M E M O R A N D U M

To: Tom Harmer, Town Manager

From: Allen Parsons, AICP
Director, Planning, Zoning & Building Department

Report date: February 5, 2021

Meeting date: February 16, 2021

Subject: Report and Recommendations Regarding Marine Turtle Protection Ordinance (Proposed Amendments to Town Code, Chapter 100)

Recommended Action

Provide direction to Manager.

Background

At their November 9, 2020 Regular Workshop Meeting, the Town Commission held preliminary discussion on a series of staff recommendations to update the Marine Turtle Protection Ordinance (Town Code Chapter 100). The recommendations presented arose from the perspective of implementing and enforcing Chapter 100 requirements over four full marine turtle nesting seasons, following the last significant Ordinance update in 2016. Recommendations were intended to primarily address ambiguities and enforcement challenges with the existing Ordinance, along with incorporating additional best management practices associated with the protection of endangered nesting marine turtles. A summary of the Regular Workshop Meeting discussion points, and the recommendations that were presented, are provided below. Areas where the recommendations have been modified, based on feedback received, are noted in the recommendations summary below.

In addition, the Town Commission provided consensus direction to obtain public input prior to further consideration. Staff held a public workshop (via Zoom) on December 17, 2020 and reviewed the proposed changes that were presented to the Town Commission. Notices were mailed to all properties with Gulf of Mexico frontage, the Federation of Longboat Key Condominiums, the Condominium Property Manager's Group, and all active contractors registered with the Town. Staff also utilized social media and local news media to advertise the workshop to the general public. Feedback at the workshop included expressions of both support for the initially recommended changes, and concern over the imposition of additional requirements, such as reduced window tint percentages, having an impact on residents year-round.

The timing of consideration of these recommendations coincides with a pending beach renourishment project in the Town. As part of the permitting for that project, the Town held a Pre-Construction Meeting with the Florida Fish and Wildlife Conservation Commission (FWC) on January 29, 2021. FWC provided pre-construction feedback to the Town, in part, as the renourishment will be occurring during the upcoming sea turtle nesting season and will involve developing relocation plans for sea turtle nests. FWC

staff have been aware of the potential updates to the sea turtle protection ordinance and are supportive.

Their pre-construction feedback also included a recommendation for the Town to consider ways to secure trash facilities near the beach to avoid nest predation from animals such as raccoons. While there are limited examples of ordinances addressing securing trash containers to minimize negative interactions with wildlife, Volusia County addresses raccoons as part of a Habitat Conservation Plan, which requires all trash bins on the beach to be raised (on a framed stand) and emptied every night (public and private bins). Staff recommends considering this issue separately from the previously identified Marine Turtle Ordinance recommendations to allow further time to research potential solutions that may be included as amendments to Town Code Chapter 95, Garbage, Rubbish, Junk and Recycling.

As noted previously, the Marine Turtle Protection Ordinance was last updated in 2016 (Ordinance 2016-15) with an overall objective to:

> "*protect marine turtles which nest along the beaches of the town by safeguarding the nesting female and hatchlings from the adverse effects of artificial light and from injury or harassment by prohibiting activities disruptive to marine turtles, while maintaining lighting standards necessary for public safety and security. (Sec. 100.01)*"

One of the areas of Commission discussion, not related to the staff recommendations, was in regards to how the Town compares to other communities in monitoring marine turtle populations. As noted, ongoing nesting surveys found no significant reduction in the Town's "disorientation[1]" rates looking at the period both before and after the most recent Ordinance updates (between 2013 and 2020[2]). Results from FWC also indicated that the Town had one of the higher total numbers of disorientations Statewide.

To better understand this data, questions raised by the Commission included (Note: Responses provided are from FWC staff, edited for clarity.):

- Are there uniform reporting requirements Statewide?

[1] Disorientation events occur when artificial lighting on marine turtle nesting beaches disrupts the ability of nesting females and hatchlings to find the marine from the beach. Adult and hatchling marine turtles have an inborn tendency to move in the brightest direction, instinctively crawling away from the dark silhouettes of landward dunes and vegetation towards the brighter open horizon of the ocean. Artificial lights near the beach are often brighter than the ocean horizon, leading adult females and hatchlings to disorient, or crawl in the wrong direction. Both adult females and hatchlings can be disoriented landward by artificial lighting as they attempt to leave the beach after nesting or hatching.

