

VELADOR

Science-Based Sea Turtle Conservation Since 1959

Issue 2, 2018

Leatherback Trends and Tracking from the Bocas del Toro Region, Panama



Satellite tagged leatherback finishes nesting.
Photo taken without flash by Ben Hicks Photography.

Sea Turtle Conservancy (STC) has been working in the Bocas del Toro region (which incorporates the Province of Bocas del Toro and the indigenous Ngäbe-Bugle Comarca) since 2003. Several leatherback nesting beaches have been monitored in the Bocas region since the 1990s under the auspices of a variety of government and non-government

organizations. While STC's monitoring program originally focused on hawksbill sea turtles, the 24 km Chiriquí Beach was identified as the most important leatherback nesting beach in the region, if not the wider Caribbean, where 1,000 - 7,000 nests are recorded each season. In addition to Chiriquí Beach,

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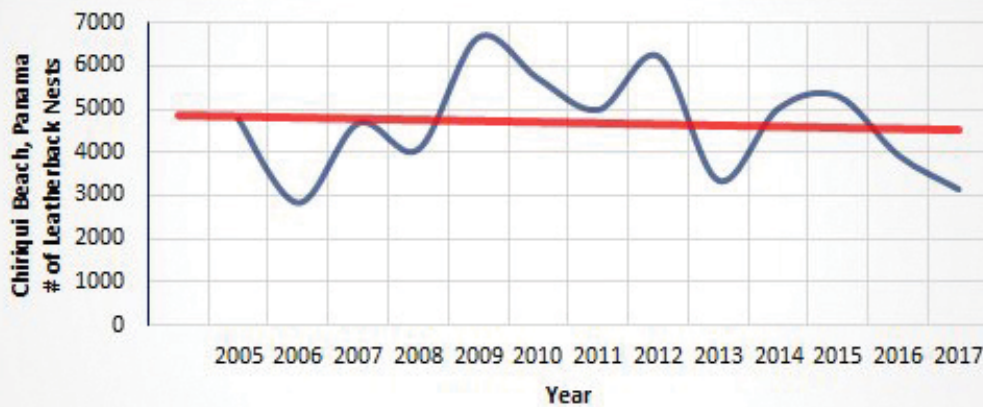
Inside: Florida Update



**Bermuda Turtle Project
Stamps Issued**

... from cover

there are other beaches in the Bocas region with leatherback nesting, including Soropta Beach hosting 500 – 1,000 nests per season; Bluff Beach with 100 - 300 nests per season; and Long Beach with 100 - 300 nests per season.



Leatherback turtle nesting trend based on annual number of leatherback nests recorded since 2005 at Chiriquí Beach, Panama.

Leatherback nesting in the Bocas region begins in mid-February and runs through mid-July, with peak nesting occurring in May. Unlike hawksbill turtles, leatherbacks and their eggs are not consumed by the local Ngäbe residents of the communities adjacent to the nesting beach within the Comarca community. However, on beaches outside of the Comarca, in the northern part of the Bocas region, leatherback eggs are actively collected and even some females are killed for their eggs. In 1999, approximately 30 leatherbacks were found killed by poachers during a ground survey of Soropta Beach. Since 2003, the mortality of nesting females has decreased by 90%, in part because of the presence of STC's research and monitoring programs.

Based on STC's flipper tagging efforts, STC has documented that leatherback turtles in the Bocas region have highly variable nesting beach selection and do not follow the traditional theory that sea turtles always return to the specific beach where they hatched. Between nesting seasons, and even during the same nesting season, female leatherbacks flipper tagged while nesting in the Bocas region were also encountered nesting on beaches in Costa Rica (Gandoca, Pacuare and Tortuguero), Colombia (Playona), and outside of the Bocas region in Panama (Sixaola, San San, Armila and Punta Rincon). The nesting distribution and abundance data from STC's leatherback nesting beach monitoring program support the idea that the Bocas region leatherbacks are part of a southwest Caribbean metapopulation. This metapopulation includes nesting populations from Costa Rica, Panama and Colombia, with Chiriquí Beach being the most important beach.

