Toga lus na banda di playa di tal manera ku nan no ta vialbel for di e playa.
- \* Tene kachó i otro animal doméstiko leu for di playa unda nan ta pone webu.
- \* Na strobó turtuga adúlto riba playa sino nan no ta pone webu.
- \* Nunka no stroba yu di turtuga ku a kaba di nase, ribe nan ruta pa laman.
- \* Sostené Sea Turtle Conservation Bonaire: bira voluntario!



Figure 14. Poster from the turtle campaign “Proteha Nos Turtuganan”

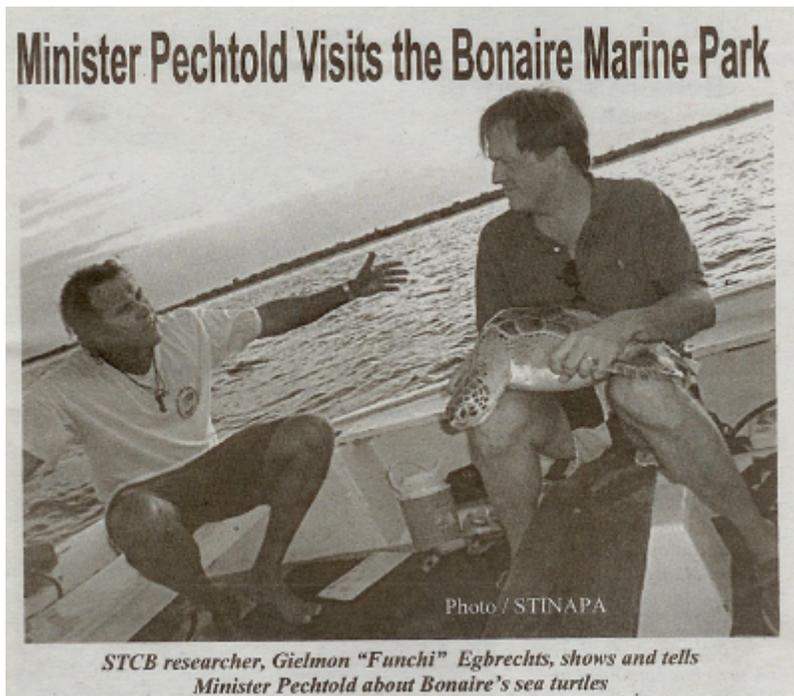
STCB’s involvement with the youth center Jong Bonaire continued and local teenagers benefited from regular workshops about issues surrounding sea turtle conservation. Opportunities to participate in our efforts to protect sea turtles were also provided. Monitored nest hatch watches, nest hatchings and in-water activities were conducted whenever possible and appropriate on Klein Bonaire, the southwest coast and Playa Chikitu. These events are hugely popular not just with the youth from Jong Bonaire, but with people of all ages, and always are managed with care so as to assure the safety of the participants and the turtles and their nests.

While working for Jong Bonaire, Mabel Nava, STCB Project Director, had started a dive program. When she came to STCB, she brought responsibility for the coordination and execution of the diving program with her and it is now a collaborative effort between the two organizations.

The sign placed by the hut at No Name beach in 2003 with support from the Foundation Preservation Klein Bonaire remains in good condition and was updated regularly to inform visitors of the number of turtle nests laid on the beach in the current season. STCB provided input to another graphic informational sign addressing the sea turtles of Lac Bay that was placed by STINAPA at Cai in early 2005. Two other signs were placed along the southwest coast by STCB and Cargill (see Conservation Actions above).

The STCB website, the result of hard work and imagination by super volunteers Hanny Kalk and Gijs Hoogerkamp ([www.bonaireturtles.org](http://www.bonaireturtles.org)) was expanded and E-Newsletters introduced to keep our supporters, press and radio regularly updated on all our activities. Several appearances on local radio proved STCB with a valuable tool in raising public awareness of topical issues such as the Boca Onima beach sand mining episode. These radio programs were conducted by Bon FM.

