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City of Miami Beach, 1700 Convention Center Drive, Miami Beach, Florida 33139, www.miamibeachfl.gov

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NO. LTC # **158-2019**

LETTER TO COMMISSION

TO: Mayor Dan Gelber and Members of the City Commission

FROM: Jimmy L. Morales, City Manager

DATE: March 20, 2019

SUBJECT: Sea Turtle White Paper

The success of the sea turtle conservation in Miami Beach depends on collaborative efforts between the U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC), Miami-Dade County and City of Miami Beach.

The attached white paper provides an overview of sea turtle conservation efforts in the city. We have invited FWC's senior leadership team to discuss best management practices, timelines, and solutions that align with the unique challenges that our coastal community encounters.

Should you have any questions, please contact Elizabeth Wheaton, Environment and Sustainability Director, at 305-673-7010.

Attachment – Sea Turtle White Paper

SMT/ESW/MKW/FCT/YP

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City of Miami Beach, 1700 Convention Center Drive, Miami Beach, Florida 33139, www.miamibeachfl.gov
OFFICE OF THE CITY MANAGER

March 18, 2019

Eric Sutton
Executive Director
Florida Fish and Wildlife Conservation Commission
620 South Meridian Street
Tallahassee, FL 32399

Dear Mr. Sutton:

Miami Beach is a vibrant coastal city in Southeast Florida that is home to more than 90,000 residents and welcomes nearly 9 million visitors annually. Our role as an international tourism destination and as an urban community poses some unique challenges. Today, I write to you to share the opportunities that we see to work together to improve sea turtle protection, while addressing the unique challenges of our community. Attached is an overview developed by my team.

We are requesting a meeting with you or your senior team to discuss past practices, current conditions and potential solutions moving forward. My Chief Resilience Officer, Susy Torriente had an introductory call with your Chief of Staff, Jennifer Fitzwater in February. With a new administration at the helm, I am confident that we can discuss enhancements to our current practices and build upon our working relationships among the city, county and state. I invite you to visit our community for a tour and I would also like to visit you in Tallahassee.

Thank you for your consideration and I look forward to working with you and your team.

Sincerely,

Jimmy L. Morales
City Manager

CC: Jennifer Fitzwater, FWC Chief of Staff
Dr. Thomas Reinert, Regional Director
Robbin Trindell, Biological Administrator III
Michele Burger, Chief of Staff, Office of Mayor Dan Gelber, City of Miami Beach
Susanne M. Torriente, Chief Resilience Officer, City of Miami Beach
Elizabeth Wheaton, Director of Environment & Sustainability, City of Miami Beach

City of Miami Beach Sea Turtle Protection Overview

Sea Turtle Habitat

The City of Miami Beach is one of several coastal cities in the state of Florida that serves as a nesting habitat for three different species of endangered and/or threatened marine turtles. The Atlantic loggerhead turtle (*Caretta caretta*), Atlantic green turtle (*Chelonis mydas*), and Leatherback turtle (*Dermochelys coriacea)* lay their nests along the city's seven miles of beaches every year from early April through early November. On an annual basis, the city's beaches can host an average of 100-110 nests, while the average nest can host up to 110 eggs, contingent on the species.

Sea turtles in the wild are susceptible to predation, disease, and even beach erosion. In urban environments, such as Miami Beach, they can run into issues with fishing gear, beach furniture, vehicles, people, and the biggest challenge of all, light pollution. Sea turtle hatchlings are born with the instinct to head toward the brightest light on the beach after hatching, which is usually the light of the sky reflected off the ocean surf. In coastal areas with artificial lighting, hatchlings may become disoriented and travel in the wrong direction away from the ocean, potentially never making it to the water.

Disorientations are a common occurrence in coastal cities that also serve as sea turtle habitats. Upland lighting and overall light pollution draw hatchlings away from the water. In Miami Beach, disorientations generally occur as a result of upland lighting and are documented by the local sea turtle permit holder.

Federal & State Enabling Legislation

The Federal Endangered Species Act (ESA) of 1973 and Florida's Marine Turtle Protection Act (379.2431, Florida Statutes) serves to protect sea turtle populations by restricting activities (possession, disturbance, harassment) that harm or could harm marine turtles, their nests, their eggs, or their hatchlings. Florida statutes also dictate that a specific authorization is required from Florida Fish and Wildlife Conservation Commission (FWC), as a delegated authority from the U.S. Fish and Wildlife Service (USFWS), to conduct scientific, conservation, or educational activities that directly involve sea turtles, their nests or their hatchlings in the state of Florida.

