News and Appreciation from

CARETTA RESEARCH PROJECT

A Record-Breaking Season in Every Way

"Calm Before the Storm" was our opening headline after a relatively low nesting season a year ago. And what a storm it was! We expected a big season, but the 2019 loggerhead nesting season on Wassaw was unbelievable. Every annual record in CRP's 47-year history was shattered!

Nesting on Wassaw began on May 6th and concluded on August 9th with 480 nests in total! Our 47-year average is about 100 nests per season and our previous highest season was 330 nests in 2016. Needless to say, 150 nests more than ever before is a great sign for the turtle population, but also requires heaps of new research supplies and additional work. We are sincerely grateful for the 87 dedicated volunteers that helped on the beach this summer, to everyone who's generous support allows sea turtle research and protection to continue on Wassaw every year, and to our founders who started protecting nests all those years ago!

As for the turtles that kept us so busy, Wassaw hosted 209 nesting turtles this year: 107 were new recruits to the nesting population, 94 were remigrants originally tagged on Wassaw in previous seasons, eight were likely immigrants from other islands, and a whopping 17 were CRP's beloved Adopt-A-Turtles. All-in-all these turtles deposited 50,157 eggs, leading to the successful emergence of 31,391 hatchlings!



Participate in 2020!

Early registration to volunteer on the CRP will open for 2 weeks in December. Regular registration will open on Thursday, January 2nd. There are 102 available spots and they fill-up quickly, so don't miss out this year! Please refer to our Facebook page or website for further information.

CALL (912-704-9323) or **EMAIL** (WassawCRP@aol.com) to reserve your spot on Wassaw and help study and protect loggerhead sea turtles!

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BACKGROUND

Our Mission

It is the mission of the Caretta Research Project to ensure the long-term protection and full recovery of the Northwest Atlantic loggerhead population and the ecological roles that it plays through research, conservation and education.

Brief History

Stimulated by a noticeable decline in sea turtle populations, a trilateral collaboration between the Savannah Science Museum (Jerry Williamson), Wassaw Island Trust (Charlie Milmine, also with Museum), and U.S. Fish and Wildlife Service founded the Caretta Research Project (CRP) in 1972. Starting in 1973, CRP began monitoring the loggerhead sea turtle population nesting on Wassaw Island by marking individuals. Shortly thereafter, rigorous nest protection procedures were implemented to maximize hatchling production and bolster the population into the future.

Education and public participation have been at the heart of CRP from its origin. CRP established one of the nation's first "eco-vacations" available to the public. For over 45 years, participants have traveled to Wassaw to help patrol the beach in search of nesting turtles and protect with their vulnerable nests. In turn, CRP strives to foster unique experiences that empower participants with knowledge and experiences that allow them to become ambassadors for the plight of the world's sea turtles.



Major Accomplishments Since 1973

- Helped produce an 8-fold increase in loggerhead nesting on Wassaw Island National Wildlife Refuge.
- Marked and studied 1,829 individual turtles throughout their reproductive lives.
- Protected and monitored 4,923 nests, leading to the successful release of 342,380 hatchlings.
- Involved 3,587 people from 46 different states and 6 different countries in hands-on sea turtle research and conservation.
- Provided data, support, and infrastructure for conducting scientific research on sea turtles, leading to the production of 50 scientific publications and 28 research presentations.
- Trained 24 interns that have subsequently pursued careers in biology, environmental science, and education.
- Connected more than 350 people with the lives of nesting turtles through the Adopt-A-Turtle program.

Caretta Research Project operates as a 501(c)3 non-profit organization under Savannah Science Museum, Inc.

Thank you to our Founders, Past Staff and Board Members, and Current Partners!

The following organizations currently help Caretta Research Project pursue its mission

US Fish & Wildlife Service

Georgia Department of Natural Resources & Georgia Sea Turtle Cooperative

The Nature Conservancy

Brewer Marketing Group

Your Wedding Film *by* David Troth Wright

Ms. Mallory Adventures

University of Georgia Marine Extension & Sea Grant

100 Miles

Clean Coast

Wassaw Island Trust, LLC

In July 2019, CRP welcomed back Mallory Lindsay of Ms. Mallory Adventures, AKA The Curious Conservationist, for another exciting social media takeover.

Caretta Research Project Welcomes Back Ms. Mallory Adventures!

The Curious Conservationist helps boots-on-the-ground conservation groups, like CRP, reach a wider audience.

Ms. Mallory's mission is to spark curiosity about wildlife, conservation, and local natural history while empowering others to do the same through public outreach, community conservation projects, and citizen scientist initiatives. Mallory believes facts are better told through stories, different perspectives are essential, and the power of one should empower many.

