



## **ENVIRONMENTAL ADVISORY COMMITTEE**

**4:00pm, Thursday, January 9, 2025**

**1207 Palm Boulevard, Isle of Palms, SC**

**and broadcasted live on YouTube: <https://www.youtube.com/user/cityofisleofpalms>**

### **MINUTES**

#### **1. Call to order**

Present: Todd Murphy, Lucia Spiotta, Laura Lovins, Mary Pringle, Eric Cicora, Cindy Marrs (via phone), Sean Popson

Absent: Dane Buckout

Staff Present: Director Kerr, Zoning Administrator Simms, Council Member Miars

#### **2. Introduction of Committee members**

Director Kerr reviewed the Committee's stated purpose and goals. Committee members introduced themselves.

#### **3. Nomination and election of Chair and Vice Chair**

Mr. Murphy nominated Ms. Lovins as Chair of the Environmental Advisory Committee. Ms. Popson seconded the motion. There being no other nominations, a vote was taken with all in favor of Ms. Lovins as Chair of the Environmental Advisory Committee.

Ms. Lovins nominated Mr. Murphy as Vice Chair of the Environmental Advisory Committee. Ms. Popson seconded the motion. There being no other nominations, a vote was taken with all in favor of Mr. Murphy as Vice Chair of the Environmental Advisory Committee.

#### **4. Citizen's Comments -- none**

#### **5. Approval of previous meeting's minutes**

**MOTION: Mr. Murphy made a motion to approve the minutes of the December 12, 2024 meeting, and Ms. Lovins seconded the motion. The motion passed unanimously.**

#### **4. Presentations - none**

#### **5. Old Business**

#### **A. Litter**

Referring to research he, Zoning Administrator Simms, and Ms. Spiotta compiled, Mr. Murphy said light pollution on the island shows a 4% increase year over year. His research, shared with the Committee, is attached to these minutes.

He shared that IOP and neighboring beach communities have numerous ordinances in place protecting the sea turtles along the beach front. He noted that other communities have also addressed lighting concerns in business districts and other parts of the island, where IOP has not done so yet.

He would like the Committee to review the research and ordinances to prepare some recommendations for City Council's consideration. Director Kerr said City Council would be agreeable to outreach and education on the topic but likely not in favor of new regulations.

Mr. Murphy said that Folly Beach implemented new regulations as part of their permitting process for new construction. He added that Folly Beach says they do not strictly monitor and police the lighting regulations. He believes that Folly Beach has found a good balance in their ordinances that do not seem heavy-handed. Ms. Pringle noted that the IOP's Code Enforcement officers have helped with enforcing the lighting ordinance on the beach through education and outreach.

Council Member Miars would like to see some proposed language for changes to the permitting process such as Folly Beach has done. Mr. Murphy said he will work on that with Zoning Administrator Simms and Ms. Spiotta.

## **B. Water Quality**

Director Kerr said that Mr. Hatler planned to reach out to someone from Charleston County Stormwater to help interpret the results of the water quality testing. He will see if Mr. Hatler or someone from the County can come to the next meeting to explain the results to the Committee. Ms. Popson said it would be helpful to have a map from where the water samples were collected. Mr. Murphy would like to know if there is a way to distinguish pet waste from wild animal waste in the results. Director Kerr will distribute the water quality study done 15 years ago to Committee members.

Ms. Lovins said that General Manager Jordan of the IOP Water & Sewer Commission believes public sentiment about septic systems is changing.

Director Kerr said City Council will discuss the hiring of a federal-level lobbyist at their workshop next week. He also reported that the Water & Sewer Commission approved the pursuit of a federal lobbyist at their December meeting. The two entities could share in the cost.

## **C. Climate Action**

Director Kerr said Dominion Energy is nearly done with their tree removal. He said that Dominion met with several homeowners about their trees, but he is unaware of any homeowners who were successful in convincing Dominion to not cut the trees. It is anticipated that Dominion will return in 5 years to assess the trees in Category 2, which could be removed next.

Mr. Cicora asked if someone could have a palm tree pruned successfully to prevent it from being removed. Director Kerr said yes, in theory. However, any company attempting to do such a pruning would be going against OSHA standards when working too close to power lines.

Director Kerr said the Public Services & Facilities Committee has asked for a Dominion Energy representative to attend their next meeting to discuss using the non-standard service fee fund to prepare a master plan for undergrounding power lines across the island. He will keep the Committee updated.