[2] The four year average of sea turtle nest disorientations between 2013 and 2016 was 147 disorientations. The four year average between 2017 and 2020 (Note: Only a partial season record for 2020 is currently available) is 175 disorientations. By comparison, between 2017 and 2020 Longboat Key had a higher percentage disorientation rate (14%) than Lido Key (11%), Siesta Key (7%), Casey Key (1%) and Venice (12%), which are all located within the Mote Marine permit area and are counted by similarly trained staff and volunteers.

R: All nesting surveyors are expected to look for disorientations and report them to FWC as soon as possible. The requirements are codified in the FWC Marine Turtle Conservation Handbook (page 2-39), which lays out the requirements for all permitted marine turtle activities and is incorporated by reference into 68E-1 Florida Administrative Code (Marine Turtle Permit Rule). The rule and the handbook can be found on FWC's website at https://myfwc.com/license/wildlife/marine-turtle-permit/ .

- Are the same number of reporters inspecting beaches in other areas?

R: The number of people conducting the surveys each day is fairly similar. Nesting surveys in most areas are conducted by groups of 1 – 3 people each day. It was further noted that the Town and all the other areas of Sarasota County are surveyed under permits with the same organization (Mote Marine Laboratory) with similar survey protocols across all local beaches.

- Do all reporters inspect daily?

R: Not necessarily, but for the most part, yes. Because surveyors are expected to look for disorientations during each nesting survey, the answer to this depends on how frequently nesting surveys are conducted. Surveys are conducted Statewide through two complimentary programs – the Index Nesting Beach Survey (INBS), which only includes 36 survey areas, but requires daily surveys that follow very specific protocols, and the Statewide Nesting Beach Survey (SNBS), which includes most of the beaches around the State to get a total minimum nest count, but does not have a requirement for surveys to be conducted daily. The majority of beaches are surveyed daily with the exception usually being those areas that are remote or difficult to access. More information about the programs is on FWC's website https://myfwc.com/research/wildlife/sea-turtles/nesting/monitoring/ .

- Are there differences that are allowed in the way numbers are tallied (i.e. daily versus less than daily)?

R: No. All disorientations are reported on a per-event basis, which entails a separate report for each disorientation event. Additionally, each individual report gets a QA/QC (quality assurance/quality check) by FWC staff. The public dashboard on FWC's website only displays reports that have been proofed. Any records that are submitted erroneously, are potential duplicates, do not meet FWC's threshold to be considered a disorientation, or where more information is needed are not included in the map or summary graphs on that dashboard.

- Are there any known explanations as to why Longboat Key would have a relatively high number of disorientations?

R: There are many of things that can factor in. The raw number of disorientations reports doesn't actually tell that much because it's not standardized by nesting density. For example, having 10 disorientations isn't informative unless one knows whether there were 10 nests or 10,000 nests.

The more helpful metric is disorientation rate (number of hatchling disorientation reports divided by total number of nests), which represents the percentage of all nests that were reported as disoriented.

Note: Footnote #2 above depicts the disorientation rates with the Mote Marine Laboratory permitted jurisdictions. One of the graphs shown during the November 9, 2020 Town Commission Workshop discussion depicted the total number of disorientations, by jurisdiction, from FWC's Sea Turtle Disorientation Survey. Data from each of the last three marine turtle nesting seasons indicated that the Town had the second highest number of disorientations reported. The Commission wanted to better understand some of the factors to put these figures into better context. In attempting to provide for a number of ways to compare the disorientation rates, staff has prepared the table below, which compares the year 2020 figures for the top ten jurisdictions that FWC's Disorientation Survey indicates had the highest number of disorientations, along with two local jurisdictions (Venice and Sanibel) that have similar beach frontage lengths. The table seeks to provide comparisons of disorientation rates and the density of nests per mile. As of the writing of this memorandum, the table is incomplete as staff is awaiting responses from the various jurisdictions to fill in the number total number of nests. Staff will continue to seek this information to provide at the February 16, 2021 Regular Workshop Meeting discussion.

