



Research and Monitoring of Bonaire's Sea Turtles:
2016 Technical Report



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Executive Summary

Sea Turtle Conservation Bonaire (STCB) has been protecting sea turtles on Bonaire since 1991, so this year represents the 25th Anniversary of our organization. In 2002 we standardized our research and monitoring efforts, following the appointment of a Scientific Officer. Annually we monitor our nesting beaches around Bonaire, conduct intensive in-water netting and snorkel surveys (capture-mark-recapture), and we regularly track sub-adult and post-breeding migrations using satellite telemetry. These techniques provide us with a better understanding of Bonaire sea turtles' breeding success, abundance, health, growth rates, migratory paths and distant feeding grounds, residency duration, habitat quality, and threats.

During the 2016 season, we recorded 73 nests at our index beach on Klein Bonaire. A total of 44 hawksbill and 29 loggerhead nests and suspected nests were documented on "No Name Beach". On the beaches on Bonaire and Klein Bonaire combined, we observed three sea turtle species (hawksbills, loggerheads and green turtles) crawling 270 times, which included a total of 114 confirmed or suspected nests. Twelve green turtle nests were recorded in northeastern Bonaire with an additional one green turtle nest on a pocket beach on southwest Klein Bonaire. Hawksbills and loggerheads nested exclusively on Klein Bonaire and the beaches of southern Bonaire. The nesting period on Bonaire in 2016 ran from May to December with the highest number of nests laid between mid-June and mid-September.

Storm surges related to Hurricane Matthew in October 2016 washed out the majority of the in-situ low-lying nests on Bonaire and Klein Bonaire. In an attempt to mitigate the impact of the storm surges, several nests were relocated to higher parts of the beach but a total of 13 nests were negatively affected by exceptionally high tides across all parts of Bonaire and Klein Bonaire. Despite this, estimates of clutch size and hatch success suggest that around 9,700 turtles hatched from nests on Klein Bonaire and Bonaire in 2016, including approximately 5,700 hawksbills, 3,200 loggerheads, and 800 green turtles. This continues a statistically significant increasing trend in total sea turtle nesting activities across Bonaire and Klein Bonaire since monitoring began in 2002.

During in-water snorkel surveys, we counted and, when possible, captured green turtles and hawksbills in all regions sampled, including Klein Bonaire, along the west coast of Bonaire, and near the reef bordering Lac. Netting in Lac was conducted as previously in four weekly sessions across the year. The aggregation of green turtles near Lac remains much larger than sites along the west coast, and greens captured there were bigger than conspecifics elsewhere, perhaps a result of the composition and high densities of sea grasses in Lac.

The total occurrence of fibropapillomatosis (FP) among green turtles captured in nets at Lac and Lagoen declined considerably in 2016, continuing the downwards trend observed in 2015. This year only 14.1% of green turtles captured in and around Lac had visible FP tumors. The highest occurrence of FP continues to be at Lagoen, an inland lagoon adjacent to Bonaire's landfill, where six of the eleven green turtles captured in the net there were observed with external FP tumors.

In 2016 STCB continued the partnership with a research team funded by the Dutch National Research Organization (NWO) to study connectivity among sea turtles between the Dutch Caribbean Islands. As part of this research, in 2016 satellite tags were fixed to three sub-adult green turtles; a datalogger with affixed sonic tag was attached to a sub-adult hawksbill; and a long term experiment was concluded in Lac Cai to learn more about turtle grazing and seagrass productivity there.

STCB were joint authors of two important research papers in 2016, "Post-breeding migration routes of marine turtles from Bonaire and Klein Bonaire, Caribbean Netherlands" and a collaborative paper "Somatic growth dynamics of West Atlantic hawksbill sea turtles: a spatio-temporal perspective" together with researchers led by Karen Bjorndal.

During 2016, there were 19 sea turtle hotline incidents reported, 15 of which were directly related to turtles in trouble; three involved the general public harassing sea turtles; and one related to the poaching of eggs from a nest. The fishing industry and associated by-catch, one of the biggest threats Caribbean-wide, was implicated in at least 30% of the turtles in trouble.

An alarming trend of incidents was reported in 2016 regarding the harassment of sea turtles, including the illicit capture of juveniles to be used in "selfie" photographs, videos seen of tourists petting sea turtles, and the feeding of sea turtles from dive boats to get a closer encounter.

In addition to the local strandings, STCB received reports on four green turtles initially tagged in Bonaire that were subsequently harvested in Nicaragua during 2016. A fifth green turtle was captured in 2016 on the west coast of Ceará, Brazil, in a fish trap. We understand that this turtle was successfully released back into the wild by a local conservation organization, Proyecto Tamar.

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Background

Founded in 1991, this year sees the 25th Anniversary of STCB, and it was twenty-five years ago when STCB began to monitor the status of and threats to Bonaire's sea turtles, using the resulting knowledge to protect them. Comprehensive local laws, as well as international treaties, now protect sea turtles, their nests and eggs from harvest and harassment. The community and tourism industry generally understand the importance of sea turtles to a healthy ecosystem and their value to an economy centered on dive tourism. It is a rare resident or guest who is not captivated by encounters with these beautiful and endangered species. The most serious challenges facing Bonaire's sea turtles are not direct threats like poaching or lack of support for sea turtle protection. The main threats now are indirect, related to a rapidly increasing human population and the development that goes along with it. These indirect threats to sea turtles are also the major threats to Bonaire's rich ecosystems, biodiversity, and our own quality of life.

In this landscape, we no longer look at sea turtle conservation as something apart from society. To ensure a secure future for Bonaire's sea turtles, we must address the issues that threaten sea turtles, biodiversity and social well-being, because they are inter-related. Sea turtles can thrive only when their ecosystems are healthy and the human community thrives.

Following our mission, conservation and applied research remain the core work of STCB. Our work spans research, conservation, education, outreach, advocacy, and policy. This technical report summarizes STCB's scientific outcomes from the 2016 season. STCB's research and monitoring activities are designed to better understand Bonaire's nesting population and foraging aggregations, to contribute to the body of scientific knowledge in the greater Caribbean region, and to inform sound management policies on national and regional scales. Our work includes regular foot patrols of nesting beaches to assess the volume of nesting activities, post-hatch nest excavations to estimate how many hatchlings are released from Bonaire's beaches each year, and extensive snorkel and netting surveys of key sea turtle foraging grounds.

Nesting Beach Surveys

A fundamental component of our research program is the monitoring of Bonaire’s nesting beaches. “No Name Beach” (NNB) on Klein Bonaire continues to serve as our index beach for assessing abundance and species composition. We patrolled this beach three mornings per week, beginning in late April and continuing until December. We documented all crawls, identified species, and recorded the outcome as a false crawl (unsuccessful nesting attempt; no eggs were laid), confirmed nest (eggs were sighted), or suspected nest (eggs were not observed, but site disturbance suggested that a nest was laid). Furthermore, we excavated each nest post-hatching to calculate nest hatch success.

We recorded 44 hawksbill nests (i.e., confirmed and suspected), 29 loggerhead nests, and no green turtle nests on “No Name Beach” in 2016. Hawksbill nest numbers have continued to moderately decline since a highpoint in 2012 (Figure 1), but loggerhead nest numbers were at their highest recorded level during 2016. As Bonaire’s nesting populations are relatively small, these fluctuations in nesting numbers are not unexpected. The long-term trends in nesting for both hawksbills and loggerheads continue to suggest relative stability (Figure 1) on our index beach.