**6. New Business**

**Review of 2024 Committee Accomplishments**

Director Kerr said this discussion should be about goals for 2025 as the 2024 accomplishments were reviewed at the December meeting. Ms. Lovins asked the new committee members to consider which of the subcommittees they would like to be a part of.

**7. Miscellaneous Business**

Director Kerr provided several updates from previous discussions. City Council will discuss beach trash receptacles at their workshop next week. Zoning Administrator Simms said they are waiting for the necessary permits and permissions to install the solar panels on the Public Works building. The contractor has been selected.

City Council will discuss the bid for this year's fireworks display at their Tuesday workshop. Director Kerr said it is too late to consider another option this year. Ms. Smith will speak at the Committee's February meeting about community buy-in for firework alternatives.

He said there is no interest on City Council to make any changes to the tree ordinance.

Director Kerr reported that USACE should begin work on IOP at the end of January. They have begun shifting their operations to Breach Inlet. He said they are also considering adding more sand to the area from the ICW, which will prolong the project. Ms. Pringle expressed concern about them being finished before turtle nesting season.

Director Kerr also shared the City is waiting for permits for the shoal management project. In addition, they must wait until the sand is within 200' of the shoreline to begin work.

**8. Adjournment**

The next meeting of the Environmental Advisory Committee is scheduled for Thursday, February 13, 2025 at 4pm.

Ms. Lovins made a motion to adjourn, and Ms. Marrs seconded the motion. The meeting was adjourned at 5:22pm.

