

# Dark Sky Protection for Myakka River State Park

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# OVERVIEW

- **Context**
- **Definitions**
- **Illustration of increased light pollution at MRSP and in the river corridor**
- **Existing relevant policies and management objectives**
- **Next steps to reduce detrimental impacts on MRSP and the river**

## **Definitions:**

### **Light Pollution:**

Presence of excess or inappropriate artificial light outdoors at night

### **Dark Sky:**

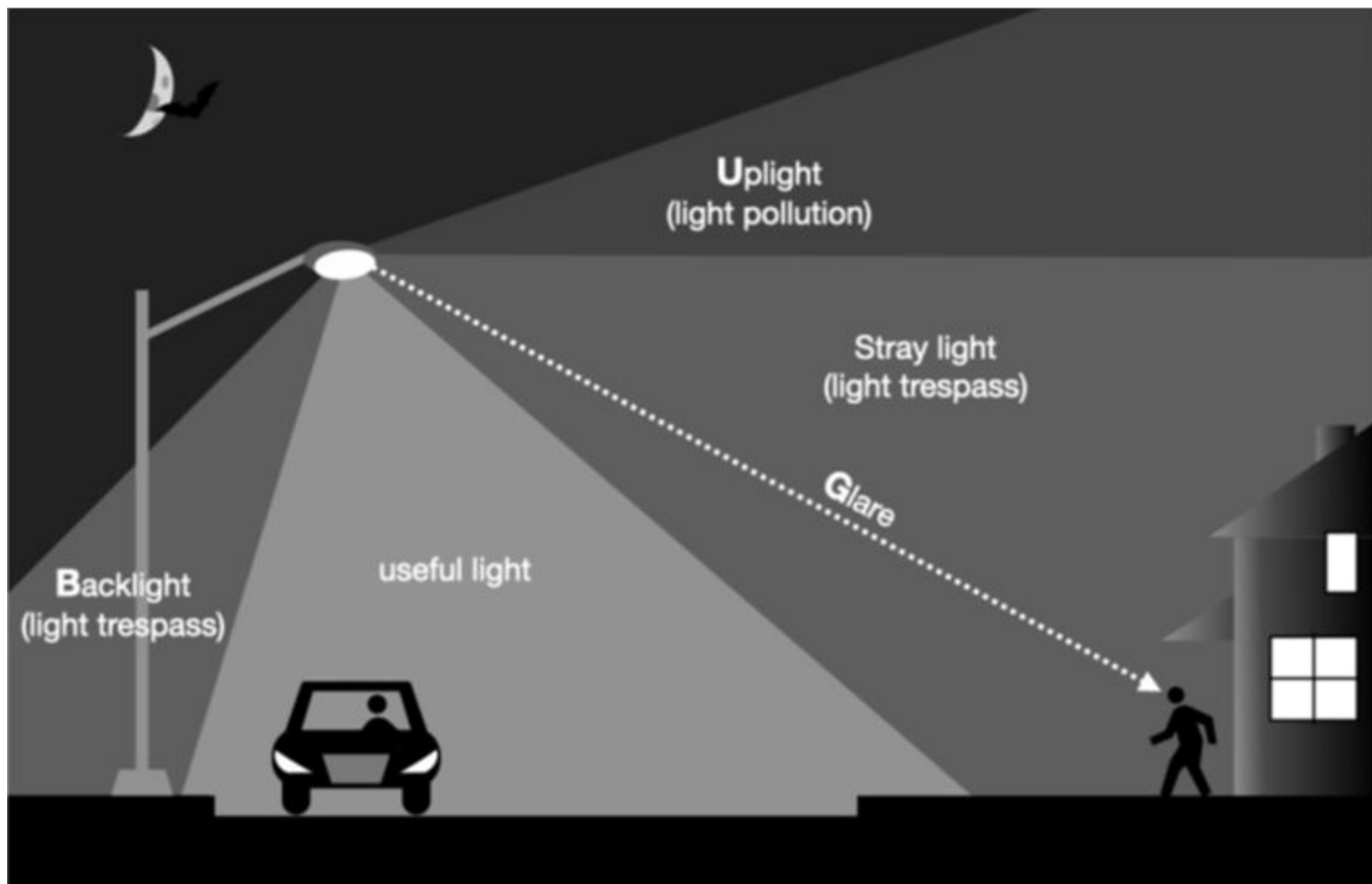
A natural night sky that is relatively free of light pollution



The Milky Way at Kissimmee Prairie Preserve State Park: Designated the first Dark Sky Park in Florida in 2016  
Photo: © Steven Miller - Central Florida Chapter Chair, DarkSky International

## Light pollution occurs in three ways:

- **GLARE:** bright and uncomfortable light shining directly to observers that interferes with vision
- **LIGHT TRESPASS:** the unintended spill of artificial light into other people's property or space
- **SKYGLOW:** the brightening of the night sky from human-caused light scattered in the atmosphere