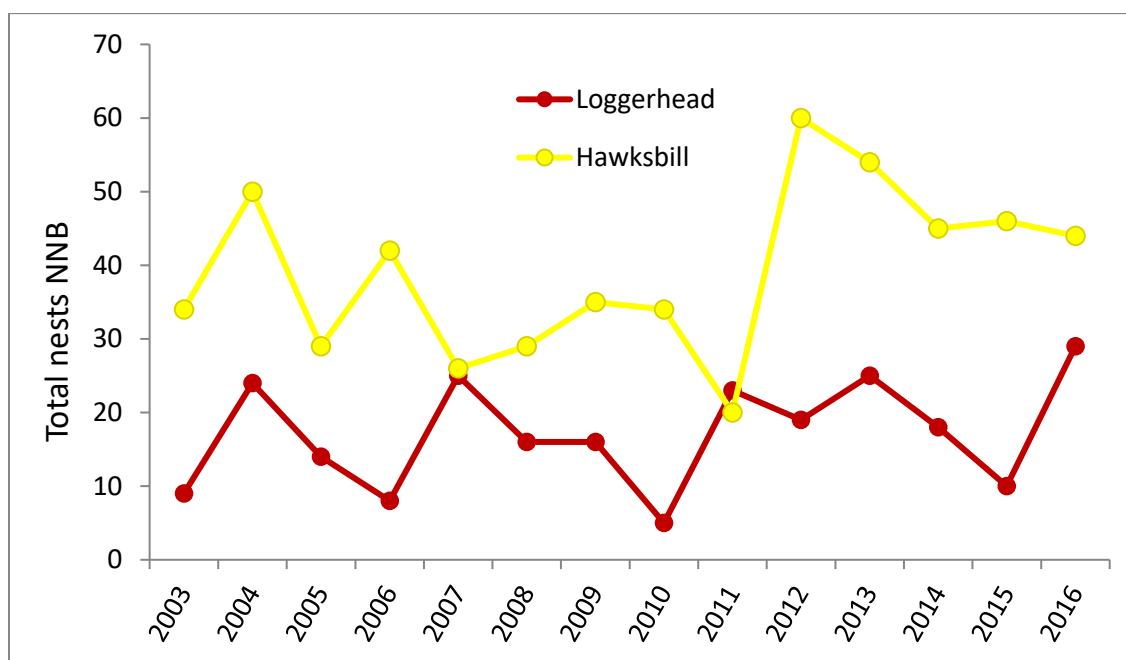


Figure 1. Historical nesting of loggerheads and hawksbills at “No Name Beach” on Klein Bonaire, which serves as the index site for nesting activities. Number of nests includes confirmed and suspected nests.

Sea turtles are late maturing and typically do not reproduce until at least 15 – 20 years of age. As such, hatchlings that crawled from Bonaire’s beaches when monitoring began in 2002 will probably only return to nest here in the next several years. Thus, although 2016 marked STCB’s 14th year of standardized monitoring on Klein Bonaire, this is still a relatively short time from which to assess trends in our nesting populations. We are just beginning to develop an understanding of Bonaire’s nesting turtles and continued monitoring will provide a better understanding of long-term trends and allow us to realize the impacts of conservation efforts. The indication from researchers at the Dutch Caribbean Biodiversity Database (<http://www.dcbd.nl/monitoring/sea-turtles>) is that a significant moderate increase in total sea turtle nests has been identified across Bonaire and Klein Bonaire since monitoring began in 2002, and this has continued in 2016. A full trend analysis, accounting for probability of detection and species variability in Bonaire’s nesting population, is planned for 2017.

On Bonaire, we recorded 12 hawksbill nests, 11 loggerhead nests, and 12 green turtle nests. Species composition was consistent between Klein Bonaire (KB) and the beaches of southern Bonaire (South): hawksbills were the predominant species recorded, and loggerhead nesting was less common (Figure 2). In 2016, green turtles nested predominantly on Playa Chikitu in the Washington Slagbaai National Park (North), laying one nest on southwest Klein Bonaire.

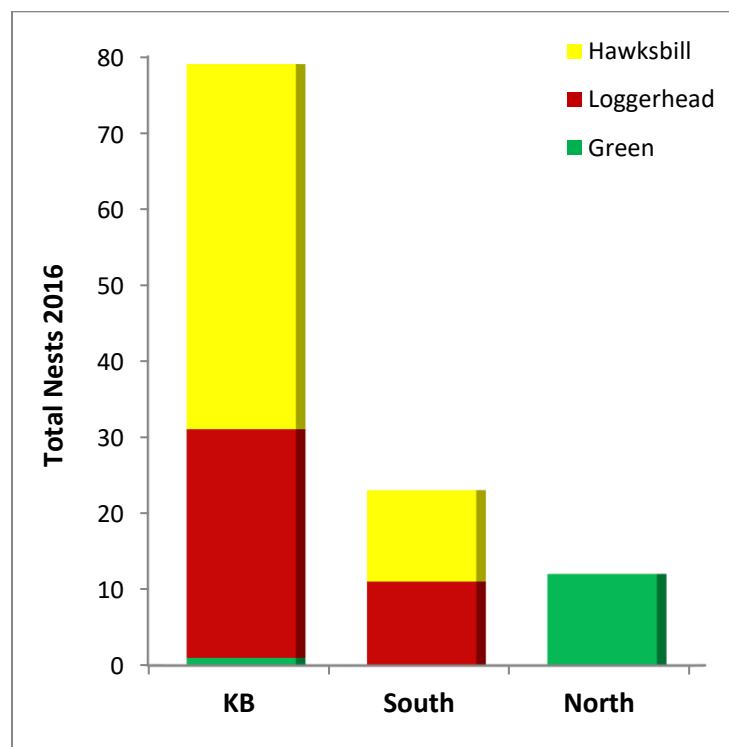


Figure 2. Total nests, categorized by geographic region, recorded during the 2016 research season, with Klein Bonaire (KB) providing the main nesting habitat. “South” and “North” denote general regions of mainland Bonaire.

On Klein Bonaire, hawksbill and loggerhead nesting was spread across most of “No Name Beach” (Figure 3). Once again, nesting attempts on the western areas (i.e., low beach marker numbers) were often unsuccessful and resulted primarily in false crawls. The far eastern end of the site also appeared to provide less suitable nesting habitat; we observed just two hawksbill crawls there and recorded no nests. There were a further six nests (four hawksbill, one loggerhead and one green turtle nest) on a pocket beach on the southwest side of Klein Bonaire, beyond the index beach. Unfortunately, the storm surges related to Hurricane Matthew in October 2016 washed out the majority of the low-lying nests on this pocket beach. On Bonaire and Klein Bonaire seven nests were relocated in an attempt to mitigate the impact of the storm surges but a total of 13 nests were negatively affected by exceptionally high tides across all parts of Bonaire and Klein Bonaire.