Respectfully submitted,

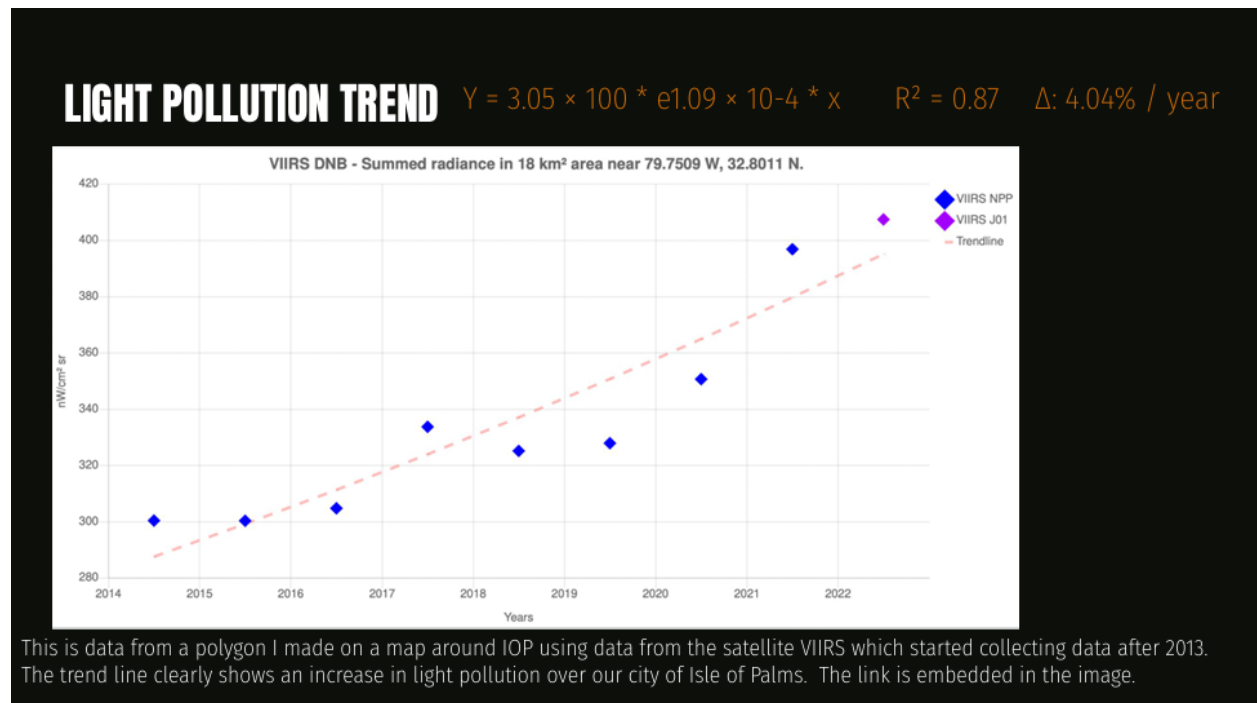
Nicole DeNeane  
City Clerk

## Light Pollution on the Isle of Palms

Prepared by Todd Murphy, Matt Simms, Lucia Spiotta

January 8, 2025

Light pollution is a challenge for any city or metropolitan area that is heavily developed. NASA uses Visible Infrared Imaging Radiometer Suite (VIIRS) instrument to observe and collect global satellite data that spans infrared and visible wavelengths across land, ocean, and atmosphere. This VIIRS data is available on the internet. Zooming in on the Isle of Palms, we are seeing a trend of light pollution for Isle of Palms increasing by over 4% per year since 2013.



## Root Cause

What is causing the increase in lighting? Isle of Palms continues to grow in popularity. The island has been fully developed so homeowners are expanding existing homes (renovation) or tearing down smaller homes to build larger homes (new construction). When these newer, larger homes are constructed, external lights are being added or replaced using cost effective LED options.

[www.lumens.com](http://www.lumens.com) does a good job of explaining how LED light intensity is rated:

### ***Color Temperatures of Light Bulbs***

*Less than 2000K: gives off a dim glow of light, similar to what you might find from candlelight; best for low-light areas where ambient illumination is welcomed.*

*2000K-3000K: gives off a soft white glow, often yellow in appearance; best for living rooms, dining rooms, bedrooms and outdoor spaces.*

*3100K-4500K: gives off a bright amount of white light; best for kitchens, offices, work spaces and vanities where task lighting is needed.*

*4600K-6500K: gives off a bright amount of **blue-white light**, similar to that of daylight; **best for display areas and work environments where very bright illumination is needed.***

*6500K and up: gives off a bright bluish hue of light, often found in commercial locations; best for task lighting.*

### ***What is Kelvin in lighting?***

*The definition of Kelvin is “the SI base unit of thermodynamic temperature, equal in magnitude to the degree Celsius.” Scientific jargon aside, Kelvin is used in lighting to measure the color temperature of a light bulb. In short, **the higher the Kelvin rating (expressed in K), the whiter the light will be.***

*Light bulb color temperature is represented in the unit of absolute temperature, Kelvin, noted by the symbol K. As a quick rule, the higher the Kelvin, the whiter the light.*

*Household fixtures are commonly found in color temperatures on the Kelvin scale of 2700K (warm incandescent), 3000K (warm white halogen) and **3500K (household fluorescent).***

Per [www.lowes.com](http://www.lowes.com), for the Mount Pleasant store location (which is the store closest to Isle of Palms), the best-selling exterior mounted spot light is the “Good Earth Lighting 180-degree 80-Wattage Equivalent Hardwired LED White 2-Head Motion-Activated Flood Light with Timer 1400-Lumen”. This item lists the following specifications:

- **1400 Lumen**
- **5000K** Daylight White color temperature
- Ability to cast light up to **70 feet away** from the source.

So, by default, home construction and renovation projects that have exterior mounted spot lights installed are likely going to be very intense lights with very bright blue-white color (high Kelvin temperature) and a large light distribution area.

### How local barrier islands are addressing light pollution

**Pawley's Island** and parts of Georgetown County recently worked with Santee Cooper to change the type lighting used in their street lights. They leveraged research from American Medical Association that shows outdoor lighting with excessive blue light negatively affects melatonin levels, which leads to a number of health issues in humans and animals. They ultimately reduced their outdoor lighting from 6,000 lumens in intensity to 2500 lumens, and reduced the maximum color temperature from 4000K to 3000K. (See attached article)

**Folly Beach** also instituted “turtle friendly” streetlights, which benefit both turtles and humans. The new street lights are amber in color and they operate on a more narrow wavelength than traditional street lighting. (See Meghan Overdeep article dated November 6, 2023). Beyond street lighting, Folly Beach also passed a new external lighting ordinance that is fairly comprehensive (ordinance 166.10 External Lighting). This ordinance includes guidelines for location and direction of external lights to ensure that lighting serves the security needs of residential homeowners without negatively impacting neighbors, wildlife and the overall light pollution footprint for the island. The ordinance also provides guidance for neighborhood street signs, recreational facilities and other similar community assets.

