

**COUNCIL OF THE COUNTY OF MAUI**

# **CLIMATE ACTION, RESILIENCE, AND ENVIRONMENT COMMITTEE**

September 20, 2022

**Committee  
Report No. \_\_\_\_\_**

Honorable Chair and Members  
of the County Council  
County of Maui  
Wailuku, Maui, Hawaii

Chair and Members:

Your Climate Action, Resilience, and Environment Committee, having met on August 31, 2022, and reconvened on September 8, 2022, makes reference to Bill 21, CD1, FD1 (2022), entitled “A BILL FOR AN ORDINANCE AMENDING CHAPTER 20.35, MAUI COUNTY CODE, RELATING TO PROTECTING SEABIRDS FROM OUTDOOR LIGHTING.”

Bill 21, CD1, FD1’s purpose is to regulate all outdoor lighting fixtures, except for neon, to: 1) limit short wavelength content to no more than two percent of blue light content, and 2) be down directed and fully shielded to protect native Hawaiian seabirds from becoming disoriented by artificial light.

Your Committee notes native Hawaiian seabirds are an essential part of Maui’s biodiversity. Protection of these seabirds is critical, as their vital connection with mountain watersheds and seashore reefs greatly benefit the health of our ecosystem.

Your Committee further notes that the Council passed Bill 21, CD1, FD1 on first reading at its meeting of July 1, 2022 (Committee Report 22-47). At its meeting of July 15, 2022, the Council recommitted the bill to consider additional information and address concerns from the community and Administration.

Your Committee heard from various representatives of the Department of Planning, Department of Public Works, Department of Police, Department of Fire and Public Safety, and the Department of the Corporation Counsel regarding the bill’s potential impacts.

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The Department of Fire and Public Safety and Department of Police expressed concern that the public safety exemption to address emergency services was too restrictive.

The Department of Public Works expressed concern over the bill's impact on the ongoing Streetlight Replacement Project. The Department also requested clarification on whether the proposed exemption under Section 20.35.070(A)(3) was applicable only to single-family homes.

The Department of Parks and Recreation asked that both night sporting events and special events be exempted and that the bill be amended to exempt work at County parks after operating hours.

Your Committee also considered valuable input through testimony and presentations from scientific experts and environmental group leaders who supported the two percent blue light standard.

Your Committee agreed to expand the bill's intent to include the impacts of artificial lighting on other types of wildlife and to stress the importance of preserving dark skies.

Your Committee noted that artificial lighting visible from the beach can disorient endangered sea turtles and their hatchlings, and alter their critical nocturnal behavior.

Your Committee learned that the International Astronomical Union recommends that artificial light should not increase the natural sky brightness by more than 10 percent.

Your Committee discussed modeling the list of compliant light suppliers used by Hawaii County and Florida.

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Your Committee agreed to amend Bill 21, CD1, FD1, to:

- Exempt certain residential uses;
- Expand the exemption for sporting events and special events;
- Broaden the exemption for police, fire, and other emergency services;
- Include the preservation of dark skies; and
- Expand the protection of wildlife beyond native Hawaiian seabirds.

After a robust discussion, your Committee further agreed to:

- Clarify the exemption for string lights to be fully shielded and under 2.8 watts using bulbs less than 50 lumens;
- Exempt lighting for non-oceanfront private property, including single-family, duplex, tri-plex, and four-plex units;
- Exempt lighting for Council-approved affordable housing projects and future affordable housing projects until compliant light fixtures are readily available; and
- Exempt lighting for night sporting events and permitted special events on private property, except for hotels and transient accommodations, but not for private property in the sea-level rise exposure areas during the months of May to December.

Your Committee supported legislation that restricts the permitted use of outdoor light fixtures that emit undesirable light rays into the night sky, thereby, protecting wildlife, native Hawaiian cultural practices, and astronomical research from the destructive impacts of light pollution.