City	Total Nests	Total Diso	Rate	Miles of Beach	Nests/Mile	Diso/Mile
Fort Lauderdale	966	276	**28.57%**	7	138	39.43
Longboat Key	1,136	138	**12.15%**	11	103.27	12.55
Cocoa Beach		98		6		16.33
Miami Beach		89		7		12.71
Holmes Beach		80		3		26.67
Pompano Beach	280	84	**30.00%**	3	93.33	28.00
Lauderdale by the Sea	221	32	**14.48%**	3	73.67	10.67
Riviera Beach		73		3		24.33
Vero Beach		62		4		15.50
Sanibel	665	41	**6.17%**	12	55.42	3.42
Venice	478	40	**8.37%**	14	34.14	2.86
Fort Myers Beach	132	10	**7.58%**	7	18.86	1.43
Averages	**554**	**85.25**	**15.33%**	**6.67**	**73.81**	**16.16**

There are also a lot of factors that contribute to the actual number of reports.

- Predominant development type – areas with more commercial development (hotels, condos, restaurants, etc.) tend to have more disorientations than areas dominated by single family homes. Commercial properties tend to have more lights and it can take much longer to fix issues because the scope of the problem is usually much bigger, and commercial areas tend to have more activity much later into the night.
- Presence or absence of substantial dune vegetation, such as sea grapes, which can be very effective at blocking landward lights.
- Beach topography – more light tends to be visible on wide, flat beaches than on ones that are narrow and steeply sloped because of the more direct landward line of sight (especially without dune vegetation). This is why lighting problems and violations often increase after a beach nourishment project.
- Variations in ordinances – less stringent ordinances inhibit code enforcement officers' ability to address problematic lights. This can result in lights that are technically compliant with a less stringent ordinance in place, which can cause disorientations.
- Level of compliance – even with good ordinances and good enforcement in place, some jurisdictions have people that just won't comply and prefer to pay the fines.
- Level of nighttime activity on the beach – a lot of people on the beach at night, especially with flashlights and cell phones, can cause increased disorientations.
- Sky glow from landward properties – is one of the reasons FWC recommends extending ordinance jurisdiction further inland than the Coastal Construction Control Line (CCCL), a set distance from mean high water, or beyond the first row of beachfront development. Regulations become more effective the further inland lighting regulations extend.

Mote Marine staff also indicated that it is easiest to compare disorientation numbers on Longboat Key to Casey Key, because both communities have a similar number of nests. Casey Key is consistently one of the beaches in the area with the lowest numbers of disorientations. One of the assumptions for the difference in disorientation numbers and rates has to do with the occupancy of the island. The vast majority of Casey Key is comprised of single-family homes, with many of the residents living there in winter months (i.e. outside of marine turtle nesting season). Unoccupied homes that do no emit light during most of the sea turtle nesting season result in a very dark beach. Disorientations that occur on Casey Key are almost exclusive to the public beach/jetty access and commercial area of the island where there are some motels that host guests year-round.

Recommendations

A summary of the recommendations that were previously presented to the Commission are provided below, along descriptions of where the recommendations have or have not been modified.

Window Tinting: Staff had initially recommended an overall modification to the percentage amount of light referenced in defining "Tinted or filmed glass" from a light transmittance value of 45 percent to a recommended 15 percent value.

The initial intent was for this window tinting transmittance value change to only apply to new construction along the beach that has not yet received a building permit, or to existing structures along the beach that receive permits for replacing windows or glass doors.

The recommendation for this value change came from a number of sources, including FWC's recommendations to decrease light-pollution affecting marine turtles. In their model marine turtle lighting ordinance; all windows and glass doors on the seaward and shore-perpendicular sides of any structures are recommended to be designed for a light transmittance value 15 percent or less through the use of tinted glass, window film, or screens. This light transmittance value has been adopted by other coastal jurisdictions, including Holmes Beach and more recently, Fort Myers Beach, which both adopted a light transmittance value of 15 percent or less for windows and glass doors as part of its sea turtle protection requirements.

The Town's current standard for tinted or filmed glass of a light transmittance value of 45 percent does not ensure that a home or tourism unit meets the sea turtle protection ordinance requirements to eliminate light sources visible from the beach, without additional measures such as curtains or other window coverings used in addition to the window tinting. From an enforcement standpoint, it can be understandably disconcerting to homeowners or tourism unit owners to discover that installations of what they thought were turtle-friendly glass or tinting, do not meet turtle lighting requirements, without additional measures such as curtains, blinds, etc.