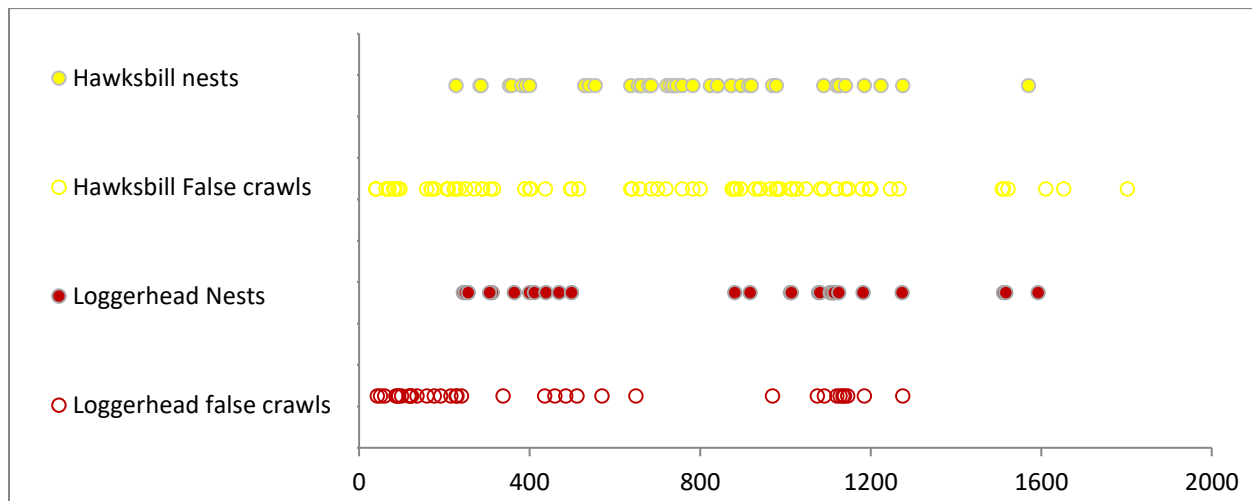


Figure 3. Distribution of nesting activities, including successful nests and false crawls, at “No Name Beach” on Klein Bonaire during the 2016 season.

“No Name Beach” on Klein Bonaire, our index beach, is systemically monitored by trained STCB staff and volunteers, therefore these data provide the most reliable indicators of seasonality. We first observed nesting on Klein Bonaire at the beginning of May, and we documented hawksbill nests until mid-December (Figure 4). The loggerhead nesting season was slightly shorter than normal, spanning from May to August, whereas hawksbill nesting ran from June to December with peaks in August and October.

Sea turtles may false crawl several times before laying a nest and individuals vary with respect to nesting efficiency. Hence, confirmed and suspected nests provide a more accurate picture of seasonal trends. False crawls can be informative, however, with long-term trends indicating possible changes in nesting habitat suitability. Bonaire’s nesting populations are small, so it is

likely that a few individuals who are inefficient nesters – in other words, turtles that false crawled several times before successfully nesting – may contribute to this discrepancy. However, high numbers of false crawls also may result from changes to nesting habitat, other challenges with beach management or from climatic factors (notably temperature and rainfall).

A particularly high ratio of false crawls observed to actual nests in 2014 led to concerns that there may be a decline in habitat suitability on Klein Bonaire and Bonaire’s nesting beaches. This therefore has been closely monitored, but in 2016 the number of false crawls to nests decreased. The observed false crawl to nest ratio for loggerheads on Klein Bonaire was 2.1 false crawls / nest in 2014, dropping to 1.3 false crawls / nest in 2015, measuring 1.1 false crawls / nest in 2016. Hawksbill, ratios decreased to 2014 levels, with 2.1 false crawls / nest in 2016.

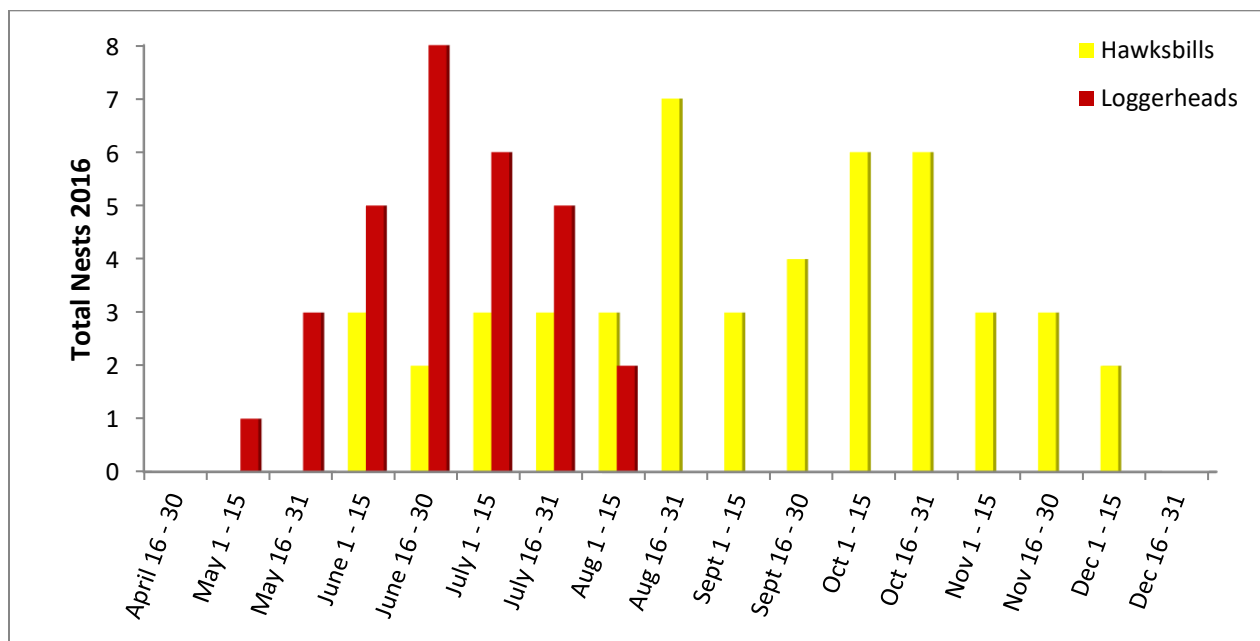


Figure 4. Seasonality of total nests (confirmed and suspected) recorded on Klein Bonaire during the 2016 research season.

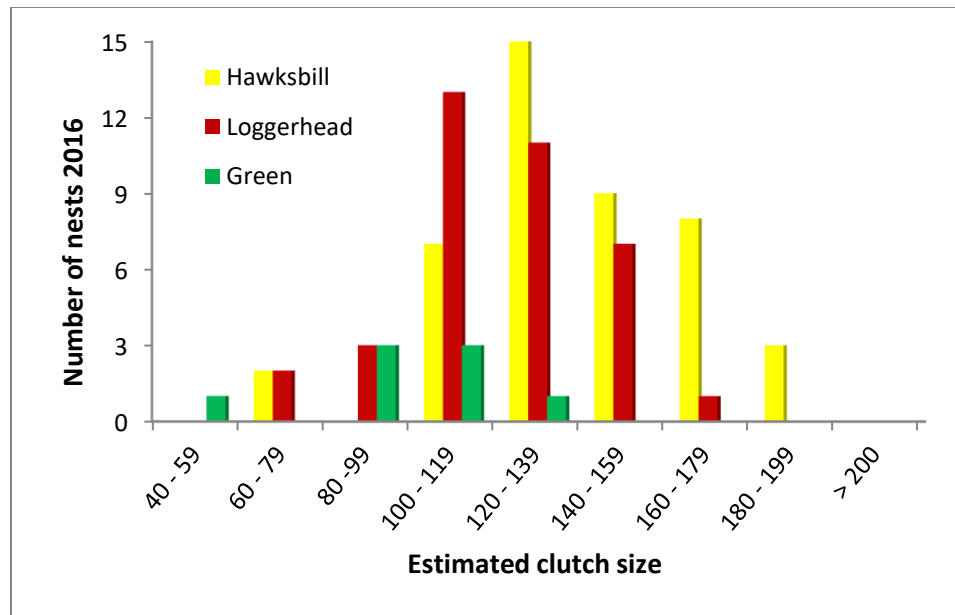


Figure 5. Clutch sizes of loggerhead, hawksbill, and green turtle nests recorded on Bonaire and Klein Bonaire during the 2016 research season. Excludes storm affected and relocated nests.

