



LOGGERHEADLINES

A publication of the SCDNR Marine Turtle Program
Celebrating 45 Years of Sea Turtle Conservation



2023 IN REVIEW

**6,618
nests**

**6,596 Loggerheads
19 Greens
1 Kemp's Ridley
1 Unknown**

**2,018
Volunteers**

**30,919
Volunteer
Hours**

**145
Stranding
Responses**

**2,723
Relocated
Nests**

**10,411
Non-Nesting
Crawls
Investigated**



First nest
May 2, 2023
Cape Island
Loggerhead

First emergence
July 14, 2023
Lighthouse Island
Loggerhead

Last nest
September 4, 2023
Edisto Town Beach
Green

Last emergence
November 16, 2022
Edisto Town Beach
Green

2023 Loggerhead Sea Turtle Nest Count by Beach

Waties Island	11	South Island	529	Kiawah Island	437	Harbor Island	108
N. Myrtle Beach	13	Cedar Island	43*	Sandy Point - Kiawah	28*	Hunting Island S.P.	195
Briarcliffe Acres	3	Murphy Island	32*	Seabrook Island	40	Fripp Island	118
Myrtle Beach	6*	Cape Island	1,561	Deveaux Bank	2*	Pritchards Island	76
Myrtle Beach St Park	0	Lighthouse Island	1,310	Botany Bay Island	164	Little Capers Island	77*
Long Bay Estates	0	Raccoon Key	19*	Botany Bay Plantation	174	St. Phillips Island	6*
Surfside Beach	3	Bull Island	118*	Interlude	12*	Bay Point Island	NS
Garden City	8	Capers Island	4*	Edingsville Beach	38	Hilton Head Island	349
Huntington Beach St Park	16	Deweese Island	14*	Edisto Beach St Park	304	Parris Island	4
Litchfield Beaches	18	Isle of Palms	47	Edisto Beach	186	Daufuskie Island	75
Pawleys Island	30	Sullivans Island	11	Pine Island	13*	Turtle Island	NS
Debordieu/Hobcaw	49	Morris Island	3*	Otter Island	46*	TOTAL	6,597
North Island	125*	Charleson Harbor Interior	3*	Coffin Point	22		
Sand Island	14*	Folly Beach	129*	Lands End	4*		

*Number represents a minimum nest count because these beaches are not surveyed every day. (NS) no survey conducted.

The 2023 nesting season within the month of May and first two weeks of June was unseasonably cool. Though nesting season started “on time,” with the first nests reported on May 2 after false crawl activities (non-nesting attempts) reported the day before, the bulk of nesting activity was delayed and did not ramp up until later than normal. The arrival of Tropical Storm Idalia at the end of August resulted in a trifecta of water issues. We had a Supermoon (second full moon of month), King Tide and Tropical Storm – all at once. The timing was not ideal, as many nests were still incubating or emerging. A total of 798 nests were lost to tides, 60 earlier in the season associated with high tides and the remainder associated with Tropical Storm Idalia.

Water issues coupled with increased coyote and armadillo depredation took a toll on nests and productivity this year as well. Coyotes are present on almost all project beaches to some degree and armadillo depredation has shifted from one beach to another. Coyotes destroyed 245 nests, with several others partially affected. The number of false crawls reported indicated that suitable habitat (dry sand) is not easily found on the females’ first trips up the beach.

