

VELADOR

Using Science-based Sea Turtle Conservation Since 1959

Issue 3, 2011

Addressing Florida's Beachfront Lighting Problem



The Sea Turtle Conservancy (STC) is implementing a bold new program to address a problem that kills thousands of sea turtles every year in Florida—artificial lighting that disorients newborn hatchlings trying to find their way to the sea. Considering that about 90% of all sea turtle nesting in the United States takes place on Florida beaches, the loss of hatchlings caused by poorly managed light represents a major obstacle to the recovery of U.S. turtle populations.

With funding provided by the National Fish and Wildlife Foundation's Recovered Oil Fund for Wildlife, as well as supporting grants from other organizations and founda-

tions, STC is working with local officials and property owners to darken nesting beaches with chronic lighting problems. We are developing and implementing programs to educate local government officials about the impacts of beachfront lighting on sea turtles and providing grants to property owners for the installation of "turtle friendly" lighting. This initiative is protecting and ensuring the safe emergence of thousands of hatchlings each year that otherwise would have been disoriented by lights.

Nesting turtles once had no trouble finding a quiet,

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Inside: Supporting STC Through a Bequest, a Turtle Rescued in Tortuguero, and a Florida Update



Mel Stark

No Deposit...



...No Return

Jeff Rottman

Sea Turtle Conservancy founder Dr. Archie Carr dedicated his life to protecting sea turtles. His commitment and passion for the cause inspired generations of conservationists and spawned a global movement to protect these amazing animals. This is Archie Carr's legacy.

You too can leave a legacy for future generations—through a bequest or planned gift that ensures Sea Turtle Conservancy is able to continue the work started by Dr. Carr. Sea turtles will only be saved through the long-term commitment of resources, expertise and passion. STC has the passion and the experience. Your legacy gift will ensure the resources are there to carry on the world's most successful sea turtle conservation programs.

A legacy gift to STC can be made through any of the following options, each of which offers important tax advantages:

Trusts—A Trust offers substantial tax benefits to the donor and provides a steady source of income to either a charity or the donor, depending on the type of trust established.

Gift Annuities—With a gift annuity, you can make a lasting donation to STC and, in turn, receive lifetime income for you or your survivors.

Stock Gifts—Donating appreciated stock provides an income tax deduction equal to the value of the stock on the date of the gift, while avoiding capital gains taxes on the growth of your shares. STC has an account set up to accept stock transfers.

Wills—Another way to make a lasting gift for sea turtle conservation is through a direct bequest in your will. (Note: If you have already included “Caribbean Conservation Corporation” in your will, we encourage you to have your will revised to include our new name—Sea Turtle Conservancy.)

To discuss making a planned gift or bequest in support of sea turtle conservation, please contact David Godfrey, STC Executive Director at (352) 373-6441 or by email at david@conserveturtles.org. You can also visit STC's Planned Giving Guide online at www.conserveturtles.org/plannedgiving.



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** (formerly CCC).

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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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 oceanfront 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. Additionally, these lights cause problems for hatchlings as they emerge from their nests. Hatchlings instinctively crawl toward the brightest direction, which is towards the ocean on a dark beach. Bright artificial lights disorient hatchlings, causing them to crawl inland and away from the ocean or wander aimlessly on the beach, all the while burning up vital stored energy needed for survival at 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 marine predators.

The Florida Fish and Wildlife Conservation Commission (FWCC) developed a model lighting ordinance as a guideline to help coastal counties and municipalities in Florida develop their own local ordinances to protect sea turtles from the adverse effects of artificial lighting. However, not all coastal governments have adopted a lighting ordinance, and a number of those that have lack the funding or political will to properly enforce the regulations. As a result, there are still many important nesting beaches in Florida with high disorientation rates due to bright beach front lighting.

To help improve the implementation of lighting regulations, STC is developing a sea turtle lighting training program tailored for local code enforcement personnel. This hands-on, field-oriented program will train code enforcement personnel to identify the kinds of lighting sources and fixtures (e.g., wall and ceiling mount, pathway, pool, parking lot and garage lighting) that can

In 2007, an estimated 64,433 hatchlings were disoriented by artificial light pollution, primarily from unshielded fixtures.

negatively impact sea turtles. 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. Local field trips will be conducted to view coastal properties with problematic lights and to assess possible lighting retrofits that eliminate impacts to sea turtle nesting habitat. As part of the training course, educational videos will be provided to code enforcement staff.