# THE EFFECTS OF LIGHT POLLUTION ON A PRISTINE NIGHT SKY

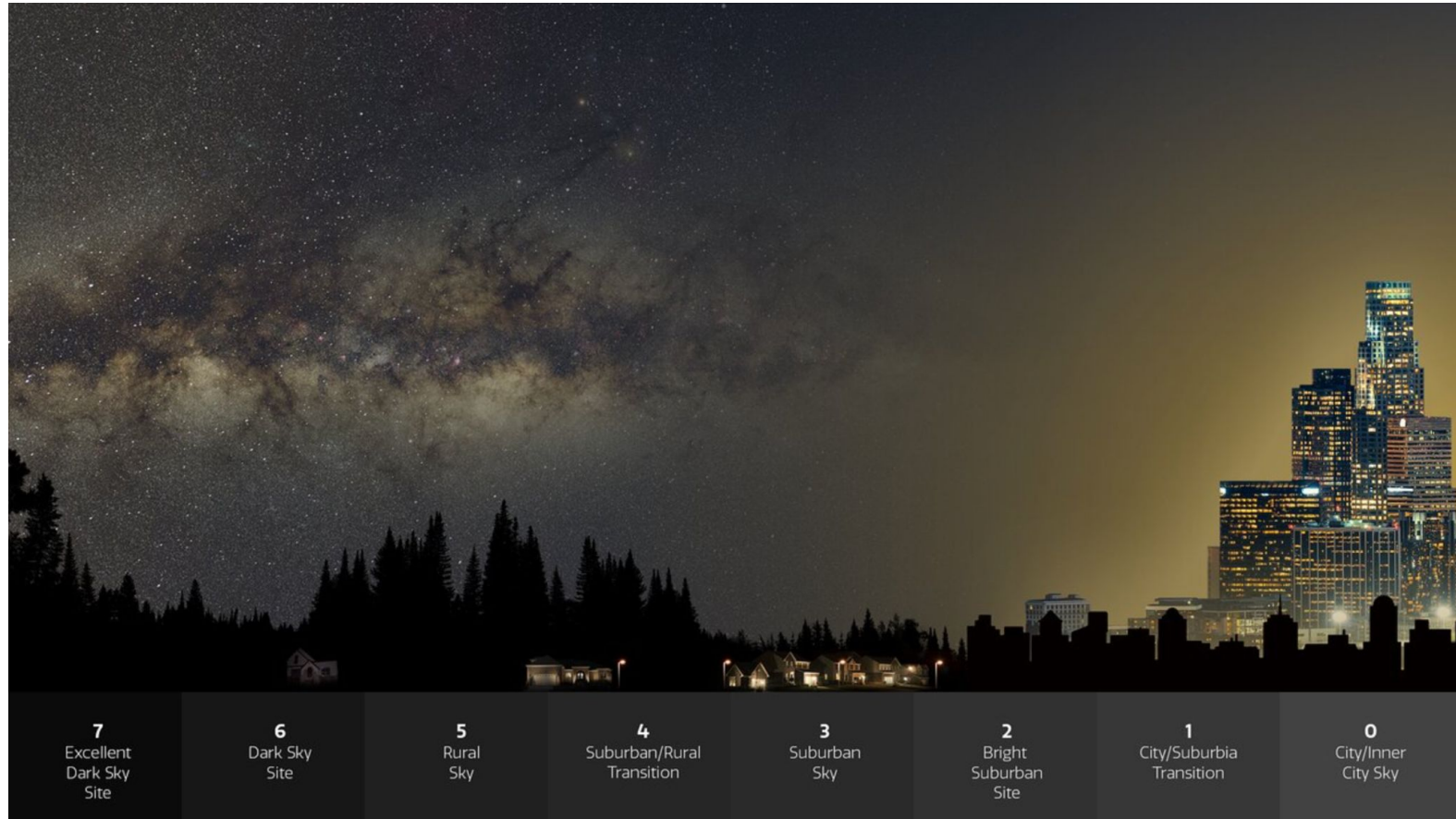


Image credit: NOIRLab/NSF/AURA, P. Marenfeld

## WHY DARK SKY MATTERS FOR MRSP AND THE W&S MYAKKA RIVER:

- Dark Sky is critical for healthy ecosystems:
  - A dark night sky is integral to many natural processes (e.g., circadian rhythms, mating, feeding, migration, navigation).
  - Numerous studies have shown that artificial light at night has negative, even deadly effects on many species of wildlife, including birds, amphibians, insects, and mammals and also negatively impacts plants.
- Light pollution also reduces these resources' recreational value:
  - They are degraded due to negative impact on plants and wildlife
  - Star gazing opportunities are diminished



## **DARK SKY AT MYAKKA RIVER STATE PARK - STATUS QUO**

- Due to the park's location in a largely rural area, the night sky was historically dark and free from artificial light pollution.
- As result of encroaching development, light pollution is rapidly increasing in the park and the Wild and Scenic Myakka River corridor.
- Future development in the proximity of the park and in the river corridor will further exacerbate this situation, to the detriment of both natural resources.



Properties in Myakka Valley Ranches, visible in Myakka River State Park post Hurricane Milton.  
Photo: © Miri Hardy, 11/18/2024, captured south of the Birdwalk on the Upper Myakka Lake.

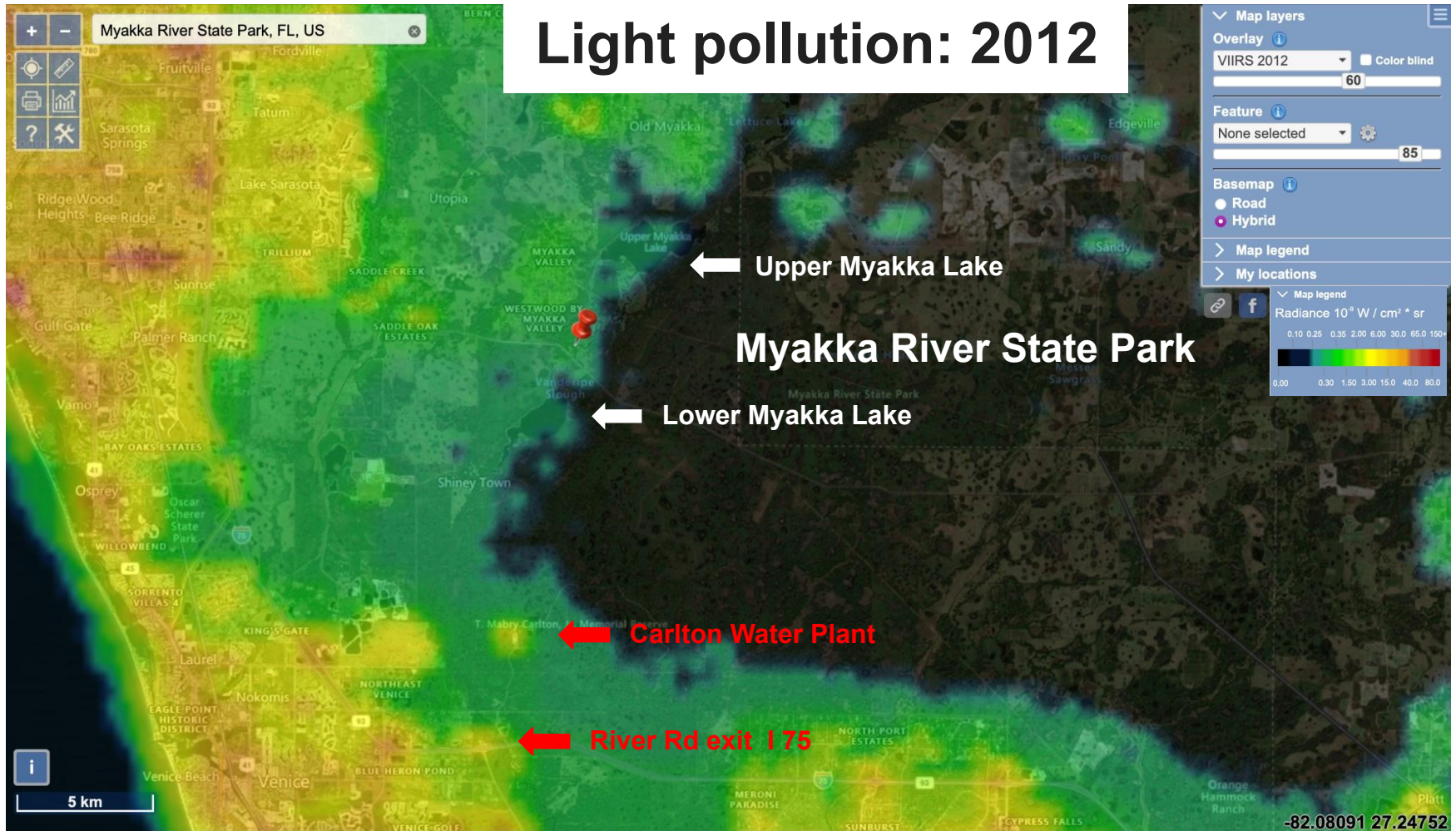
## **QUANTIFYING INCREASES IN LIGHT POLLUTION:**

