

VELADOR

Science-Based Sea Turtle Conservation Since 1959

Issue 2, 2014

Managing the Impacts of Artificial Light for Sea Turtles



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I will never forget the first time I saw a sea turtle hatchling open its eyes to the world. I was performing sea turtle nesting surveys on Hutchinson Island in Florida and the time had come for the first nests to start hatching. I was lucky enough to arrive while some of the hatchlings were still emerging from the sand in the early morning hours. I felt an immediate connection and an overwhelming desire to protect these tiny, vulnerable creatures at my feet, struggling to extricate themselves from the sand to reach the sea. It was one of the most magical moments I

have ever experienced. Unfortunately, that magical moment was immediately followed by extreme panic when I noticed numerous, delicate flipper tracks in the sand that trailed off from the nest in the opposite direction of the water and over the dune. I began searching frantically for their whereabouts, knowing that they may not have much time to live after sunrise if I didn't find them quickly. My panic was soon replaced by profound grief when I came upon numerous small, crushed bodies of turtle

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**Inside: Policy Update -
TEDs and Louisiana**



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**Tour de Turtles: Get Ready
for the start of TdT 2014!**

Member Spotlight

Christine B. and her husband Geoff were Sea Turtle Conservancy (STC) Members for two years before becoming monthly Turtle Guardians. This summer they will join our researchers in Tortuguero, Costa Rica, as Eco-Volunteers with the STC Leatherback Program. Christine and Geoff have volunteered with sea turtle and tortoise groups worldwide and this will be their first time working with leatherbacks. STC asked them a few questions:



STC: How did you learn of Sea Turtle Conservancy?

C&G: I (Christine) have a keen interest in sea turtles, as well as tortoises, and I wanted to learn more about them. My husband did some research online and found the STC website.

STC: What led you to become STC Members?

C&G: We became a Member of STC because we not only wanted to learn more about turtles, but we also wanted to actively help protect these amazing creatures. STC enables us to do just that by adopting sea turtles and by becoming Turtle Guardians.

STC: Which is your favorite species of sea turtle?

C&G: I (Christine) have no favorites, I really love them all. They are such graceful, majestic and peaceful creatures, and they all need and deserve our help.

STC: Christine, why did you decide to become an eco-volunteer in Tortuguero?

C&G: We wanted to take the idea of helping to conserve sea turtles to the next level by getting hands-on experience assisting scientists in the field doing their important research. On a trip to Acapulco I was able to help release black sea turtles (subspecies of the green sea turtle). On another occasion in Galapagos, I swam with green turtles. On Curacao Island I was allowed to feed loggerhead sea turtles. These experiences were so special and inspiring, that I wanted to find more ways of getting up close and personal with sea turtles.

When I saw the opportunity on the STC website to visit the research station at Tortuguero and assist scientists in their conservation efforts, I knew we had to do it. What a great way to learn more about turtles and to have a chance to observe nesting turtles. The only difficulty was choosing which trip to go on first. I decided on the leatherback adventure, because I have never seen one in the wild. My husband and I intend to return (to Tortuguero) in 2016 for the green sea turtle adventure.

STC: Why is the Turtle Guardian monthly giving program a good charitable giving choice for you?

C&G: This method of giving is the best way to ensure it's never missed amongst

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VELADOR {bel.a.dor}

In Caribbean cultures, *Velador* translates as "one who stands vigil" — originally referring to turtle and egg harvesters who waited at night for turtles to come ashore. Now STC claims this title for its newsletter, and around the Caribbean 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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... from cover

hatchlings on the asphalt of Highway A1A. They had been lured away from the sea and into the road by bright streetlights. I was too late...

Unfortunately, my experience is by no means an isolated incident. This scenario likely repeats itself somewhere in Florida every single day during the nest hatching season; and year after year; resulting in the deaths of hundreds of thousands of newborn sea turtle hatchlings and occasionally adult turtles as well. Artificial lights cause problems for hatchlings as they emerge from their nests and instinctively crawl toward the brightest direction, which would be towards the ocean on a dark beach. Bright artificial lights disorient hatchlings, causing them to crawl inland and away from the ocean or to wander aimlessly on the beach, all the while burning up vital stored energy that is crucial for survival if they do ever manage to reach the sea. Disoriented hatchlings often die from dehydration, exhaustion, terrestrial predation and even passing cars. If they make it to the ocean, they have a lower chance of survival due to energy loss, making it harder to reach important off-shore habitats and increasing their susceptibility to countless marine predators. Artificial lighting is an anthropogenic phenomenon that nesting turtles didn't historically face. Nesting turtles once had no trouble finding a quiet, dark beach on which to nest, but now they must share the beach with millions of tourists, coastal residents, and businesses. Many of Florida's beaches are now lined with ocean-front condominiums, houses and hotels. Bright lights from these developments can illuminate the beach and discourage female turtles from coming ashore to nest or cause female turtles to select less-than-optimal