As was noted, there are a number of benefits that would be associated with this change. The primary benefit would be that the installation of window tinting, with this percentage, or lower, can eliminate the need for any additional form of window covering (i.e. curtains, blinds, etc.). Recent experience with installations at the Inn on the Beach and Zota Resorts have shown that applying these window tinting percentages, via a film applied to existing windows, do not cost more to install, are not disruptive to views and can have energy savings benefits. Application of such window tinting is also more effective than relying on ongoing human actions to close blinds, etc.

Based on feedback received, this recommendation has been modified by providing a differentiation between tourism and residential uses. Staff proposes to have the revised window tint percentage of 15% be applicable to tourism uses that are undergoing new construction or window/glass door replacements visible from the beach. This is due to the more transient nature of persons staying in tourism units and the challenges with ensuring awareness and compliance. For residential uses, staff would recommend a clarification to the existing 45% window tinting requirement to note that additional

window coverings may be necessary, depending on the amount of light inside, in order to be compliant with the ordinance's requirement to prevent artificial light being visible from the beach. Residential uses are more likely to be successful with the use of other measures such as blinds, drapes or other window coverings. It is recognized that the installation of tint in or on windows does have a year-round effect, which for some may not be desirable.

There have been a number of questions raised with regard to window tinting including:

> **Potential Cost Implications**- Staff consulted with local window film companies. They have confirmed that they do not charge different amounts based on the percentage of light transmission used. In addition, staff consulted with different companies that manufacture impact resistant windows with tinting. Similarly, these companies do not charge different amounts based on the percentage of light transmission used.
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> **"Industry Standards" for window tinting associated with beachfront properties**- Interestingly, even though the existing ordinance prescribes a window tinting percentage of 45% or less, it appears that 20-22%[3] light transmission tint is typically provided and is somewhat of an industry-standard.
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> **Certifying Window Tinting Percentages**- In addition to manufacturer's declarations of window percentages, the Florida Highway Safety and Motor Vehicles Department certifies tint meters. Should staff ever have to be in the position of inspecting window percentages, utilization of one of the approved meters[4] would be employed.

Staff also continues to recommend eliminating the reference to the transmitted visible spectrum of between "400 to 700 nanometers" in the "Tinted or filmed glass" definition. The reference to long wavelengths, in terms of nanometers (FWC, for example, recommends greater than 560 nanometers[5]), is more typically used in the context of turtle-friendly light bulbs.

Lighting Standards for New & Existing Development: Staff's recommendations for considering revised standards for the ordinance that regulates exterior sources of artificial light visible from the beach are primarily the same, with one exception (noted below). These are proposed to comply with FWC's recommendations for best management lighting practices. In addition, staff sees an opportunity to both simplify the requirements and reduce the amount of artificial light that impact marine turtles.

The key modification, which is unchanged, would require light sources, visible from the beach, to be shielded and utilize FWC approved marine turtle fixtures and bulbs and not just the lights in which a "point source" or bulb is visible. The FWC, and the U.S. Fish & Wildlife Service (USFWS), now certify light fixtures as turtle friendly. In order to qualify,

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[3] The varied light transmission percentage is due to the different manufacturers of tint.

[4] A list of the approved tint meters can be found at https://www.flhsmv.gov/florida-highway-patrol/useful-info-links/approved-window-tint-meters/.

[5] The benchmark of 560 nanometers comes as of result of studies by FWC and the Sea Turtle Conservancy. This light wavelength would allow for temporary lighting approved by FWC and other commercially-available "red-bulb" flashlights.

a luminaire must be mounted as low as practical for an intended illumination task, have full cut-off or be completely shielded from the beach, and be lamped with a bulb that produces long-wavelength light, which appears as amber colored. Turtles have trouble seeing monochromatic yellow, amber, and red light, but are most attracted to bright white polychromatic lights, such as white fluorescent, metal halide, halogen, and mercury vapor. Participating manufacturers are becoming commonplace and fixtures can be purchased on-line and at most hardware stores.