Evaluating reproductive success continues to be a core component of STCB's research program. Estimated clutch sizes (number of eggs / nest) varied by species [loggerhead (mean: 121; Standard Deviation: 24); hawksbill (mean: 140; SD: 27); green (mean: 97; SD: 21); Figure 5]. Hatch success for nests (storm affected nests and relocated nests excluded), defined as the percentage of eggs per clutch that successfully hatch, was highest for green turtles (mean: 92%; SD: 5%) then hawksbills (mean: 82%; SD: 18%) with loggerheads having a lower hatch success rates (mean: 72%; SD: 25%), (Figure 6).

In early October 2016 Bonaire was subject to a number of very high storm surges as a result of the close proximity of Hurricane Matthew. Where possible, mitigating action was taken to protect nests from storm damage, including the early excavation of nests that were due to hatch in the week that the storm was due to pass by Bonaire (Figure 7). However, a total of 13 nests were damaged/lost due to the high water levels inundating nests (hawksbill n=10; green n=3). In 2016 a higher than average number of nest relocations were undertaken, also in part to protect them from the high storm tides (loggerhead n=2; hawksbill n=5; green n=2).

Despite these issues, based on the clutch size and hatch success data, we estimate that a total of around 9,700 turtles hatched from nests on Klein Bonaire and Bonaire in 2016, including approximately 5,700 hawksbills, 3,200 loggerheads, and 800 green turtles.

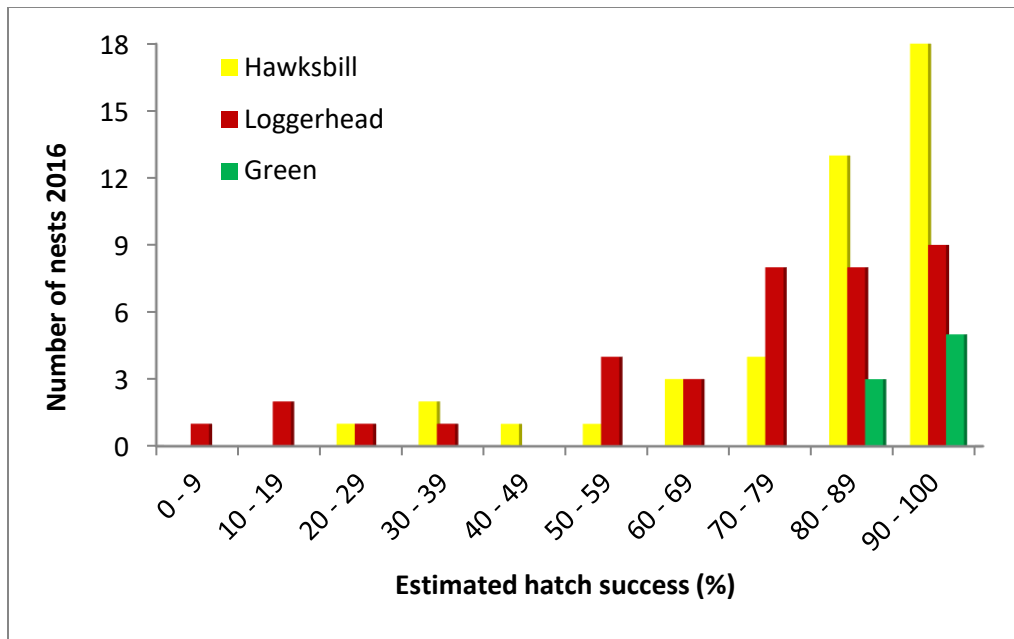


Figure 6. Estimated hatch success of loggerhead, hawksbill and green nests recorded on Bonaire and Klein Bonaire during the 2016 monitoring season. Nests that were relocated due to proximity to the high-water mark or other threats, and storm damaged nests are excluded.



Figure 7. STCB staff and volunteers relocating a nest at imminent risk of flooding during a storm surge at "Playa Chikitu" in October 2016. Photo credit Loek Maartens.

Foraging Ground Surveys

A rigorous in-water research program constitutes the other primary element of the work of STCB. This program, which seeks to better understand the sea turtle aggregations foraging in Bonaire's waters, collects both capture and count data and is implemented with two techniques. First, we conduct snorkel surveys along the entire west coast, around Klein Bonaire, and on the reef outside Lac (Figure 8). During these surveys, turtle sightings are recorded and, when possible, turtles are captured for measuring and tagging by the research team. In 2016, sampling around Klein Bonaire and along the west coast was completed between mid-January and May. Eleven transects were also conducted along the reef adjacent to Lac in 2016, in April (n=1), September (n=3), October (n=3) and November (n=4). Although we observed hawksbills and green turtles island-wide, counts of greens were much higher than hawksbills at all sites (Figures 9 & 10). Similar to previous years, we recorded the highest concentrations of green turtles outside Lac: an estimated 300 individuals were counted during sampling there.



Figure 8. Sectors of coastal areas of Bonaire and Klein Bonaire covered during the 2016 in-water snorkel surveys. Survey tracks are marked in gray (lines connect survey start and end points but do not necessarily indicate precise survey tracks).

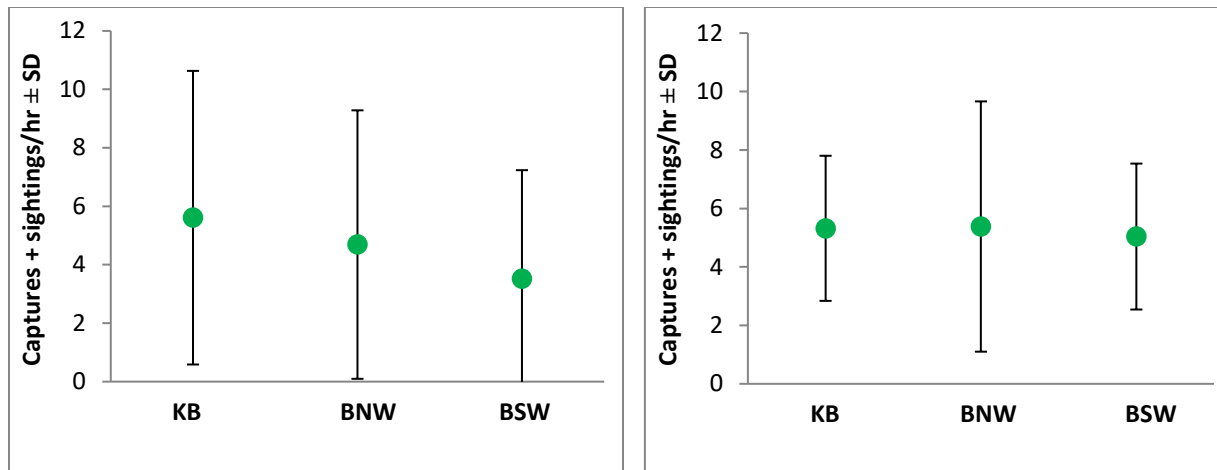


Figure 9. An index, based on count data, showing captures per unit effort (total sightings and captures \pm standard deviation) recorded during snorkel surveys for green turtles in 2015 (left) and 2016 (right), categorized by geographic region. KB: Klein Bonaire; BNW: Bonaire northwest; BSW: Bonaire southwest.