In October, STCB helped host a visit to Bonaire by Dutch Minister of Kingdom Relations, Alexander Pechtold and had an opportunity to explain the role of the organization to the minister.



**Figure 15.** Photo from Article appearing in the October 21 Bonaire Reporter

Our STCB PowerPoint presentation, "Sea Turtles of Bonaire," continued to be given on a bi-weekly schedule by Andy Uhr. Andy kept the presentation current with frequent updates throughout the year. At the end of 2005, new volunteer Bruce Brabec took over giving the presentations. These presentations continue to be given at the shore-front gazebo at Bruce Bowker's Carib Inn and attract moderately-sized groups, normally ranging in size from 6 to 12, of highly interested people. On several occasions the presentation was given upon request to visiting groups of tourists or local community groups.

## Fundraising

With the end of our multi-year grant from USONA in the Netherlands on the horizon, in 2005 we started exploring alternative sources of funding for the future. During the year, we developed and submitted two proposals. One was to the Fish and Wildlife Service of the U.S government in October and unfortunately was not approved. A second was submitted in December to the National Fish and Wildlife Foundation and we are waiting to hear back from them as of the date of this report. Planning also started on the development of another long-term proposal for submission to USONA.

To assist with our fund raising activities, utilizing a grant from the Prince Bernard Fund, we started production of a professional quality video about the organization, our mission and successes. Due to a number of factors beyond our control, i.e., hurricanes, computer crashes, etc., completion of the video was delayed but it will be completed in early 2006.

In an effort to obtain finances to help maintain the sustainability of our activities, we launched the sale of tee-shirts with sea turtles themes and the STCB logo. These tee-shirts are produced and designed here on Bonaire at Gaia Productions. Sales are made at the slide show presentations, as well as out of our office, Gaia Productions and a number of stores and shops. Thus far, they have proven to be very well received and sales are good. Our success with the marketing of the tee-shirts has encouraged us to expand our product line and we are in the process of producing a number of additional items for future sales.

We are constantly receiving requests by tourists to join and help us during our field work. Not only are these occasions seen as an opportunity to educate and make the public more conservation-minded, but they have also proven to be a good source of income either from donations or product sales.



**Figure 16.** In-water survey activities performed by STCB staff and volunteers

## **Strategic Partnerships and Organizational Development**

In 2005 we increased our efforts in pursuit of strategic partnerships in the sea turtle conservation community. The increased give-and-take resulted in opportunities for staff to gain important knowledge and skills, and for STCB to share our expertise and research with others.

In March, Karen Eckert, Executive Director of WIDECAST (Wider Caribbean Sea Turtle Conservation Network), and Kalli De Meyer, Executive Director of Coral Resource Management, led STCB board and staff through a strategic planning review and authored our 2006-2010 Strategic Plan.

Project Director Mabel Nava traveled to Puerto Rico in March to learn net-assisted turtle capture survey methods, and returned in August and September for training in nesting beach surveys and in-water turtle surveys.

Project Assistant 'Funchi' Egbrechts and Pieter Borkent (President of STCB Netherlands) attended the 2005 Annual International Symposium on Sea Turtle Biology and Conservation in Savannah, Georgia.

