



MEMORANDUM

Date: 12/20/2013

To: Board of County Commissioners
Planning and Zoning Board

From: Inga Williams, Principal Planner
Andy Stevens, Natural Resource Manager

Subject: Proposed Revisions to Part III, Chapter 3-5, Article XII. Sea Turtle Protection

Recommendation: Approval

Staffs from the Community Development Department and the Community Services Department are proposing revisions to the County's Sea Turtle Protection code. The existing Sea Turtle Protection article was adopted in 1998, following the approval of Rule 62B-55, Model Lighting Ordinance for Marine Turtle Protection.

This proposed revision is intended to accomplish two goals, one is to update the language in response to new information posted by Florida Fish and Wildlife and the second is to clarify the permitting review process for properties within the area affected by this article.

Two of the documents that staff used to revise the language of this article are attached, the other can be found at the following web address:

http://www.law.ufl.edu/_pdf/academics/clinics/conservation-clinic/Sea_Turtle_Friendly_Lighting_Policy_Report_Full_Report.pdf (note, this document is large and takes a few minutes to download)

Much of this information is linked to the Florida Fish and Wildlife Conservation Commission website: click on Wildlife & Habitats link, go to Managed Species, then click the link to Sea Turtles, then look along the left hand side of the webpage and click the link titled "Sea Turtles & Lights"

Staff also created a new section of the article that clarifies the County's intent to review all permits for compliance with this article. The County has administered this code through permit review since its adoption but this is not stated clearly enough in the Article. The new section clearly states the intent of permitting review.

CHAPTER 62B-55
MODEL LIGHTING ORDINANCE FOR MARINE TURTLE PROTECTION

62B-55.001	Purpose and Intent
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62B-55.004	General Guidance to Local Governments
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62B-55.009	Monitoring and Reporting Guidance

62B-55.001 Purpose and Intent.

The purpose of this rule is to implement Section 161.163, Florida Statutes, which requires the department to designate coastal areas utilized, or likely to be utilized, by sea turtles for nesting, and to establish guidelines for local government regulations that control beachfront lighting to protect hatching sea turtles. This rule is intended to guide local governments in developing ordinances which will protect hatchling marine turtles from the adverse effects of artificial lighting, provide overall improvement in nesting habitat degraded by light pollution, and increase successful nesting activity and production of hatchlings.

Specific Authority 161.163 FS. Law Implemented 161.163 FS. History--New 3-30-93, Formerly 16B-55.001.

62B-55.002 Definitions.

- (1) "Artificial light" or "artificial lighting" means the light emanating from any human-made device.
- (2) "Beach" means the zone of unconsolidated material that extends landward from the mean low water line to the place where there is a marked change in material or physiographic form, or to the line of permanent vegetation, usually the effective limit of storm waves.
- (3) "Bug" type bulb means any yellow colored light bulb that is marketed as being specifically treated in such a way so as to reduce the attraction of bugs to the light.
- (4) "Coastal construction activities" means any work or activity that is likely to have a material physical effect on existing coastal conditions or natural shore and inlet processes.
- (5) "County" means Bay, Brevard, Broward, Charlotte, Citrus, Collier, Dade, Dixie, Duval, Escambia, Flagler, Franklin, Gulf, Hernando, Indian River, Jefferson, Lee, Levy, Manatee, Martin, Monroe, Nassau, Okaloosa, Palm Beach, Pasco, Pinellas, St. Johns, St. Lucie, Santa Rosa, Sarasota, Suwanee, Taylor, Volusia, Wakulla, and Walton Counties.
- (6) "Cumulatively illuminated" means illuminated by numerous artificial light sources that as a group illuminate any portion of the beach.
- (7) "Department" means the Florida Department of Environmental Protection.
- (8) "Directly illuminated" means illuminated as a result of glowing element(s), lamp(s), globe(s), or reflector(s) of an artificial light source which is visible to an observer on the beach.
- (9) "Dune" means a mound or ridge of loose sediments, usually sand-sized, lying landward of the beach and deposited by any natural or artificial mechanism.
- (10) "Frontal dune" means the first natural or man-made mound or bluff of sand which is located landward of the beach and which has sufficient vegetation, height, continuity, and configuration to offer protective value.
- (11) "Ground-level barrier" means any vegetation, natural feature or artificial structure rising from the ground which prevents beachfront lighting from shining directly onto the beach-dune system.
- (12) "Hatchling" means any species of marine turtle, within or outside of a nest, that has recently hatched from an egg.
- (13) "Indirectly illuminated" means illuminated as a result of the glowing element(s), lamp(s), globe(s), or reflector(s) of an artificial light source which is not visible to an observer on the beach.
- (14) "Local government" means any county listed in subsection (4) above and any municipality, community development district, or special taxing district within those counties.