In addition to monitoring the nesting beaches in the Bocas region, STC has been tagging nesting leatherbacks with satellite transmitters since 2003 to

VELADOR {bel.a.dor}

In Caribbean cultures, **Velador** translates as "one who stands vigil" —referring to turtle hunters who waited at night for turtles to come ashore. STC claims this title for its newsletter, and around the world STC's researchers and volunteers are replacing poachers as the new veladors. The **Velador** is published for Members and supporters of the nonprofit **Sea Turtle Conservancy**. STC is dedicated to the conservation of sea turtles through research, advocacy, education and protection of the habitats upon which they depend.

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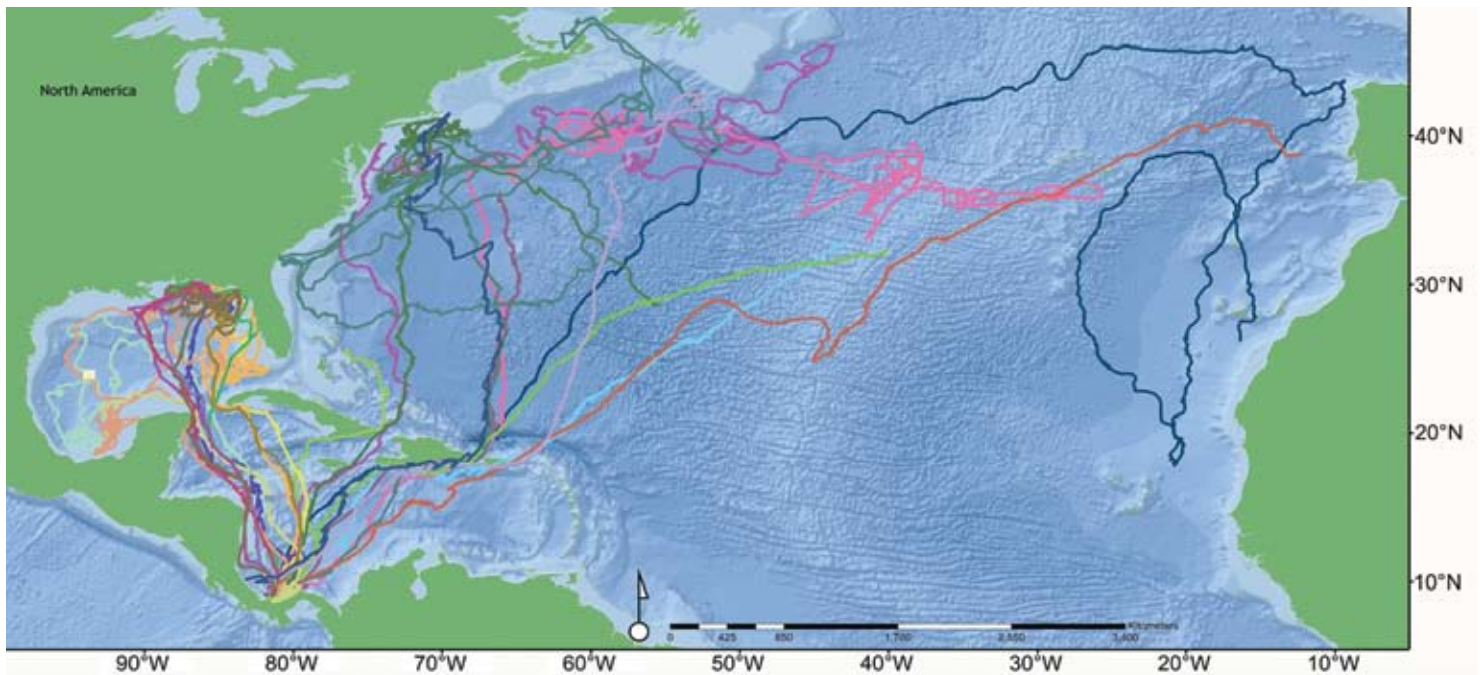
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Tracks of leatherback turtles nesting at Chiriquí Beach and Soroopta Beach, Panama from 2003 to 2017.

track their movements after they depart the nesting beach. Leatherbacks are wide ranging, long-distance migrating marine turtles that have been characterized as wandering foragers. This is in contrast to other species of sea turtles that tend to migrate from nesting beaches to specific foraging areas and remain in those foraging areas until ready to return to their nesting beach after 2 to 3, or more, years. Between 2003 and 2017, a total of 32 leatherbacks from the southwest Caribbean metapopulation were satellite tagged after nesting in Costa Rica or Panama. STC researchers used a movement model to separate migration vs. foraging behavior and locations. This information was then used to identify leatherback foraging areas and try to characterize the environmental conditions of these areas.