nesting sites. Managing the problem of artificial light pollution is particularly important in Florida, where approximately 90% of all sea turtle nesting in the United States takes place. The loss of hatchlings caused by poorly managed light represents a major obstacle to the recovery of U.S. turtle populations.

Sea Turtle Conservancy (STC) has worked aggressively since 2010 to correct problematic lighting and educate the public regarding the devastating effects of artificial light pollution on sea turtles, as well as the benefits of 'sea turtle-friendly' lighting, and this year is no exception. Under the guidance of Sea Turtle Lighting Director Karen Shudes, STC's bold initiatives to address problematic lighting, which involve working with private beachfront property owners to retrofit problem lights using the latest sea turtle-friendly technologies, have seen major successes in managing the effect of problematic lights at properties that had previously been responsible for the disorientation of nesting adult females and newborn hatchlings each year. STC has completed over 80 large-scale lighting retrofit projects in Florida's coastal communities through funding provided by the National Fish and Wildlife

Foundation, as well as supporting grants from other organizations and foundations. STC's lighting retrofit work has been immensely successful and has achieved significant decreases in sea turtle disorientations to retrofitted properties. Thousands of hatchling sea turtles have reached the sea that otherwise would have been disoriented by lights. This huge success has paved the way for additional funding to continue our crucial work.


In March 2014, STC was awarded a \$1.5 million grant from the Gulf Environmental Benefit Fund (GEBF) to expand



lighting retrofit work in the Florida Panhandle, specifically in Franklin, Gulf, and Walton Counties. GEBF is administered by the National Fish and Wildlife Foundation, which received a significant portion of the criminal fines levied against BP and other parties responsible for the Deepwater Horizon oil spill in the Gulf of Mexico. The funds support wildlife protection and recovery programs that are helping mitigate for impacts of the spill. With this latest grant, STC has set an impressive goal of targeting 45-50 properties for lighting retrofits, which will result in a minimum of 12 additional miles of nesting beach restored to darkness during the 2-year project. STC also expects to document a 75% decrease in the number of hatchling disorientation events reported at retrofitted properties. In addition to retrofitting problem lights at participating properties, STC will conduct native dune vegetation planting to provide an additional buffer to reduce or eliminate unwanted light on the beach and to enhance nesting habitat at various project sites.

As part of STC's ongoing effort to improve light management and enforcement of sea turtle lighting ordinances in Florida, STC also will use GEBF funding to develop a sea turtle lighting workshop tailored to local code enforcement personnel, lighting designers, architects, lighting manufacturers and distributors. Providing this training to key professionals in the public and private sectors will help builders voluntarily utilize best management practices for lighting during the design phase – thus reducing the need for enforcement actions at the local and state level. It is STC's goal to use the workshops developed under this phase of the project as a pilot program for a formal accredited course that

provides continuing education credits needed for maintaining professional certifications. An educational video will also be produced to provide to code enforcement staff as part of their training requirements. This training will enable code enforcement officers to properly educate property owners and recommend sea turtle friendly lighting alternatives, which limit impacts to turtles while meeting the safety and visibility needs of people.

STC's ongoing emphasis on coastal lighting will result in lasting improvements to critical sea turtle nesting habitat in the Florida Panhandle by permanently reducing or eliminating artificial light pollution on nesting beaches with a chronic history of disorientations and death of hatchlings. We are coordinating our lighting work with the Florida Fish and Wildlife Conservation Commission, which closely monitors lighting issues in Florida and received its own grant to support lighting improvements on public lands. STC staff has been busy with the initial stages of workshop development and identifying target properties for lighting retrofits. We now are getting ready to conduct site visits to beaches in the Florida Panhandle to ground-truth disorientation data and perform lighting surveys from the beach in order to identify problem light sources. STC is excited at the opportunity to continue our innovative lighting retrofit program and look forward to reporting new accomplishments in the near future. 