Severe Weather Effects in 2023



Photo: Kiawah Island Turtle Patrol



Photo: Lighthouse Island, CRNWR
Abigail King

POCKET BEACHES

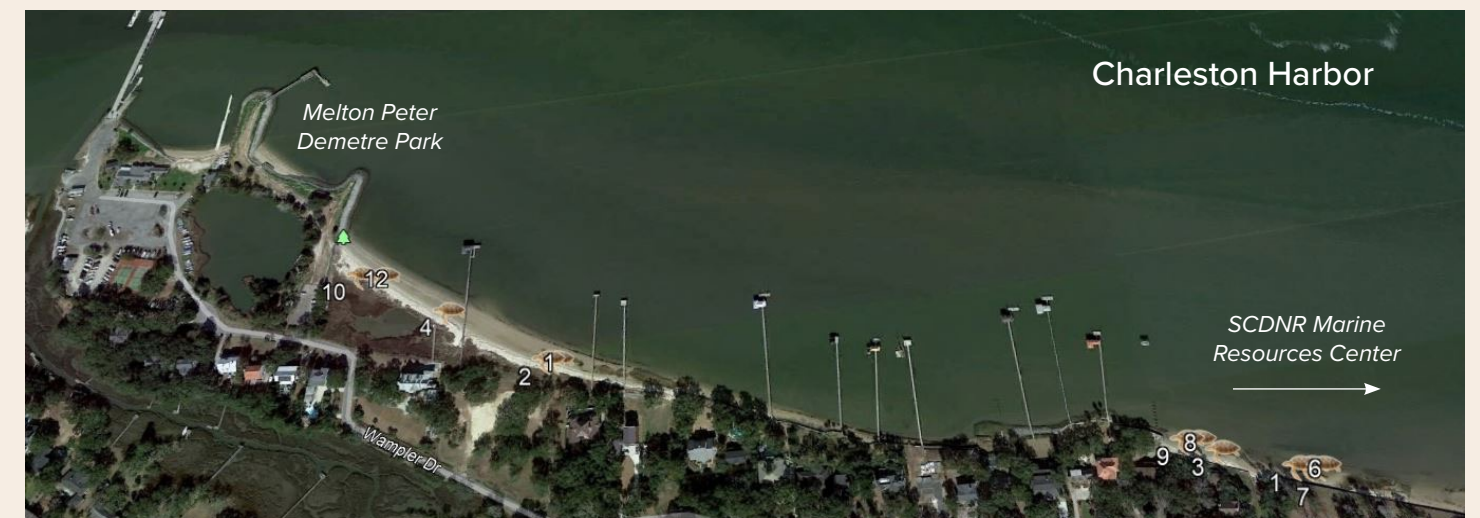


As the habitat on our beaches is in constant flux, it is worth noting the importance of what we call our “pocket beaches.” The Charleston Harbor Interior project encompasses several small urban pocket beaches, including May Forest beach (formerly the Sisters of Charity of Our Lady of Mercy) and the continuous shoreline leading to Melton Peter Demetre Park. The shoreline here is susceptible to change with accretion and erosion of sand over time. Efforts to mitigate recent erosion include a seawall installed in front of May Forest, various rock revetments and an additional seawall permitted in front of various properties along the shore. In 2001, SCDNR South Carolina Oyster Recycling and Enhancement (SCORE) promoted stabilization of this highly erosional stretch of interior beach by planting bags of recycled oyster shell and spartina seedlings.

To track nesting in the Charleston Harbor Interior pocket beaches, SCDNR relies on the public to report nesting activity; therefore daily survey effort is not consistent from year to year. The first documented nesting here was reported in 2008 at the May Forest beach. Additional nesting activity was documented again in 2011, 2017 and 2023. Overall, 12 nests have been documented on the Charleston Harbor Interior project.

Through genetics research, it has been determined that a single loggerhead (genetic ID CC003483) has contributed to 10 of these 12 documented nests between 2011 and 2023. Successful navigation of a busy Charleston Harbor by this reproductively active female to reach a preferred nesting area over a minimum of 12 years is a great achievement.

Local resident Chris Tertzagian contributed with efforts this year, reporting all the activity she observed along this stretch of beach. Though this area is erosional and suffers from frequent tidal inundation that affected two of the three nests laid this year, we are happy to report that 96 hatchlings emerged and made it to the water.