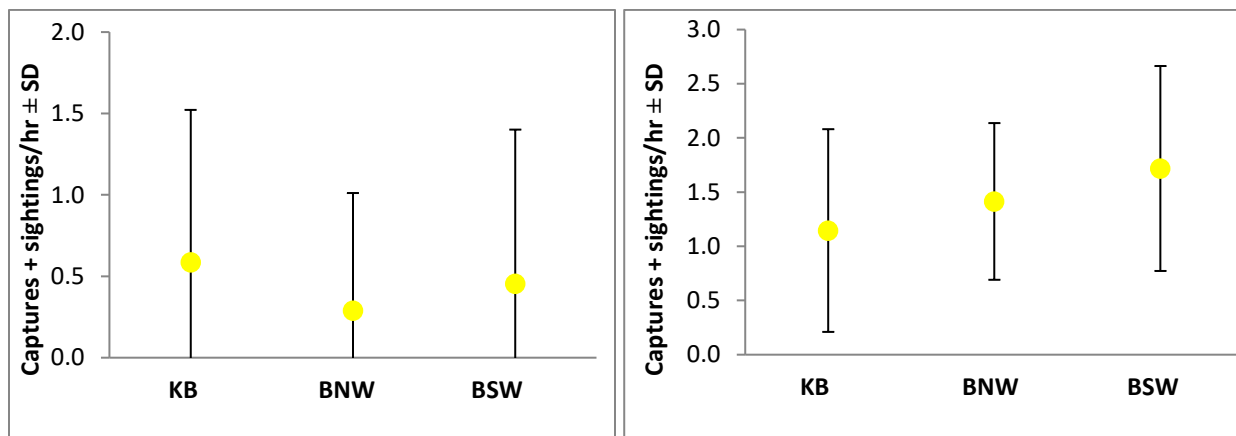


Figure 10. An index, based on count data, showing captures per unit effort (total sightings and captures \pm standard deviation) recorded during west coast snorkel surveys for hawksbill turtles in 2015 (left) and 2016 (right), categorized by geographic region. KB: Klein Bonaire; BNW: Bonaire northwest; BSW: Bonaire southwest.

We conducted netting surveys, the second in-water method used to gather information about Bonaire's sea turtle aggregations, in the bays on the southeast coast of Bonaire, namely in Lac and, to a lesser extent, in Lagoen. During 2016, we conducted 32 netting sessions at Lac over four one week periods, with one period at Lagoen, deploying six nets there over two days. We continued to more widely distribute net sets across the north-central portion of Lac to ensure that our sampling reflected the entire region. Sampling near Sorobon (to the south of Lac Bay) also allowed us to increase captures of hawksbills.

In 2016, there were more sea turtles captured than in previous years from all survey methods combined ($n=295$) and we continued to document much higher capture rates for green turtles ($n=256$) than hawksbills ($n=38$), also capturing one juvenile loggerhead in the netting surveys at Lac for the first time (Figure 13). An index showing captures per unit effort (CPUE) for greens and hawksbills in the net is presented in Figure 11.

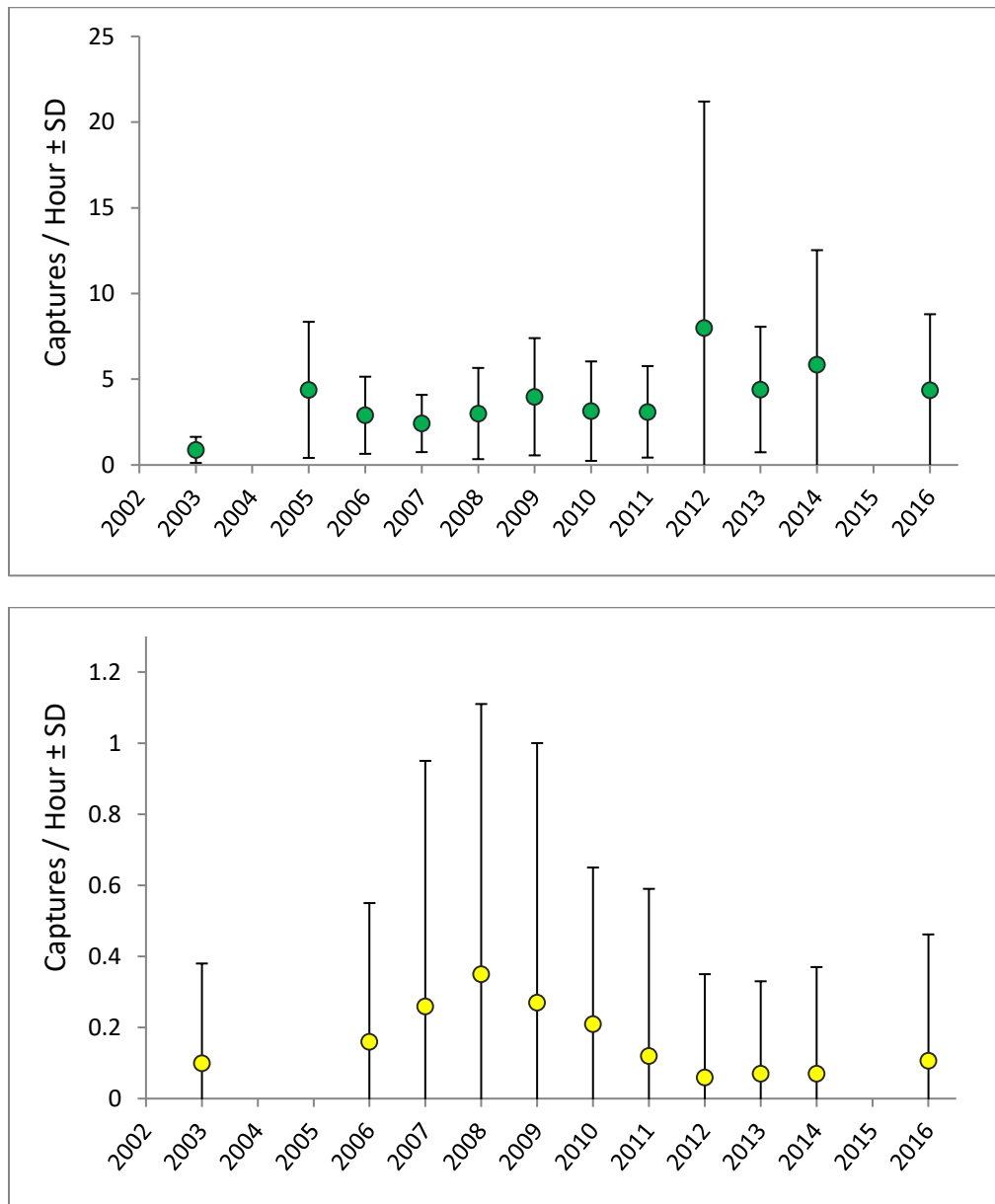


Figure 11. Captures per unit effort (total sightings and captures \pm standard deviation) recorded during net surveys for green turtles (green) and hawksbills (yellow) conducted at Lac in southeastern Bonaire, 2003 – 2016.

