

BONAIRE

# TURTLES: NAVIGATIONAL MASTERS

STCB YEAR REPORT 2020



**SEA TURTLE  
CONSERVATION  
BONAIRE**



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## BONAIRE TURTLES NAVIGATIONAL MASTERS STCB YEAR REPORT 2020



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Fernando Simal, WILDCONSCIENCE B.V.

### STCB BOARD OF DIRECTORS 2020

Ger Bakker - President  
Rob Hulsbergen - Treasurer  
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Viktor Wijnand



Editorial design: **bonsai**

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CALL OUR DEDICATED

**HOTLINE: +599 780-0433**

**SAVE A SEA TURTLE!**

Report any problems and also please call us if you see or have seen people harassing sea turtles.





## WE'RE ON A MISSION!

Sea Turtle Conservation Bonaire's mission is to ensure that Bonaire's sea turtles have a secure future, and to connect people to sea turtle conservation in ways that inspire caring for nature.



## GOOD FOR TURTLES, GOOD FOR HUMANS

Just like our community, sea turtles on Bonaire can only thrive when our ecosystems are healthy. That's why STCB addresses issues that directly affect sea turtles as well as biodiversity in general and social well-being on our island.



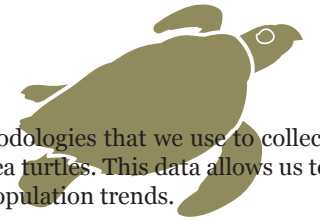
## CROSSING BORDERS WITHOUT RESTRICTIONS

Although it has been difficult for humans to travel due to COVID-19 regulations, for migratory species such as sea turtles, there are no such restrictions. Adult sea turtles, for example, travel between their foraging and nesting home once a year (males) or once every two to three years (females). To learn more about the movements of adult turtles, where they forage and what 'range states' they cross, STCB has been tracking sea turtles for almost two decades.





## THE JOB



Transect-count surveys are one of the scientific methodologies that we use to collect data on resident populations of green and hawksbill sea turtles. This data allows us to estimate yearly sea turtle abundance and long-term population trends.

In 2020, 108 surveys were conducted on the west coast of Bonaire and around Klein Bonaire by STCB staff and volunteers. For each sea turtle detected, observers recorded species, size, time, location and behavior. Sampling around Klein Bonaire and along the west coast was completed between January and March. Although both green and hawksbill turtles were observed island-wide, counts of greens were much higher than hawksbills at all sites. In total, observers recorded 297 green and 21 hawksbill turtles during the 2020 surveys.

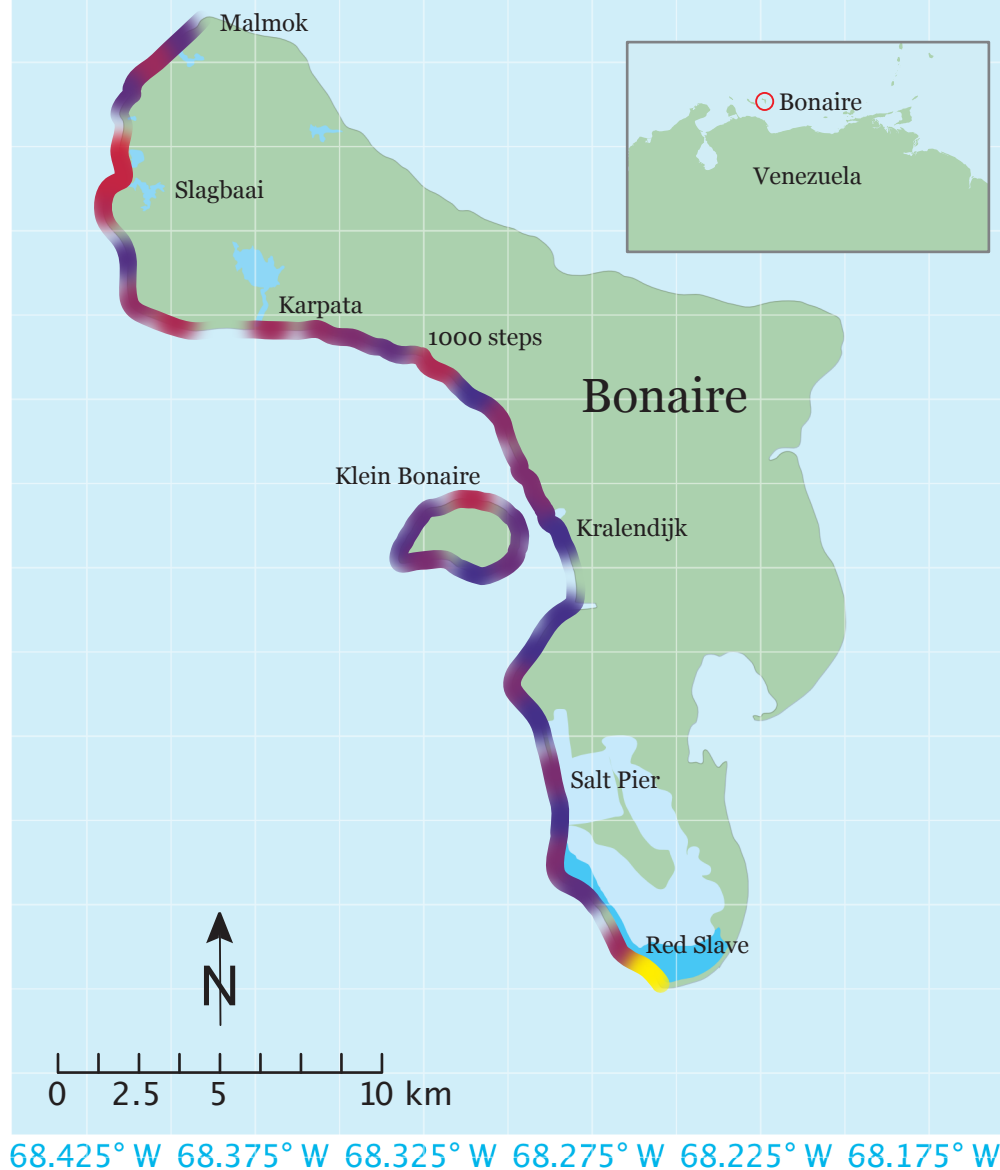
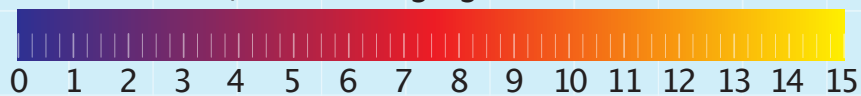