Some of the light associated with sky glow travels all the way through the atmosphere and escapes to space. Earth-orbiting satellites intercept some of that light, and their cameras provide valuable evidence of not only where artificial light at night is used in the world, but how its changing.

The following maps were created on the website [lightpollutionmap.info](http://lightpollutionmap.info), which overlays Visible Infrared Imaging Radiometer Suite (VIIRS) imagery from NOAA's Suomi National Polar-orbiting Partnership satellite on top of an interactive Bing Map.

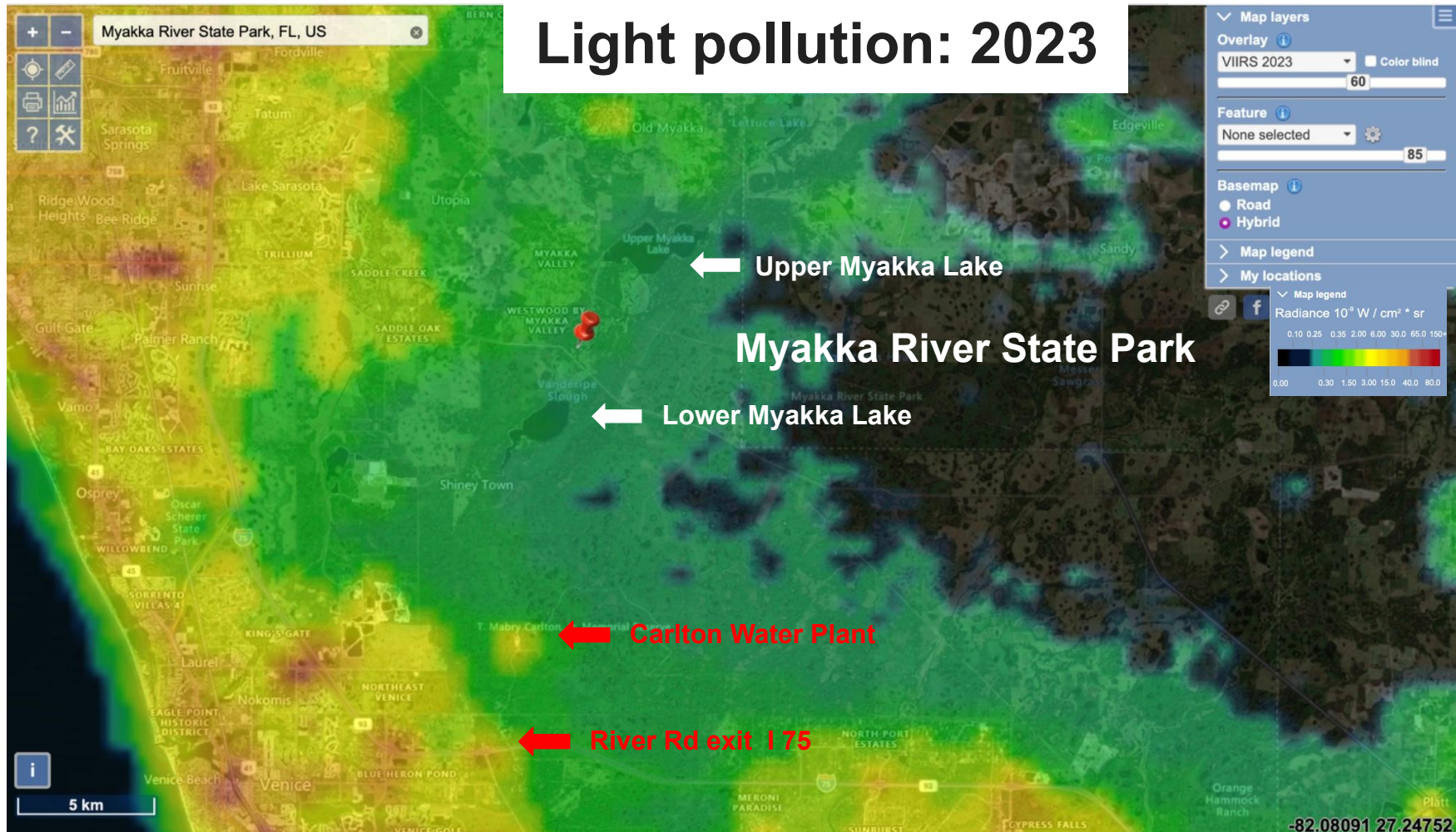
Light maps are calibrated in real units, allowing users to make simple (but quantitative) comparisons of the amount of upward-directed light in different parts of the world. Importantly, these maps **underestimate** light pollution.