Green turtles captured in and near Lac were larger than those captured elsewhere during 2016 (Figure 12; Lac straight-line carapace length (SCL) mean: 53.96cm, SD: 11.53cm; Other locations SCL mean: 40.90cm, SD: 12.09cm). We suspect that foraging conditions in Lac provide an environment that better promotes rapid growth. Consistent with this hypothesis, capture data indicate that green turtles travel to Lac from elsewhere around Bonaire, but generally do not emigrate from Lac to other sites in Bonaire. There were only a small number of captures of hawksbills in Lac in 2016 and such small samples preclude statistical inference.

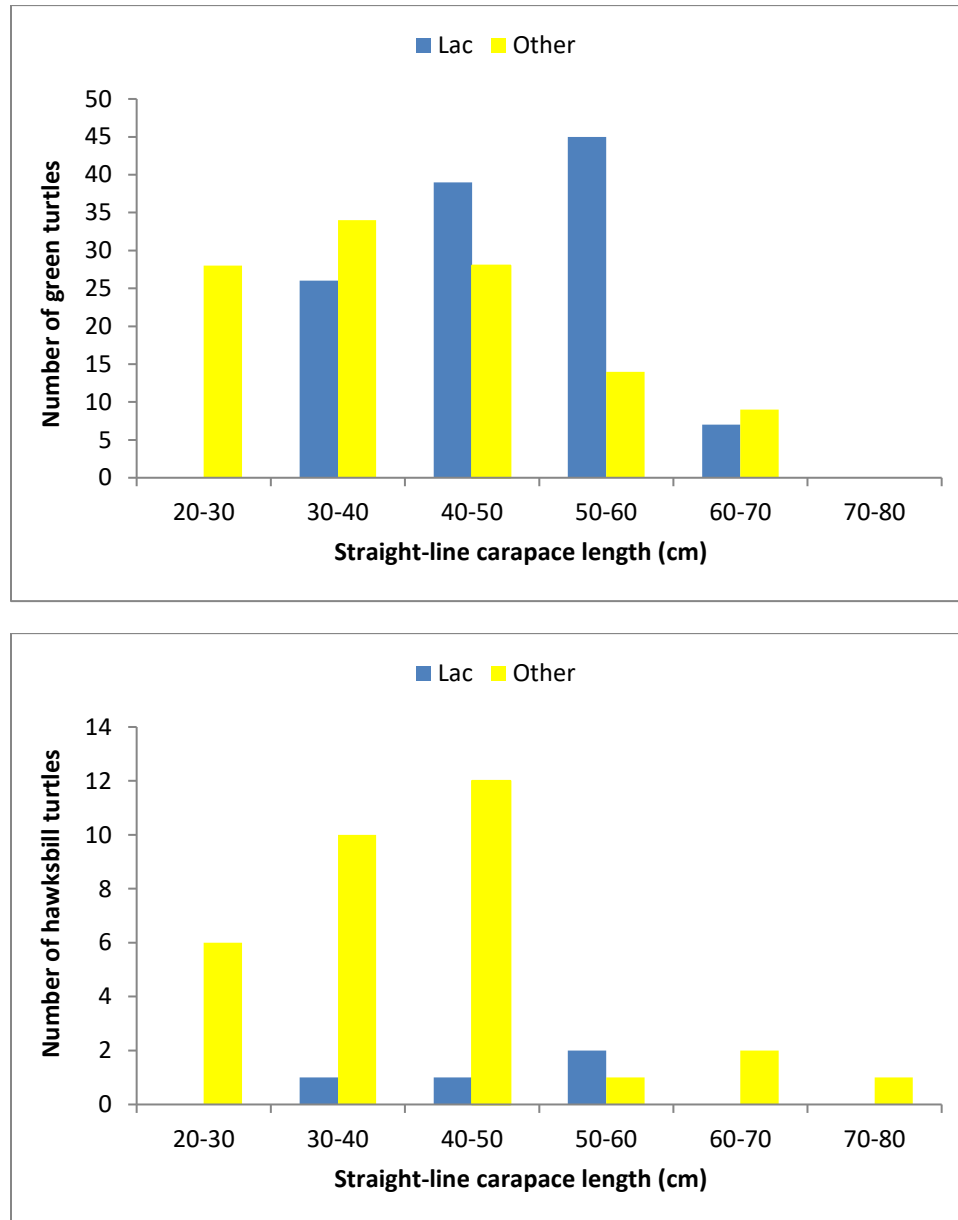


Figure 12. Size classes of green and hawksbill turtles captured in and around Lac in comparison to other locations around Bonaire and Klein Bonaire during the 2016 research season.

A full trend analysis of in-water survey data collected since formal monitoring began in 2002, along with a full review of STCB's methodologies, is planned for 2017.



Figure 13. The release of the first recorded juvenile loggerhead captured during netting surveys on Bonaire.

Occurrence of Disease

Fibropapillomatosis (FP) is a disease characterized by tumors concentrated around soft skin tissues, the eyes, and the base of flippers. FP tumors, which primarily afflict green turtles, interfere with daily functions and ultimately may result in death. Causes of the disease are not fully understood, but factors such as environmental pollutants and urbanization may be associated with FP's occurrence (e.g., Aguirre, A. A., & Lutz, P. L. (2004). Marine turtles as sentinels of ecosystem health: is fibropapillomatosis an indicator? *EcoHealth*, 1(3), 275-283.).

From 2011, there was a rapidly increasing trend in occurrence of FP seen in green turtles captured in and adjacent to Lac, with over a third of green turtles captured in that area in 2012 showing signs of FP. In 2015 the trend showed a slight downturn in occurrence and in 2016 this decrease in those infected with visible FP tumors has continued, with only 14.1% of green turtles caught in and adjacent to Lac found to be infected with the disease (Figure 14). However, there remains

a hotspot for this disease at Lagoen, situated adjacent to the island's landfill, on the east coast of Bonaire. Of 11 green turtle captures there in 2016, six showed signs of FP (54.5%).

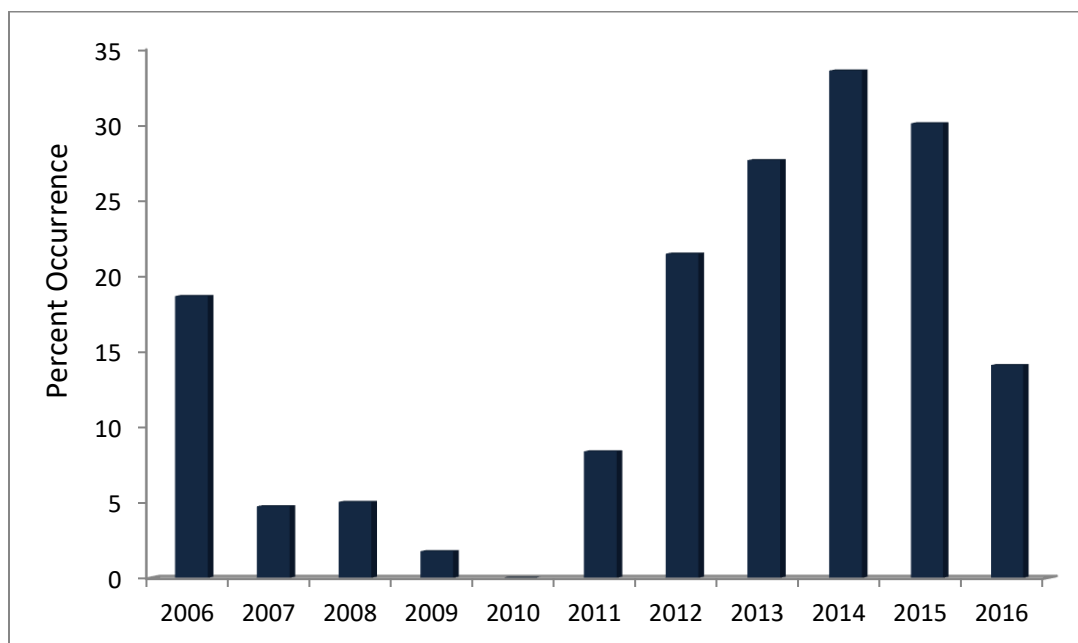


Figure 14. Occurrence of visible fibropapilloma tumors on green turtles captured in and around Lac, Bonaire during the 2016 research season.

