

VELADOR

Science-Based Sea Turtle Conservation Since 1959

Issue 1, 2024

Tracking Green Turtles from Southern Tortuguero



STC Researchers Jaime Restrepo and Carlos Calgua Yon release satellite tagged green turtle Po Kue.

Tortuguero National Park is the largest nesting beach for green sea turtles in the western hemisphere and the most important green turtle nesting beach in the Caribbean. Sea Turtle Conservancy (STC) has been monitoring and flipper tagging green turtle nesting in the northern five miles of the park since 1959, when Dr. Archie

Carr first started working in Tortuguero. While STC does conduct weekly surveys to monitor the total number of nests within the entire park, the nightly work is primarily conducted in the northern section. Flipper tagging sea turtles allows researchers to identify individual sea turtles over time. Flipper tags can also provide information

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Inside: Conservation Career Training Internships at the BIC



Adopted Turtles Return to Tortuguero

... from cover

about where turtles travel through tag returns. Flipper tags returned from turtles captured by fishermen or recorded by other sea turtle research projects can provide some information on the distribution of adult female turtles from Tortuguero. Tag returns from Tortuguero showed that green turtles traveled from Costa Rica to multiple countries around the Caribbean, but the largest proportion of reports were from fishermen hunting turtles in the extensive seagrass meadows of the Miskito Cays, Nicaragua. In 2000, STC started attaching satellite transmitters to nesting green turtles in Tortuguero. Over the first three years of satellite tracking, all of the turtles tracked were migrating north. While most stopped in the Miskito Cays, several passed through the area, continuing northward to Honduras and Belize.



Map showing the migration route and final foraging grounds of the 16 green turtles satellite tracked from the southern end of Tortuguero National Park.

Beginning in 2011, STC began annually tracking turtles from Tortuguero as part of STC's Tour de Turtles Educational Program, deploying satellite transmitters on over 30 turtles nesting in the northern end of Tortuguero. While many migrated the short distance north to Nicaragua, including one that was documented to have been killed by fishermen, STC also tracked turtles traveling as far north as Mexico, and as far east as Cuba. Over all those years only a single turtle was tracked migrating in a different direction. While the harvest of sea turtles was known to be occurring for nearly a century in Nicaragua, after Costa Rica protected the nesting beach with the creation of Tortuguero National Park in 1972, STC had seen a positive nesting trend in Tortuguero, until recently. Over the past decade, nesting at Tortuguero has shown a concerning downward trend. When looking at historical flipper tag returns and the current satellite tracking data, STC began to wonder if important green turtle feeding areas were being missed by only satellite tracking turtles that nested at the northern end of Tortuguero beach. And were these missing foraging areas being impacted by human activities?

In 2022 STC began working with Jaime Restrepo, a former Tortuguero Field Coordinator, on a project to learn about the migration of green sea turtles nesting on the *southern end* of Tortuguero National Park. Jaime, as part of his PhD project and in partnership with STC, deployed satellite transmitters

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)**. 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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Dr. Daniel Evans (far left) and Jaime Restrepo (far right) with STC Research Assistants and volunteers before heading by boat to the southern end of Tortuguero National Park.

on six green turtles in 2022, and on 10 green turtles in 2023. All six of the turtles tagged in 2022 headed north, which greatly surprised us. Two turtles migrated to Nicaragua, two migrated to Belize, and the last two migrated to Mexico, one to the Caribbean coast and the other to the Gulf of Mexico coast of the Yucatan Peninsula. All were locations identified through previous tracking of turtles from the northern five miles of Tortuguero. Of the turtles in 2023, we had better luck. While seven turtles again headed north (four to Nicaragua, two to Belize, and one to Mexico), the remaining three turtles headed east. Two migrated to US Virgin Islands and the third migrated to St. Kitts & Nevis, all new locations not identified through previous satellite tracking.

These tracks will be added to the overall number of satellite tracking data from Tortuguero and will be used as part of Jaime's PhD dissertation to look at the migratory behavior and connectivity among the nesting beach at Tortuguero and the green turtle feeding destinations across the Caribbean, identified through satellite tracking. This work will provide STC with information about the areas and migration pathways where Tortuguero's nesting green turtles are potentially exposed to negative human impacts. This research will help STC identify possible causes for the observed decline in nesting, and to develop conservation strategies in an effort to continue to protect Tortuguero's nesting green turtle population. 🐢

By Dr. Daniel Evans and Jaime Restrepo
Research Biologists



Barrier Island Center (BIC)

Conservation Career Training Internships at the Barrier Island Center: Inspiring the Conservation Leaders of Tomorrow