**Appendix I.** List of turtles captured in the water and tagged during 2005

**Green turtles**

Tag left	Tag right	PIT tag	Turtle ID	Location	Measured by	Date capture	SCL (cm)	Weight (kg.)
WE4097	BX1067		03-074	Lac Bay	GE	16-Mar-05	57.5	25
WE4217	BX1132		05-002	Lac Bay	GE	17-Mar-05	44.1	11.33
WE4220	BX1143		05-003	Lac Bay	GE	17-Mar-05	50.9	16.5
WE4219	BX1145		05-004	Lac Bay	GE	17-Mar-05	65.2	40
WE4216	BX1146		05-005	Lac Bay	GE	17-Mar-05	58.0	24.5
WE4218	BX1141		05-006	Lac Bay	GE	17-Mar-05	62.1	29
WE4221	BX1147		05-007	Lac Bay	GE	18-Mar-05	54.6	21.5
WE4224	BX1303		05-008	Lac Bay	GE	21-Mar-05	37.6	6.5
WE4223	BX1302		05-009	Lac Bay	GE	21-Mar-05	56.6	22
WE4222	BX1301		05-010	Lac Bay	GE	21-Mar-05	41.0	9
WE4111	BX1062		03-090	Lac Bay	GE	22-Mar-05	57.1	
WE4232	BX1307		05-012	Lac Bay	GE	22-Mar-05	45.4	12.8
WE4231	BX1306		05-013	Lac Bay	GE	22-Mar-05	24.9	5.2
WE4230	BX1305		05-014	Lac Bay	GE	22-Mar-05	51.6	17.5
WE4228	WE4229		05-015	Lac Bay	GE	22-Mar-05	29.9	3.7
WE4227	BX1304		05-016	Lac Bay	GE	22-Mar-05	48.4	14
WE4226	BX1140		05-017	Lac Bay	GE	22-Mar-05	52.9	18.8
WE4234	BX1308		05-018	Lac Bay	GE	22-Mar-05	43.3	10
WE4233	BX1138		05-019	Lac Bay	GE	22-Mar-05	39.1	8.1
WE4235	BX1309		05-020	Lac Bay	GE	23-Mar-05	46.5	12.3
WE4237	BX1311		05-021	Lac Bay	GE	26-Mar-05	42.3	9.8
WE4238	BX1312		05-022	Lac Bay	GE	26-Mar-05	54.5	19
WE4235	BX1310		05-023	Lac Bay	GE	26-Mar-05	47.7	14.8
WE4239	BX1142		05-024	Lac Bay	GE	26-Mar-05	49.8	17.5
WE4241	BX1148		05-025	Lac Bay	GE	26-Mar-05	44.7	11.2
WE4240	BX1144		05-026	Lac Bay	GE	26-Mar-05	50.9	17.1
WE4248	BX1320		05-027	Lac Bay	GE	28-Mar-05	47.9	14.7
WE4247	BX1317		05-028	Lac Bay	GE	28-Mar-05	42.0	9.4
WE4242	BX1313		05-029	Lac Bay	GE	28-Mar-05	36.7	6.2
WE4243	BX1314		05-030	Lac Bay	GE	28-Mar-05	35.4	5.7
WE4244	BX1315		05-031	Lac Bay	GE	28-Mar-05	41.6	9.2
WE4245	BX1318		05-032	Lac Bay	GE	28-Mar-05	43.4	10.8
WE4246	BX1316		05-033	Lac Bay	GE	28-Mar-05	48.5	15.2
WE4250	BX1322		05-034	Lac Bay	GE	29-Mar-05	41.6	10.2
WE4249	BX1321		05-035	Lac Bay	GE	29-Mar-05	50.6	16.2
WE4251	BX1323		05-036	Lac Bay	GE	29-Mar-05	43.1	10
WE4253	BX1324		05-037	Lac Bay	GE	30-Mar-05	47.4	13.5
WE4254	BX1325		05-038	Lac Bay	GE	30-Mar-05	44.4	11
WE4255	BX1327		05-039	Lac Bay	GE	30-Mar-05	47.7	14.2
WE4252	BX1326		05-040	Lac Bay	GE	30-Mar-05	42.2	9.5
WE4556	BX1329		05-041	Lac Bay	GE	30-Mar-05	41.7	8.8
WE4257	BX1328		05-042	Lac Bay	GE	30-Mar-05	53.1	23
WE4258	BX1330		05-043	Lac Bay	GE	31-Mar-05	50.4	16.5
WE4259	BX1331		05-044	Lac Bay	GE	31-Mar-05	40.6	7.8
WE4260	BX1332		05-045	Lac Bay	GE	31-Mar-05	55.2	21
WE4261	BX1333		05-046	Lac Bay	GE	31-Mar-05	52.5	17
WE4263	WE4262		05-047	Vista Blue	GE	12-Apr-05	0.0	3.3
WE4270	BX1334		05-052	Andrea 1	GE	3-May-05	30.4	4