**Isle of Palms** has a lighting ordinance that protects Sea Turtles and prohibits any artificial lighting that can be seen from the beach. However, the code does not contain any ordinances that protect other areas of the island from exterior lighting, including critical habitats and residential neighborhoods.

***We have an opportunity to leverage the work that our neighboring islands have already completed to our benefit.***

## Existing Low Country Lighting Ordinances

This section includes a summary of existing lighting ordinances for Sullivan’s Island, Folly Beach, Kiawah Island and Town of Edisto Beach. All four of these low country beach communities have fairly comprehensive ordinances in place that are specific to the protection of Sea Turtles, as does Isle of Palm. However, these four communities also have lighting ordinances that address other parts of the island (marsh front, interior residential districts, commercial districts, etc.).

### **Sea Turtle / Beachfront Ordinances**

#### Shared Ordinances

All four communities, as well as Isle of Palms, have ordinances that protect Sea Turtles / prevent illumination of the beach. Ordinances are specific to new or existing development structures where “light is visible from the beach” (somewhat subjective). Some communities specify “Ocean front + Row 2”. Here are the typical ordinances in place for each of the five municipalities:

- No light is allowed to illuminate the beach from May through October
- Outdoor lighting for beachfront dwelling units (first and second rows of houses) shall be turned off from dusk to dawn from May through October.
- Floodlights are not allowed. Wall mounted lights / balcony lights must have hoods (to direct the light downward)
- Parking lots must have low profile luminaries that are mounted low to the ground (4’ for example)
- Lighting for dune walkovers to be low-profile shielded luminaries and turned off May thru Oct. Fixtures spaced 25’ apart and mounted 1’ max above the surface. Illumination limited to 25w through use of “bug” type bulbs (incandescent light, tinted yellow in order to attenuate its emission of short wave length light, thus not attracting bugs). Lights illuminating dune crosswalks shall be turned off dusk to dawn for period of May thru Oct
- Beach front homes must have curtains / shade to prevent interior lighting from illuminating the beach May thru Oct
- Temporary security lights at construction sites mounted 15’ (max) above the ground which light directed away from the beach

## **New/Existing Residential Development**

Beyond the ocean front homes, these communities also have ordinances specific to lighting for residences across the island.

### Edisto Beach

All lighting ordinances fall under the purpose of eliminating artificial light from illuminating the beach (included above)

### Kiawah Island

To control nighttime lighting in neighborhoods:

- Wall mounted flood lights shall be shielded and directed downward, limiting the field of light within property boundaries
- Balcony lights shall be shielded and directed downward
- Outdoor lighting of all dwelling units shall be turned off from 11pm to 8am, except for landscape and safety essential lighting

### Sullivan's Island

Highly illuminated structures on lots are not compatible with the character of the island and encroach upon the enjoyment of the skies and beaches

- exterior lights shall be arranged to prevent glare on adjoining properties, public right of way, or any beach or marsh AND to prevent the light source (lens and bulb) from being visible from adjoining properties, etc.
- exterior site lighting plans shall indicate appropriate provisions have been made to prevent "sky and neighborhood glow"
- High pressure sodium lamps or other lamps producing unnatural color shall be prohibited

### Folly Beach

To control light spillage and glare so as not to adversely affect motorists, pedestrians, natural areas, vistas, and land uses of adjacent properties.

- Commercial and Residential utility street and yard lights or any other outdoor lights shall not emit any direct light more than 30 degrees off of the vertical
- Max height of utility street lights / utility yard lights is 25'
- Control lighting to assure
  - Prevent excessive light spillage and glare from being directed at adjacent properties, neighboring areas and motorists
  - Site lighting is designed and installed to maintain adequate light levels on site
  - Provide security for persons and land
  - Avoid negative impacts to wildlife