The most exciting component of STC's new lighting program involves working with private beachfront property owners to retrofit problem lights using the latest sea turtle-friendly technologies. In Florida in 2007, an estimated 64,433 sea turtle hatchlings were disoriented by artificial light pollution caused primarily by unshielded light fixtures and short wavelength (white) bulbs on multi-family dwellings. On average, nearly 3% of all nests deposited in the state each year are disoriented

(1,350 in 2009). FWCC estimates that there are currently between 700 and 1,000 private properties with problem lighting on Florida beaches. Since new coastal developments are required to adhere to stringent state-approved lighting plans for the protection of sea turtles, the ability to systematically fix lights at older, existing developments presents an important opportunity to achieve long-lasting conservation benefits for Florida's sea turtle nesting populations.

After identifying properties with lights causing disorientations, STC's lighting staff experts work with property owners to design a lighting retrofit plan. Once all parties agree to the proposed modifications, STC provides partial funding to help replace all the problem lights and fixtures with the best-available "turtle friendly" lights for each situation. The retrofitted fixtures redirect light away from the beach to where it is needed; the light source itself is shielded from view on the beach, and the actual light sources are converted to high efficiency LED bulbs in the amber or red long wavelength spectrum (which is far



Problem lights on one of Florida's nesting beaches.

PH Jerris

STC's Legal Victory for Sea Turtles

On July 5th, 2011, the U.S. District Court for the Northern District of Florida found in STC's favor in a lawsuit the organization and its partners brought against the National Marine Fisheries Service (NMFS) for allowing the bottom longline fishery for reef fish in the Gulf of Mexico to injure and kill hundreds of loggerhead turtles each year. In finding for the plaintiffs in "Sea Turtle Conservancy et al. versus Locke" on two principal legal arguments, the court ruled that NMFS had violated the National Environmental Policy Act, the Administrative Procedure Act, and the Magnuson-Stevens Act in developing the current regulations that govern the fishery and its current management plan, known as Amendment 31.

This case is the culmination of three years of advocacy and legal action focused on protecting loggerheads from bottom longline fishing in the Gulf. Throughout this time, STC has worked closely with the excellent attorneys from the Center for Biological Diversity, Defenders of Wildlife and Earthjustice. The federal judge in the

case requested additional briefings from the parties and will issue a decision on remedy in the near future.

Since August 2008, when NMFS released information confirming that the fishery had captured hundreds of sea turtles in the previous 18 months, far in excess of the number allowed (from July 2006 through December 2008, the final estimate was over 900 turtles killed—10 times more than authorized), STC has urged NMFS to address this problem. STC worked to resolve this issue first in meetings and ultimately through legal action. Under the Endangered Species Act (ESA), a fishery that captures,

injures and kills endangered species such as sea turtles, is only authorized to fish after NMFS thoroughly reviews its environmental impacts in a Biological Opinion (BO) and authorizes a specific number of interactions that it deems can be allowed without jeopardizing the survival of the species. The BO may identify restrictions needed to protect the species, such as area closures or limitations on the type of gear or bait used.

In the fall of 2008, STC and other conservation groups met with NMFS officials and fishing industry representatives to discuss immediate reductions in sea turtle capture by bottom longliners. Each boat in this fishery deploys hundreds or even thousands of baited hooks on the Gulf floor to catch grouper, tilefish and other species. Unlike the longlines which are fished closer to the surface, which allow sea turtles to breathe, bottom longlines trap and often drown the turtles they capture on the bottom. Others that survive may subsequently die from hooking injuries or physiological problems created by forced submergence.

When neither NMFS nor the industry acted to address this problem, STC sought legal counsel and asked NMFS to use its emergency authority to close the fishery until this problem could be resolved. After many weeks of inaction, on January

13, 2009, our lawyers sent a 60-day notice of our intent to sue for violations of the ESA, as required by the law. At the end of January the Gulf of Mexico Fishery Management Council requested that NMFS institute an emergency fishery closure.

NMFS did not act and thus STC and our partners sued the Service on April 15th. Several weeks later NMFS prohibited bottom longlining in water less than 50 fathoms (300 feet) deep for six months or until it completed a new BO. Florida is the only state bordering the Gulf of Mexico that allows bottom longline fishing in waters less than



The National Marine Fisheries Service estimated that over 900 turtles were killed in the Gulf of Mexico Bottom Longline Fishery from July 2006 through December 2008. This was 10 times more than authorized by NMFS.