Education & Resources

2024 Tide Tables issued by SCDHEC OCRM are available for download and include predicted King Tide events. [Link](#)

SC State Climatology Office, a division of SCDNR, provides a unique service to the State by archiving and distributing climatological data to State agencies, educational and research institutions, and private citizens; much of the data is provided at no cost, or for a nominal fee under current state law. [Link](#)

SCDHEC Office of Ocean & Coast Resource Management (OCRM) protects and enhances the state's coastal resources by preserving sensitive and fragile areas while promoting responsible development in the eight coastal counties of South Carolina. This office handles critical area permitting, beachfront management, compliance, and enforcement. [Link](#)

Marine Turtle Newsletter, Issue Number 166, September 2023. ISSN 0839-7708. Published quarterly and distributed free of charge for exchange of information on all aspects of marine turtle biology and conservation. Hosted on [Seaturtle.org](#).

STRANDING RESPONSE

This was another active year for members of the South Carolina Sea Turtle Stranding and Salvage Network (STSSN). The network handled nearly 300 calls and responded to 145 sick, injured or dead sea turtles that washed ashore in South Carolina during 2023. This represents a 20% increase compared with 2022 and returns to a level consistent with the statewide average number of strandings over the prior five years.

Following a slower but prolonged stranding season overall in 2022, the year 2023 was characterized by a more typical pattern, with 65% of stranding events occurring during peak months (May-August). The composition of stranded turtles included 62 green turtles, 41 loggerheads, 40 Kemp's ridley, 1 leatherback and 1 turtle of unidentified species.

Forty-seven of the 145 sea turtles stranded alive (22 green turtles, 18 Kemp's ridleys, 7 loggerheads). Probable cause of stranding among these live-stranded turtles included: 22 incidental entanglements, 10 diseased, 7 with evidence of watercraft interactions, 5 with no apparent injuries or unknown causes, 2 shark attacks and 1 cold stun.

Two nesting female loggerheads also required assistance returning to the ocean after becoming stuck during their nesting crawls. Finally, 11 turtles reported to the STSSN were caught on recreational hook and line but freed and released to the ocean where caught. These encounters happen with greater frequency as recreational use of coastal habitats increases. The Marine Turtle Conservation Program and STSSN volunteers regularly strive to "get the word out" about hooked turtles to capture the totality of these events, promote awareness



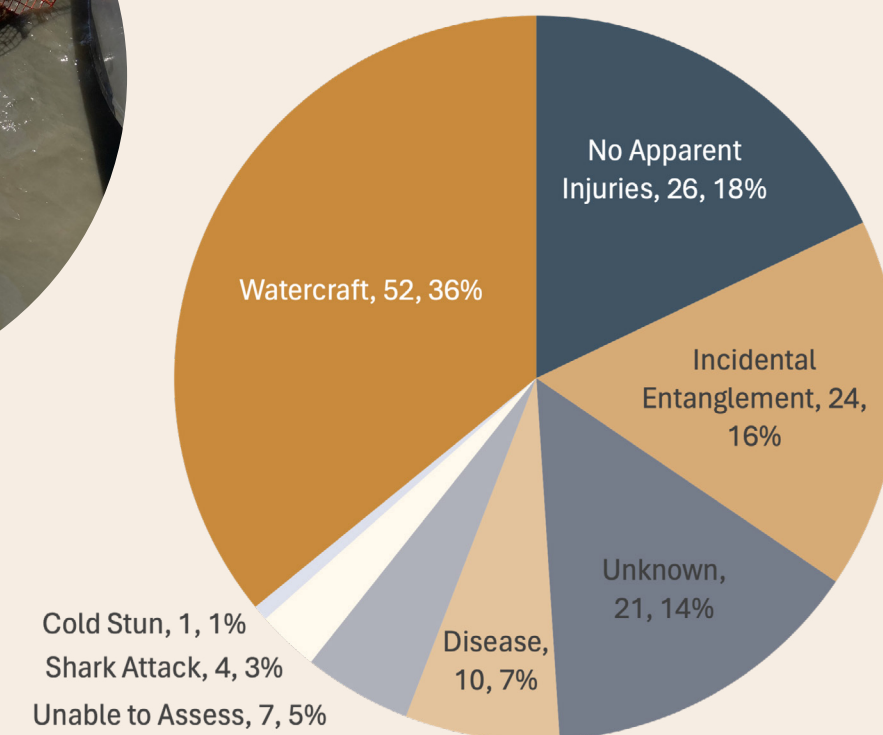
145
stranded
turtles in
2023

and safe handling of turtles among anglers and ensure hooked turtles receive additional medical care where necessary.