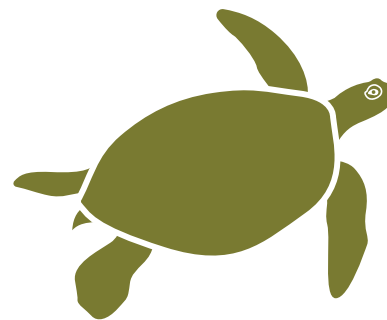


N12.025° N N12.075° N 12.125° N 12.175° N 12.225° N 12.275° N 12.325° N

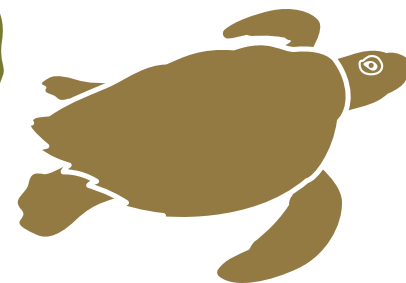
Sea turtle abundance  
# individuals / km of fringing reef



## HOW MANY TURTLES?



**555**  
GREEN TURTLES



**70**  
HAWKSBILL TURTLES

@ WEST BONAIRE  
& KLEIN BONAIRE

When snorkeling or diving in Bonaire's waters, you are more likely to spot green than hawksbill turtles. Based on 16 years of in-water research, STCB estimates sea turtle abundance to be 555 green and 70 hawksbill turtles along the west coast of Bonaire and around Klein Bonaire. There is no trend for green and hawksbill turtles in western Bonaire.

## BIODIVERSITY AND COMMUNITY

To address other biodiversity and social issues, STCB also collects data on species that are important for our local fishing community and the coral reefs, the base of our economy. For instance, in 2020 we collected population data on barracudas, rainbow and midnight parrotfish, sharks and rays. Data shows that areas in the north and south of Bonaire are higher in both species richness and diversity than the areas around Playa, most likely because these areas are less subjected to human disturbances.