New Research Initiatives

During 2016 STCB continued the fieldwork component of a five-year research program in partnership with Dr Lisa Becking and Dr Marjolijn Christiansen and their research team from Wageningen University & Groningen Universities. This partnership began back in 2014 with an award from the NWO (Dutch National Research Organization) to study connectivity among sea turtles among Dutch Caribbean Islands. This project complements STCB's long term monitoring and research work on Bonaire.

In 2016, during fieldwork sessions, satellite tags were fixed to a further three sub-adult green turtles at Lac Cai, and a datalogger and sonic tag were deployed on one hawksbill. Additionally, a long-term experiment was concluded in Lac Cai to learn more about the feeding behavior of green turtles and the effect of grazing on seagrass productivity, species composition and invasive seagrass expansion rate. We continued to take DNA and isotope samples from turtles captured to learn more about the origins and feeding habits of green and hawksbill turtles. This project will provide relevant scientific information that will enhance existing sea turtle conservation management in the Dutch Caribbean. During October 2016, an STCB staff member presented work and conducted field training sessions at the "Sea and Learn Program" on Saba. STCB staff trained and assisted the NWO team to extend their research in Curacao with Carmabi and in Statia with STENAPA.

STCB co-authored two important research articles in 2016, firstly a summary of research into adult migration patterns from 2004 to 2013 entitled "Post-breeding migration routes of marine turtles from Bonaire and Klein Bonaire, Caribbean Netherlands" (Endang Species Res 30: 117–124); and a collaborative paper "Somatic growth dynamics of West Atlantic hawksbill sea turtles: a spatio-temporal perspective" together with researchers led by Karen Bjorndal (Ecosphere 7:e0127). Both articles are available online at bonaireturtles.org/wp/explore/publications/.

Turtle Strandings

Stranded turtles are animals found dead, injured, or sick, or sometimes apparently healthy but in an unsuitable circumstance, such as entangled in debris along the shoreline. Strandings are reported to STCB directly via the Sea Turtle Hotline (+599-780-0433).

In summary, during 2016, there were 19 sea turtle hotline incidents reported, 15 of which were directly related to turtles in trouble. Three of these 19 incidents involved the general public harassing sea turtles, and one related to the poaching of eggs from a nest.

Of the 15 turtles in trouble, three of the incidents involved post-hatchlings found stranded in unsuitable situations, primarily in the Sorobon area on the east coast of Bonaire. Two hawksbill post-hatchlings were alive and were released after assessment, following STCB protocols; one green turtle post-hatchling was found dead.

One of the biggest threats Caribbean-wide to sea turtles is the fishing industry and associated by-catch, and this also proved to be the case on Bonaire in 2016. Of the remaining 12 turtles in trouble, four (30%) were incidents directly related to local fisheries, including two dead stranded turtles (one juvenile hawksbills and one juvenile green turtle); and two green turtles which were by-catch from local (recreational) fishers who had released the turtles post-catch but with hooks remaining. These turtles (one juvenile hawksbills and one juvenile green turtle) were searched for by STCB snorkel teams, caught and the hooks were removed. These juvenile were then health checked, measured, weighed, tagged and released. A further four incidents of dead stranded juvenile hawksbills were examined by STCB in 2016 but necropsy proved inconclusive regarding cause of death and whether fisheries by-catch was a factor.

There were two sick turtles assessed by STCB in 2016, both juvenile green turtles, one stranded at Baby Beach and the other reported by a sailing vessel. Both responded well and, following assessment, were successfully released back to the wild within one or two days of stranding.

One incident involved a juvenile green turtle found by Bonaire East Coast Diving (BECD) entangled in a discarded kite that had become wrapped around Sorobon Pier, trapping the turtle. The turtle was also disabled, missing its left rear flipper, and it had a large fibropapilloma on its head. Staff from BECD called the hotline and discussed the case with STCB staff, then carefully removed all the lines before releasing the turtle at Sorobon.

The final stranding incident involved a green turtle found dead at Lagoen. Necropsy was inconclusive but the juvenile turtle had a significant amount of fibropapilloma tumors present.

An alarming trend of incidents reported about harassment of sea turtles began in 2016. These incidents involved the illicit capture of juveniles to be used in “selfie” photographs, videos seen

of tourists petting sea turtles whilst snorkeling or diving, and the feeding of sea turtles from dive boats in order to get a closer encounter. STCB has reacted to this by producing new signage, which has been placed at key areas on Bonaire where incidents have been reported (Figure 15). Additionally a campaign of press releases, Facebook posts and information to tour boat operators have explained the reasons why this is not in the best interest of sea turtles.



Figure 15. New public information signage placed at key sea turtle “hotspots”.

Lastly, evidence was found of egg poaching on the southern shores of Bonaire, when a nest that had been relocated was found to have 40 eggs missing post-hatching. It has not been possible to identify the perpetrators but this has resulted in a change in the way the nests are marked in this area, in a hope that this is prevented in the future.

In addition to the local stranding details, STCB received reports on four green turtles initially tagged in Bonaire that were subsequently harvested in Nicaragua during 2016. These individuals were initially tagged in 2005, 2007, 2008, and 2010. Carapace lengths at initial capture varied from ~30 cm to ~60 cm. A fifth green turtle was captured in a fishing weir, a traditional type of fish trap made of wood and wire, on the west coast of Ceará, Brazil in March 2016. We understand that this turtle was successfully released back into the wild by a local conservation organization, Proyecto Tamar. Such tag returns, combined with the detailed information provided by our satellite-tracking program, improve our understanding of the regional movements of sea turtles. These data also highlight the need for continued international collaboration to ensure wise and sustainable management policies and conservation practices.

Once again, STCB is very grateful to Craig Dewey and Kathy Pound for housing the STCB rehabilitation pool when required and to volunteers Hans & Jannie Koning, Rob Hulsbergen and Catrien van Manen who regularly assist STCB staff with turtle in trouble calls.

Appendix I. 2016 Funders and Donors

STCB is a non-profit, non-governmental organization. We raise funds through conservation and research grants and contracts, merchandise sales and from individual and business donors.

Flagship Funder 2008 – 2019



Since 2008, WWF - Netherlands has been the flagship funder for STCB's sea turtle conservation work on Bonaire.