Sea Turtle Conservancy (STC), alongside our partner the Brevard County Environmentally Endangered Lands Program, continues to grow the Conservation Career Training program to train future conservation professionals at the Barrier Island Center (BIC) in Melbourne Beach, Florida. The Conservation Career Training program welcomes high school and college students for a nine week paid immersive experience where they work alongside BIC staff and experience all aspects of nature center operations and serve as mentors in the Sea Turtle

TECH (Technology Education Challenges Horizons) STEM (Science, Technology, Engineering and Math) Mentorship Program. Now in its fifth year, the BIC team has trained 13 interns and will hire an additional five interns for summer 2024. Our interns learn the communication skills, field techniques, tools and technology needed to become the future conservation leaders of tomorrow.

In summer 2023, STC hired four interns; Jaida

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Suggs, Cara Westenberger, Anushka Gughari and Maddie Hirsch. Jaida Suggs is a junior at Florida Institute of Technology, majoring in marine biology and the first person in her family to go to college. She grew up in Daytona Beach and dreamed of working with sea turtles. Jaida realized her dream by learning sea turtle field techniques during night turtle walks, assisting with public sea turtle educational nest excavations and shadowing UCF Marine Turtle Research Group. At the end of the summer she described her internship in her words, “My experience has been life changing. I know more about nature and sea turtles than ever before. This summer is something I’ll remember for the rest of my life. Words can’t explain how much of my heart is now connected to the Barrier Island Center.” Jaida also shared that one of the most valuable experiences to her future career was that she “met tons of role models” and “made connections [that] will help in [her] journey.”



Jaida and Maddie assist UCF Marine Turtle Research Group with green sea turtle research, FL MTP-23-186 MTP-171.

Maddie Hirsch is a senior at Eau Gallie High School in Melbourne, FL. Despite growing up in Brevard County, one of the most important places in the world for sea turtle nesting, she had never seen a real sea turtle. She described her turtle scout training in her words, “Turtle walk training was the first time I had ever seen a sea turtle in real life. It was the coolest thing I have ever experienced.” She described her internship as “an experience I’ll never forget. It has changed the way I see sea turtles and the ocean as a whole. Sea turtles have become a topic that will make me lose track of time. It makes me want to educate people

about everything I know about them. I worked with colleges I’m interested in like UF and UCF. I went snorkeling and rode on a pontoon boat. Finally, I served as staff for both Tour de Turtles events on the Archie Carr Refuge beach. The experience and education were unforgettable.” Maddie also shifted her college degree goals because of her internship. She shared: “At first I was going for a degree in pre-med but now I know 100% I will major in biology with a minor in marine science.”

The ultimate goal of our Conservation Career Training internship program is to train interns in marketable skills to land conservation jobs. Two of our summer 2021 interns have graduated from college and are working in conservation. Adam Steinfeld, a biology and psychology graduate of UCF, was hired by UCF Marine Turtle Research Group and Ecological Associates Inc. as a Field Technician/Environmental Monitor to conduct sea turtle nesting beach surveys for summer 2022 and 2023. He also conducted undergraduate research on juvenile green sea turtle tracking on the east coast of Florida. In 2024, Adam is applying to graduate school and is working at Florida Atlantic University (FAU) Harbor Branch Oceanographic Institute (HBOI) on a harmful Sargassum bloom project. Jenna Coven is a recent graduate of Florida State University with a degree in Environmental Science and minor in Biology. In 2024, Jenna is working at the FAU HBOI as a Research Activities Assistant studying water quality of the Indian River Lagoon, a critical juvenile habitat for sea turtles.

STC Conservation Career Training Internships open doors for the future conservation leaders of tomorrow. Thanks to the Disney Conservation Fund and the Conservancy Friends of Aquarina for supporting our paid intern program for summer 2024.

Applications for Summer 2024 will be accepted through April 4, 2024. Interested applicants can contact BIC Community Stewardship Coordinator Sarah Rhodes-Ondi at sarah@conserveturtles.org to request an application.



STC Hires Two Lighting Project Specialists

Sea Turtle Conservancy (STC) welcomed two new full-time employees, Madeleine Khoury and Julia White, to its lighting team in December 2023.

Madeleine Khoury's interest in conservation started as a child when she would accompany her mother to work at an outdoor recreation center along the river near her hometown in West Virginia.

"I spent countless hours searching and observing different reptiles and amphibians, and my care for the natural world has never ceased," she said.

After working as a coral restoration intern with Mote Marine Laboratory in the Florida Keys, Madeleine was inspired to pursue conservation biology in college. She then worked as an avian trainer and educator at the Avian Conservation Center of Appalachia, which entailed working with various birds of prey to provide educational experiences to the public.