**45.7**  
Rainbow Parrotfish

**18.7**  
Tarpon

**111**  
Barracuda

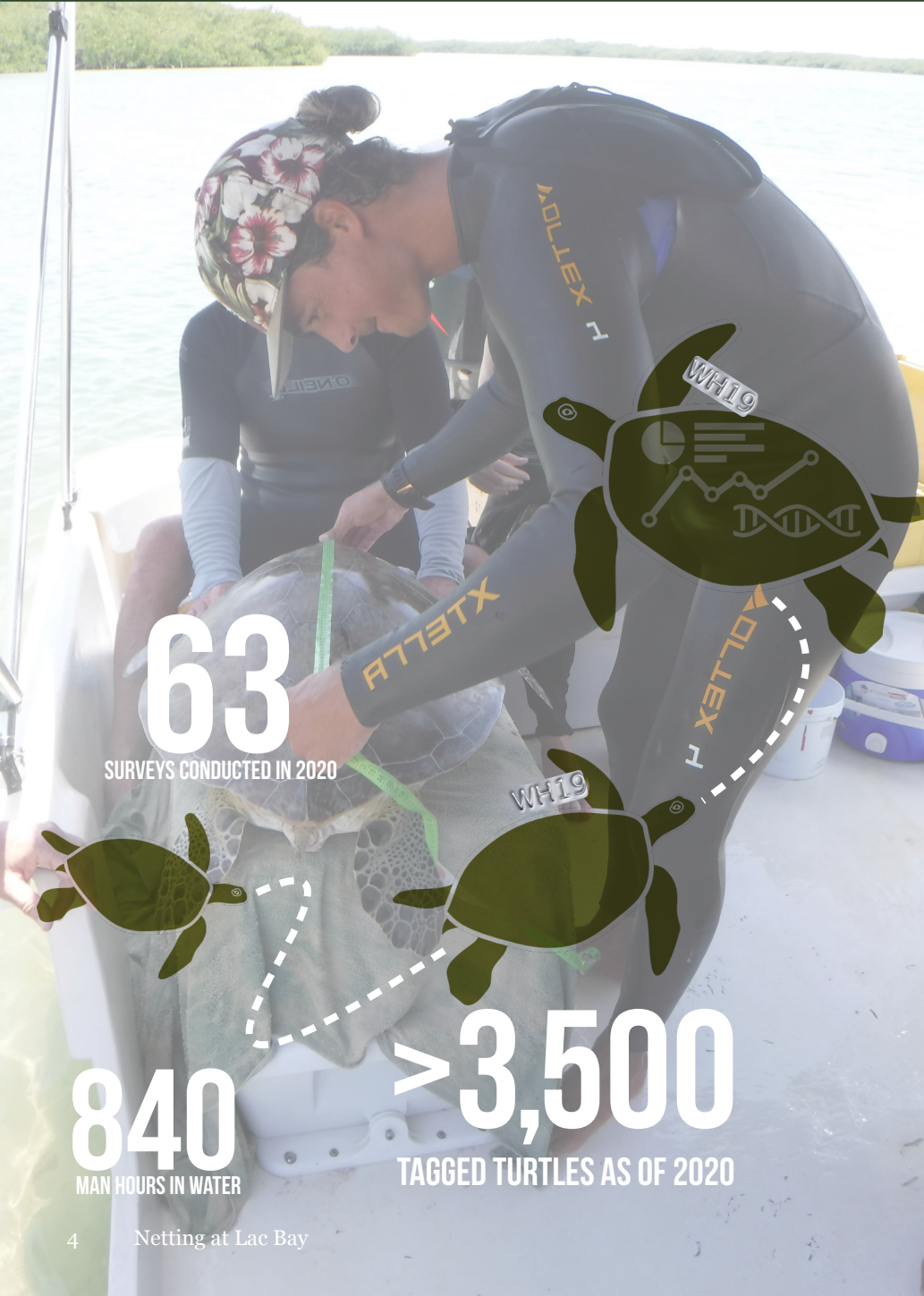
**9**  
Eagle Ray

Average number of individuals  
observed per round of surveys  
@ West coast of Bonaire & Klein Bonaire.

**3**  
Shark

In-Water Surveys





## CAPTURE-TAG-RECAPTURE

Recapture(s) of individually marked sea turtles provide us with valuable information for their conservation. This includes growth rate, approximate age, presence/absence of disease, human and/or natural induced injuries and overall health of the resident population. Additionally, by taking DNA samples of captured turtles, we get a better insight in the distribution and composition of Caribbean Sea turtle populations. Statistical modeling, based on 16 years of net-capture surveys in Lac Bay (2003-2018), shows that green turtle numbers are slightly increasing in this area.

## NETTING IN 2020

During 2020, we conducted 63 netting sessions at Lac Bay over 5 one-week periods between June and December. One netting week had to be cancelled due to covid-19. A total of 144 juvenile and sub-adult green, three hawksbill and one loggerhead turtle were captured, weighed, measured and tagged. This included 25 recaptures, turtles that had already been captured during previous capture-tag-recapture efforts.

