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COUNTY COUNCIL

August 25, 2022

MEMO TO: CARE-74 File

F R O M: Kelly Takaya King, Chair *Kelly T. King*
Climate Action, Resilience, and Environment Committee

SUBJECT: **TRANSMITTAL OF INFORMATIONAL DOCUMENT RELATING TO
SEABIRD AND BIODIVERSITY PROTECTION** (CARE-74)

The attached informational document pertains to Item 74 on the Committee's agenda.

care:ltr:074afile04:brs

Attachment

ORDINANCE NO. _____

BILL NO. _____ (2022)

A BILL FOR AN ORDINANCE AMENDING CHAPTER 20.35, MAUI COUNTY
CODE, RELATING TO PROTECTING ~~SEABIRDS~~WILDLIFE FROM OUTDOOR
LIGHTING AND PRESERVING DARK SKIES

BE IT ORDAINED BY THE PEOPLE OF THE COUNTY OF MAUI:

SECTION 1. ~~The purpose~~Dark night skies hold important cultural,
astronomical, biodiversity, and tourism-related value, which is negatively
impacted as a result of this~~artificial lighting.~~ Excess artificial lighting also
increases energy consumption, which contributes to wasted fossil fuel resources
and exacerbates global climate change. This Ordinance is to intended to aid in
the conservation of energy, restrict the permitted use of outdoor light fixtures
emitting undesirable light rays into the night sky which have a detrimental effect
on Hawaiian cultural practices and astronomical research, and protect native
Hawaiian ~~seabirds~~wildlife from becoming~~the destructive impacts of lighting~~
pollution. In doing so, the County will enjoy the many other benefits of dark
night skies.

Lighting pollution is a serious threat to many types of wildlife. Each year,
artificial light causes the disruption of survival-related behavior leading to the
injury or death of thousands of migrating birds, sea turtles, and other reptiles,
amphibians, mammals, and invertebrates. Seabirds become **disoriented by**
artificial lights during their maiden flights from their burrows out to sea. This

disorientation is often referred to as “fallout” and leaves the birds at risk of predation by cats, mongoose, and other predators, ~~as well as~~ and vulnerable to vehicle collisions and starvation.

Native Hawaiian seabirds are an important part of Hawaiian history and were traditionally used by navigators to find their way back home to their islands. They also help our fishermen locate schools of ahi and are critical to our watersheds by helping to fertilize the soils and nearshore coral reef habitats with marine nutrients found in their droppings.

Endangered sea turtles are also disoriented by artificial lights near the ocean. Lights visible from the beach alter the critical nocturnal behavior of sea turtles, including how female sea turtles choose their nesting sites, how they return to the sea after nesting, and how the newly emerged hatchlings find their way to the ocean. Hatchlings typically emerge from their nest at night and find the ocean by crawling towards the brighter, open horizon. Artificial lights confuse the hatchlings causing them to wander inland. Due to disorientation, their survival is put at risk from dehydration, heat exhaustion, and human activities such as motor-vehicle traffic. Artificial light also causes sea turtle hatchlings to spend more time in nearshore waters, where they are easy prey for reef fish and sharks.

The Council’s intent is to protect native Hawaiian ~~seabirds~~wildlife as much as possible from interference of onshore sources of artificial light.

SECTION 2. Section 20.35.060, Maui County Code, is amended to read as follows:

“20.35.060 General Requirements. A. All new outdoor lighting fixtures [shall] must comply with the requirements of section 20.35.090.

B. All outdoor lighting fixtures that were legally installed before January 25, 2007, [shall] must comply with section 20.35.090 [by January 1, 2020; except class III lighting fixtures that were legally installed before January 25, 2007 shall be exempt from section 20.35.090].

C. Mercury vapor [shall] must not be used for new outdoor lighting fixtures or for the replacement of existing outdoor lighting fixtures. All existing mercury vapor outdoor lighting fixtures [shall] must be removed [within ten years of the enactment of this ordinance.] by January 25, 2017.

D. All outdoor lighting fixtures, except for neon, must limit short wavelength content to no more than ~~two~~2 percent of blue light content. “Blue light content” means the ratio of the amount of energy emitted by the outdoor light fixture between ~~400~~four hundred and ~~500 nm~~five hundred nanometers divided by the amount of energy between ~~400~~four hundred and ~~700 nm~~seven hundred nanometers.

E. All outdoor lighting fixtures, except for neon, must be:

1. Down directed with no light shining above the horizontal. Wall-mounted fixtures must have opaque shields to direct all light down, and, if the light hits a wall surface, the surface must be non-reflective (e.g., not a polished or glass surface; painted surfaces must have matte paint).

2. Fully shielded, including shielding that ensures no light shines over the ocean.

3. The director of public works must ~~develop~~adopt administrative rules that set height restrictions for outdoor lighting within one year of the effective date of ~~this~~the ordinance establishing this section.

