

DARKER BEACHES, BRIGHTER FUTURE: REDUCING THE IMPACTS OF ARTIFICIAL LIGHTING ON SEA TURTLE NESTING BEACHES

Karen Shudes and David Godfrey

Sea Turtle Conservancy, Gainesville, Florida, USA

Each year in Florida tens of thousands of sea turtle hatchlings are disoriented by poorly managed beachfront lights. To address this problem, Sea Turtle Conservancy (STC) applied for and received grant funding to implement a program that increased sea turtle hatchling survivorship on Florida's high-density nesting beaches by correcting problematic lights on private properties with histories of causing sea turtle disorientations. Working with state and local agencies and local turtle monitoring groups, STC identified numerous properties with problematic lights. STC staff, skilled in sea turtle lighting criteria, designed cost-effective lighting plans tailored to each site, which met the safety needs of property owners while ensuring sea turtle lighting compliance. The latest technologies in "sea turtle friendly" lighting were used to effectively reduce and manage exterior lighting at over 60 multi-family properties and businesses, which effectively darkened approximately 7 miles of prime sea turtle nesting habitat. Monitoring of nesting at project sites following lighting retrofits showed significant decreases in sea turtle disorientations, resulting in the safe emergence of thousands of hatchlings each year that otherwise would have been disoriented by lights. Furthermore, STC has documented significant energy cost savings for property owners that converted to using turtle-friendly LED lighting. This project has proven that turtle-friendly lighting can effectively reduce hatchling disorientations and save thousands of newborn sea turtles each year. These results, combined with the financial benefits associated with using energy-efficient LEDs, make this project replicable in other coastal communities where poorly managed artificial lighting degrades nesting habitat.