State & County Role

At the state level, FWC is responsible for ensuring compliance with Florida statutes. They also enforce turtle conservation permits, respond to and investigate incidents, and make changes to permits and permit requirements. Miami-Dade County, through their Sea Turtle Monitoring Program, is the local sea turtle permit holder and the lead on conservation activities. As dictated by their FWC permit (#MTP-18-017), county staff conducts daily morning inspections to identify, mark off and, where applicable, relocate nests, to inventory hatched nests, and to document hatchling disorientations. No beach activities (sand sifting, litter collection, concessionaire operations) are allowed to begin before the daily survey is completed and county staff gives the "all clear". This restriction prevents the loss of sea turtle tracks used to identify nests, as well as

potential collisions with nesting sea turtles or newly laid nests. All nests identified by county staff during the survey are marked and surrounded by caution tape the same morning they are discovered, signaling the public to maintain a safe buffer of at least 10 feet.

AGENCIES WITH DEFINED LEGAL RESPONSIBILITIES

State Guidance for Locals

In 2016, FWC updated the Marine Turtle Conservation Handbook, the document that provides guidance for the FWC sea turtle permit holders. One major change specified within the updated handbook is that most nests will no longer be relocated, screened or caged. These options are considered a last resort to be used sparingly only if fully authorized by the state. Another change in the updated handbook requires that permit holders leave more nests in place, rather than relocate them as has been done for the last 30 years. These changes are intended to reduce the risk of embryo and hatchling mortality associated with moving the eggs and caging the nests. The focus is now on reducing human activity and artificial lighting rather than nest relocation, placing the burden on better management of potential human threats. Relocation is still used as another last resort in extenuating circumstances, such as with nests that would have otherwise been damaged by inundation, erosion, or other substantial threats as determined by the county and FWC.

In the past, loggerhead nests in selected segments of Miami Beach, such as our entertainment and cultural districts, were often relocated due to concerns over artificial light that could cause

disorientations. As less nests are relocated, Miami Beach has seen an increased number of reported disorientations adjacent to these areas, like Lummus Park and Marjorie Stoneman Douglas Park in South Beach. After the conclusion of the 2018 season, local sea turtle permit holder reports indicated that over half of all nests citywide experienced disorientation. This represents a significant increase when compared to disorientation rates prior to 2016, when nests adjacent to the entertainment districts or areas with evident threats to sea turtle populations were relocated with more frequency. It should be noted that prior to the revisions of the handbook, disorientation reports were not mandatory; therefore, limited data exists before 2016.

City of Miami Beach Today

As the community within which the nesting and hatching habitat is located, the City of Miami Beach helps connect all the entities involved in sea turtle protection by making recommendations to the state and county, ensuring compliance with the city's sea turtle protection ordinance, and overseeing education and outreach to our residents and visitors.

Miami Beach is highly visited barrier island community located in southeast Florida between Biscayne Bay and the Atlantic Ocean. In 2017, **Miami Beach attracted over 58% of the 15.86 million overnight visitors that stayed within Greater Miami and the Beaches**. As listed within the 2017 Visitors Profile and Economic Impact Study, these visitors spent an approximate **$25.97** billion during their stay and noted that the beaches and the Art Deco/South Beach district were the top tourist destinations of the region. In 1986, Ocean Drive and other neighboring areas within South Beach were first designated as historic and listed on the National Register of Historic Places for their distinct architecture.

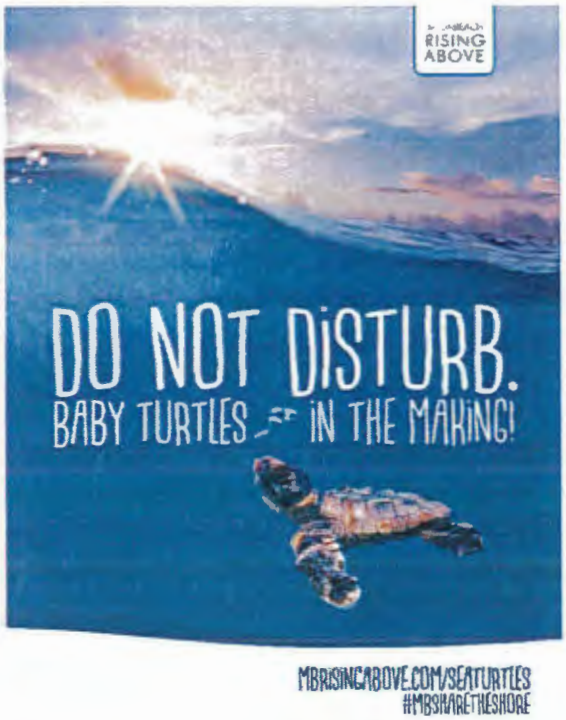
Safety & Lighting Needs in Miami Beach

Our entertainment and cultural districts attract an abundance of visitors to enjoy both daytime and evening activities. Lighting is one tool used by the city to ensure the safety of our residents and visitors. Lighting in public areas helps our police force to reduce crime. In high impact zones such as Ocean Drive (5th Street to 14th Street), our Police Department relies on enhanced lighting as an effective crime prevention tool. Enhanced lighting can improve surveillance and increase the risk of offenders being detected. People feel safer in well illuminated areas, which increases activity, can further improve surveillance, and ultimately deter crime.