50 fathoms. During the closure, bottom longliners could fish beyond 50 fathoms and fishermen using vertical longlines attached to buoys were allowed to fish within 50 fathoms. Contrary to dire predictions by bottom longline fishermen, grouper and other reef fish were readily available at good prices throughout Florida during the closure.

In October 2009, NMFS released the new BO for the reef fish fishery under Amendment 31 and allowed bottom longliners to return to shallower water to fish under a temporary ESA Rule until Amendment 31 could be adopted. The ESA Rule allowed year-round bottom longlining beyond 35 fathoms (210 feet) and restricted each boat to carrying 1,000 hooks, with 750 hooks rigged for fishing. Although STC and our partners supported the ESA Rule, we were alarmed by the jeopardy analysis in the new BO, which increased the number of authorized captures from 85 turtles in three years to 732, and prohibited bottom longlining within 35 fathoms only from June-August. Although scientists from the Florida Fish and Wildlife Conservation Commission and Mote Marine Laboratory in Florida sent their information about loggerhead habitat use to NMFS, the authors of the BO omitted critical, detailed scientific data about sea turtles inhabiting and moving through the fishing area throughout the year.

Shortly after Amendment 31 was published on May 26, 2010, STC and our partners challenged the new BO in a second lawsuit for failing to use the best available science, violating the law in the way the BO was developed, and failing to take into consideration the effects of the Deepwater Horizon oil spill. Nearly a year later the Court gave us a victory on the legal claims, as noted earlier, and ruled that under the ESA, NMFS must evaluate whether the fishery may have “different or more extensive” effects on sea turtles after the Gulf oil spill in a new BO. This is a very important finding. The numerous terms and conditions of the 2009 BO will remain in effect until the new one including the effects of the oil spill is in place.

Courts generally give deference to the government on scientific issues and in this case the Court deferred to the expertise of NMFS on certain scientific matters and upheld the 2009 BO with regard to the science it relied upon. Nevertheless, we remain convinced that the Fisheries Service did not use the best available science. The way in which NMFS has handled its information and made its



Loggerheads are not the only sea turtle species that spend time on Florida's reefs. Green, such as this juvenile, and hawksbill sea turtles are found in hard bottom and coral reefs where fishing occurs.

case to the Court is also cause for concern. Until it filed its response in late August 2011 to the Court's decision, NMFS had not made information on sea turtle capture in fishery from 2009-2011 available, although on numerous occasions both STC staff and our lawyers had requested it. NMFS filed so-called public records on capture with the court in August 2011, even though prior to the filing a thorough document search by our attorneys did not unearth this information.

Since this fishery has a history of poor observer coverage and has been the subject of litigation, NMFS should be doing a much better job of collecting information and making it available to the public. Because the current observer coverage is lower than required in the 2009 BO, confidence in the results are highly questionable. To be fair, the Deepwater Horizon oil spill in 2010 surely contributed to poor observer coverage. But in light of its recent behavior, it is also possible NMFS has purposefully failed to collect important data so if there were ongoing problems, the environmental community could not prove that the fishery is harming sea turtles and must be restricted.

As the Court acknowledged, the ESA obligates NMFS to ensure that the actions it authorizes are not likely to jeopardize sea turtles. Our attorneys have asked the Court to order NMFS to comply with its own requirements to collect and analyze turtle capture data by bottom longline fishermen each year; maintain a meaningful level of observer coverage; and retain jurisdiction to enforce these terms and conditions. The Court's order on remedy will soon be available. 🌊

By Marydele Donnelly
Director of International Policy

STC researchers and eco-volunteers rescue poached green turtle

Since 1959, when the Sea Turtle Conservancy (known then as Caribbean Conservation Corporation) launched its sea turtle research and conservation efforts at Tortuguero, Costa Rica, the organization has worked with the local community to raise awareness about the plight of sea turtles and the need to protect females and nests at this globally important nesting beach. In an effort to reduce the desire to harvest sea turtles and their eggs, STC has been instrumental in developing sustainable ecotourism activities to provide alternative sources of income for local residents. Despite these efforts, there remains a low level of illegal take of both nesting females (for their meat) and eggs. STC closely monitors illegal harvesting activity, which is usually confirmed by the tell-tale signs that a turtle has been dragged off the beach, or when an



Green turtle found abandoned by poachers in vegetation behind the Sea Turtle Conservancy station.

empty egg chamber is seen the morning after a fresh nest has been deposited on the beach.