Current cost per bulb ranges from $15 for a turtle friendly 45-watt bulb, compared to $9 for an LED 45-watt bulb. Additional costs for a single-family home with 1 to 3 outdoor lights is anticipated to be $25 or less to implement. For larger developments, the Sea Turtle Conservancy offers assistance and grant funding to retrofit problem lighting, which has been done at multiple locations in the Town.

Enforcement experience has shown that some lights, where the point source or bulb are not visible, can still be seen clearly from the beach, and can negatively impact marine turtles.

Staff is partially revising its recommendation on the existing standards addressing “floodlights, uplights, spotlights, and decorative lighting” which can be confusing to interpret. Previously staff recommended eliminating this type of lighting. Staff had noted that according to FWC, even when these fixtures are fitted with turtle-friendly light sources, they typically do not meet best practices requirements to shield or downward-direct, and therefore contribute light visible from beach, and light that may not contribute to safety or security.

Based on feedback received, staff is now recommending the clarification of the provisions that address “floodlights, uplights, spotlights, and decorative lighting.” The existing language (Sec. 100.03(C) and 100.05(D)) identifies that such lighting is prohibited where the “point source of artificial light or any reflective interior surface of the light fixture is directly visible” and then continues with a potentially confusing “or” statement that prohibits such lighting to be “directly, indirectly or cumulatively” illuminating the beach. The Ordinance then allows for the use of FWC approved marine turtle bulbs in floodlights, uplights spotlights or decorative lighting. Staff’s recommended language would help clarify these existing provisions and continue to allow only the use of FWC approved marine turtle bulbs. Impacts from the use of FWC approved marine turtle bulbs in floodlights, uplights, spotlights and decorative lighting (which cannot be shielded or downward directed) can be further evaluated in future assessments of the Code.

Staff continues to recommend that an existing exception to motion detecting lighting devices be eliminated, as these fixtures can accept FWC approved marine turtle bulbs, while providing for security lighting.

Staff continues to recommend that lighting standards that address pools and pool lighting, that are visible from the beach, be added to the Ordinance in order to protect marine turtles from the adverse effects of this type of artificial lighting. Enforcement experience has shown that these sources of artificial lighting have contributed to disorientations. Life/Safety Code requirements include 3 foot-candles of illumination at

the pool surface and the wet deck surface. Staff proposes a limit of no more than what is required to meet Life/Safety Code requirements.

Staff is partially revising the recommendation to add “temporary lighting” as a prohibited activity between sunset and sunrise, unless utilizing a long wavelength (i.e. turtle-friendly) light source. Temporary lighting can greatly affect disorientation rates. Temporary lighting does not need to be near a nest to cause a disorientation. Since a single temporary light can be seen from miles away, the potential to affect dozens of nests can have real impacts. The revised recommendation would prohibit the use of temporary lighting such as lanterns or tiki torches, while encouraging smaller personal flashlight devices to utilize FWC approved bulbs, but not prohibiting a personal flashlight’s use.

Permit Applications for New Development: Staff continues to recommend the addition of language that explicitly enumerates a permitting review process, which is not presently in the Ordinance. This requirement would clarify existing practices associated with reviewing new developments. The intent would be for permit reviews to apply to new construction, alteration, and/or remodeling of existing structures, when such remodeling includes exterior lighting fixtures and/or replacement of any glass or glazing seaward of the Coastal Construction Control Line (CCCL), or if the development creates any artificial light sources that may be visible from the beach. The Town Code currently has no explicit requirement for a permit review process to ensure compliance with the marine turtle protection ordinance for exterior lighting, resulting in the potential for certain non-beach fronting properties, having construction being finalized, only to later be found in violation of the marine turtle protection ordinance. A Code requirement, for reviewing lighting plans prior to construction, would provide back-up to the review process staff currently undertakes, including the use of the above-mentioned tint meters.

Inspections for New Development: Related to permit applications, staff continues to recommend including the addition of an inspection process for any new development seaward of the CCCL, or for any new development that creates artificial light sources visible from the beach. This addition would address the lack of an explicit Code requirement for a final inspection process to ensure compliance with the marine turtle protection ordinance. Formalizing the requirement to conduct lighting inspections, following construction, would provide back-up to the inspection process staff currently undertakes.