By Gwen Oberholtzer
Lighting Project Specialist


Gwen Oberholtzer is a new staff member hired to help with STC's Beachfront Lighting Project work in Florida.

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all my other activities. Also, if everyone did this, it would provide a reliable influx of funds for STC each month in order to achieve the greatest benefit for sea turtles.

Geoff and Christine are sure to have a once-in-a-lifetime experience working with leatherbacks in Tortuguero. Turtle Guardians such as Geoff and Christine provide critical funding to allow STC to continue to carry out successful conservation programs in Tortuguero, Panama, Florida, USA, Bermuda and Nevis.

To learn more about becoming a Turtle Guardian, please visit <http://www.conserveturtles.org> and click on the Donate button, or contact Becca Gelwicks at becca@conserveturtles.org or 352-373-6441.

Eco-Volunteer programs run through October. For more information please visit <http://www.conserveturtles.org/volunteer-research-programs.php> or contact us at stc@conserveturtles.org. 

By Becca Gelwicks
Membership Coordinator

Slow Progress toward TED enforcement in Louisiana

From April 12-17, STC staff joined nearly 800 colleagues from the international sea turtle community for its annual symposium in New Orleans. This year's venue was an interesting choice because Louisiana is the largest producer of U.S. shrimp, and the only state that does not enforce requirements for turtle excluder devices or TEDs. TEDs allow sea turtles caught in shrimp nets to escape and have been required in all U.S. state and federal waters since the late 1980s. Taking exception to this rule, Louisiana prohibited state personnel from enforcing TEDs in its waters in 1989; the ban continues to this day despite copious amounts of information on the threat shrimp trawling presents to sea turtles and the effectiveness and benefits of TEDs. The symposium organizers invited Governor Jindal to attend the meeting, but no one from his office or from the Louisiana Department of Wildlife & Fisheries joined us.

A special session of the symposium was dedicated to sea turtle – shrimp fishery interactions and discussions between conservation advocates and practitioners, fishing gear specialists and fishermen from Louisiana, Alabama, Mississippi, and Texas. These captains have been using TEDs for many years and noted that industry cooperation has increased since the government's gear specialists have been working more closely with crews to fine-tune their TEDs. Unfortunately, enforcement data reveal that a third of the fleet may not be TED compliant.

In 2010 the Louisiana Legislature passed a bill to eliminate the prohibition on TED enforcement in state waters, but Governor Jindal vetoed the legislation after the Deepwater Horizon oil spill. While State Legislator Lambert has re-introduced the bill (HR 416), his office is noncommittal about its chances for passage this year.

This Spring has been very lucrative for shrimp fishermen in the Gulf of Mexico where more than 90% of U.S. shrimp is landed. Demand is higher than usual because imports of farm-raised shrimp from Asia and South America have declined dramatically as a result of disease. This will be a short-lived phenomenon and, ultimately, market forces may be the catalyst for change in Louisiana. As reported in our last issue, earlier this year the Monterey Bay Aquarium listed Louisiana shrimp on its red "avoid" list because the fishery is killing sea turtles by not requiring TEDs. In all likelihood,



MS Department of Natural Resources

the mid-April vote by the Louisiana Shrimp Task Force in favor of enforcing TEDs is directly related to market pressure. This group is composed of both shrimp fishermen and shrimp processors.

Until October 2016, the number of shrimp boats in the Gulf of Mexico is restricted by a 10-year moratorium on new entrants to prevent too many boats in the fishery (known as over-capitalization). As the Gulf of Mexico Fishery Management Council considers new management options for the fishery, STC will promote limiting entry to reduce the impact of fishing on sea turtles and other endangered species like sawfish and Gulf sturgeon and to safeguard the marine environment from wasteful shrimp fishing.

Nearly 18 months after withdrawing its 2012 Biological Opinion authorizing the operation of the Southeast shrimp fishery from North Carolina to Texas, the National Marine Fisheries Service has finally published a new Opinion. Although the Service admits that it does not know how many sea turtles are killed by U.S. shrimpers, it appears to be bowing to political pressure by allowing the fleet to drown up to 53,000 turtles each year, the majority of which are Kemp's ridleys. Five species of sea turtles are found in the Gulf of Mexico, but Kemp's ridleys are basically restricted to the Gulf and likely sustained the greatest impact from the Deepwater Horizon oil spill. After more than two decades of dramatic nesting increases, Kemp's nesting has declined since the spill. The avoidable and extensive mortality of Kemp's ridleys on their foraging grounds is unacceptable. 🐢