(15) "Marine turtle" means any marine-dwelling reptile of the families Cheloniidae or Dermochelyidae found in Florida waters or using the beach as nesting habitat, including the species: *Caretta caretta* (loggerhead), *Chelonia mydas* (green), *Dermochelys coriacea* (leatherback), *Eretmochelys imbricata* (hawksbill), and *Lepidochelys kemp* (Kemp's ridley). For purposes of this rule, marine turtle is synonymous with sea turtle.

(16) "Nest" means an area where marine turtle eggs have been naturally deposited or subsequently relocated.

(17) "Nesting season" means the period from May 1 through October 31 of each year for all counties except Brevard, Indian River, St. Lucie, Martin, Palm Beach, and Broward. Nesting season for Brevard, Indian River, St. Lucie, Martin, Palm Beach, and Broward counties means the period from March 1 through October 31 of each year.

(18) "Nighttime" means the locally effective time period between sunset and sunrise.

(19) "Person" means individuals, firms, associations, joint ventures, partnerships, estates, trusts, syndicates, fiduciaries, corporations, and all other groups or combinations.

(20) "Tinted glass" means any glass treated to achieve an industry-approved, inside-to-outside light transmittance value of 45% or less. Such transmittance is limited to the visible spectrum (400 to 700 nanometers) and is measured as the percentage of light that is transmitted through the glass.

Specific Authority 161.163 FS. Law Implemented 161.163 FS. History--New 3-30-93, Formerly 16B-55.002.

62B-55.003 Marine Turtle Nesting Areas.

Scientific investigations have demonstrated that marine turtles can nest along the entire coastline of the state. Historical data are not sufficient to exclude any county as an area utilized by marine turtles for nesting. For the purposes of this rule, however, the coastal areas of the state utilized, or likely to be utilized, by marine turtles for nesting include all beaches adjoining the waters of the Atlantic Ocean, the Gulf of Mexico, and the Straits of Florida and located within Bay, Brevard, Broward, Charlotte, Collier, Dade, Duval, Escambia, Flagler, Franklin, Gulf, Indian River, Lee, Manatee, Martin, Monroe, Nassau, Okaloosa, Palm Beach, Pinellas, St. Johns, St. Lucie, Santa Rosa, Sarasota, Volusia, and Walton Counties; and all inlet shorelines of those beaches.

Specific Authority 161.63 FS. Law Implemented 161.163 FS. History--New 3-30-93, Formerly 16B-55.003.

62B-55.004 General Guidance to Local Governments.

(1) The responsibility for protecting nesting female and hatchling marine turtles should be a joint responsibility of local government and the department. Local governments are encouraged to adopt, implement, and enforce the guidelines provided herein to assist in that responsibility. Local governments that have adopted less stringent regulations should consider amending existing ordinances to provide greater protection to nesting marine turtles and hatchlings. In the process of implementing these guidelines, the following management goals should also be considered by local governments:

(a) Public Awareness. Any person submitting an application for coastal construction activities within the jurisdictional boundaries of the local government should be informed of the existence of and requirements within the local government's ordinances concerning artificial lighting and marine turtle protection.