The University of Chicago Crime Lab New York published a study in 2017, which highlights the New York City Housing Authority's (NYCHA) deployment of light towers to 39 NYCHA housing developments and found these sites experienced crime rates that were significantly lower than control areas without this type of lighting. Index crimes in many lit areas were cut by 39% over areas that did not receive the lighting improvements. In Miami Beach, a city owned garage received upgraded lighting due to complaints of auto burglaries and other crimes inside the property. The police department found a significant drop in the total cases reported by an estimated 58.33% decrease and a decreased in calls for service of 62.95% after the new lighting was installed. Proper lighting not only deters crime, but it enhances the safety of pedestrians and users of public space. A properly lit sidewalk will prevent trip and falls. Drivers can better identify

pedestrians at crosswalks when rights of ways are properly lit. The same applies to drivers being able to detect bicyclists on the roadway.

Miami Beach Existing Efforts and Ongoing Program Improvements



SEA TURTLE EDUCATION CAMPAIGN – MIAMI BEACH (COURTESY OF CITY OF MIAMI BEACH COMMUNICATIONS DEPARTMENT AND BEN HICKS PHOTOGRAPHY)

The City of Miami Beach takes many steps to reduce disturbance of sea turtles during nesting season, while maintaining a safe environment for our residents and visitors. City departments continuously work on short-term and long-term strategies for better protecting our native sea turtle population. This includes internal trainings, lighting retrofits, community workshops, educational campaigns, and enforcement. For example, in 2018, the city launched an educational campaign which included a public service announcement (PSA), printed ads, and both organic and paid social media posts reminding the public to not disturb sea turtle nests. The social media campaign was viewed over 500,000 times and the PSA received over 200,000 views.

In addition, the Code Compliance Department provides targeted outreach. Prior to the start of 2018 sea turtle season, Code Compliance staff conducted in person site visits to each of the 153 private beachfront properties to alert them of the upcoming start of nesting season and to provide them with educational information on sea turtle conservation and lighting requirements. By the end of the season, they issued 42 Notice of Violations, of which all but three have come into compliance to date. The pending three properties are awaiting a Special Masters hearing.

As the city plans, designs, and constructs projects along the beachfront, sea turtle friendly fixtures will replace existing non-compliant lights on public property. These projects include those programmed in our capital budget, as well as those approved in 2018 by the Miami Beach voters for funding through the issuance of a General Obligation Bond (G.O. Bond).

Moreover, the city is revising its existing special event guidelines to ensure that special considerations are given to sea turtle populations, especially for events taking place on or adjacent to the beach. In addition to minimizing the number of allowable events, the city will work to restrict the evening run times of each event to minimize the need for lighting. The city also has two Beachfront Monitors that conduct enhanced event and evening inspections to ensure that all beachfront equipment is safely secured and stored west of marked sea turtle nests.

The city is always looking for opportunities to enhance our existing initiatives and coordinates regularly with county, FWC, and USFWS staff to brainstorm new ideas, prevent problems, and quickly resolve issues. On March 6, 2019, an interagency meeting was held at FWC's South Region Office between FWC, Miami-Dade County and the city. Interagency coordination meetings continue throughout the year with standing monthly conference calls. Open communication between all four agencies, as well as the data provided by the county allow the city to continuously adjust our efforts, prepare for upcoming special events, better direct education efforts, and prioritize enforcement inspections in areas with high nest densities and/or significant lighting issues.

Opportunities

Balancing public safety needs and sea turtle protection can be difficult for communities up and down the coast and is a particular challenge for Miami Beach due to our volume of visitors and our highly urbanized environment. Sea turtles require darkness and while we are working to reduce light pollution throughout our city, adequate lighting is critical in addressing public safety concerns, particularly in the cultural, commercial and entertainment districts of our city. This is why heavily visited areas like Lummus Park were designated for nest relocation in the past. As more nests are left *in situ*, lights necessary for keeping these areas safe are of increased concern.

The City of Miami Beach has already made several short-term and long-term changes to better protect our native sea turtle population. However, this is a complex issue that requires careful thought and collaboration between all the agencies working toward sea turtle protection in Miami Beach to identify out-of-the-box "hands on" and administrative sea turtle conservation solutions to supplement lighting compliance efforts.