Based on the recovery of leatherback flipper tags, STC expected the vast majority, if not all of the satellite tagged leatherbacks to migrate to foraging areas in the North Atlantic Ocean (see map above). But, satellite tracking revealed that more than half of the leatherbacks migrated into the Gulf of Mexico for foraging, while the rest migrated into the North Atlantic Ocean. Once in the Gulf of Mexico, leatherbacks did not leave the Gulf for the duration of their tracking. Gulf of Mexico turtles swam an average of 8,187.05 km over 202 days, while leatherbacks in the North Atlantic swam an average of 13,481.02 km over 298 days.

Using a GIS program, STC was able to identify two important foraging areas within the Gulf of Mexico and one along the eastern coast of the United States. It also appears that peaks in leatherback occurrence in a foraging area often followed peaks in ocean Chlorophyll-a or organic carbon concentrations. These are both indicators of ocean productivity and possible areas for leatherbacks to find food. In addition to the importance of the Gulf of Mexico to the southwest Caribbean metapopulation of leatherbacks, the movement model suggests that leatherbacks in the Gulf of Mexico have a different foraging strategy than leatherbacks feeding in the North Atlantic Ocean.

STC's research and conservation efforts along the Caribbean coast of Costa Rica and Panama are leading the way in new discoveries of behavior for leatherbacks from the southwest Caribbean metapopulation. The use of multiple nesting beaches by the same turtle and different feeding strategies based on where leatherbacks migrate are important considerations when developing conservation and management strategies for these endangered turtles.



By Daniel Evans, Ph.D.
Research Biologist
& Cristina Ordoñez
Panama Research Coordinator

Two STC Projects Receive Funding from Florida's Sea Turtle Grants Program

The Sea Turtle Grants Program (STGP), funded by the sale of Florida's Helping Sea Turtles Survive specialty license plate, recently awarded \$349,943.06 to 24 different projects benefiting Florida sea turtles as part of the 2018-2019 grant funding cycle. STC received two grants this year, totaling \$23,200.

Each year, the Sea Turtle Grants Program distributes money to coastal county governments, educational and research institutions and nonprofit groups through a competitive application process. The sea turtle specialty license plate is also the primary source of funding for the Florida Fish and Wildlife Conservation Commission's Marine Turtle Protection Program.

STC received \$9,700 to upgrade and expand our successful distance learning program, "InterACT with Sea Turtles." This program brings sea turtle education to life for thousands of school kids around Florida through virtual field trips. The "InterACT with Sea Turtles Distance Learning Program" uses an interactive, multimedia approach to sea turtle education using a virtual collaboration system to directly engage students in the classroom. The goal of InterACT is to create an informed,

proactive youth that will support sea turtle conservation and become environmental stewards. This program provides educators with free, easy-to-use online resources, access to experts and comprehensive lessons plans that make sea turtle education fun, informative and engaging for students.

STC also received \$13,500 for a new straw-on-demand program in Florida's coastal restaurants. To address the mounting impact of marine debris on sea turtles, STC will conduct a statewide, year-long conservation stewardship campaign that will reduce plastic waste produced by restaurants and change ingrained behaviors among Floridians to slow the flood of single-use plastics. STC will work with at least 50 restaurants along Florida's east coast to adopt a straw-on-demand policy, through which straws are only offered to customers upon request, with an emphasis placed on replacing plastic straws with paper options. STC will provide signage that can be displayed strategically in the restaurant and biodegradable coasters for tables that explain the policy to customers. These materials will help to ensure that guests will be exposed to this conservation message and will encourage them to learn more about marine debris and how they can change their behavior.

Plastic straws are considered a "gateway plastic," meaning that once a person finds an alternative to using plastic straws, he or she may rethink using other single-use plastics. STC will work to reduce the amount of plastic that can end up on Florida nesting beaches and in the marine environment. This project will also empower Floridians to start making small lifestyle changes to reduce the impacts of plastics in the environment. 🌊



Paper straws are a great alternative to plastic.