(b) Local Government – Department Communication. Upon adoption of these guidelines, a system of communication between the local government and the department should be developed if it does not already exist. Protection of marine turtle nesting habitat, nesting females, and hatchlings is greatly enhanced when local governments manage their beaches and coastal activities in a manner consistent with prudent marine turtle conservation strategies. The department is ready to assist local governments by providing such conservation information and other technical assistance.

(c) Inter-Governmental Cooperation. Upon adoption of these guidelines, local governments should develop a system for receiving copies of permits issued by the department, the Department of Environmental Protection, or the United States Army Corps of Engineers for any coastal construction within the local government's jurisdiction. Activities permitted by these agencies should be assessed for compliance with the local government's lighting ordinance.

(d) Enforcement. Local governments should develop a process for the consistent and effective enforcement of adopted guidelines. This process should include at least one compliance inspection of the beach conducted at night prior to the commencement of the main portion of the marine turtle nesting season and one compliance inspection conducted during the marine

turtle nesting season.

(2) The department considers the provisions of this chapter to be minimum guidelines for the protection of nesting habitat, nesting females, and hatchling marine turtles from the negative effects of artificial lighting. More stringent standards for marine turtle protection may be adopted by local governments. Prior to adoption of any additional standards, local governments are encouraged to consult with the department to ensure that the proposed standards are consistent with the guidelines set forth herein and with all other applicable department rules.

Specific Authority 161.63 FS. Law Implemented 161.163 FS. History--New 3-30-93, Formerly 16B-55.004.

62B-55.005 Prohibition of Activities Disruptive to Marine Turtles.

The following activities involving direct illumination of portions of the beach should be prohibited on the beach at nighttime during the nesting season for the protection of nesting females, nests, and hatchling marine turtles:

(1) The operation of all motorized vehicles, except emergency and law enforcement vehicles or those permitted on the beach for marine turtle conservation or research.

(2) The building of campfires or bonfires.

Specific Authority 161.63 FS. Law Implemented 161.163 FS. History--New 3-30-93, Formerly 16B-55.005.

62B-55.006 Model Standards for New Beachfront Lighting.

In order to provide the highest level of protection for nesting marine turtles and their hatchlings, local governments should adopt all of the following standards for artificial light sources on all new coastal construction:

(1) Exterior artificial light fixtures shall be designed and positioned so that:

(a) The point source of light or any reflective surface of the light fixture is not directly visible from the beach;

(b) Areas seaward of the frontal dune are not directly or indirectly illuminated; and

(c) Areas seaward of the frontal dune are not cumulatively illuminated.

(2) Exterior artificial light fixtures within direct line-of-sight of the beach are considered appropriately designed if:

(a) Completely shielded downlight only fixtures or recessed fixtures having low wattage (i.e., 50 watts or less) "bug" type bulbs and non-reflective interior surfaces are used. Other fixtures that have appropriate shields, louvers, or cut-off features may also be used if they are in compliance with paragraphs (1)(a), (b), and (c) above; and

(b) All fixtures are mounted as low in elevation as possible through use of low-mounted wall fixtures, low bollards, and ground-level fixtures.

(3) Floodlights, uplights or spotlights for decorative and accent purposes that are directly visible from the beach, or which indirectly or cumulatively illuminate the beach, shall not be used.

(4) Exterior lights used expressly for safety or security purposes shall be limited to the minimum number and configuration required to achieve their functional role(s). The use of motion detector switches that keep lights off except when approached and that switch lights on for the minimum duration possible are preferred.

(5) Only low intensity lighting shall be used in parking areas within line-of-sight of the beach. Such lighting shall be:

(a) Set on a base which raises the source of light no higher than 48 inches off the ground; and

(b) Positioned or shielded so that the light is cast downward and the source of light or any reflective surface of the light fixture is not visible from the beach and does not directly or indirectly illuminate the beach.