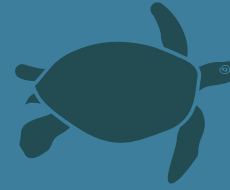




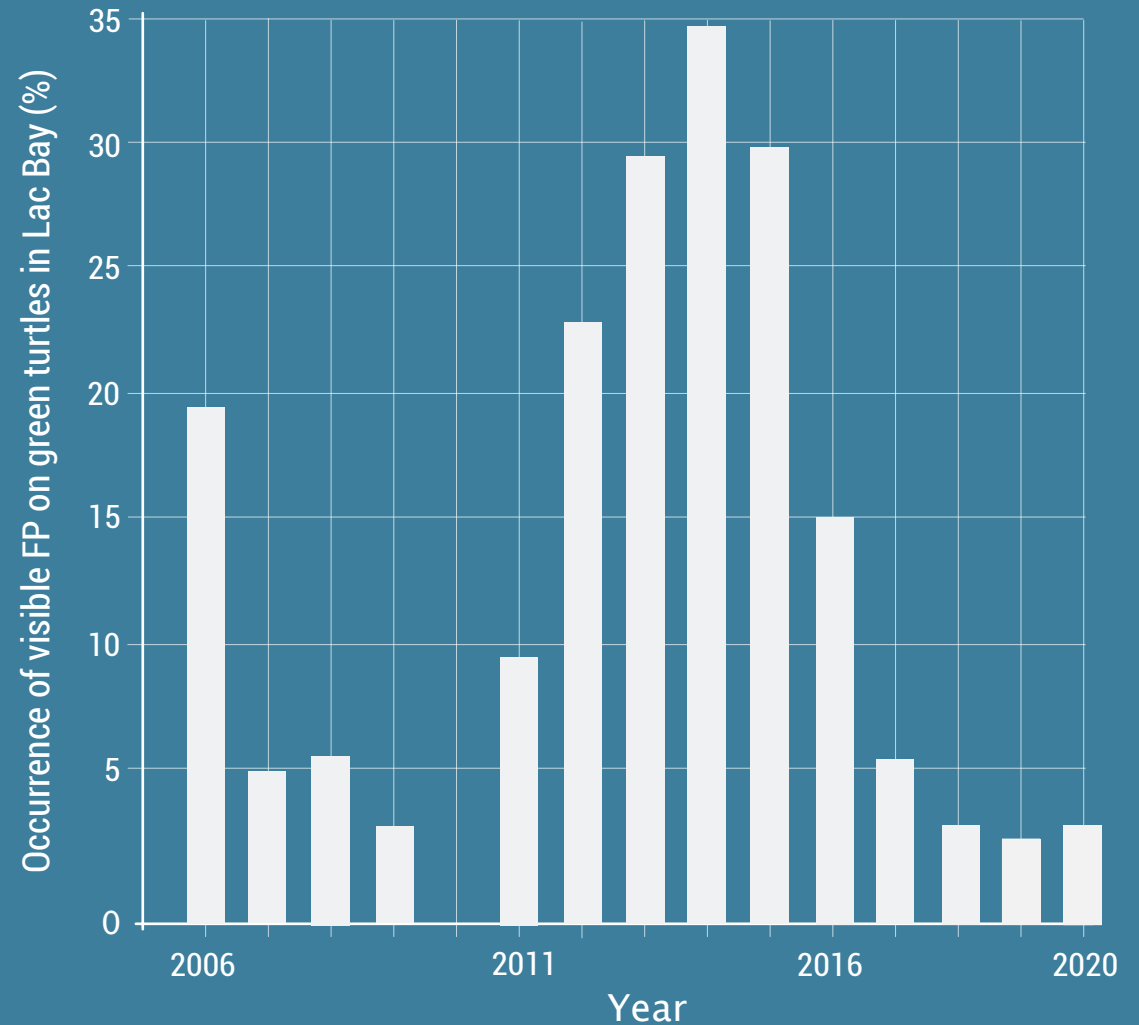


## SEA TURTLE HEALTH: FIBROPAPILLOMATOSIS

When sea turtles are captured, STCB checks if they are healthy. One of the diseases that is present in green turtles is fibropapillomatosis (FP). FP is a disease characterized by tumors concentrated around soft skin tissues, the eyes, and the base of flippers. Causes of the disease are not fully understood, but factors such as environmental pollutants and urbanization may be associated with FP's occurrence. Numbers vary widely: in 2015 about 30 per cent of captured turtles showed signs of FP, in 2020 this number declined to 3.5 per cent. When possible, STCB ties off the tumor(s) as research has shown that this may trigger the auto immune system of turtles, thereby inducing tumor retreat.



Occurrence of visible fibropapillomatosis on green turtles in and around Lac Bay between 2006 and 2020.  
Tumors are concentrated around soft skin tissues, eyes and the base of flippers.





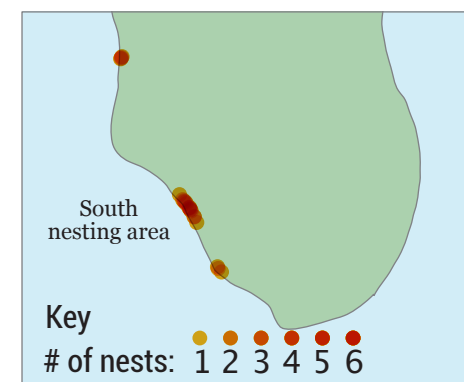
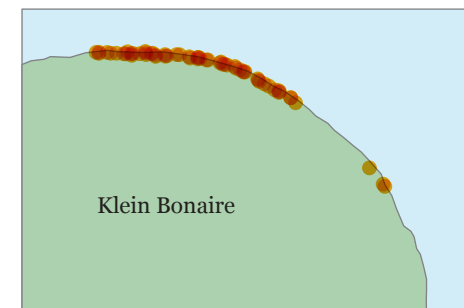
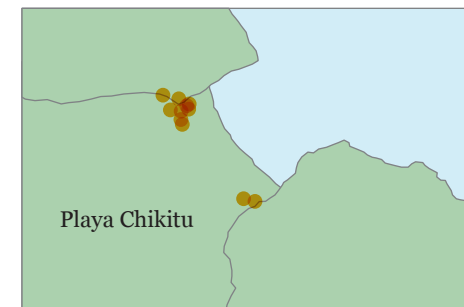
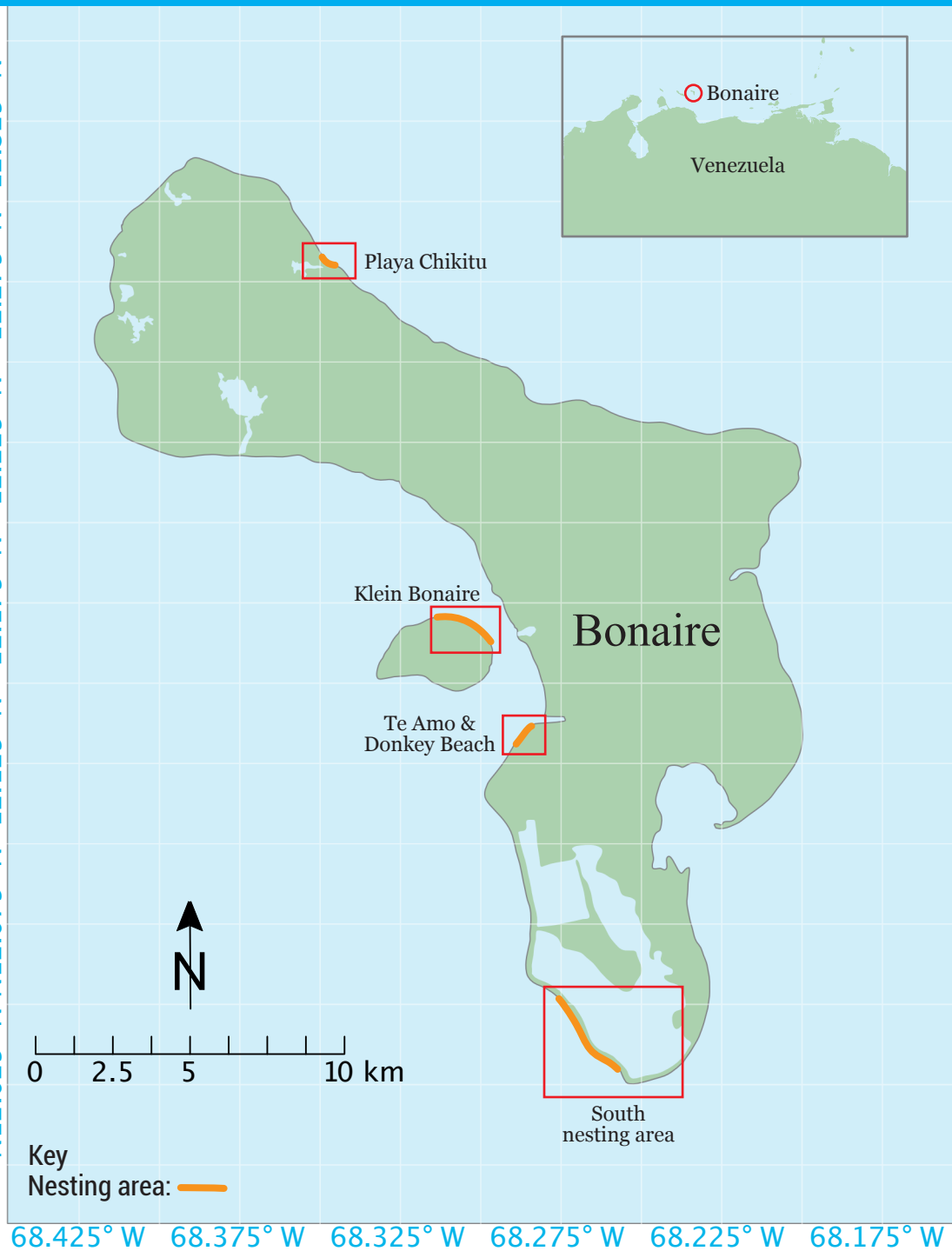
## THE JOB