Limited Allowances for Motorized Vehicles: Staff has received feedback from some of the larger tourist properties regarding the prohibition of the use of motorized vehicles (e.g. all-terrain-vehicles, or ATV’s) to retrieve and place beach furniture. Some large properties place and retrieve up to hundreds of beach furniture items, including reclining chairs and umbrellas, on a daily basis, by hand. The request to allow for a case by case consideration for safe and limited usage of motorized vehicles, when properly controlled, appears to be a reasonable allowance. Based on feedback provided by Mote Marine staff, one of the important factors would be to limit the use of these vehicles on a daily basis until their program has had an opportunity view and document any turtle activity. Staff continues to recommend that such an allowance be available, by permit or agreement, and that the reviews and conditioning of activity be coordinated with Mote

Marine or designee. (Note: This allowance would only be applicable during sea turtle nesting season, May 1st - October 31st. There is no such prohibition on motor vehicles on the beach during the other 6 months of the year. Staff also continues to recommend revisiting motor vehicle allowances on the beach in the months outside of sea turtle nesting season, which could have beneficial effects for dune vegetation systems and other beach species such as shorebirds and crabs, among others. Staff will bring back a separate update for the Commission's consideration.

Portable Recreational Equipment: Staff continues to recommend the addition of standards that would allow for the safe storage of portable recreational equipment at night. The Ordinance presently does not generally allow for storage of recreational equipment, like it does for recreational furniture, on the beach, even if that equipment were to be consolidated. The proposed approach would provide for a mechanism referred to as a Recreational Use Agreement, where proper placement and organization of materials could be verified with appropriate marine turtle organizations. This would provide an option similar to one used by Sarasota County. The intent would be to reduce the amount of obstructions on the beach at night that impact marine turtles and protect the dune system, by providing for better organization of materials. Such an approach is consistent with FWC's recommendations for best management practices.

Beach Furniture: Staff continues to recommend changes to the allowances associated with storage of beach furniture. Town Code Section 100.08 allows beach furniture to remain on the public beach, as long as it is pulled "as close to the dune…or where there are no dunes or native vegetation… as close as practicable to an existing permanent structure…". Staff has had several challenges with enforcement of this provision.

One challenge is identifying ownership of beach furniture. There have been numerous situations where beach furniture has been left on the beach, in violation of Town Code, and then it turns out that the beach furniture does not belong to the upland property owner.

Similar to the recommendation for Portable Recreational Equipment, staff is recommending the use of a straightforward mechanism, similar to what was described above as a Recreational Use Agreement, where proper placement of beach furniture could be verified with staff. This would have the effect of dramatically improving compliance by ensuring that any beach furniture is appropriately located and identifiable. Staff anticipates a simple and no-cost approval process to establish this particular type of agreement/approval. Such an approval would only be needed if a property owner wanted to leave beach furniture out overnight, in an allowable location. Given that there will likely be many such agreements/approvals needed, along with significant outreach needed to upland property owners, staff recommends that this aspect of the Ordinance have a one-year phase-in for implementation.

Staff believes the intent of Section 100.08 was to allow certain upland property owners (having a property ownership interest along the shoreline) to leave certain temporary structures on the beach (per subsection (C)), provided that the structures are left along the dune/native vegetation/orderly stored, so they do not interfere with turtle nesting). Staff recommends clarifying this provision to avoid the potential unintended consequence of otherwise allowing Town residents and visitors to leave their

recreational furniture and return to such furniture. This requirement to remove beach furniture from the beach is only applicable during sea turtle nesting season, May 1st - October 31st. There is no such requirement to clear beach furniture during the other 6 months of the year. Staff also continues to recommend revisiting provisions regarding abandoned property, such as beach furniture, in the months outside of sea turtle nesting season and will bring back a separate update for the Commission's consideration.

There are also challenges to sea turtles becoming entangled in beach furniture or otherwise impacted, even when relocated adjacent to dunes. Staff continues to recommend the addition of provisions that require beach furniture to be stacked, *if possible*, with similar temporary structures. Staff also continues to recommend a further standard be included requiring furniture to not be placed within five feet of a marked/identified marine turtle nest, consistent with FWC's recommendations for best management practices.

Staff Recommendation

Provide direction to Manager.

Attachments

PowerPoint Presentation (Available in the Town Clerk's Office)

End of Agenda Item