STC's Lexie Beach leads an InterAct session with students in six different schools.

By Lexie Beach
Communications Coordinator

& Stacey Marquis
*Development Coordinator and
Lighting Project Specialist*

Bermuda Turtle Stamps

As part of the celebration of the 50th anniversary of the Bermuda Turtle Project the Bermuda post office released a special stamps series.

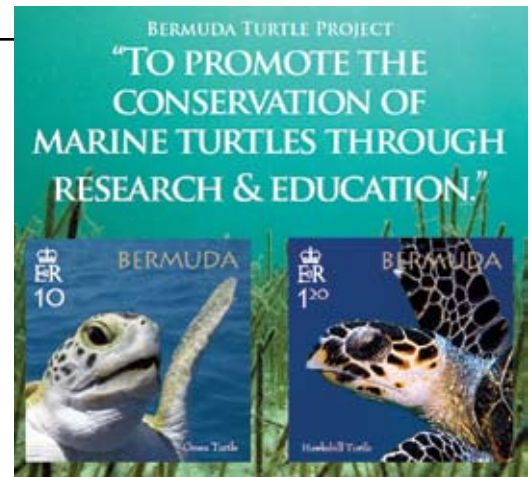
Currently, overseas stamp purchases can only be made by email to philatelic@gov.bm or to staylor@gov.bm.

A mint set of four stamps costs \$4.55 (.50c, \$1.15, \$1.35 and \$1.55).

A First Day Cover (Envelope with issue date cancel on four stamps and Bermuda Turtle Project Liner Notes about stamp issue) costs \$6.50.

A souvenir sheet costs \$1.45 (.10c and \$1.35 stamp).

A Souvenir sheet First Day Cover (Envelope with issue date cancel on souvenir sheet and Bermuda Turtle Project Liner Notes about stamp issue) costs \$4.50.



Official First Day Cover
Release date: 22 March, 2018



The Bermuda Zoological Society
& Sea Turtle Conservancy
50th Anniversary • 1968 - 2018



This March STC received a generous donation from the Lake Park High School Earth Club in Roselle, Illinois. The students in this club decided to do a fundraiser they called "Lollipops for Sea Turtles". They did an amazing job and the fundraiser was extremely successful. It is truly heart-warming to see high school students raising not only funds, but also awareness for such an iconic animal. Who knew something as small as selling lollipops could have a positive impact on sea turtle conservation.

STC always enjoys hearing stories like this, if you have something to share send it to us and you could be mentioned in the Velador or on our Facebook page.

Randgaard Fund

Lisa Jo Randgaard's Legacy Grows at STC

Over the last five years, the Randgaard family has raised \$100,000 for Sea Turtle Conservancy to honor the memory of their beloved youngest daughter and sister, Lisa (pictured below), who passed away at the age of 43 on May 2, 2012, from complications of her congenital heart condition.



The family helped fund the construction of The Lisa Randgaard Building at STC's research station in Tortuguero, Costa Rica. The building provides a safe, eco-friendly housing and office space at this STC research outpost for staff, scientists, volunteers and other visitors.

Fundraising by Lisa's mom, Jenny, and her two sisters, Diane and Linda, centered on building The Lisa Jo Randgaard Fund, includes "Lisa's Fundanas," custom sea turtle-themed bandanas, and "Flippery When Wet" homemade soap bars.

When Jenny passed away in October 2016, her daughters knew they gained another angel on their shoulder to guide them in their work. "In addition to our soap bars, we are going to reissue, after heartwarming demand, a limited run of our 'Lisa's Fundanas.' Helping sea turtles is a great way to honor Lisa and Mom."

To purchase one of "Lisa's Fundanas" or "Flippery When Wet" soaps, visit

www.LoveIntoSustainedAction.com 

By Lexie Beach
Communications Coordinator



Panama Update

Bocas del Toro bans single-use plastic bags

It can take 100 to 500 years for a single-use disposable plastic bag to decompose. Plastic bags can also be mistaken for jellyfish and ingested by sea turtles and other marine animals. It is estimated that around 200 marine species like whales, dolphins, seals and especially sea turtles, suffer from plastic bag ingestion. Bags affect landscape too, ruining the appearance of the environment and promoting the accumulation of pollutants.