Major Funders

Dutch Ministry of Economic Affairs, Agriculture and Innovation (EZ)
Stichting DierenLot

Platinum Funders/Donors [\$1000+]

Barbara Chu
Blue Jay Holding Bonaire B.V.
Bon Doet
Botman Family
Charities Aid Foundation
Dive Friends Bonaire
Dutch Caribbean Nature Alliance (DCNA)
Dr. Robert Andrew Rutherford Trust
Foundation to Preserve Klein Bonaire
Harbour Village Marina
Kevin & Sharon Pursley
Marlene Robinson / Bruce Brabec
Menta Capital B.V.
Rob Hulsbergen
Stichting Sea & Land Wonders Dutch Caribbean

Gold Funders/Donors [\$500 - \$999]

American Consulting Group B.V.
Between 2 Buns
Bonaire from the Sea B.V.
Bonaire Logistics
Bonaire Office Systems
Broadreach Global Summer Education Adventures
Cargill Salt Bonaire B.V.
Divi Flamingo Beach Resort & Casino
Doreen Schwerdtfeger
Gaia Productions N.V.
Hamlet Oasis Resort
Harbour Village Beach Resort
Harbourtown Real Estate
Jibe City

KPMG Dutch Caribbean
Loek & Vera Maartens
Maduro & Curiel's Bank Bonaire N.V.
Mangrove Info Center
Pasa Bon Pizza
Piet Boon Bonaire
Plaza Beach Resort Bonaire
RE/MAX Paradise Homes
Sorobon Beach Resort
Stichting Club Roomer
T&TMC NSO & HB
VIP Diving

Silver Donors [\$100 - \$499]

Alan Scott
Barbara C. Larkin in honor of Angela Justice & Nick Larkin
Bonnie Watson
Casa Presioso (Roel & Mariëlle Bergsma)
Daniel and Christine Fisher
Denny Daniels
Ellen ten Damme
Erwin Plessers
Guusje Maartens-Nas
Hope Morris
Jeffrey Kramer
Julia Burgess
Lee Stanford
Lillian Thiemann
Meredith & Steve Schnoll
Rick & Lila Nicholson
Sandy Hall

Bronze Donors [\$50 - \$99]

Abraham Potappel
Adriaan Kik
Greg Ogle
Hope Morris
Jeff McPhate
Jill Hearne
Marika Sjodin
Max Gilbert
MBL Richardson
Nat Miller
Peter Ollendorf
Randall Grottke
Rebecca Conkright
Susan Porter
Wendy Merchant
William Holman
Anonymous donors

Appendix II. 2016 Staff, Interns and Board of Directors

Staff

Mabel Nava, Manager

Lisette van Marrewijk, Communications Officer (to July 2016)

Kaj Schut, Communications Officer (from August 2016)

Sue Willis, Project Coordinator

Gielmon “Funchi” Egbreghts, Contractor Field Technician

Interns/Research Assistants

Jilly Sarpong

Emma Pratt

Daniela Simal

Coralie Lässig

Hannah Daisy Dinsdale

STCB – Bonaire, Board of Directors 2016

Bruce Brabec, *President and Board Member* (until June)

Ger Bakker, *President* (from June onwards)

Rosa Hoes

Sharon Bol

Henk van de Velden (from June)

Viktor Wijnand (from June)

Allerd Stikker, *Advisory Member*

Albert de Soet, *Honorary Member*

Appendix III. 2016 STCB Partners, Supporters and Volunteers

International Partners

Wider Caribbean Sea Turtle Conservation Network (WIDECAST)
World Wildlife Fund Netherlands (WWF-NL)

Regional/Research Partners

CARMABI (Curaçao)
Dutch Caribbean Nature Alliance (DCNA)
Groningen University
Nature Foundation St. Maarten
Parke Nacional Arikok (Aruba)
Saba Conservation Foundation
Sea & Learn Saba
Sea Turtle Conservation Curacao
St. Eustatius National Parks Foundation
The Jumby Bay Hawksbill Project
Turtugaruba
Wageningen University

Local Partners

Bonaire Department of Environment and Natural Resources (DRO)
CIEE Research Station Bonaire
Echo Bonaire
EZ Ministry of Economic Affairs
Jong Bonaire
NGO Platform
Openbaar Lichaam Bonaire (OLB)
STINAPA Bonaire - Bonaire National Marine Park; Washington-Slagbaai National Park & STINAPA
Junior Rangers
Wildconscience

Local Business Partners and Supporters

These businesses provide ongoing support to STCB programs and activities through the donation of in-kind materials and/or services:

Administratiekantoor Brandaris
Bonaire Marine Center BV
Bonaire East Coast Diving
Bonaire Rent-A-Car
Carib Inn (Bruce Bowker)
Caribe Car Rental
Cargill Salt Bonaire
Coral Paradise

Dive Friends Bonaire
Div'Ocean
Elements
Flamingo Communications
Harbour Village Beach Resort
Harbour Village Marina
Hotel Roomer
Kantika di Amor
Mangrove Info Center
Nos Consuelo
SELIBON
Sorobon Beach Resort
VIP Diving
Wannadive Bonaire

2016 Volunteers

Aja Radl & Scott Gilchrist
Alban Rhys Bartley-Jones
BEACHKEEPER PROGRAM VOLUNTEERS
Catrien van Manen
Craig Dewey & Kathy Pound
FISHING LINE PROJECT VOLUNTEERS
Hannah Daisy Dinsdale
Hans & Jannie Koning
IN-WATER SURVEY/NETTING VOLUNTEERS
John Magruder and Brenda Free
Junior Rangers
Loek & Vera Maartens
Louise Holder
Michele Mautino & Randy Rathbun
Michiel Denneman
Nicole, Martin & Noa Roomer
Patti Dougherty
Ralph 'Moogie' Stewart
Richard Willis
Rick & Lila Nicholson
Rob Hulsbergen
Wouter & Marian Sonneveldt

Appendix IV. Ways to donate

You can help protect Bonaire's sea turtles by donating to STCB. We welcome – and depend on – the financial support of people like you. Whether it's \$10, \$100, or \$10,000, it will make a difference. Please note that, as of January 1st 2015, the Dutch Tax Service (Belastingdienst) granted Sea Turtle Conservation Bonaire with ANBI status. ANBI status favors STCB's Donors in countries that grant tax concessions to foreign registered charities, as well as those based in the Netherlands. STCB Donors may be able to deduct the amount from taxable income.

Online

Go to our website at <http://www.bonaireturtles.org/wp/act/donate/>. You can now make a donation via **PayPal** at this page.

Donate by mail

Make check payable to '*Sea Turtle Conservation Bonaire*' then mail to:

Sea Turtle Conservation Bonaire
PO Box 492
Kralendijk, Bonaire
Dutch Caribbean (Netherlands Antilles)

Donate by bank transfer

To make a donation locally on Bonaire:

Maduro & Curiel's Bank (Bonaire) N.V.
Account name: Sea Turtle Conservation Bonaire
Account number: 101.169.209

To make a donation from the USA: Beneficiary: '*Sea Turtle Conservation Bonaire*'

Account number: 101.169.209
Beneficiary Bank: Maduro & Curiel's Bank (Bonaire) N.V.
Swift code: MCBKBQBN
Correspondent Bank: Standard Chartered Bank
ABA # 026002561
Swift Code: SCBLUS33

To make a donation from Europe: Beneficiary: '*Sea Turtle Conservation Bonaire*'

Account number: 101.169.209
Beneficiary Bank: Maduro & Curiel's Bank (Bonaire) N.V.
Swift code: MCBKBQBN
Correspondent Bank for Euro: Rabo Bank Nederland
Swift Code: BBRUBEBB

To discuss other ideas for giving, please call STCB Manager, Mabel Nava, on +599-717-2225, or email us at stcb@bonaireturtles.org