**Green turtles (continued)**

Tag left	Tag right	PIT tag	Turtle ID	Location	Measured by	Date capture	SCL (cm)	Weight (kg.)
WE4272	BX1336		05-054	Andrea II	GE	6-May-05	36.5	6.2
WE4276	BX1339		05-059	White Hole	GE	20-May-05	45.8	12.4
WE4279	WE4280		05-062	BOPEC	GE	27-May-05	31.6	3.8
WE4281	BX1149		05-063	BOPEC	GE	27-May-05	37.3	6.3
WE4113	WE4112		03-085	Ebo's Reef	GE	31-May-05	39.0	7.3
WE4283	WE4282		05-066	Ebo's Reef	GE	2-Jun-05	32.7	3
WE4087	BX1045		03-063	Ebo's reef	GE	2-Jun-05	43.7	9.7
BX1110	WE4286		04-054	Jerry's Jam	GE	10-Jun-05	52.0	19
WE4290	BX1343		05-081	Just a nice dive	G.E	14-Jul-05	40.4	7.7
WE4291	BX1351		05-082	Knife	G.E	19-Jul-05	37.9	7.3
BX1082	WE4292		04-027	Ebo's special	G.E	19-Jul-05	36.4	6.8
WE4293	WE4294		05-084	Ladaniias	G.E	21-Jul-05	32.4	4.8
WE4295	BX1352		05-085	Karel's hill	G.E	6-Aug-05	36.6	5
WE4296	BX1345		05-086	Playa Frans	G.E	18-Aug-05	35.5	5.2
WE4298	WE4297		05-087	Enrique's choice	G.E	18-Aug-05	31.5	3.7
WE4299	BX1346		05-088	Enrique's choice	G.E	19-Aug-05	40.2	7.5
WH1052	BX1350		05-089	Slagbaai	G.E	23-Aug-05	38.0	6.5
WH1051	BX1349		05-090	Slagbaai Funchi	G.E	23-Aug-05	40.3	8
WH1001	BX1079		03-057	Ebo's special	G.E	26-Aug-05	43.9	11.2
BX1122	WE4200		04-069	Knife	G.E	9-Sep-05	44.0	11
BX1082	WE4292		04-027	Sampler	M.N	20-Sep-05	37.1	6.9
BX1348	WH1005		05-096	Ebo's Reef	G.E	27-Sep-05	39.7	7.9
WH1004	BX1353		05-097	Ebo's Reef	G.E	4-Oct-05	35.1	5
WE4087	BX1045		03-063	Ebo's reef	G.E	16-Oct-05	46.5	12.8
WH1010	BX1012		03-017	Lac Bai	G.E	1-Dec-05	59.7	25
WH1009	BX1357		05-105	Lac	G.E	1-Dec-05	45.4	13