- Lighting plan must be submitted with building plans
- Design Standards for Exterior lighting:
  - Outdoor light heights 18' max for pedestrian lighting and 30' max for vehicular lighting
  - Ground lighting for outdoor areas will be mounted on 4' max ground mounted fixtures
  - Lighting shall be directed downward, except for low wattage architectural lighting
  - Outdoor lighting shall not shine directly into the yard or windows of adjacent residences
  - Lighting shall be located at least 10' from lot lines or required perimeter buffers
  - Light fixtures in excess of 60 watts or 100 lumens shall use full cut-off lenses or hoods to prevent glare or spillover onto adjacent lands and streets
  - No interior light source shall be positioned, aimed or configured so as to result in the light source being visible from residential development
  - No light source in a canopy structure shall extend downward further than the lowest edge of the canopy ceiling
  - Awnings or canopies used for building accents over doors, windows, etc. shall not be internally illuminated (from under / behind the awning)
  - Max light levels – all outdoor lighting shall be designed and located such that the max illumination measured at the property line is 1 foot candle (max). Average intensity illumination for outdoor lighting shall not exceed 4 foot candles in intensity as measured at grade. Vehicle use area lighting shall not exceed average of 2.5 foot candles
  - To maintain uniformity in light levels across a development, and prevent or minimize dark areas, the ration of maximum to minimum lighting levels of a given site or parcel of land as measured in foot candles at ground level shall not exceed 15:1 in residential districts
- Hue – all outdoor and parking lot light fixtures shall be coated with an internal white frosting inside the outer lamp envelope
- Wall mounted lights shall be fully shielded luminaries to prevent light source from being visible from any adjacent residential property
- Floodlights and spotlights shall be located and shielded so that direct illumination is focused on the building and away from adjoining lands or right of way.

## **Commercial / Recreating District Lighting Ordinances**

Three of our neighboring communities also have lighting ordinances specific to commercial or recreation districts.

### Kiawah Island

Street lights and lighting at parks and publicly owned beach accesses:

- Street lights located such that bulk of their illumination will travel away from the beach
- Street lights equipped with shades or shields to prevent backlighting and render the source of the light not visible from the beach
- Lights at parks or other public beach access points shall be shielded or shaded to that the point source of light is not visible from beach, and turned off 9pm to dawn from May through Oct

### Sullivan's Island

Highly illuminated structures or lots are not compatible with the character of the island and encroach upon enjoyment of the beaches and skies

- Building exterior lighting shall be arranged to prevent glare on residential properties
- Applications for projects must include a lighting plan, which specifies all light fixtures with lighting levels in foot candles at ground level, area of illumination, lamp type and wattage, etc. Exterior light plans must show that provisions have been made to prevent "sky glow"
- High pressure sodium lamps or lamps producing unnatural color are prohibited
- Streetlight, floodlight or similar fixtures are prohibited
- Exterior lighting not attached to the building shall not exceed 10' above grade
- Exterior lighting should prevent light source (lens and bulb) from being visible from residential properties
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### Folly Beach

- Commercial and Residential utility street and yard lights or any other outdoor lights shall not emit any direct light more than 30 degrees off of the vertical
- Design Standards for Exterior lighting:
  - Outdoor light heights 18' max for pedestrian lighting and 30' max for vehicular lighting
- To maintain uniformity in light levels across a development, and prevent or minimize dark areas, the ration of maximum to minimum lighting level of a given site or parcel of land as measured in foot candles at ground level shall not exceed 10:1 in commercial districts

- All light fixtures serving outdoor sports fields shall be equipped with glare control package (louvers, shields, etc.) and fixtures aimed so that beams are directed within primary playing area

### **Other Related Ordinances**

While not specifically lighting ordinances, these related ordinances are on the books to help manage light pollution:

- Town of Edisto Beach has a set of landscaping ordinances that are partially aimed to “filter and reduce glare from artificial light sources”.
- Folly Beach has lighting ordinance specific to the Folly River in addition to beach front. Outdoor lighting on residential or commercial structures facing the Folly River must be shielded so that light is directed downward and does not shine directly onto the river
- Sullivan’s Island has a private docks lighting ordinance that says lighting is allowed only at the head of the dock and not along the walkway, and the lighting must be shielded to direct light down on the dock and away from any adjoining residences

### **In Summary**

Isle of Palms currently has somewhat comprehensive ordinances in place to protect nesting Sea Turtles. Our neighboring communities have taken extra steps to protect wildlife across other parts of the island, such as marshes and rivers. Some of these municipalities have also adopted ordinances that protect residents and visitors and their ability to enjoy the natural beauty of the low country for residents and visitors. We have the opportunity to adopt similar ordinances to ensure that the Isle of Palms remains as a place of beautiful serenity in spite of our growth and development.