Madeleine was drawn to STC's lighting retrofit project due to its unique and impactful approach to sea turtle conservation. As a lighting project specialist, she is looking forward to learning more about a niche industry and educating others on how small changes can make great impacts for sea turtles.

In her free time, she enjoys photographing birds, scuba diving, and crocheting gifts for friends.

While growing up in Florida, Julia White spent her time at the beach, hiking, and in the Florida Keys. These experiences led her to realize that she wanted to have a positive impact on wildlife and the environment.

Julia received her bachelor's degree in coastal biology from the University of North Florida in 2020. After graduating, she had various research and education positions at Mote Marine Laboratory & Aquarium, the Central Florida Zoo, and Volusia County, where she became a sea turtle lighting associate as part of the County's Habitat Conservation Plan.

"My time at Volusia really opened my eyes to a whole new problem that is easily fixable through responsible lighting practices and education," she said. "Lighting affects multiple species of animals and humans, so by working as a lighting project specialist, I am able to help the environment in multiple ways, including protecting the turtles, which I have come to love."



In her new role at STC, she is most excited about making direct positive change by helping property representatives retrofit their lights.

Julia enjoys photography, painting, hiking, volleyball, and water activities in her spare time.

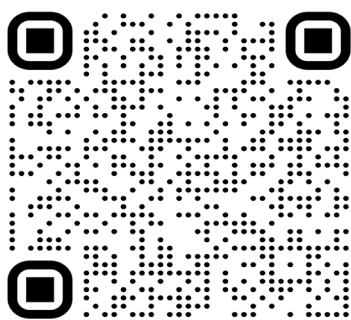
Learn more about STC's Lighting Program at conserveturtles.org/stc-beachfront-lighting-program 

In-Water Sea Turtle Sighting App

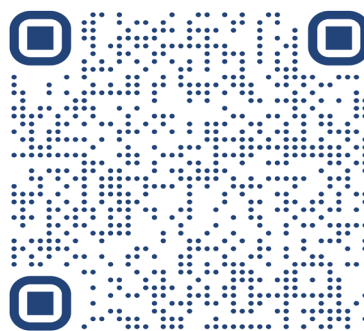
STC developed an app that allows boaters, fishermen and others who spend time on the water to help researchers identify where sea turtles are congregating in the waters along the northern Gulf Coast of Florida and in Bermuda. The app is a citizen science type experience, allowing people to share sea turtle encounter information with STC and to help people identify the species of sea turtle they encountered. Users are able to upload the location, species (if known), behavior, and size of sea turtles they encounter while out on the water. The app includes example photos of the species to help users identify the turtle. If a user is able to get a photo of the turtle (without chasing or harassing the turtle), they can upload a photo.

Users can register in the app, allowing them to receive communications from STC about issues impacting sea turtles or their habitats. STC is working to build a community of engaged turtle advocates along the north Gulf Coast of Florida, and invites users to get engaged with STC through membership or attendance at events. While the app is initially focused on the northern Gulf Coast of Florida and Bermuda, it can be used by anybody anywhere out on the water. Download the app for free using the QR codes below! 🐢

Apple



Android



Chuck Carr Memorial

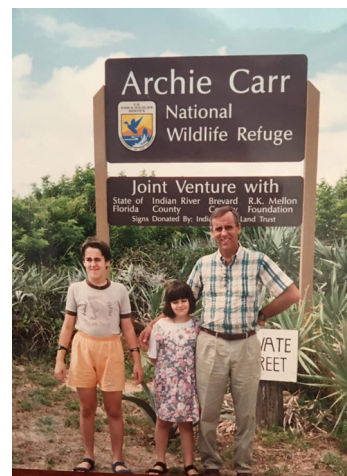
It is with a heavy heart that we share news of the passing of STC Board Chairman Dr. Archie “Chuck” Carr, III, age 78. Chuck was the oldest son of STC scientific founder Dr. Archie Carr, Jr., and he was a guiding force within the Sea Turtle Conservancy (STC) for four decades.

Chuck loved the cause of conservation and, like both his father and mother (Marjorie), he had a remarkable career himself—working first with Florida Audubon and then with the Wildlife Conservation Society, where he oversaw that prominent organization’s Meso-American programs.

“When I was offered the position of STC Executive Director, Chuck took me under his wing and gave me the confidence to lead the organization his father brought to prominence,” said David Godfrey. “Under his mentorship, we expanded STC’s programs to address even more sea turtle conservation challenges.”