(6) Parking areas and roadways, including any paved or unpaved areas upon which motorized vehicles will park or operate, shall be designed and located to prevent vehicular headlights from directly or indirectly illuminating the beach.

(7) Vehicular lighting, parking area lighting, and roadway lighting shall be shielded from the beach through the use of ground-level barriers. Ground-level barriers must not interfere with marine turtle nesting or hatchling emergence, or cause short- or long-term damage to the beach/dune system.

(8) Tinted glass shall be installed on all windows and glass doors of single or multi-story structures within line-of-sight of the beach.

(9) Use of appropriately shielded low pressure sodium vapor lamps and fixtures shall be preferred for high-intensity lighting

applications such as lighting parking areas and roadways, providing security, and similar applications.

(10) Temporary lighting of construction sites during the marine turtle nesting season shall be restricted to the minimal amount necessary and shall incorporate all of the standards of this section.

Specific Authority 161.63 FS. Law Implemented 161.163 FS. History—New 3-30-93, Formerly 16B-55.006.

62B-55.007 Model Standards For Existing Beachfront Lighting.

In order to provide the highest level of protection for nesting marine turtles and their hatchlings, local governments should adopt all of the following standards for existing artificial beachfront lighting sources:

- (1) Existing artificial light fixtures shall be repositioned, modified, or removed so that:
 - (a) The point source of light or any reflective surface of the light fixture is not directly visible from the beach;
 - (b) Areas seaward of the frontal dune are not directly or indirectly illuminated; and
 - (c) Areas seaward of the frontal dune are not cumulatively illuminated.
- (2) The following measures shall be taken to reduce or eliminate the negative effects of existing exterior artificial lighting:
 - (a) Reposition fixtures so that the point source of light or any reflective surface of the light fixture is no longer visible from the beach;
 - (b) Replace fixtures having an exposed light source with fixtures containing recessed light sources or shields;
 - (c) Replace traditional light bulbs with yellow “bug” type bulbs not exceeding 50 watts;
 - (d) Replace non-directional fixtures with directional fixtures that point down and away from the beach;
 - (e) Replace fixtures having transparent or translucent coverings with fixtures having opaque shields covering an arc of at least 180 degrees and extending an appropriate distance below the bottom edge of the fixture on the seaward side so that the light source or any reflective surface of the light fixture is not visible from the beach;
 - (f) Replace pole lamps with low-profile, low-level luminaries so that the light source or any reflective surface of the light fixture is not visible from the beach;
 - (g) Replace incandescent, fluorescent, and high intensity lighting with the lowest wattage low pressure sodium vapor lighting possible for the specific application;
 - (h) Plant or improve vegetation buffers between the light source and the beach to screen light from the beach;
 - (i) Construct a ground level barrier to shield light sources from the beach. Ground-level barriers must not interfere with marine turtle nesting or hatchling emergence, or cause short- or long- term damage to the beach/dune system;
 - (j) Permanently remove or permanently disable any fixture which cannot be brought into compliance with the provisions of these standards.
- (3) The following measures shall be taken to reduce or eliminate the negative effects of interior light emanating from doors and windows within line-of-sight of the beach:
 - (a) Apply window tint or film that meets the standards for tinted glass;
 - (b) Rearrange lamps and other moveable fixtures away from windows;
 - (c) Use window treatments (e.g., blinds, curtains) to shield interior lights from the beach; and
 - (d) Turn off unnecessary lights.

Specific Authority 161.63 FS. Law Implemented 161.163 FS. History—New 3-30-93, Formerly 16B-55.007.

62B-55.008 Proposed Enforcement and Penalties.

Enforcement, appeal, and remedy of matters related to this chapter should be regulated pursuant to procedures established under local ordinances. Penalties for non-compliance should be established and should be sufficient to discourage violations. Enforcement capability should be adequate to respond to possible violations within the timeframe necessary to prevent continued and prolonged impacts to marine turtles and hatchlings.

Specific Authority 161.63 FS. Law Implemented 161.163 FS. History—New 3-30-93, Formerly 16B-55.008.