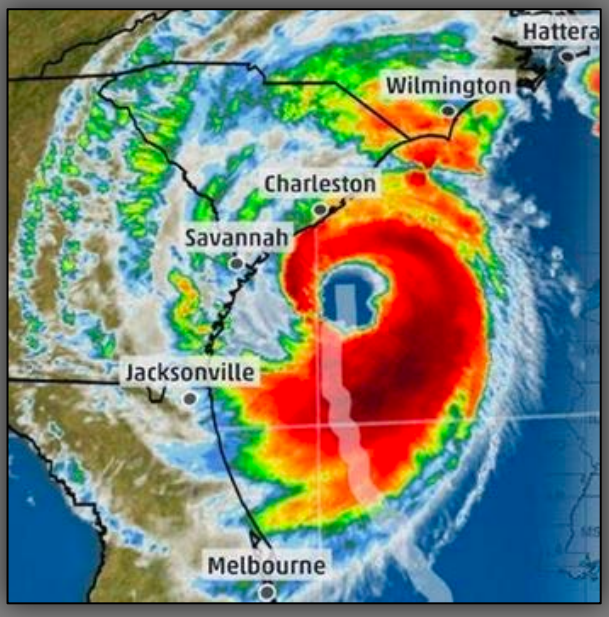
For over a decade, Mallory has invested her focus and talents in challenging the way people view our wildlife (*Fear2Fascination*) and encouraging them to find their own niche in making the world a better place (*Curious Conservationist*). From documenting scientists' stories in remote locations to working alongside the nation's youth, Mallory feels that connecting with other others is a key component to changing lives and the planet.

After all of the excitement and success last year, CRP was thrilled to invite Ms. Mallory back for another social media takeover in 2019. In addition to spreading CRP's mission far and wide, Ms. Mallory lead an Adopt-A-Nest campaign that helped raise over $1700 to protect 179 nests this year. With 150 nests more than our previous record season, we were running out of supplies fast. Ms. Mallory and all of you that adopted a nest came to the rescue! Thank you to everyone that adopted nests!

Hurricane Dorian

Highlight?! Perhaps not, but the ever-present threat of hurricanes, especially late in the season, can certainly make things interesting. This year, Savannah and Wassaw Island were thankfully only grazed by Hurricane Dorian, which devastated the northern Bahamas.

As Dorian approached, CRP staff and volunteers on Wassaw for the last volunteer week of the season worked furiously to inventory as many nests as possible and collect screens so they would not be lost to the sea. In the end, Dorian washed away nine nests and rendered 28 more unfindable. The hard work and dedication of the volunteers on that last week was incredible! Sending a heartfelt thank you to ALL of our hard-working volunteers this season.



RESEARCH HIGHLIGHTS

Hitchhiking the High Seas

Global Genomics of Rafting Crabs



Sea turtles host commensal crabs that hitchhike across the open ocean. This rafting lifestyle tends to homogenize their populations at a global scale.

In an article published in the journal *Ecology and Evolution* this January, CRP Research Director Dr. Joseph Pfaller and his coauthors compared genomic information from hundreds of crabs collected across their global range and found very little genetic differentiation, making them one of the world's most widespread species!

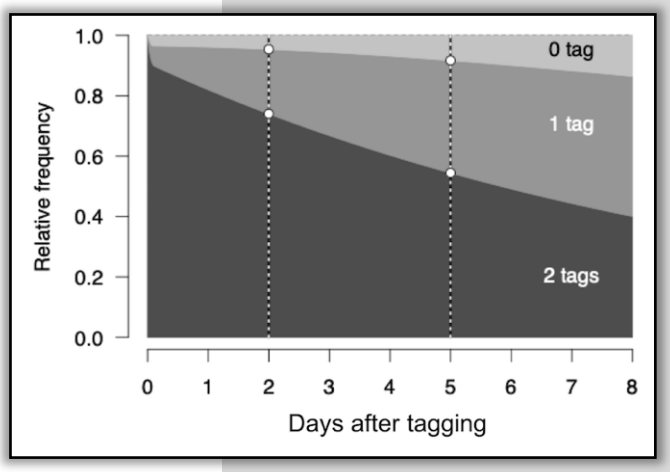
Genetics Illuminate "The Tag Loss Problem"

Despite their beautiful and humble faces, humans cannot tell one turtle apart from another. For this reason, sea turtle biologists around the world give turtles individualized flipper tags. Flipper tagging has revealed many mysteries of sea turtle biology over the last five decades.

BUT! Tags can fall out, leading to demographic biases. Estimating tag loss rates therefore is critical for minimizing biases. Accurate estimates of tag loss however require a permanent form of identification, which has eluded researchers in the past.

In an article published in *Marine Biology* this year, CRP biologists and their coauthors used permanent genetic tags to estimate the first truly accurate estimates of flipper tag loss (*see representative figure*). This study represents a major advancement in the analytical tools used to account for tag loss in studies of sea turtles.

Estimated cumulative probabilities of turtles retaining 2, 1 or zero tags over time



Research Publications & Presentations

Pfaller JB, Payton AC, et al. (2019) Hitchhiking the high seas: global genomics of rafting crabs. *Ecology and Evolution* 9:957-974.

Pfaller JB, Williams KL, et al. (2019) Genetic determination of tag loss dynamics in nesting loggerhead turtles: a new chapter in "the tag loss problem". *Marine Biology* 166:97.