**Hawksbill turtles**

Tag left	Tag right	PIT tag	Turtle ID	Location	Measured by	Date capture	SCL (cm)	Weight (kg)
WE4266	WE4267		05-049	Alice in Wonderland	GE	15-Apr-05	32.5	3.6
WE4142	WE4143	134433613A	04-021	Punt Vierkant	GE	15-Apr-05	33.7	4.5
WE4269	WE4268	133647097A	05-051	Richards place	GE	22-Apr-05	29.9	3.2
WE4271	BX1335		05-053	KB 650	GE	4-May-05	89.6	
		134458593A	05-055	Sabadecco	GE	10-May-05	24.2	1.5
WE4275	BX1338		05-056	Jeff Davis	GE	13-May-05	41.3	7.5
WE4274	WE4273	134676651A	05-057	Jeff Davis	GE	13-May-05	27.5	2.3
		135126660A	05-058	Thousand steps	GE	17-May-05	25.3	1.9
WE4277	BX1340		05-060	White Hole	GE	20-May-05	63.3	30
WE4278	BX1342		05-061	Baby Beach	GE	20-May-05	44.3	10.3
WE4013	WE4014	135138691A	03-008	Ebo's Reef	GE	31-May-05	38.4	5.4
		134476211A	05-068	No name	GE	2-Jun-05	24.2	1.4
BX1114	WE4190		04-064	Just a nice dive	GE	3-Jun-05	37.0	6.3
WE4215	WE4214		04-085	Bonaventura	GE	6-Jun-05	31.0	4
WE4195	WE4196	133955245A	04-070	Bonaventura	GE	6-Jun-05	34.7	4.8
WE4055	WE4056	13455391A	04-005	Just a nice dive	RpvD	6-Jun-05	35.7	5.4
WE4285	BX1344		05-073	No name	GE	7-Jun-05	81.9	
WE4289	WE4288		05-079	Karel's Hill Anex	G.E	12-Jun-05	31.9	3.7
		134731386A	05-075	No name	GE	14-Jun-05	24.5	1.5
WE4147	WE4148	134533512A	04-025	Sampler	MN	17-Jun-05	38.7	7.5
WE4184	WE4185	134719627A	04-059	Ebo's reef	G.E	5-Jul-05	29.7	3.1
		134566750A	05-080	Ebo'S Reef	G.E	14-Jul-05	24.9	1.7
BX1130	WE4206		04-079	No name	G.E	1-Sep-05	85.0	
WH1003	WH1002		05-094	Habitat	G.E	15-Sep-05	34.5	4.5
WH1006	BX1354		05-098	Just a nice dive	G.E	6-Oct-05	32.7	3.8
WE1192	BX1117		04-065	Ebo's	G.E	6-Oct-05	35.9	4.8
WH1007	BX1355		05-100	No name beach	G.E	13-Oct-05	92.1	
BX1356	WH1008		05-103	No name beach	GE	26-Oct-05	80.0	
		135114635A	05-102	Lagoen	G.E	22-Oct-05	10.1	

**Appendix II.** List of breeding-size turtles tagged during 2005

Tag left	Tag right	PIT tag	Turtle ID	Location	Measured by	Date capture	SCL (cm)	Weight (kg)
<b><i>Hawksbill turtles</i></b>								
WE4271	BX1335		05-053	KB 650	GE	4-May-05	89.6	
WE4285	BX1344		05-073	No name	GE	7-Jun-05	81.9	
BX1130	WE4206		04-079	No name	GE	1-Sep-05	85.0	
WH1007	BX1355		05-100	No name beach	GE	13-Oct-05	92.1	
BX1356	WH1008		05-103	No name beach	GE	26-Oct-05	80.0	
<b><i>Loggerhead turtles</i></b>								
BX1337	WE4265		05-048	Salt Pans	GE	14-Apr-05	111.7	
WE4287	BX1347		05-077	South west corner	GE	24-Jun-05	92.8	