By Marydele Donnelly
Director of International Policy

Florida Coastal Policy Update


Armoring White Paper - The construction of sea walls on or immediately adjacent to sea turtle nesting beaches can degrade nesting habitat, deter or interfere with sea turtle nesting, prevent natural beach recovery after storms and increase beach erosion. In an effort to inform the public and provide guidance on how to best construct and locate seawalls as far landward as practicable in order to reduce the impacts to nesting habitat, STC recently collaborated on the production of a seawall construction guide, "A Guide to the Siting of Seawalls" (Guide). It can be found on STC's website at <http://www.conserveturtles.org/freethebeach.php?page=armoring>. The Guide was produced by Coastal Tech, a coastal consulting and engineering company, in collaboration with STC.

As coastal erosion continues to threaten Florida's eroded beaches and adjacent upland structures, landowners often resort to sea walls to protect their property. Florida's coastal armoring laws try to strike a balance between protection of property and the need to preserve the beach and protect threatened and endangered sea turtles. Consequently, sea walls must be located as far landward and off the nesting beach as practicable. However, regulatory loopholes abound. It is unusual for Florida regulators to deny a permit to construct a sea wall. Property owners often want sea walls constructed further seaward than is allowed, and engineers can differ on ways to construct or locate walls.

The Guide offers advice on how to minimize the impacts to nesting habitat. It summarizes the laws and regulations in Florida that govern coastal armoring construction and provides a summary of the common types of armoring found along the state's beaches. It describes the engineering practices available to properly locate walls as far landward as possible. The Guide hopefully will bring increased attention to this issue and encourage Florida regulators to take a more cautioned approach to how they permit seawalls.

2014 Florida Legislative Session - A bill introduced during the legislative session authorized the Florida Department of Environmental Protection (DEP) to issue expedited "general permits" to local governments for beach activities such as dune restoration and the construction of dune crossovers. It also expanded DEP's authority to issue individual general permits for the construction of swimming pools and the repair of coastal armoring adjacent to the beach. STC worked with DEP

and the bill's sponsors to clarify and amend parts of the bill to ensure adequate sea turtle protections remain in place. The bill also authorized DEP to increase public usage of the state's Aquatic Preserves by granting concessions for recreational activities. The broad language of the bill could have been interpreted to allow marinas or hotels in the preserves. These preserves protect large areas of marine habitat used by sea turtles. STC worked with other conservation organizations to draft amendments requiring public notice and review of concession contracts and to limit concessions to activities compatible with the mission of the preserves.

The Florida Beaches Habitat Conservation Plan - STC has long believed that a variety of state-regulated activities that occur on or adjacent to the beach can harm sea turtles. For example, the state issues permits for sea walls that when constructed too far seaward can harm sea turtles or nesting habitat. The construction of dune crossovers onto the beach can trap turtles. Beach raking and cleaning activities permitted by the state, if not done carefully, can harm nests. The U.S. Endangered Species Act prohibits activities that cause "take" of threatened or endangered species such as sea turtles. Take includes activities that directly kill or injure these species, activities that interfere with essential behaviors such as nesting, or any significant habitat modification that results in harm. To resolve the potential conflict between the ESA and these state-regulated activities, the ESA allows the state to obtain federal authorization for the possible harm caused to listed species. To obtain authorization the state must obtain a federal Incidental Take Permit (ITP). For years Florida has resisted applying for an ITP. However, following the 2004 and 2005 hurricane seasons and the resulting frenzy of emergency activities such as the construction of miles of sea walls, the state realized there needed to be a better way to expedite reconstruction and cleanup while still protecting beach-dependent listed species such as sea turtles, beach mice and certain nesting shorebirds. Consequently, in 2007 the DEP applied for an ITP for its beach-regulated activities. The ITP requires the development of a Habitat Conservation Plan (HCP). The HCP in turn requires the development of strategies and policies that minimize the harm from state activities and mitigate for harm that can not be avoided. STC was appointed to the 7-member steering committee established by DEP to help guide the HCP's development. The FBHCP is now in its 6th year of development. STC remains strongly committed to this process. To learn more, visit <http://www.flbeacheshcp.com>. 