A one-week span in April comprised a particularly interesting portion of the stranding season as four adult male loggerheads stranded dead in this short period. In total, 6 adult males stranded dead during 2023 (additional events in May, July). STSSN responders particularly dread the stranding of adult turtles given the many threats these individuals overcome during the long years to reach maturity. However, when fresh, necropsy of adults is particularly valuable. Opportunities to necropsy males are of particular interest since males do not haul out on land during the course of their lives, spending their entire lives in water. Adult males use South Carolina waters as both residents and transients during summer months. Nonetheless, adult male loggerheads comprise a relatively small percentage of stranded loggerheads annually (typically <10%).



Probable Cause of Sea Turtle Strandings in 2023



Rehabilitation

Thirty-one turtles were admitted into the South Carolina Aquarium Sea Turtle Care Center™ in 2023. Fourteen of these were successfully rehabilitated, tagged, and released, 9 remain under rehabilitation and 8 turtles died. Three additional turtles died in transport to the South Carolina Aquarium.

In December the South Carolina Aquarium (SCA) received five juvenile loggerhead sea turtles. The turtles were part of a winter cold stun event in the Northeast. Cold stunning occurs when water temperatures drop quickly, rendering the turtles – who must regulate their body temperature behaviorally – unable to swim away due to cold body temperatures. Initially admitted to the New England Aquarium (NEAq), these turtles will remain at SCA to finish their rehabilitative care until released to the wild. The turtles were transported via plane by Turtles Fly Too, a non-profit organization whose mission is to facilitate the use of general aviation to transport endangered and threatened species in need of medical care. Aerial transport reduces the travel time and stress on turtles. The turtles' presence here in South Carolina provides a unique opportunity to see loggerheads not normally found in our waters at this life stage. You can follow the progress of these turtles at the South Carolina Aquarium Sea Turtle Care Center™ at scaquarium.org.

TAGGING

In 2023, the Marine Turtle Conservation Program tagged 20 turtles prior to their release from rehabilitation at the South Carolina Aquarium Sea Turtle Care Center™. Additionally, 15 cold-stunned turtles (9 Kemp’s ridleys, 6 green turtles) that originally stranded in Massachusetts during late 2022 were also tagged prior to release following successful rehabilitation at the South Carolina Aquarium.

A juvenile green turtle that served as an education ambassador at Riverbanks Zoo and Garden for two years was also tagged and released. Tagging these turtles allows biologists to track their progress should they be encountered again.

One interesting stranding of a tagged green turtle occurred in April at Myrtle Beach State Park. Park ranger Ann Wilson responded to a lively juvenile green turtle caught on recreational hook and line off the park’s fishing pier. The turtle possessed an internal passive integrated transponder or PIT tag and was determined to have previously stranded as a cold stun in Pamlico Sound, NC on Hatteras Island in December 2022. Following rehabilitation in the North Carolina Aquarium system, this turtle was released in the Gulf Stream offshore of North Carolina in March 2023, before apparently taking a direct route to Myrtle Beach over the next month. The status of tagged turtles, encountered either through nesting programs or stranding response during 2023, is listed below:



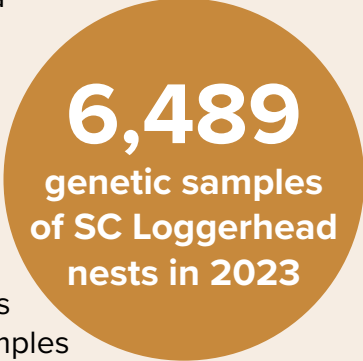
Tagged turtles resighted by staff and volunteers:

Tagged Turtles	Original Tag Location	Recapture Info	Time and Distance from Tagging Location
Green - Stranding	Hatteras Island, NC on 12/20/2022; Rehabbed and released 3/2023	Stranded alive on 4/23/2023 at Myrtle Beach State Park, SC	4 months ~240 miles
Loggerhead - Stranding	Capers Island, SC on 9/14/2010; Rehabbed and released 6/14/2011	Nested on 6/23/2023 on Juno Beach, FL	12 years, 9 months ~400 miles
Loggerhead - Nesting	Wassaw Island, GA on 5/27/2014	Nested on 7/1/2023 on Hilton Head Island, SC	9 years, 1 month ~30 miles
Loggerhead - Nesting	Wassaw Island, GA on 6/16/2021	Nested on 7/17/2023 on Edingsville Beach, SC	2 years, 1 month ~60 miles

GENETICS

Monitoring a marine species such as sea turtles can be challenging, especially one that is long-lived, slow to mature, and widely distributed. We have participated in a collaborative multi-state genetics project headed by the University of Georgia’s to help do just that. The project uses genetic analysis to identify individual mother loggerheads from nest samples. Analysis of these samples has helped gain valuable insight into how often turtles nest and how many clutches of eggs individual females lay on average. The scale of this project, which has included all known loggerhead nests from Georgia, South Carolina and North Carolina since 2010, represents one of the largest of its kind in the world. It is only possible through successful cooperation and collaboration of agencies and volunteers throughout all three states.

In 2023, samples representing 6,489 clutches of eggs were collected in South Carolina. 15% of those samples have been assigned to individual females at this time. A total of 559 unique identities were found nesting on SC beaches this season. Across the Northern Recovery Unit, 11,556 samples were collected with assignment of 1,190 individual females found nesting across three states. Analysis of the remaining samples is ongoing.



Scan or [click here](#) to learn more and donate to this project:





Announcements

2023 Volunteers of the Year

Volunteers were nominated for the 2023 awards by their turtle team peers, and winners were chosen by SCDNR staff due to their outstanding contributions this year. Congratulations, nominees and winners!



Mark and Buffie DuPuis
DeBordieu/Hobcaw
S.C.U.T.E.



Mary Sheridan
Sea Turtle Patrol
Hilton Head Island



Jim Cote
Friends of Huntington Beach
State Park

New Marina Signage *Go Slow, Wildlife Below*



This year, with funding provided by the State Wildlife Grant (SWG) and the assistance of the Marine Resources Division Media Team, signage was designed, printed and posted at 25 marinas along the coast. Direct your smart phone to the QR

code on page 9 to take you directly to the ArcGIS Survey123 form for reporting in-water sightings of live, uninjured sea turtles (and manatees). The form can also be saved directly in the Survey123 application (available for free download) for easy use on your smart phones. If you have an area you would like to see this signage posted, please reach out to Meredith at BeanM@dnr.sc.gov.

New Ambassador Turtle *Meet Parker*

In October 2023, Riverbanks Zoo & Garden staff, SCDNR Marine Turtle staff and members of SCUTE Garden City/Surfside Sea Turtle Guardians team released “Destiny.” Destiny’s journey began in 2021 as part of an ongoing partnership between SCDNR and the Riverbanks Zoo in which a green sea turtle hatchling is collected and cared for, serving as an education ambassador animal for its species for two years. In continuation of this partnership, a new green hatchling was collected from an emerged nest laid on Huntington Beach State Park in late 2023. Permit holder Mike Walker (SCDNR Marine Turtle Permit #511) selected and transported “Parker” to the Riverbanks Zoo & Garden to become the new ambassador sea turtle.



Save the Date

International Sea Turtle Society 42nd Annual Symposium on Sea Turtle Biology and Conservation, 24-29 March, 2024 in Pattaya, Thailand. [Link](#)

Join International Dark Sky Week from Charleston on April 2-8, 2024. [Link](#)

South Carolina State Parks will host the Tour de Turtles 2024 beginning on May 1, 2024. [Link](#)

World Turtle Day® is May 23, 2024. Join the fun with Turtle Survival Alliance, located in Cross, SC, and celebrate World Turtle Day® all month long. [Link](#)

World Sea Turtle Day will be June 16, 2024.