62B-55.009 Monitoring and Reporting Guidance.

The following information should be compiled on an annual basis and submitted to the department.

- (1) Number of lighting applications reviewed;
- (2) Number of potential violations reported;
- (3) Number of potential violations investigated;
- (4) Disposition of all potential violations including results of enforcement actions and amounts of penalties assessed;
- (5) Results of compliance checks conducted prior to and during the marine turtle nesting season; and
- (6) Status of local lighting ordinances and any amendments to those ordinances.

Specific Authority 161.63 FS. Law Implemented 161.163 FS. History—New 3-30-93, Formerly 16B-55.009.

FWC APPROVED SEA TURTLE LIGHTING

All exterior lighting for the entire project area including structural and landscape lighting must be reviewed and approved by FWC regardless of whether or not the area is seaward of the CCCL

ACCEPTABLE FIXTURES

All exterior fixtures on the seaward and the shore perpendicular sides of the building (and on the landward side of the building if they are visible from the beach) should be well shielded, full cut-off, downward directed type fixtures. All exterior fixtures on the landward side of the building should be downward directed only.

ACCEPTABLE LAMPS / BULBS AND OTHER LIGHT SOURCES

Long wave length lights, e.g. those that produce light that measures greater than 560 nanometers on a spectroscope, are necessary for all construction visible from and adjacent to marine turtle nesting beaches. Bright white light, such as metal halide, halogen, fluorescent, mercury vapor and incandescent lamps will not be approved. Filters are unreliable and not allowed. Limited use of shorter wavelength lights may be approved in areas where direct and indirect light or glow could not possibly be visible from the beach upon approval by FWC.

ACCEPTABLE LAMPS

- Low Pressure Sodium (LPS) 18w, 35w
- Red, orange or amber LED (true red, orange or amber diodes, NOT filters)
- True red neon
- Other lighting sources that produce light of 560 nm or longer

**** FWC approved lighting may be found at <http://www.myfwc.com/wildlifehabitats/managed/sea-turtles/turtles-lights/> ****

STATEMENT ABOUT TURTLE GLASS ON LIGHTING PLAN

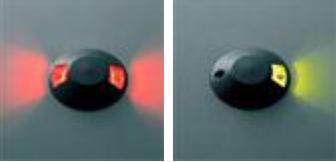
The plan shall reflect that tinted glass or film with a visible light transmittance value of forty-five (45) percent or less shall be applied to all windows and doors within line of sight of the beach. This includes the seaward and shore-perpendicular sides of the structure. This may be specified in the notes section on the Lighting Plan architectural drawing and should be included in the FDEP Permit Conditions.

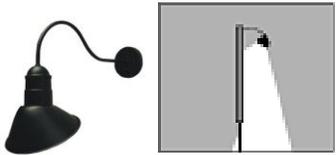
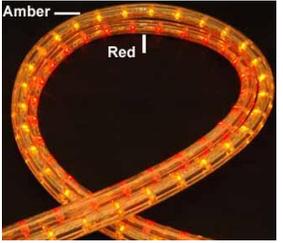
THE FOLLOWING ARE NOT ALLOWED

- Private balcony lights
- Up lights
- Tree strap downlights
- Decorative lighting, not necessary for human safety or security
- Pond lights
- Dune walkover lighting
- Fountain lights on beach or shore perpendicular side of structure