Options for Discussion

RESTRAINING CAGE - BROWARD COUNTY (COURTESY OF NOVA SOUTHEASTERN UNIVERSITY)

There are several sea turtle conservation strategies listed within the Marine Turtle Conservation Handbook that could be explored to address areas with high rates of mortality and disorientation, such as the entertainment districts. All options listed are only intended for individuals whose permits authorize them to carry out those activities as dictated by FWC. One option is to consider relocations for the entertainment district hatchings. As previously mentioned, relocation is used as a last resort and only for nests that are located in naturally hazardous areas such as those that are too close to the water line. However, relocating nests could potential have a negative impact on the development of embryo since an adequate incubation environment greatly influences the growth of the eggs. It is important to note that prior to 2016, almost all nests from the entertainment districts were relocated to Haulover Beach. Another option is the implementation of restraining cages or protective perimeters. These cages are placed over the nest with the goal of collecting all emergent hatchlings. This is

also considered to be a last resort option and could be used when nests are deposited in areas that may prevent hatchlings from being able to access the water successfully. As per the Marine Turtle Conservation Handbook, this option may be allowed in some beaches if the local municipality or jurisdictional entity is actively working with FWC to address and reduce lighting challenges. Broward County is permitted to use this method for a specific number of loggerhead nests in certain areas of their beaches.

Lighting is an issue throughout all coastal areas with sea turtle activity, including our National Parks. Although not used within the State of Florida or listed as an option within Marine Turtle Conservation Handbook, the implementation of silt fencing around emerging nests has been used as an option in other states. The Cape Hatteras National Seashore located in North Carolina is a 67-mile long series of islands managed by the National Parks Service. Since 2005, black silt fencing has utilized by park management staff and placed around most sea turtle nests to decrease the amount of artificial light that shines on each site, thereby decreasing the negative effects of light on hatchlings. The fencing is placed only when the nest approaches its predicted hatching period and is removed right after the hatchlings have emerged. Cape Hatteras National Seashore follows management guidelines defined by the North Carolina Wildlife Resources Commission in the Handbook for Sea Turtle Volunteers in North Carolina and USFWS species recovery plans.

SILT FENCING - CAPE HATTERAS NATIONAL SEASHORE
(COURTESY OF SEA TURTLE MONITORING AND MANAGEMENT AT CAPE HATTERAS NATIONAL SEASHORE: 2017 ANNUAL REPORT)

In Miami Beach, Miami-Dade County staff is responsible for documenting nests and disorientations and providing reports based on their findings. However, the city receives limited data from the county. As of today, Miami Beach receives the number of nests, number of false crawls, and disorientation reports. While we do receive nest counts, the city is not provided with nest locations and the nest incubation timeline. Receiving this information with specific locations of nests will help the city prioritize outreach to properties located nearby. Detailed data can help us provide more targeted code enforcement and operational changes to yield greater impact.

Conclusion

In summary, Miami Beach is already working with our partners at the county, state and federal government to use certain conservation strategies for sea turtle protection on our beaches. We want to build on our existing efforts by looking at other conservation strategies that can help us further decrease sea turtle disorientation, while meeting the needs of our vibrant urban beach community. Some of the opportunities that we would like to explore further with FWC include but are not limited to:

- Opportunity 1: Relocating nests in high impact areas such as the entertainment districts.
- Opportunity 2: Installing a protective mesh for nests in areas with high artificial light exposure as listed within the handbook and practiced within Broward County.
- Opportunity 3: Utilizing silt fencing around the portion of the nests that are exposed to upland lighting, creating a barrier and minimizing the possibility of disorientations.
- Opportunity 4: Continuing to pilot lighting improvements in areas with high disorientations, allowing for flexibility to explore alternative options such seasonal lighting to meet the needs of all agencies.
- Opportunity 5: Following best management practices such as working with the permit holder to obtain accurate data such as nest location and numbers. For example, NOVA Southeastern University (Permit Holder) works closely with the City of Fort Lauderdale to obtain timely data.

Through collaborative discussion of these and other conservation opportunities in consideration of our community's unique challenges, the City of Miami Beach knows we can have a positive impact on sea turtle protection, such as reducing sea turtle disorientation. These strategies can also help further support the ongoing efforts of all city departments to address existing lighting challenges in areas that do not provide excessive public safety challenges. The conservation of sea turtle populations and the safety of residents and visitors are equally important to the City of Miami Beach and the definitive goal is to find a balance between both.

Thank you for your consideration in this matter. We appreciate any guidance that can be provided in helping reach this goal.