Southeast Regional Sea Turtle Meeting (SERSTM) coming in 2025. The SERSTM was established in 2011 and facilitates the presentation and exchange of scientific research from diverse disciplines conducted on the beaches and waters of the Southeastern United States, including the US Virgin Islands and Puerto Rico. [Link](#)

New stamps issued by US Postal Service for 2024 highlighting threatened and endangered species: Protect Sea Turtles and Save Manatees. [Link](#)

Recent Publications

Monitoring population-level foraging distribution of a marine migratory species from land: strengths and weaknesses of the isotopic approach on the Northwest Atlantic loggerhead turtle aggregation. 2023. Ceriani S.A., Murasko S., Addison D.S. et al. *Front. Mar. Sci.* 10:1189661.

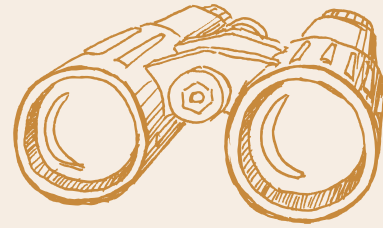
Feminization of a mixed-stock foraging aggregation of immature green turtles (*Chelonia mydas*), 1975–2018. 2024. Meylan, A.B., Brost, B., Conrad, L.J. et al. *Mar Biol* 171, 11.

Climate-mediated population dynamics for the world’s most endangered sea turtle species. 2023. Arendt, M.D., Schwenter, J.A. & Owens, D.W. *Sci Rep* 13, 14444.

Baseline diet characterization of Kemp’s ridley sea turtles in South Carolina (poster, SERSTM February 2023) Joshua D. Ratay (College of Charleston Graduate Student), Erin E. Seney, PhD (University of Central Florida), Jeffrey A. Schwenter (SCDNR), David Wm. Owens, PhD (CofC Professor Emeritus)

High annual survival suggested by size structure of Kemp’s ridley captured in coastal waters of the Northwest Atlantic (poster, SERSTM February 2023) Jeffrey A. Schwenter, Michael D. Arendt, and R. Pearse Webster, SCDNR Biologists.

REPORT SIGHTINGS



Sea Turtles



Our biologists continue to learn more about the habits of South Carolina's sea turtles through "citizen science" reporting of sea turtle sightings. Reported sightings help us learn more about sea turtle abundance, population metrics and habitats. Additionally, this initiative spreads word to our boating community of the importance to go slow and look out for wildlife in our waterways. Thank you for continuing to utilize and share this reporting form.

Manatees



Manatees are typically found in South Carolina waters from as early as March through November. Protected species biologists rely on the public to report any live animals encountered along our rivers and coastal areas. These gentle giants can be cataloged according to the location of scar patterns on their body. With photo submissions to our manatee reporting form, we can identify individual manatees in South Carolina waters.

Diamondback Terrapins



Since online reporting began, two-thirds of terrapin sightings have occurred on land, with roughly one in three land sightings involving confirmed nesting and/or hatchling emergence. Among in-water sightings, roughly one in three is associated with terrapins in swimming pools or incidentally captured in fishing gear. Most observations occur in spring as terrapins become more active. We greatly appreciate your continued vigilance to look out for terrapins.