EXAMPLES OF TURTLE FRIENDLY FIXTURES

FIXTURE	LAMP & WATTAGE	MOUNTING TYPE & HEIGHT	LOCATION	COMMENTS and/or ADDITIONAL REQUIREMENT
<p>Ceiling Mount Cylinder (with interior black baffles)</p> 	<p>Red/orange/amber LED</p>	<p>Ceiling Surface</p>	<p>if located on shore perpendicular or beach side of structure allow on <u>ground floor</u> only</p>	<p>Interior Black Baffles</p>
<p>Wall Mount Cylinder Down Light (with interior black baffles)</p> 	<p>Red/orange/amber LED</p>	<p>Wall Mount Downward Directed 8 ft from floor</p>	<p>If located on shore perpendicular or beach side of structure allow on <u>first habitable floor</u> only</p>	<p>Interior Black Baffles Hex cell louvers may be required to decrease wall wash</p>
<p>Recessed Ceiling Canister</p> 	<p>Red/orange/amber LED</p> <p><u>The following short wavelength lamps may only be used for covered driveway entry on landward side of structures</u></p> <ul style="list-style-type: none"> • Halogen lamp • PAR spot lamps • LED lamps • HPS lamps • Compact Fluorescent 	<p>Recessed Ceiling</p>	<p>If located on shore perpendicular or beach side of structure allow on <u>ground floor</u> only</p>	<p>Interior black baffles Hex cell (honeycomb) louver</p>

<p>Recessed and Wall Mounted Step Lights (louvered or downward directed)</p> 	<p>Red/orange/amber LED</p>	<p>Wall Mount Maximum height 24 inches on Ground Floor only Above Ground Floor Max height 12 inches</p>	<p>Ground Floor and Second level, and pool Deck</p>	<p>If on perimeter of pool deck, must be mounted directed away from beach.</p>
<p>Bollard (with downward directed louvers)</p> 	<p>18w LPS Red/orange/amber LED</p>	<p>Maximum height 42 in</p>	<p>Parking areas, commercial walkway, landscape, pathway and pool Deck</p>	<p>180° to 270° beach side shields on any fixture on perimeter of pool deck or immediately adjacent to beach.</p>
<p>High Intensity Full Cut Off Pole Lights</p> 	<p>18-35 w LPS (if twin head, maximum of 36w total) Orange/amber LED</p>	<p>Pole - maximum height 12 feet</p>	<p>Parking Area Landward side of structure only.</p>	<p>Beach Side shields and/or louvers for any fixture within line of sight of beach.</p>
<p>Paver Lights</p> 	<p>Red/orange/amber LED</p>	<p>In Ground mount</p>	<p>Parking areas, driveways, pathways, pool decks</p>	

<p>Landscape/Pathway Lighting</p> 	<p>Red/orange/amber LED</p>	<p>Ground mount Maximum height 12 inches</p>	<p>Ground Level, landscape</p>	
<p>Signage</p> 	<p>Red/orange/amber LED</p>	<p>Must be mounted with light directed <u>down</u> on to sign. NOT UP</p>	<p>Sign should be on landward side of structure when possible and mounted perpendicular to the beach.</p>	
<p>Garage Lighting (Phoenix)</p> 	<p>35w LPS Amber/Orange/Red LED</p>	<p>Garage Ceiling</p>	<p>Garage</p>	<p>If a parking garage is not fully enclosed with solid walls, without windows, louvers, or screens so that the interior is not visible from any section of beach, only LPS or amber/orange LED lamps shall be used. Additional shields may be necessary if parking is above ground level.</p>
<p>Channel / Rope Lighting</p> 	<p>Red/orange/amber LED</p> <p><u>NOT colored plastic tubing with white lights</u></p> <p><u>No White LED</u></p>	<p>Must be mounted recessed under steps, bar, etc. and directed <u>down</u> to assure that light source or reflected light is not visible from beach</p>	<p>Pool deck, steps, pool bars.</p>	

Water Feature Lighting	Red/orange/amber LED	Light must be downward or horizontally directed <u>DO NOT direct light up</u>	Submerged lights are only allowed on landward side of structure and only if fully shielded from beach by structure	
Underwater Swimming Pool Lighting	Red/orange/amber LED			
Emergency Egress Lighting 	Red LED Exit signs Full cut off downward directed Emergency egress fixtures may use short wavelength lamps			Short wavelength lamped emergency egress fixtures must be specified on fixture schedule and plans to be on separate circuit that will only illuminate fixtures during power outage

Revised 4/26/11