# Light pollution: 2012

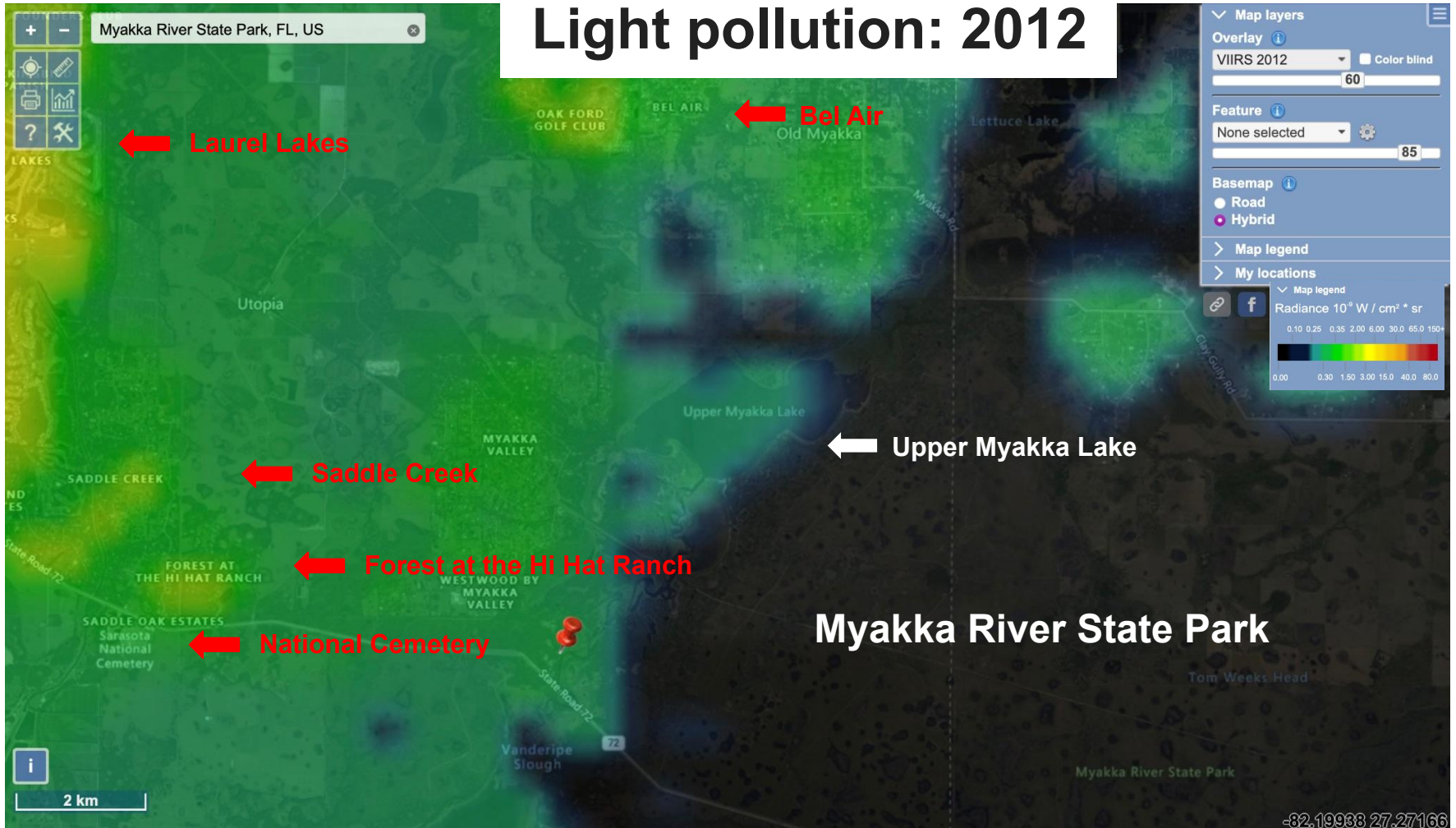




# Light pollution: 2023

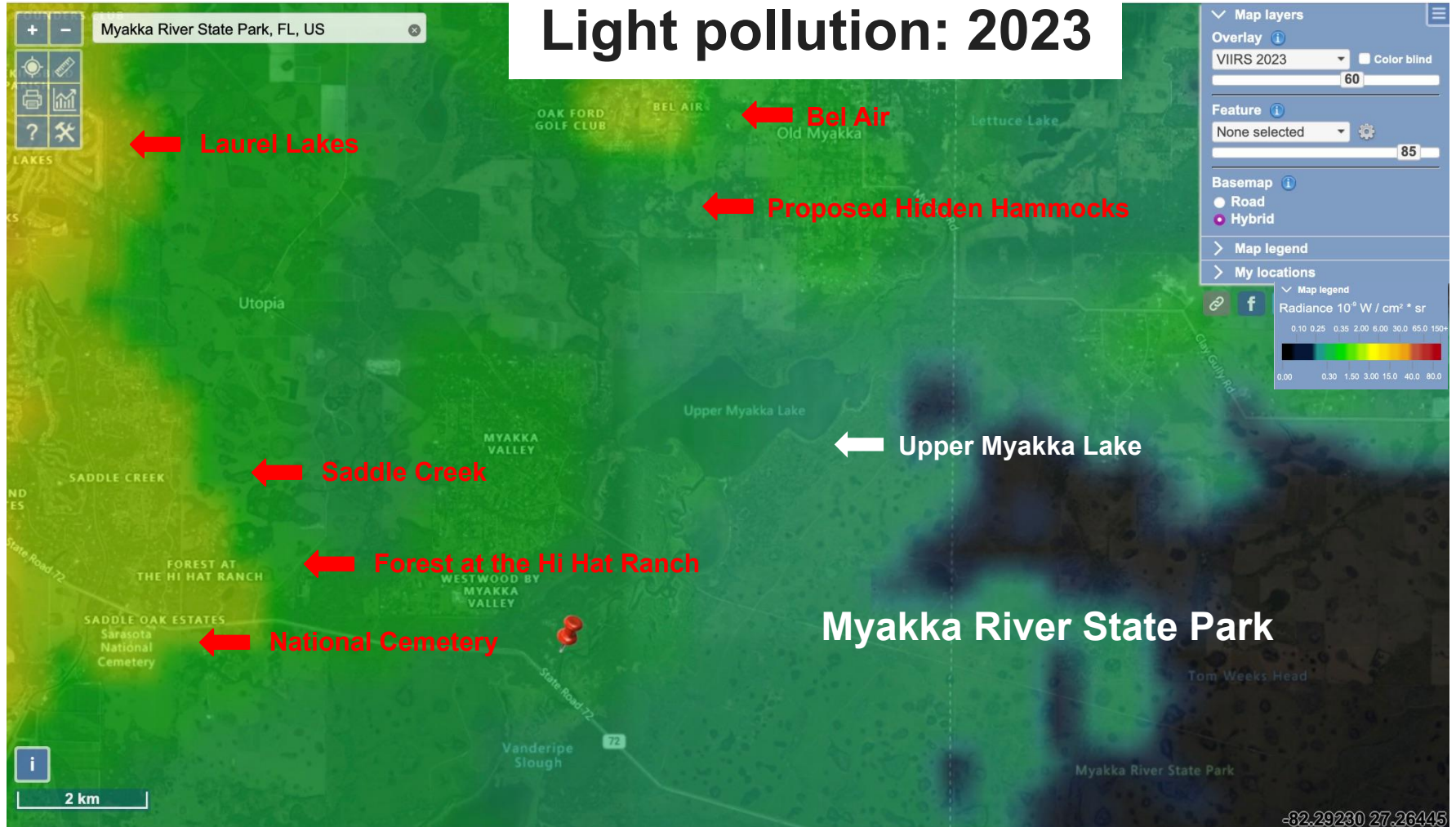


# Light pollution: 2012



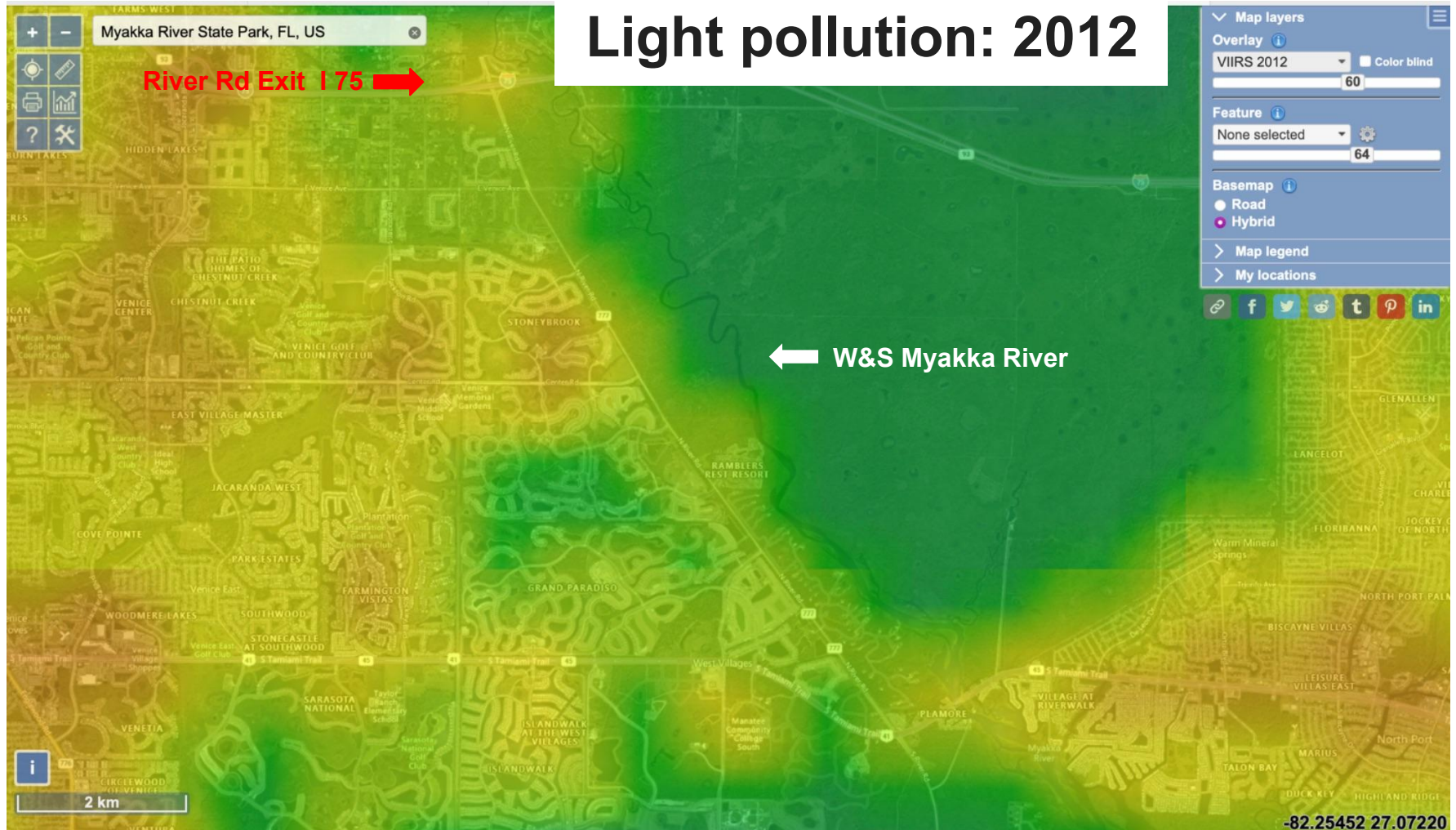


# Light pollution: 2023

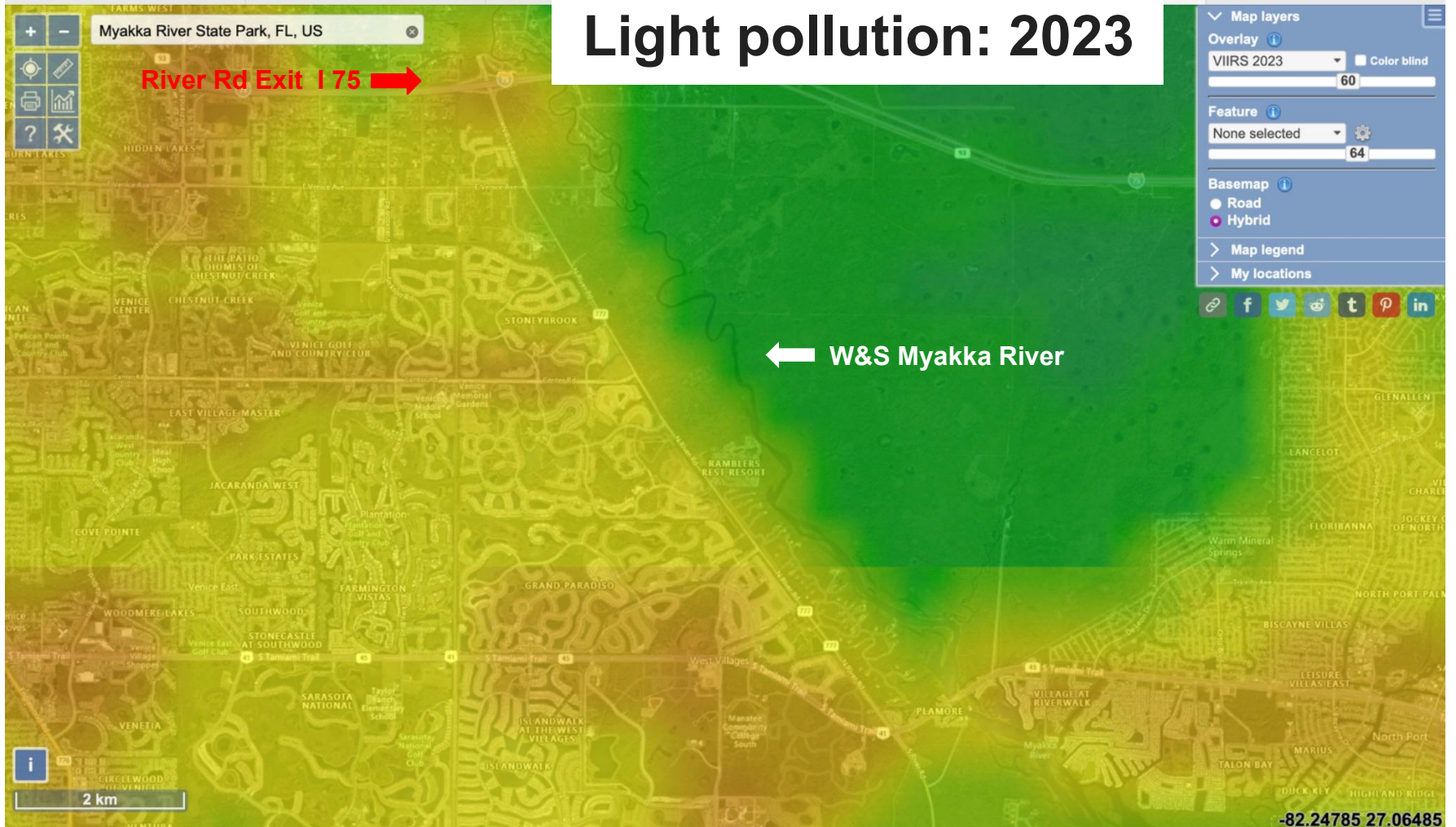