By Gary Appelson
Policy Coordinator

Events

It's been a busy spring for the Sea Turtle Conservancy team! Here's a glimpse at a few of the events we've participated in recently:

Tortuga Music Festival - During the weekend of April 12-13, several STC staff members traveled to Fort Lauderdale, Florida, to participate in the Tortuga Music Festival, hosted by the Rock the Ocean Foundation. The festival paired together music with meaning by raising awareness about marine conservation and issues affecting the world's oceans. Many different conservation groups attended to inform concert-goers of the current efforts to protect our oceans, wildlife and environment. Participants got to check out STC's interactive display on sea turtle-friendly lighting, learn about easy ways to help sea turtles and why sea turtle conservation is important. STC staff had a great time doing educational outreach in the Conservation Village area and making sure no one left without our turtle logo tattoo! We also worked with one of our partners, Naked Turtle Rum, to spread the word about sea turtles at the event. Prior to the event, STC lighting specialist Karen Shudes helped guide the festival on best practices for lighting during nesting season.

International Sea Turtle Symposium - In April, Sea Turtle Conservancy staff members traveled to New Orleans, LA, for a whirlwind week of sea turtle workshops, presentations, outreach, and fun known as the International Sea Turtle Symposium. This annual Symposium, hosted by the International Sea Turtle Society (ISTS), is a unique event that draws participants from around the world, from across disciplines and cultures to a common interest and objective: the conservation of sea turtles and their environment. The Symposium encourages discussion, debate, and the sharing of knowledge, research techniques and lessons in conservation to address questions on the biology and conservation of sea turtles and their habitats. STC had a strong presence throughout the Symposium. Executive Director David Godfrey participated in a "Speed Chat with an Expert" event, Policy Coordinator Gary Appelson gave a presentation




on Florida's Beach Habitat Conservation Plan and poster abstracts were submitted by Lighting Specialist Karen Shudes, Director of International Policy Marydele Donnelly, and Panama Research Coordinator Cristina Ordonez. STC also staffed an information and merchandise table the entire week and had a great time reaching an international audience!

City of St. Augustine Earth Day Festival – STC was excited to participate in the City of St. Augustine's Annual Earth Day Festival held at R.B. Hunt Elementary School. Communications Coordinator Lexie Beach and Membership Coordinator Becca Gelwicks spent the day engaging kids and local families in a fun sea turtle coloring activity and testing the kids' sea turtle knowledge with turtle trivia. STC also set up a collection area for hard to recycle items such as empty hummus containers, dairy tubs, juice pouches and energy bar wrappers. While these items cannot normally be recycled, STC sends them to an organization called Terra-Cycle, who can recycle or upcycle the trash, and then make a donation to STC. We look forward to participating in this event again next year! 🐢

*By Lexie Beach
Communications Coordinator*

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Tour de Turtles



The 7th Annual Tour de Turtles is right around the corner! Officially kicking off on August 1, this year's marathon migration event promises to bring fun activities and new turtle friends.


Over the past six years, STC has released dozens of turtles from nesting sites in Florida, Costa Rica, El Salvador, Panama, Puerto Rico, Mexico, Bermuda, and the West Indies. These turtles have provided invaluable data on migratory routes and foraging grounds for five sea turtle species in the Western Hemisphere. The public turtle releases conducted at the start of each year's Tour de Turtles annually draw more than 5,000 people, and the online portion of the event has reached millions of avid turtle enthusiasts over the years.

This year, you will now be able to support your favorite turtle by making a pledge for each mile they swim. For example, last year's competitor Banjo, a hawksbill turtle sponsored by Four Seasons Resort Nevis, swam 452 miles. If you pledged 10 cents per mile, your total donation at the end of the marathon would be \$45.20. You can determine your own pledge amount, starting as low as 5 cents per mile. Provide your payment information at the time of your pledge and STC will automatically charge you at the end of the marathon, or choose to have STC follow-up with your total amount before it is charged.

As in past years, you can also support your favorite turtle through an adoption. Choose your favorite turtle based on name, personality, species, cause or sponsor!



New this year is an exciting contest to win a VIP Sea Turtle Experience for the 2015 Tour de Turtles. If you make a Tour de Turtles donation or pledge at the \$100 level or above, you will automatically be entered to win up-close VIP access at the Melbourne Beach, FL, Tour de Turtles release (*tentative dates July 25-26, 2015*).

Going to be in the Melbourne Beach, FL, area this July? Come to the Tour de Turtles Kick-off and Turtle Release, July 26 - 27, 2014. Visit www.tourdeturtles.org for more information. 

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