**Appendix III. List of nests recorded during 2005**

***List of nests on Klein Bonaire during 2005***

Activity number	Location stake	Observation date dd-MMM	Probable species	Nest confirmed?	Observations	Nest revision date dd-MMM
1	370	3-May	Loggerhead	Y	Open beach	28-Jun
2	650	4-May	Hawksbill	Y		28-Jun
3	230	7-May	Loggerhead	Y	Open beach	1-Jul
4	1007	17-May	Loggerhead	Y	Olive	5-Jul
5	1803	21-May	Hawksbill	Y	Tabaco	11-Jul
6	1545	23-May	Hawksbill	N	Dune	11-Jul
7	344	25-May	Hawksbill	Y	Open beach	15-Jul
8	695	26-May	Loggerhead	Y	Open beach	18-Jul
9	1849	30-May	Loggerhead	Y	Open beach	25-Jul
10	520	3-Jun	Hawksbill	Y	Olive	25-Jul
11	785	7-Jun	Loggerhead	Y		27-Jul
12	1780	10-Jun	Loggerhead	Y	Tabaco	3-Aug
13	515	13-Jun	Loggerhead	Y	Open beach	4-Aug
14	305	14-Jun	Hawksbill	Y	Olive	4-Aug
15	1192	17-Jun	Hawksbill	Y	Olive	22-Aug
16	815	17-Jun	Hawksbill	Y	Olive-o.beach	15-Aug
17	1095	22-Jun	Loggerhead	Y	Open beach	
18	522	29-Jun	Loggerhead	Y	Open beach	
19	860	1-Jul	Loggerhead	Y		22-Aug
20	1200	1-Jul	Hawksbill	Y	Olive	
21	793	3-Jul	Hawksbill	Y	Olive	22-Aug
22	993	15-Jul	Loggerhead	Y	Open beach	1-Sep
23	750	20-May	Loggerhead	N	Open beach	22-Jul
24	1200	23-Jul	Hawksbill	Y	Olive	10-Sep
25	1045	30-Jul	Hawksbill	Y	Olive	19-Sep
26	1190	3-Aug	Hawksbill	Y	Olive	29-Sep
27	1800	4-Aug	Hawksbill	Y	Olive	29-Sep
28			Hawksbill	N		4-Aug
29	640	20-Aug	Hawksbill	Y	Open beach	12-Oct
30	1445	20-Aug	Hawksbill	Y	Olive	7-Oct
31	1825		Hawksbill	N		20-Aug
32	680	21-Aug	Hawksbill	N		
33	1100	29-Aug	Hawksbill	Y	Olive	
34	1200	10-Sep	Hawksbill	Y	Olive	3-Nov
35	1108	19-Sep	Hawksbill	Y	Olive	29-Nov
36	830	29-Sep	Hawksbill	Y	Olive	25-Nov
37	1100	29-Sep	Hawksbill	Y	Tabaco	
38	774	12-Oct	Hawksbill	Y		
39	840	13-Oct	Hawksbill	Y		
40	665	21-Aug	Hawksbill	N	Dunes	17-Oct
41	970	16-Oct	Hawksbill	N	Olive	
42	397	7-Sep	Hawksbill		Olive	7-Nov
43	1200	12-Nov	Hawksbill	Y	Olive	

**List of nests recorded on other Bonaire beaches during 2005**

Observation date dd- MMM	Probable species	Location	Nest con- firmed ?	Observations	Nest revision date dd- MMM
<b>ZUID</b>					
11-May-05	Loggerhead	200 meters past Fisherman's Hut	Y	not flagged	
10-Jun-05	Loggerhead	Fisherman's hut	Y	Open	12-Aug
23-Jun-05	Loggerhead	Fisherman's hut	Y	Open- banana	16-Aug
22-Jul-05	Loggerhead	Zuid Past Rancho	N	Open, not flagged	10-Sep
25-Jul-05	Loggerhead	Zuid past Rancho	Y	Open, not flagged	13-Sep
<b>WASHINGTON PARK</b>					
31-May-05	?	Slagbaai	N		31-Jul
1-Jun-05	Hawksbill	Slagbaai	N	Open	1-Aug
14-Jul-05	Green	Chikitu	Y	Relocated	31-Aug
15-Aug-05	Green	Chikitu	Y	Open be- tween the big rock south of Chikitu	28-Sep
25-Aug-05	Green	Chikitu	Y	Dune	14-Oct
3-Sep-05	Green	Chikitu	Y	Open	27-Oct
12-Sep-05	Green	Chikitu	Y	Dune	14-Nov
19-Sep-05	Green	Chikitu	Y	On the side of the big rock	
19-Sep-05	Green	Chikitu	Y	Close to the rock	29-Nov
26-Sep-05	Green	Chikitu	Y	Dune close to rock	29-Nov
26-Sep-05	Green	Chikitu	Y	Center of the beach (open)	29-Nov
5-Oct-05	Green	Chikitu	Y	Open beach	
<b>ONIMA</b>					
11-Jul-05	Green	Onima	Y	Lost by sand mining, see report	
25-Jul-05	Green	Onima	Y	Lost by sand mining, see report	