# Light pollution: 2012



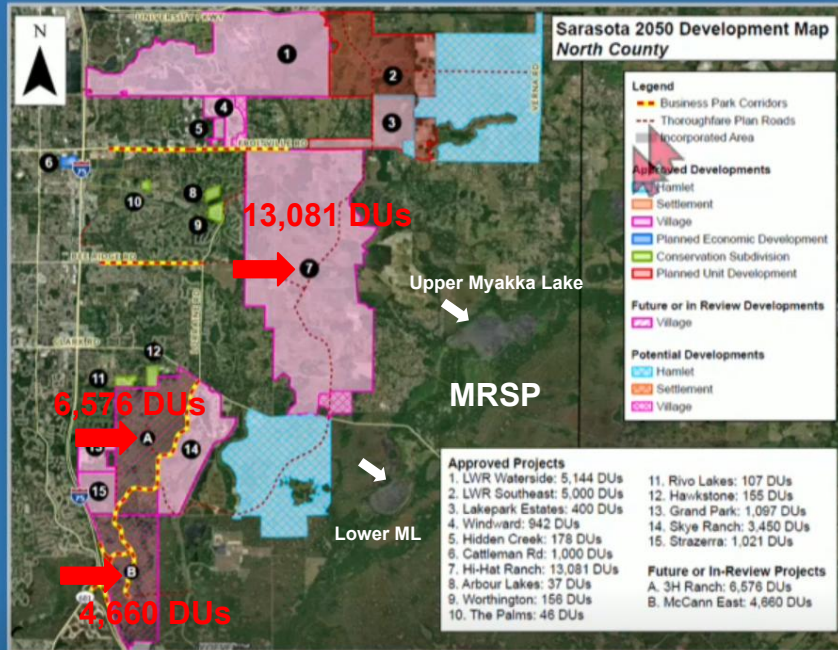
# Light pollution: 2023



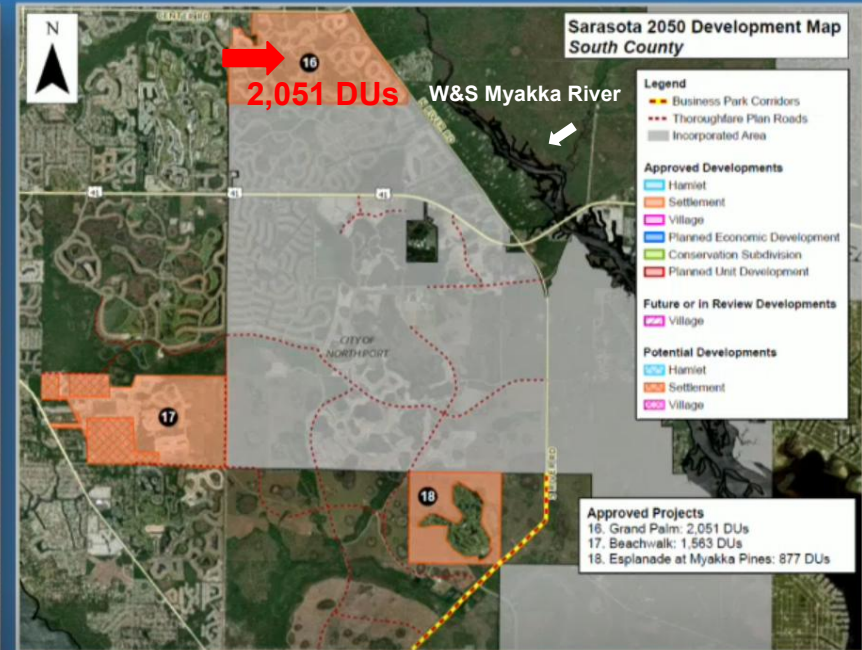


# 2050 Development

## North County

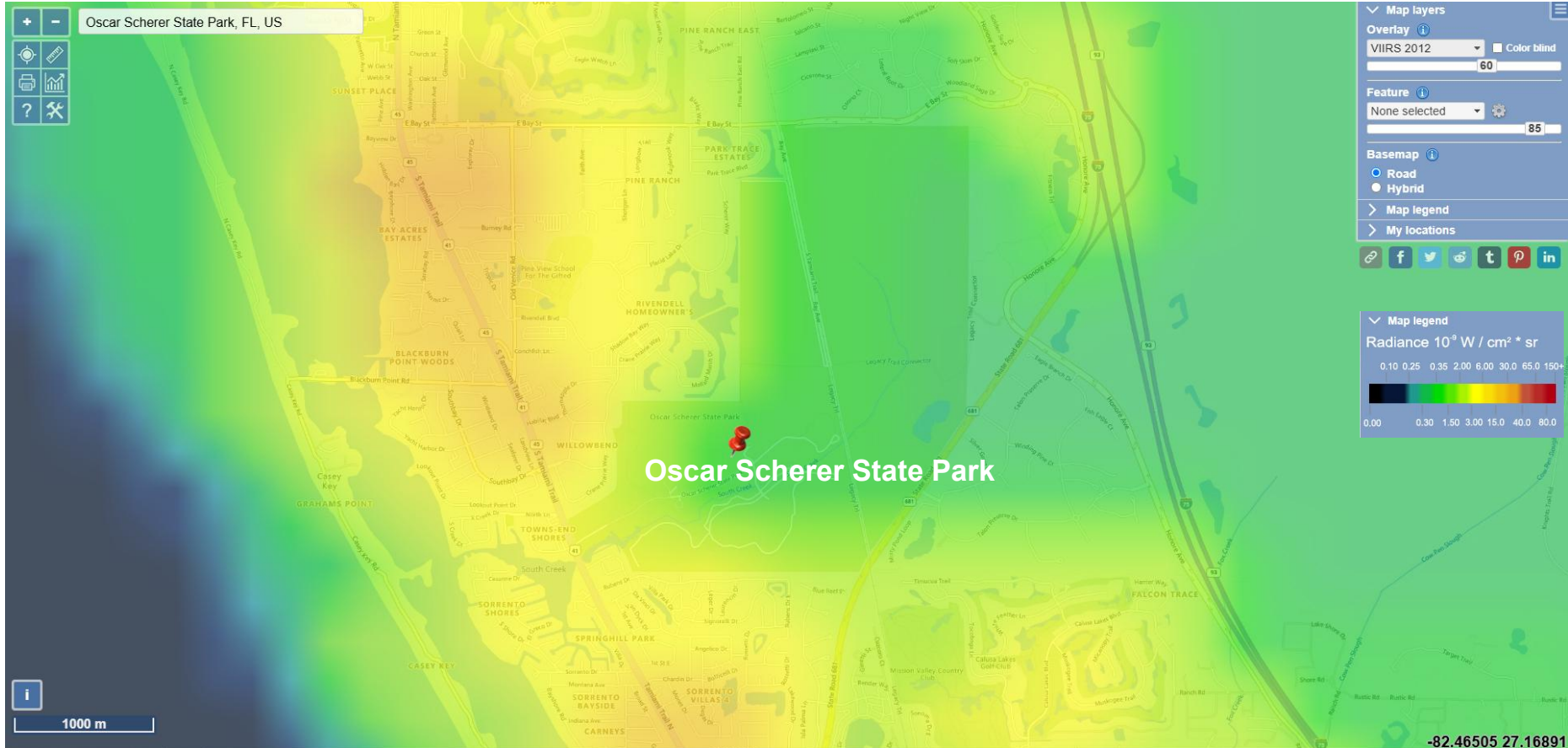


## South County



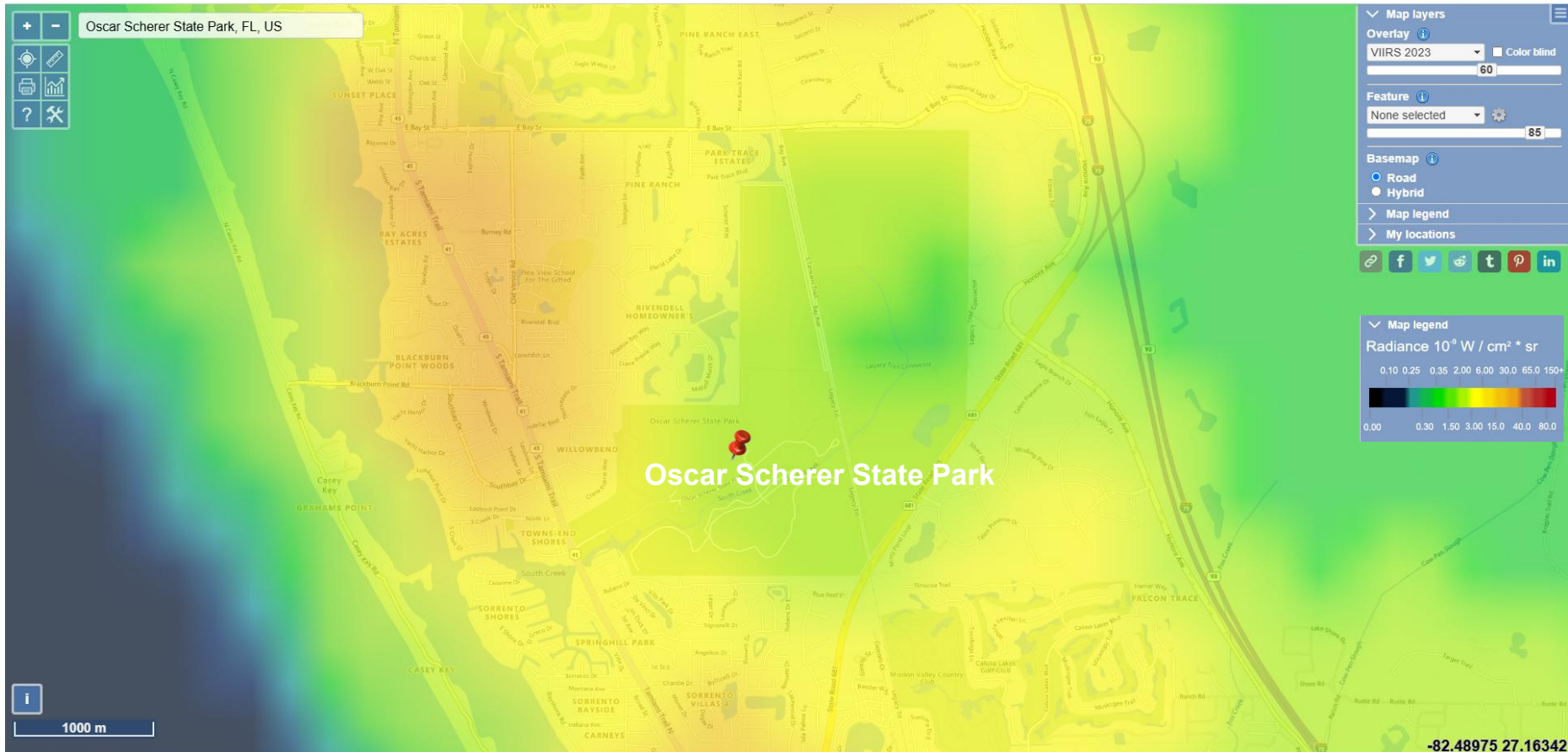
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# Oscar Scherer State Park Light pollution: 2012





# Oscar Scherer State Park Light pollution: 2023



**EXISTING PROTECTIONS FROM LIGHT POLLUTION?**

- Sarasota County does not have a dark sky ordinance
- Per Staff, the current SC Outdoor Lighting Ordinance is difficult to enforce: § 7.5. Outdoor Lighting
- SC Marine Turtle Protection contains specific language regarding light pollution for both private and public light sources: Article XXIII. MARINE TURTLE PROTECTION