Chuck was a great friend to everyone associated with STC, as well as many around the world involved in conservation. There is no doubt STC would not be in its present condition without Chuck’s guidance and calm encouragement. Like both his parents, Chuck had a great sense of humor and was always capable of finding the joy in nearly any situation. He was one of a kind and will be dearly missed.

Chuck is survived by his wife Gail, their children Jonathan and Jennifer, his siblings Mimi, Stephen and David, and his beloved granddaughter Carmen. 🐢



Adopted Turtles Return to Tortuguero

Each year from July to September, STC researchers tag and collect data on green turtles that nest on the beaches of Tortuguero, Costa Rica. Many of these turtles are “adopted” by individuals or families in a symbolic show of support for STC’s work. If a turtle that you or your family sponsored was observed on the beach during the **2023 nesting season**, your name will appear below:

Trisha Ahrens
Jay Alabaster
Gail Arciniega
Sofia Arsnos
Donna Augustin
Zakariya Awan
Kari Ayshford
Krishna Balkissoon
Kathryn Bazemore
Care Bear
Lauren Beckett
Roger Billefalt
Gabriela Blanco
Martin Blessing
Blue Dot Travel, Australia
Annette Boehm
Patrick Boozer
Dan & Sue Borden
Thomas and Joseph Boryszak
Emily Boyle
Will Bracken
Dennis Brand
Vivianne Rose Brouillard
Beverly Burmeier
Larry Burmeier
Kimberly Bustos Arias
Sara Butz
Cactus Tour
Jeremiah Cameron
Ali Carlson
Katerina Carr
Scarlett Casey
Julia Casey
Jonathan Cass
Logan Cates
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Jocelyne Chabaud
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Emily Chiles
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Ms. Cortinas First Grade
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McKenzie Crow
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Richard Davies
Alexandra Dawson

Laura Ann Deall
Hannah Dekker
Makinley Dempsey
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Veronique Desroziers
Ivana and Brendan Dillon
Tom Dion
Kyler Dishong
Kenny Dishong
Sarah Dorey
RJW Dupont
R.E. Durand
Amelia Eckhardt
Kody Ellson
Dale Erickson
Jolen Ernst
Erik & Catherine Ernst
Etheridge Family
Casey Rose Fagre
Rachel Farley
Christen Fencil
Sheryl Ferguson
Kelsey Flickinger
Madeline Flinn
Jared & Chandani Flinn
Ryan Gabriel
Lori Gaddis
A Galton
Alexandra Genin
Judy Georghegan Will Davis
Herbert Gersh
Hayley Gibbon
Susan D. Gibbs
Elena Gomez Perez
Judith Gonzales
Josh Gonzalez
Philip Goodwin
Samantha Grace Bote II
Sheila Griffin
Sid and Helen Guruswamy
Arnold & Marian Hageman
Marie Halka
Brian and Suzette Hall
Karen Hartschuh
Elizabeth Henley Dunn
Vanessa Hill
Carol Hinshaw
Katherine Hoffman
Remon Hulscher
Melissa Humble
Carel Iedema

Julia Ignatov
Jason Isbell
Riku Ishii
Laura James
Brieuc Jeuhomme
Brianna Johnson
Christian Jung
Alison and Brigit Kagan/
Shkolnik
Sydney Keinath
Khalil Khan-Farooqi
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Katie Klene
Meike Koopmans
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Sabrina and Bryce Layman
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Amy Leleux
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Laurie Lewis
Judith Lindsey
Doria Linnetz
Larry Linnetz
Gabrielle Lobb
Lora Lode
Joseph Logan
FamilleLorinquer
Monique & Linda Lowman/
Henneman
LeliaBeth Lukens
Edd and Gloria Luttenberger
Annie Lynch
H Maas
Sarah & Andrew MacEachern
Al/Norah/Graham MacKenzie
Erik MacPherson
Nelio Malia
Steve Mann
Rebecca Baak Marinus
Dontje
Deann Martin
Helene Martin-Le Troidec
Lisa McWhorter

Juan Quesada Meneses
Nadia Mercier
Krista Molino
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Raff Family
Lollie Ragana
Gretchen Rauer
William Raver
Pamela Reeser
Arnaud & Thomas Reinhart
Karinsa Ribordy
Andrew Rigg
Cori Roach
Christie Rodriguez
Jeanelle Roy
Chris Ruffino
Lisa Runde
Laura Ruscio
Gleb Sagiton
Shari Sargent

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Ben Schreiber
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Kenzie Short
Rylee Short
Cody Simpson
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Kylie Smith
Sara Smithline
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