Between May and December, every morning staff and volunteers patrol the beaches most used by nesting turtles to record activities, including false crawls (unsuccessful nesting attempt, no eggs laid), confirmed nests (eggs were located) and suspected nests (eggs could not be observed, but site disturbance suggests that a nest was laid). Finally, after each hatching event, the nest is excavated and an inventory of the contents is made to calculate hatching success.



6 Nesting

N12.025° N N12.075° N 12.125° N 12.175° N 12.225° N 12.275° N 12.325° N

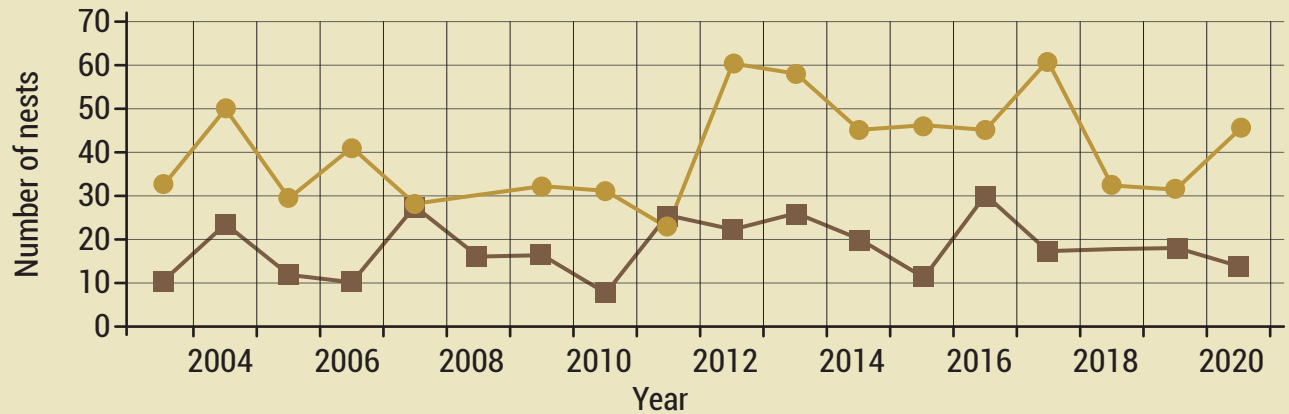






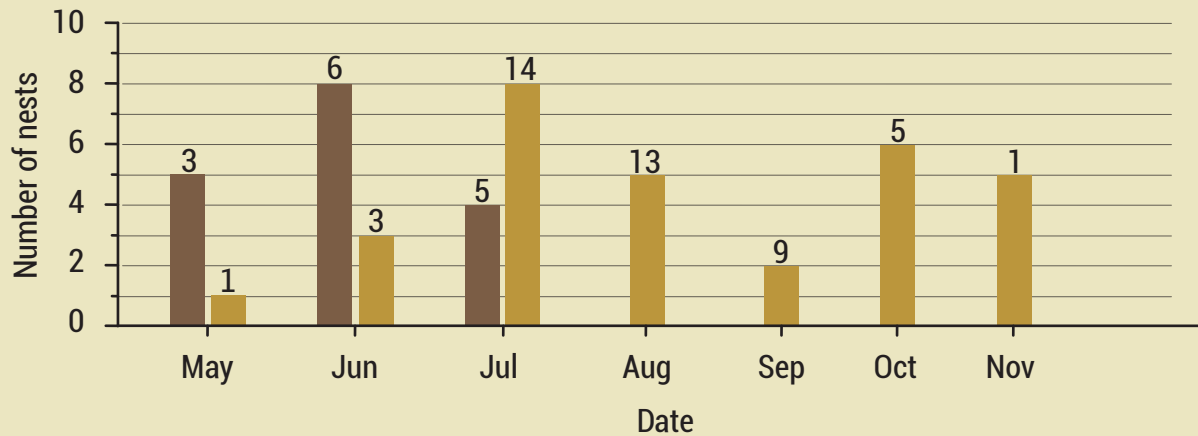
### TRENDS

The long-term trend in nesting for both hawksbills and loggerheads remain stable and continue to suggest that the populations are fluctuating around an average of 18 nests for loggerheads and 40 nests for hawksbills on our index beach.