# **SPECIFIC POLICIES OUTLINING PROTECTION FOR MYAKKA RIVER STATE PARK AND THE W&S MYAKKA RIVER**



# ***SARASOTA COUNTY UNIFIED DEVELOPMENT CODE:***

## **Sec. 124-12. - Intent**

- (a) In their interpretation and application, the provisions of this UDC shall be held to be minimum requirements adopted for the promotion of public health, safety, morals and general welfare, protection of natural resources, and the following:

**(13) To protect and enhance the County's environmental, recreational, cultural, historical, natural, and scenic resources;**

# ***SARASOTA COUNTY UNIFIED DEVELOPMENT CODE:***

## **Sec. 124-12. - Intent**

### ***(b) Minimum Requirements.***

No development shall be approved unless the following conditions are reasonably achieved and made available pursuant to the concurrency requirements herein specified:

(9) Protection of the County's natural and scenic resources, including the quality of air and both surface and ground waters and the **preservation of their ecological integrity.**

# ***SARASOTA COUNTY COMPREHENSIVE PLAN:***

## **FLU Policy 2.1.2**

Provide for the adequate buffering of Public Conservation Lands from potentially incompatible adjacent land uses.

## **FLU Policy 1.2.2 (A)**

Protect environmentally sensitive lands, conserve natural resources, protect floodplains, maintain or improve water quality, and open space.

# **SARASOTA COUNTY COMPREHENSIVE PLAN:**

## ***Environmental Policy 1.3.13 -***

*Developments surrounding Oscar Scherer State Park, the Scherer Thaxton Preserve, **Myakka River State Park** and Myakka State Forest shall avoid, minimize, and mitigate impacts to these public lands through **special measures** that address: water quality and quantity, **light and noise pollution**, strategies to allow for wildlife movement, and land management practices.*

# **MYAKKA RIVER WILD AND SCENIC MANAGEMENT PLAN**

# MYAKKA RIVER WILD AND SCENIC MANAGEMENT PLAN (2012)

## 4.2 SCENIC RESOURCE VALUE

### 4.2.2 Issues and Problems

Artificial Light--The issue of artificial light is a recent problem, which will grow in importance as land development activity increases. The interchange lighting at I-75 and River Road impact the river corridor during the day when the towers are visible and during the night when highway lights are visible.

### 4.2.3 Priority Concerns

- Artificial light as it relates to the disruption of stargazing, wilderness experiences, and plant and animal life.

# MYAKKA RIVER WILD AND SCENIC MANAGEMENT PLAN (2012)

## 5.3 SPECIFIC MANAGEMENT OBJECTIVES AND ACTIONS

### Objective 5

To minimize urban and suburban encroachment and resultant adverse impacts to the river and allow appropriate land uses within the watershed.

### **Action 5.5**

**Mitigate and reduce spill light from all road crossings and the communities located south of the Carlton**

**Status:** No progress, new action item

**Assigned to:** Applicable Management Agencies

**NEXT STEPS...**



“When we add light to the environment, that has the potential to disrupt habitat, just like running a bulldozer over the landscape can.”

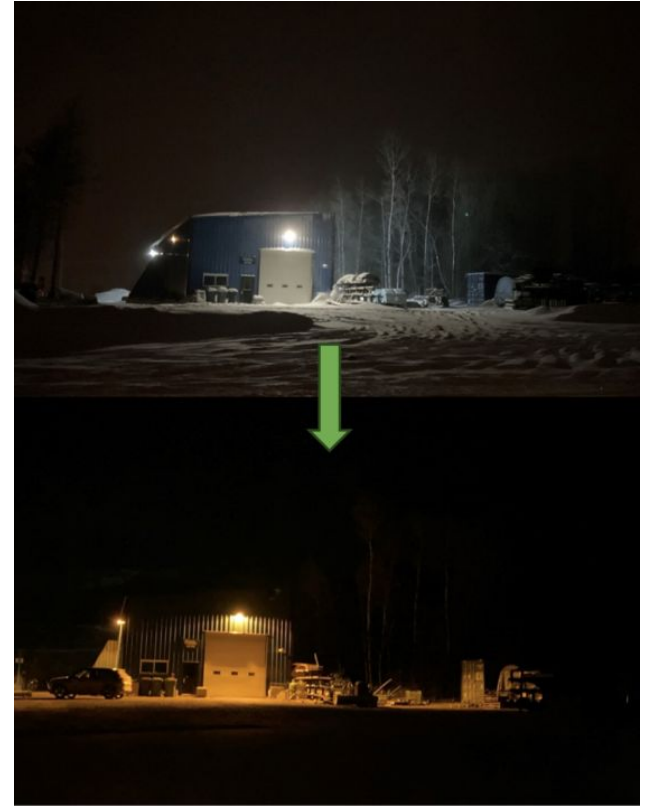
— **Chad Moore**  
**Formerly of the NPS**



**Photo: © FWC**

But unlike other forms of habitat destruction and pollution, light pollution is a reversible problem, with solutions that are easy to implement, and deliver immediate, lasting results by

- Modifying existing lighting so it is:
  - Shielded
  - Down pointing
  - 3,000 kelvin or less
- Requiring future development to comply with these guidelines



Light polluted sky

Visible night sky

**UNACCEPTABLE**

Unshielded

**VERY BAD**

**BAD**

**BETTER**

Fully shielded

**BEST**



Fully shielded + timer  
or motion sensor

**WE SUGGEST A TWO PRONGED APPROACH**

# 1: Outreach by Friends of Myakka River & Partners

- Identify key sources of light pollution impacting MRSP and the river:
  - Light pollution maps
  - Monitor and quantify light pollution through regular measurements
  - Partnership with the **NPS Natural Sounds and Night Skies Division**
- Commence informational outreach directed at:
  - Communities and facilities that are negatively impacting the park (e.g., Bel Aire, Sarasota County Water Plant, Sarasota National Cemetery)
  - Developments already approved east of I-75 in the proximity of MRSP

## **2: Secure Enforceable Dark Sky Protections**

Friends of Myakka River will meet with Sarasota County Commissioners to:

- Share this presentation with our concerns, especially in light of proposed and approved high density developments near the park
- Request actions necessary for implementing enforceable protections for the park and river as per policies outlined in the UDC and the Sarasota County Comprehensive Plan

# RESOURCES:

- [Website for mapping light pollution](#) - Jurij Stare
- [Background information about mapping light pollution](#) - DarkSky International
- [Light pollution disrupts lives of plants and animals](#) - Miri Hardy, PhD, The Observer
- [Why protect Dark Sky and how to measure it](#) - the National Park Service
- [Information about light ordinances](#) - DarkSky International
- [Creating responsible lighting codes and statutes](#) - DarkSky International
- [Sky Quality Meter-L: A handheld meter for measuring sky brightness](#)