OUR TEAM



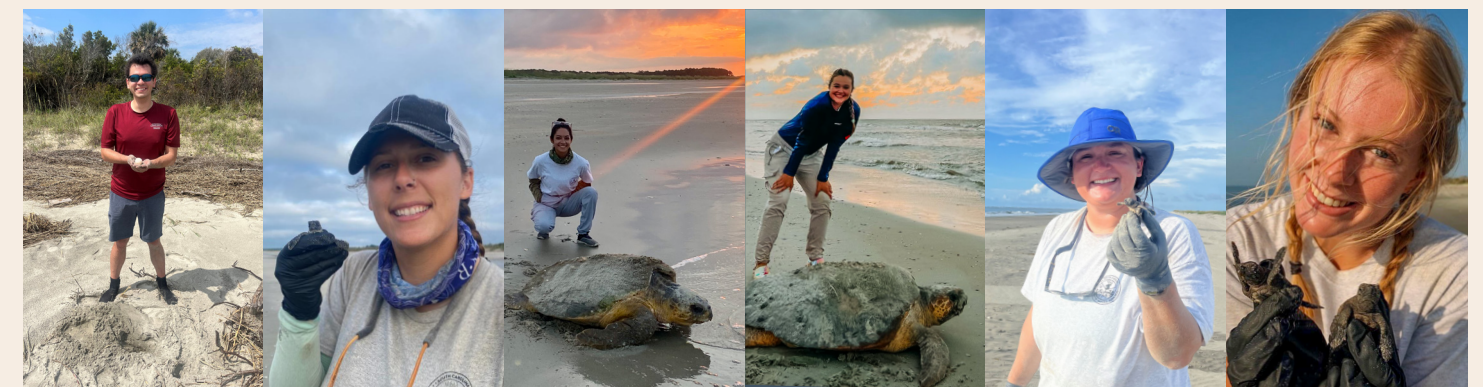
Michelle Pate
Coordinator

Jeff Schwenter
Wildlife Biologist

Meredith Bean
Wildlife Biologist



2023 Seasonal Staff



Joshua Ratay - Charleston

Joey Bauer & Anabel Tovalin - Botany Bay HP/WMA

Taylor Faherty, Corinne Johnston & Louisa Mai - Tom Yawkey Wildlife Center

In Memoriam



Betsy Brabson

DeBordieu/Hobcaw S.C.U.T.E./North Island

1954-2023

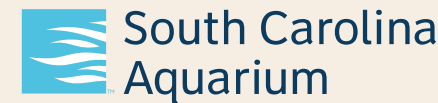


Edward "Jay" Tracey

Folly Beach Turtle Patrol

1953 - 2023

Partners & Supporters



As well as:

Susan Kay Culp in honor of Ann Culp
 Jay & Jan Haas in honor of Mark and Buffie Dupuis
 Michael Luongo in memory of Bridget Bryce MacIver
 Peebles Turbeville in honor of Karen & Tony Natoli
 Patrick & Susanne Brady
 Linda Newell
 June and Brian Sealy
 Olga Frank in memory of Jennifer Conrad Smith

Marena & William Smith in memory of Jennifer Conrad Smith
 Dave & Carrie Welter in memory of Jennifer Conrad Smith
 Philip & Pamela Jackson in memory of Jennifer Conrad Smith
 Marvin United Methodist Church, Inc. in memory of Jennifer Conrad Smith
 Hinson Family
 IOP/Sullivans Island Turtle Team

Loggerhead Genetics Research Supported through SCDNR by:

North Strand Sail & Power Squadron matched by Leslie Piwowarczyk
 Donna & Louis Palm
 Friends of Huntington Beach State Park
 N. Myrtle Beach Sea Turtle Patrol

The SCDNR Marine Turtle Conservation Program



5 Ways to Support Our Mission

1. Donate directly to the Marine Turtle Conservation Program. Tax deductible donations may be sent to:

SCDNR Sea Turtle Program
PO Box 12559
Charleston, SC 29412

2. Donate to the SCDNR Endangered Wildlife Fund at tax time with this form:
bit.ly/endangeredspeciesplate

3. Donate to the Marine Resources Fund via Shop SCDNR: bit.ly/marinefund

4. Purchase the Endangered Species license plate from the SCDMV in person or online today:

bit.ly/endangeredspeciesplate



5. Make a contribution to the Harry Hampton Wildlife Fund:

bit.ly/hamptonfund

*Specify that your gift is for the **Marine Turtle Conservation Program.***

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