In the early hours of August 5, 2011, STC staff, research assistants (RAs) and Eco-Volunteers had the unique opportunity to rescue a green turtle that was found abandoned by poachers—probably after being scared off by the presence of STC personnel on the beach. STC security guard, Luis Ángel Urbina Álvarez, was conducting his early morning patrol of the field station when he heard a noise coming from the trail that runs parallel to the ocean between the beach and the station. Imagine his surprise when he illuminated the vegetation and discovered a green sea turtle flipped upside down and tied up in the undergrowth. He quickly alerted STC RAs at the station and informed the police, who came to



Research Assistant Gaby Serrato, a veterinary student from Mexico, watches over the turtle as the sun rises over the ocean.

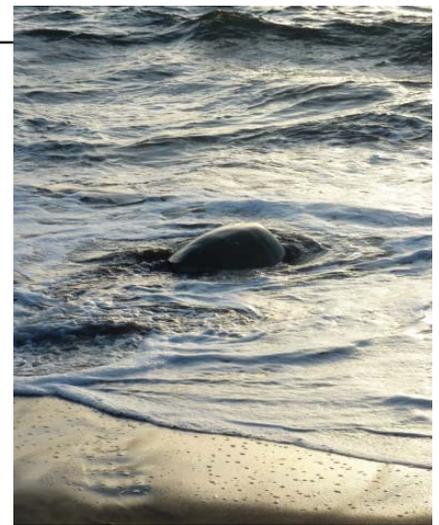
investigate.

The turtle was untied, flipped over and assisted back to the beach. Unfortunately, she was too weak from her ordeal to crawl back to the sea at that time. With the help of RAs and students from University of North Carolina-Greensboro, who were participating as Eco-Volunteers that week, the turtle was carried across the sand down to the surf.

The turtle's first attempts to swim away from the beach were unsuccessful. A dedicated group of RAs and Eco-Volunteers sat with her while she recovered. Calls were even made to Jean Beasley, director of the Topsail Sea Turtle Hospital in North Carolina, to ask for advice on how best to resuscitate the exhausted turtle. While there were no obvious injuries, she had been flipped over, tied up and dragged along the beach for almost 100 meters over logs and other debris and she was clearly depleted of energy.

After an hour of rest, the turtle made another attempt to go back to the ocean, and this time she succeeded. She left behind the tired, but relieved, group of RAs and Eco-Volunteers as she slowly made her way through the breakers and out to sea.

The turtle had a tag in one of her flippers, and it was discovered that she had been originally tagged at Tortuguero in 2007. This was the first time she had been seen since that year. She definitely had a lucky escape, thanks to both the vigilance of Luis the security guard and the efforts of everyone who was at the station that morning. We're all eagerly awaiting her return to the nesting beach this season, and in years to come. 🐢



The turtle finally makes her way back to the sea.



Track showing where the turtle was flipped over and dragged along the beach.

By Dr. Emma Harrison
Scientific Director



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Singer Island is one of Florida's most important loggerhead and leatherback nesting beaches.

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which numerous predatory fish would gather annually to feast on the wave of hatchlings trying to make their way to offshore currents.

STC testified before the county commission, sent detailed comment letters to a number of federal permitting agencies, and joined other organizations in expressing concerns over the project. The Florida Fish and Wildlife Conservation Commission also weighed in with a letter outlining the expected impacts to marine turtles. Almost three years ago, STC advised the staff of several Florida legislators pushing the project of the significant environmental impacts and recommended pursuing alternative solutions. STC and its partners worked with coastal engineers to develop alternatives and presented them to the county. Ignoring these recommendations, the county and its engineering consultants continued to push the breakwater project.

At the June 28th County Commission meeting, the federal agencies involved in permitting (National Marine

: Fisheries Service (NMFS), U.S. Army Corps of Engi-
 : neers, and U.S. Fish and Wildlife Service) were asked to
 : present their concerns over the project. The Corps' repre-
 : sentative stated that the project "was un-permittable" due
 : to regional environmental impacts and the increased ero-
 : sion it would cause on beaches to the south. NMFS said
 : the project's adverse impacts would continue in perpetuity
 : and could jeopardize the existence of the population of
 : loggerheads.

: Following the presentations by the agencies, the
 : County Commission directed its staff to abandon the
 : Singer Island project and its two other breakwater proj-
 : ects. This is very good news for sea turtle protection and
 : for Florida's beaches. It is also a wake up call to coastal
 : counties to seek alternative solutions that do not rely pri-
 : marily on structural engineering to protect our economi-
 : cally and environmentally important sandy beaches.

By Gary Appelson
 Policy Coordinator