Pfaller JB, Shamblin BM, et al. (2019) *Caretta caretta* (Loggerhead Sea Turtle). *Lepidochelys kempii* (Kemp's Ridley Sea Turtle). Fertile Hybrid. *Herpetological Review* 50(2):347.

Pinou T, Domenech F, et al. (2019) Standardizing sea turtle epibiont sampling: outcomes of the Epibiont Workshop at the 37th International Sea Turtle Symposium. *Marine Turtle Newsletter* 157:22-32.

Weaver SM, Shamblin BM, et al. (2019) One beach amongst many: how does weak nest site fidelity affect demographic rates. *Annual Symposium on Sea Turtle Biology and Conservation* (poster presentation).

Ondich B, Pfaller JB, et al. (2019) Injury prevalence among nesting loggerhead sea turtles in the Northern Recovery Unit. *Annual Symposium on Sea Turtle Biology and Conservation* (poster presentation).

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ANNUAL CELEBRATION & FUNDRAISER

Celebrating 47 years of Sea Turtle Conservation on Wassaw National Wildlife Refuge

On Oct 16th, Caretta Research Project hosted its 6th Sea Turtle Celebration and Fundraiser. Under the beautiful live oaks and Spanish moss of Isle of Hope, the Staff and Board were joined by over 250 people (another record broken!) to enjoy a night of live music, delicious food and drinks, beautiful artwork and immense generosity. Glasses were raised to celebrate the project's past success and help support it into the future. All proceeds from this event go directly to helping CRP accomplish its mission of preserving sea turtles on the Georgia coast for years to come.

Special thank you to Juha and Holley Jaakkola for hosting the event at their beautiful home yet again. Big Bon Pizza provided delicious gourmet pizzas that kept everyone well fed and Issac Smith filled the evening with fantastic guitar music. To everyone that joined us that night and to everyone that volunteered during the event and supported from afar, the Staff and Board of CRP send our deepest appreciation for making this event both memorable and successful.





Please enjoy more photos of the event on our website www.CarettaResearchProject.org

Thank you to our generous auction donors!

Stacie Jean Albano, Chariton Alexakis, Angela Burson, Carolyn Dennard, Paul Downs, Joy Dunigan, Tate Ellington, Bud Green, Linn Gresham, Elizabeth Guri, Mary Hartman, Danielle Hughes, Marcus Kenney, Catherine Lovett, Tobia Makover, Irene Mayo, Bellamy Murphy, Daryl Nicholson, Kelley Parker, David Peterson, Faron Peterson, Peter E. Roberts, Kurtis Schumm, Lisa D. Watson, Erica Wilson, Heather Young, John Crawfish & Rolfe Glover, Savannah Plastic Surgery, Amanda Deitsch, Betsy Hughes, Tybee Vacation Rentals, Kevin Iocovozzi, Ms. Mallory Adventures, Amphibian Air, Savannah Philharmonic, Joe Pfaller, and Cathy Sakas

GET INVOLVED

Caretta Research Project is a public non-profit charity that does not receive funding from the state or federal government.

All research, conservation, and education efforts depend on generous contributions of resources from people like you.

Here are ways to get involved:

- **Participate in CRP** and get hands on experience protecting sea turtles
- **Make an individual donation**
- **Make a corporate matching gift**
- **Organize an Honorarium or Memorial** to remember a special person in your life
- **Shop the CRP Store**

  Check out the COOLDRI long sleeve shirts in navy blue, light blue and white, and our NEW hats!









- **Join *Captains for Caretta*** and use your boat to transport people and supplies to and from Wassaw Island in the summer
- **Attend CRP's Annual Fundraiser**

- **Adopt-A-Turtle** for your classroom, a loved one or yourself

  CRP's Adopt-A-Turtle Kit is a wonderful gift idea for birthdays, anniversaries, Christmas and other special occasions. Pick from a list of turtles that have faithfully nested on Wassaw Island during previous seasons. Once adopted, each turtle's nesting activity can be tracked during the season from the Turtle Activity page on our website.

  Kits include:
  (1) List of adoptees and an adoption form
  (2) Glass sea turtle ornament
  (3) Picture of a nesting loggerhead
  (4) CRP decal



Thank you to our *Captains for Caretta*

Mr. Dan Bromstad and Mrs. Eleanor Rhangos
Mr. and Mrs. Chris Carroll
Mr. and Mrs. Al Cook
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Mr. and Mrs. Joe Powers
Ms. Kathleen Ramee
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Honorariums, Memorials, and Special Thank You's

Dr. Barbara Toner in honor of Georgia Walters
Ms. Hannah Bonvechio for tagging supplies
Mr. Jim Carr and Mrs. Linda Cline in honor of their 13th Anniversary
Mrs. Linda Cline in honor of Jim Carr
Mr. and Mrs. Thomas Strite in honor of Melissa Ellis
Mr. and Mrs. Andy Mendonsa in memory of Hadrienne Mendonsa
Mrs. Donna Edwards-White in honor of Dr. John Hungerpiller
Dr. Kathryn Craven in memory of Mr. and Mrs. Jon Stephenson
Christine Hall Photography for photos during the fundraiser
Peter Roberts for organizing the silent auction at the fundrasier

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