4. Traffic color compliant. “Traffic color compliant” means the 1931 CIE x y color coordinates of the outdoor light fixture is outside of any of the traffic signal color boxes as defined by ITE ST-052 500/AGS-PM/1105.

F. The director of public works must establish and maintain a list of light fixtures that comply with this chapter.”

SECTION 3. Section 20.35.070, Maui County Code, is amended to read as follows:

“20.35.070 Exemptions. A. The following [shall be] are exempt from the provisions of this chapter:

[A.] 1. All outdoor lighting fixtures producing light directly by the combustion of fossil fuels, such as kerosene and gasoline[;].

[B.] 2. Low wattage fixtures under 2.8 watts and string lights using bulbs less than fifty lumens used for holiday decorations and cultural festivals, including Obon festivals only[;].

3. Non-oceanfront private residential incandescent light fixtures that are fully shielded or have a lumen output of less than eight thousand one hundred lumens for each acre of property that is intended to be illuminated.

4. Lighting for night sporting events and permitted special events on State department of education properties, private school properties, nonprofit organization properties, and County parks and facilities.

5. Aviation obstruction lighting used to enhance the visibility of structures of fixed obstacles that may conflict with the safe navigation of aircraft.

6. Temporary, portable lighting used for emergency services including public safety, road construction or emergency repair, and road crossing.

[C. Temporary lighting used for public safety, road construction or emergency repair, field harvesting, and road crossing;

D. Temporary hotel and condominium beach security lighting;

E. Safety and security lighting for water features, except that water feature lighting such as for waterfalls, jet sprays, and bubblers shall be subject to the usage restrictions of section 20.35.090;

F. Replacement of outdoor lighting fixtures legally installed before the enactment of this ordinance with the same or like fixtures; provided, that such lighting fixtures shall be subject to sections 20.35.060.B and 20.35.060.C;

G. Outdoor lighting fixtures on a motion sensor timed to turn off within a five-minute time limit;

H. Lighting on federal and State properties and on areas under the jurisdiction of the federal and State government, including, but not limited to, Hawaiian home lands, State conservation districts, airports, and harbors.]

B. All outdoor lighting fixtures installed or used as portable lighting prior to the enactment of the ordinance establishing subsections 20.30.060(D) and (E) are exempt from the provisions of those subsections for ~~a period of three years from the date of enactment of the ordinance establishing those subsections;~~ except that temporary, portable lighting used for emergency services

~~including public safety, road County or state construction or emergency repair, and road crossing and lighting for sports and athletic fields on state of Hawaii department of education properties, private school properties, and County parks and facilities may~~ projects remain exempt from this chapter beyond the three-year period if, and for only as long as, there are no compliant lighting fixtures available that meet industry standards for ~~emergency services and sporting events~~ construction projects.”

SECTION 4. Section 20.35.090, Maui County Code, is amended to read as follows:

“20.35.090 Shielding requirements and usage restrictions. Outdoor lighting fixtures [shall] must conform to the following shielding requirements and usage restrictions:

Lamp Type	Shielding Requirement	Usage Restrictions
Class I		
[Augmented monochromatic]	[Fully shielded]	[None]
[Low pressure sodium]	[Fully shielded]	[None]
Metal halide	[Partially] <u>Fully</u> shielded	Off from 11:00 p.m. to sunrise*
All others	Fully shielded	None
Class II		
[Augmented monochromatic] <u>All lights</u>	Fully shielded	None
[Low pressure sodium]	[Fully shielded]	[None]

[All others (existing)]	[Fully shielded]	[None]
[All others (new)]	[Fully shielded]	[None]
Class III		
[Low pressure sodium]	[Fully shielded]	[None]
[High pressure sodium]	[Fully shielded]	[None]
Neon	None	Off from 11:00 p.m. to sunrise*
[Others] <u>All others</u>	Fully shielded	None
Others	[Partially] <u>Fully</u> shielded	Off from 11:00 p.m. to sunrise*
Class IV		
[Existing] <u>All lights</u>	Fully shielded	None
[Low pressure sodium]	[Fully shielded]	[None]
[High pressure sodium]	[Fully shielded]	[None]
[Others]	[Fully shielded]	[None]

*These lights may be used between 11:00 p.m. and sunrise if business or recreational activities are taking place, but [shall] must be turned off no later than one hour after conclusion of activities."

SECTION 5. Material to be repealed is bracketed. New material is underscored. In printing this bill, the County Clerk need not include the brackets, the bracketed material, or the underscoring.

SECTION 6. This Ordinance takes effect on January 1, 2023.

care:misc:074abill09:kmat

INTRODUCED BY:

Kelly T. King

KELLY TAKAYA KING