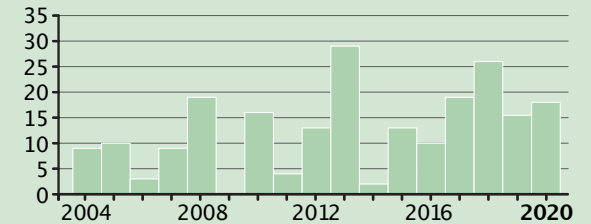
Number of hawkbill and loggerhead turtle nests found in Klein Bonaire's No Name Beach between 2003 and 2020.

■ Loggerhead ● Hawkbill

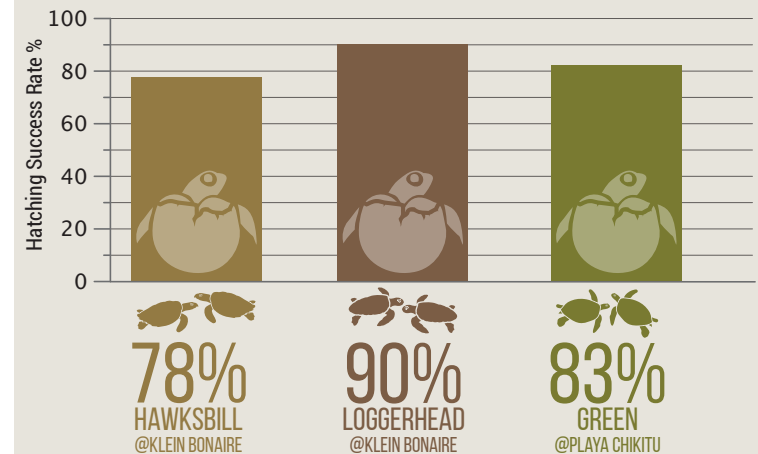


Bar plot of standardized searches in Klein Bonaire's No Name Beach resulted in 46 hawkbill turtle nests and 14 loggerhead turtle nests found between May and November 2020.

■ Loggerhead ■ Hawkbill



Number of green turtle nests recorded on Bonaire & Klein Bonaire, 2004-2020



Average hatching success rate



Average number of eggs per nest





3,135

MAX DISTANCE IN KM  
TRAVELED BY A SINGLE TURTLE  
(RANGE: 197-3,135 KM)

## TRAVELING ABROAD

Sea turtles are migratory throughout their entire life. The information received from the satellite transmitters provides valuable insight into the turtles' foraging and breeding habits. Identifying sea turtles' migratory routes and distant foraging grounds also aids understanding the regional patterns of the species and provides valuable information in support of regional strategies for conservation. Since STCB's tracking program began in 2003, we have tracked sea turtle migrations from Bonaire to ten different 'range states'; regions where our breeding turtles spend a large portion of their lives.

## 'FLAPPIE'

In August 2020, STCB deployed its 26th satellite transmitter on a hawksbill turtle. The transmitter was sponsored by ContourGlobal Bonaire and they named the turtle 'Flappie'. After leaving Bonaire, 'Flappie' travelled to Aruba, where she stayed for a few days, before continuing her journey west, to the Miskito Cays, an archipelago off the coast of Nicaragua. 'Flappie' is the 9th tracked turtle to go to this area, highlighting the importance of this area for Bonaire's sea turtles.

10

# OF RANGE STATES FOR  
BONAIRE'S SEA TURTLES

26

SATELLITE TRANSMITTERS  
PLACED BY STCB



## SPREADING THE MESSAGE

STCB normally organizes a minimum of 24 public presentations and workshops to educate the general public, volunteers and schoolchildren about endangered sea turtles and their habitats. Due to COVID-19, most public presentations were cancelled, but STCB did organize 12 presentations for schoolchildren in the beginning of the year.

# 12 2000

CHILDREN REACHED IN PRESENTATIONS

EDUCATIONAL EVENTS  
IN 2020

# 26

INTERNS UP TO 2020



## ENDLESS LEARNING OPPORTUNITIES

Year after year new volunteers, interns, staff and students learn about the biology, ecology and conservation of sea turtles while participating in STCB's projects and activities. At STCB, we believe that these hands-on experiences are the most valuable of all when it comes to creating awareness and positive changes in human behavior towards the protection, not only of sea turtles in particular, but of the whole natural environment surrounding us.



## GLOBAL THREATS



The International Union for the Conservation of Nature (IUCN) has identified five major hazards to sea turtles: fisheries bycatch, direct take, coastal development, pollution in the form of plastics /discarded fishing gear and, of course, climate change.

## LOCAL THREATS

The most serious challenges facing Bonaire's sea turtles are not direct threats like fisheries. Instead, they are indirect and mostly related to a rapidly increasing human population and, consequently development. These indirect threats to sea turtles are also the major hazards to Bonaire's rich ecosystems, biodiversity, and our quality of life.

## TURTLE RESCUES IN 2020

2020 was a lucky year for six sea turtles on Bonaire. Two nesting females were rescued after getting stuck in Washington Park, at Playa Chikitu and Wayaka I. With the help of STCB staff and volunteers, they were able to return to sea safely. A huge thanks to all the people that reported entangled and/or injured sea turtles in 2020!

**6** **8**  
**RESCUED DEATHS**

## TOO MANY "NOT-SO-LUCKY" TURTLES

Unfortunately, we also had a total of 8 juvenile and adult sea turtles dying in Bonaire waters during 2020. The main causes of death included boat/foil strikes and entanglement. Additionally, we received a report of poaching: the carapace of a juvenile green turtle was found during a clean-up at Jato Bako. A police report was filed by STCB.