Bocas del Toro is a resource-rich archipelago located on the Caribbean coast of Panama with high ecosystem biodiversity, including important nesting, feeding and migration areas for four species of sea turtles. Unfortunately, a poorly-managed tourism industry and a lack of local government regula-



STC staff member, Georgina Zamora, raises awareness about the threat of plastic bags.

tions have resulted in a serious waste management dilemma. The city of Bocas del Toro produces large amounts of solid waste with inadequate policies to manage or treat the waste.

To address this issue, an environmental committee called “Zero Waste in Bocas” was formed in 2016. This committee is made up of NGOs, including the Sea Turtle Conservancy, businesses, local government and residents. The group developed a proposal to ban the use of single-use plastic bags and initiate an educational and outreach campaign as a

way to reduce trash and increase public awareness. On April 26th, 2017, Agreement 14 was approved by the Bocas del Toro District to ban commercial establishments from giving away, single-use plastic bags after a 1-year adaptation period. During the year an outreach and educational campaign was initiated to prepare the communities, schools, and the tourism industry to implement the new regulation. The ban went into effect on the 26th of April 2018.



Meet the New Staff

Taylor Brown is STC’s new Membership Coordinator. Taylor recently graduated from the University of Florida with a bachelor’s degree in agricultural education and communication. Taylor is excited to tell STC’s story to our followers, learn more about sea turtles and grow her passions. Natalia Bayona is STC’s new Lighting Project Specialist. Natalia has a bachelor’s degree in marine biology and biological oceanography and a master’s degree in environmental newsgathering. As a lighting project specialist with STC, Natalia is excited to educate coastal communities and improve beachfront habitat for wildlife.

Santiago Rabal is STC’s new Station Manager. Santiago is an experienced environmentalist from


Spain, and is responsible for making sure that everything runs perfectly well in the John H. Phipps STC Biological Station. Jimena Gutiérrez is a creative and enthusiastic turtle biologist who is STC’s new Visitor’s Center Coordinator, receiving tourists from all over the world and introducing them to the world of sea turtles.

Guillermo López is STC’s new Panama Education and Outreach Coordinator. He was the Tortuguero Educational and Outreach Coordinator and is now focused on designing educational programs and outreach campaigns in the Bocas del Toro and Comarca Ngabe Buglé region. And finally, STC’s former Educational and Outreach Coordinator in both Tortuguero and Bocas del Toro, Georgina Zamora, is now based in San José, Costa Rica and coordinates with the educational and outreach programs in both Costa Rica and Panama.



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Turtle Guardians

Support Sea Turtles!

As a Sea Turtle Conservancy Member you are already doing so much to help sea turtles through conservation programs in Costa Rica, Panama, Florida, Bermuda and Nevis. Would you like to do more without much effort? Please consider becoming an STC Turtle Guardian and making your donation go even further.

For as little as \$5 per month (about the cost of your favorite cup of coffee), you can join this small, dedicated group of Members and receive additional benefits such as an annual calendar. By giving monthly as a Turtle Guardian you can ensure that

your gift to STC is used as efficiently as possible. Making regular, monthly donations to STC is the most convenient and efficient way to support our efforts to protect sea turtles. Monthly contributions require less paperwork, postage costs and staff time, which means that the greatest percentage of your gift goes directly to saving sea turtles. STC spends over 88% of all donations directly on research, conservation, advocacy and education programs. STC has been recognized by charity watchdogs Guide Star and Charity Navigator nine years in a row for our commitment to transparency, good governance and fiscal responsibility.

Visit <https://www.conserveturtles.org/monthly> to sign up to become a Turtle Guardian today. You are in total control of your gift. After your initial donation is processed, future donations will be charged to the same credit card on the day of the month of your choice. Monthly donations can be cancelled or modified any time, by calling Taylor Brown, STC's Membership Coordinator, at 352-373-6441, or emailing her at taylor@conserveturtles.org. And if you are already a Turtle Guardian, thank you, and please consider recruiting a friend to become one, too! 