## INTERNATIONAL PARTNERS

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

## REGIONAL/RESEARCH PARTNERS

CARMABI (Curaçao)  
Dutch Caribbean Nature Alliance (DCNA)  
Groningen University  
Loggerhead Marinelifelife Center  
Nature Foundation St. Maarten  
Parke Nacional Arikok (Aruba)  
Saba Conservation Foundation  
Sea Turtle Conservation Curacao  
St. Eustatius National Parks Foundation  
Turtugaruba  
Wageningen University

## LOCAL PARTNERS

Bonaire Department of Environment  
and Natural Resources (DRO)  
Echo Bonaire  
Ministry of Agriculture, Nature & Food Quality  
Jong Bonaire  
NGO Platform  
Openbaar Lichaam Bonaire (OLB)  
STINAPA Bonaire  
WILDCONSCIENCE B.V.

## 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  
Adventure Makers Bonaire  
Beyond the Corals  
Boat Yard Bonaire  
Bonaire Marine Center B.V.  
Bonaire East Coast Diving  
Carib Inn  
Cargill Salt Bonaire  
Dive Friends Bonaire  
Div'Ocean  
Elements  
Harbour Village Beach Resort  
Harbour Village Marina  
Mangrove Info Center  
Nautico Marina  
Nos Consuelo  
Plaza Marina Bonaire  
SELIBON  
VIP Diving

## 2020 VOLUNTEERS

### BEACHKEEPER PROGRAM VOLUNTEERS

Aja Radl & Scott Gilchrist, Andrea Merino, Angela  
Diters, Anneke Heijning, Astrid Roedoe, Bill & Bunny  
Horton, Brigitte Boekhoudt, Bruce and Karen Zavon,  
Carine Van Riel-Murijn, Cathleen & David Whillock,  
Catrien van Manen, Christel Damen, Don Wedman,  
Geert Nielen, Gerdijanne Leestemaker, Hannah Taylor,  
Hans & Jannie Koning, Hellen Volmerink, Linda Maas,  
Lizette Navantieri, Loek & Vera Maartens, Loes Hak,  
Marianne Scholtz, Marieke & Nils, Nicole & Noa  
Roomer, Nicole Rijsemus, Sue O'Brien, Yhaira Grigsby.

### IN-WATER SURVEY/NETTING VOLUNTEERS

Aja Radl, Babette Prick, Bill & Bunny Horton, Brenda  
Free & John Magruder, Daniela Simal, Duncan & Gwen,  
Eddy Klijs, Emma Pratt, Felipe Velasco, Geert Nielen,  
Ger Bakker, Guy Kalron, Hannah Taylor, Hans & Jannie  
Koning, Hettie Holian, Hilde Bakker, Jack van Geel,  
Jenna Fletcher, Jess, Jim Cooke, Julia, Julián Baker  
Echavarría, Maria-Clara Arboleda, Marianne Scholtz,  
Mavelly Velandia, Patti Dougherty, Rob Hulsbergen,  
Scott Gilchrist, Scott Johnson, Sophie Zeegers, Sue  
O'Brien, Thijs Aberson, Titia & Theo Jongepier.

### PRESENTATION VOLUNTEERS

Angela Diters  
Loek Maartens

10	1471	1491	840	63	=	3,875
PRESENTATION HOURS	IN WATER SURVEYS HOURS	NEST MONITORING HOURS	NETTING HOURS	CLEANUP HOURS		TOTAL VOLUNTEER HOURS



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 – 2020

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



## MAJOR FUNDERS



Ministry of Agriculture,  
Nature and Food Quality



## PLATINUM FUNDERS/DONORS [\$1000+]

Barbara Chu  
Boat Yard Bonaire  
Casa Presioso  
Cargill Salt Bonaire  
Gijs, Mieke, Daan, Sam & Florine Botman  
Plaza Marina  
Rob Hulsbergen

## GOLD FUNDERS/DONORS [\$500 - \$999]

Administratiekantoor Brandaris  
Alain de Brouwer & Dinska Dohmen  
Best Cellars Bonaire  
Brave Water Foundation  
Bruce Brabec & Marlene Robinson  
Buts Technical Consultancy  
Dan & Christine Fisher  
Daniel Hefter & Heidi Malm  
dNM Interim  
Doris & Martin Elle  
Dr. Robert Andrew Rutherford Trust  
Findling Family  
Hamlet Oasis Resort  
Harbour Village Beach Resort  
Harbourtown Real Estate  
Illuseum Berlin  
International Tax Advisors BV  
Jim & Judy Kewley  
Joan & Alan Zale  
Labor Omnia Vincit BV  
Loek & Vera Maartens  
Nederlands-Belgische  
Schildpaddenvereniging  
QVillas Bonaire  
RE/MAX Paradise Homes  
Sand Dollar  
Sue & Kevin O'Brien  
Sunbelt Realty Bonaire  
Sundhevy & Stijn  
The Laughing Seahorse  
Villa Kiki  
VIP Diving

## SILVER DONORS [\$100 - \$499]

Anders Emrich  
Bonaire Pros  
Eden Essex  
Greg Oppenhuizen  
Indigo Properties  
Katie Gilbert  
Peter Ollendorf  
Randall Grottke  
Scott & Carole Johnson  
Simone Penders  
Vereniging van Appartementen Lac  
Bay Casitas

## BRONZE DONORS [\$50 - \$99]

Annika Gustafson  
Bernard N Brans  
CW Berkhout  
Damian Sprangers  
David Satan  
Franciscus Wijnants  
John Clarizio  
Jolande Sap  
Lindsey Johnson  
Martha Lewis  
Mary Chamberland  
Ton Muller  
Anonymous donors



# DONATE

## STCB SHOP

Available only on Bonaire, STCB clothing is made from soft, earth-friendly 100% organic cotton & recycled plastic bottles. STCB pendant necklaces are made from bone, beach seed & horn. They are the product of artisans in Costa Rica & Bonaire.



## TEES - HATS - NECKLACES

You can buy original STCB T-shirts, research hats and jewelry at the Mangrove Info Center, VIP Diving, Dive Friends Bonaire Retail Store, Harbour Village Beach Club, Dive Friends @Resort Bonaire, Delfins Beach Resort and at our office. Because these businesses donate their retail services, 100% of the profits from every STCB item you buy go directly to sea turtle conservation.

Our office is open on weekdays between 9:00 a.m. and 5:00 p.m.  
We are located at Kaya Korona 53, Kralendijk, Bonaire,  
Caribbean Netherlands.

*You can help protect Bonaire's sea turtles by donating to STCB. We welcome – and depend on – the financial support of people like you.*

## YOU CAN MAKE A DIFFERENCE!

Whether it's \$5, \$100, or \$5,000, whatever you give makes an important difference. 100% of funds received online will go directly to the protection of Bonaire's endangered sea turtles (only the Paypal fee will be deducted).

Your donation will help fund the following programs: nest monitoring, in-water surveys, clean-up events, turtle rescues, education and awareness pro-grams, training, advocacy and satellite tracking.

## DUTCH CHARITABLE STATUS

As of January 1st 2015, the Dutch Tax Service (Belastingdienst) has granted to Sea Turtle Conservation Bonaire ANBI status. ANBI status also favors STCB's Donors in countries that grant tax concessions to foreign registered charities, as well as those based in the Netherlands. Donors who have made a donation to STCB may be able to deduct the amount from taxable income.

[More information regarding STCB's ANBI status here.](#)

## WAYS TO DONATE

### DONATE ONLINE THROUGH PAYPAL

Please be advised that donations to STCB are processed via PayPal by Dutch Caribbean Nature Alliance (DCNA) of which STCB is a member.

### DONATE BY BANK TRANSFER

#### BANK TRANSFER ON BONAIRE

Maduro & Curiel's Bank Bonaire  
Account name: Sea Turtle  
Conservation Bonaire  
Account number: 101169209

#### BANK TRANSFER IN USD OUTSIDE BONAIRE

Beneficiary: Sea Turtle  
Conservation Bonaire  
Account number: 101169209  
Beneficiary Bank: Maduro &  
Curiel's Bank Bonaire  
Swift code: MCBKBQBN  
Correspondent Bank: Standard  
Chartered Bank  
Aba # 026002561  
Swift Code: SCBLUS33

#### BANK TRANSFER IN EUR FROM THE NETHERLANDS

Beneficiary: Sea Turtle  
Conservation Bonaire  
Account number: NL71 RABO  
0313 2425 26  
Beneficiary Bank: Rabobank

#### BANK TRANSFER FROM EUROPE

Beneficiary: Sea Turtle  
Conservation Bonaire  
Account number: 101.169.209  
Beneficiary Bank: Maduro &  
Curiel's Bank (Bonaire) N.V.  
Address: Kaya L.D. Gerharts #81  
City: Kralendijk  
Country: Bonaire, Caribbean  
Netherlands  
Telephone number: +599-715-  
5520  
Fax number: +599-717-7249  
Swift code: MCBKBQBN  
Correspondent Bank for Euro:  
Ing Belgium SA NV  
City: 24 Avenue Marnix, B-1000,  
Brussels  
Country: Belgium  
Swift Code: BBRUBEBB

*When making a direct transfer,  
please mention your e-mail  
address in the comments as we  
would like to thank you for your  
donation.*



# ADOPT-A-NEST

Sea Turtle Conservation Bonaire offers companies and individuals on Bonaire and further afield the opportunity to Adopt-A-Nest. Adopting a nest is a meaningful way to link your company's brand or your name to the protection of Bonaire's most iconic wildlife. You can Adopt-A-Nest by donating \$600, thereby investing in a sustainable future for Bonaire's sea turtles.

## NEST ADOPTION BENEFITS

Supporting Bonaire's widely-loved sea turtles by adopting a nest allows for prominent visibility: through press, word of mouth and social media STCB puts the nest adopters' name and logo in the spotlight. But that's not all: the adopters also receive a unique Adopt-A-Nest certificate, and their name and/or logo are displayed on STCB's Nest-O-Meter.

## EACH ADOPTION INCLUDES:

- A certificate of adoption.
- A summary of your adopted nest (e.g. species, number of hatchlings).
- Increased exposure for your company.
- A more secure future for Bonaire's sea turtles.

## HOW A SYMBOLIC NEST ADOPTION HELPS BONAIRE'S SEA TURTLES

Your donation for our Adopt-A-Nest program helps us to protect the nests that are laid on Bonaire's beaches in the interests of sea turtle survival. Your support enables us to:

- Relocate nests that are in danger of drowning.
- Rescue newborn turtles that become wrapped in roots during hatching.
- Sustain the popular Beachkeeper program.
- Collect data that will help us protect nests better, as well as reveal the health status of Bonaire's sea turtles.

For more information, please contact STCB at [stcb@bonaireturtles.org](mailto:stcb@bonaireturtles.org) or +599 717 2225