Your Committee voted 6-0 to recommend passage of Bill 21, CD2, FD1 (2022) on first reading. Committee Chair King, Vice-Chair Sinenci, and members Johnson, Lee, Molina, and Paltin voted “aye.” Committee member Sugimura was excused.

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**Committee  
Report No.** \_\_\_\_\_

Your Committee is in receipt of Bill 21, CD2, FD1 (2022), entitled “A BILL FOR AN ORDINANCE AMENDING CHAPTER 20.35, MAUI COUNTY CODE, RELATING TO PROTECTING WILDLIFE FROM OUTDOOR LIGHTING AND PRESERVING DARK SKIES,” incorporating your Committee’s recommended revisions and nonsubstantive revisions.

Your Climate Action, Resilience, and Environment Committee RECOMMENDS that Bill 21, CD2, FD1 (2022), as revised herein and attached hereto, entitled “A BILL FOR AN ORDINANCE AMENDING CHAPTER 20.35, MAUI COUNTY CODE, RELATING TO PROTECTING WILDLIFE FROM OUTDOOR LIGHTING AND PRESERVING DARK SKIES,” be PASSED ON FIRST READING and be ORDERED TO PRINT.

This report is submitted in accordance with Rule 8 of the Rules of the Council.

  
\_\_\_\_\_  
KELLY TAKAYA KING, Chair

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ORDINANCE NO. \_\_\_\_\_

BILL NO. 21, CD2, FD1 (2022)

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

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

SECTION 1. Dark night skies hold important cultural, astronomical, biodiversity, and tourism-related value, which is negatively impacted as a result of artificial lighting. Excess artificial lighting also increases energy consumption, which contributes to wasted fossil fuel resources and exacerbates global climate change. This Ordinance is 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 wildlife from 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 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 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 2 percent of blue light content. "Blue light content" means the ratio of the amount of energy emitted by the outdoor light fixture between four hundred and five hundred nanometers divided by the amount of energy between four hundred and 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 adopt administrative rules that sets height restrictions for outdoor lighting within one year of the effective date of 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;] and fully shielded string lights under 2.8 watts using bulbs less than fifty lumens.

3. Non-oceanfront private single-family, duplex, tri-plex, and four-plex 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. Lighting for affordable housing projects that have already been approved by the council and for future affordable housing projects for only as long as there are no compliant lighting fixtures available at comparable cost to non-compliant lighting fixtures.

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. Lighting for night sporting events and permitted special events on private property, except for hotels and other transient accommodations, but not for private property in the sea level rise exposure area during the months of May to December.

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 legally 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 three years from the date of enactment of the ordinance; except that temporary, portable lighting used for County or state construction 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 construction projects."

SECTION 4. Section 20.35.080, Maui County Code, is amended to read as follows:

**"20.35.080 Submission of plans.** A. All outdoor lighting fixtures [shall] must conform to this chapter and chapter [16.18A] 16.18(B), [of this code,] as applicable, and to any permit and inspection requirements [thereof] of this chapter and chapter 16.18(B). An applicant for any electrical permit required for the installation of an outdoor lighting fixture, except residential outdoor lighting fixtures, [shall] must submit to the director information sufficient to show that the proposed installation will comply with this chapter. The submission [shall] must include the following:

1. The location of the property where the outdoor lighting [fixture(s)] fixtures will be installed[;].

2. Plans describing the [location(s)] locations of the outdoor lighting [fixture(s)] fixtures on the property[; and].

3. A description of the outdoor lighting [fixture(s)] fixtures, including[, but not limited to,] manufacturer's catalog cuts and drawings.

B. The information required by subsection A [shall] must be sufficiently complete to enable the director to readily determine whether the proposed installation complies with this chapter. When plans and specifications are required for an electrical permit by chapter [16.18A of this code,] 16.18(B), the electrical engineer certifying the plans and specifications [shall] must also certify in writing that all proposed outdoor lighting fixtures comply with this chapter."

SECTION 5. 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	<del>[Partially]</del> <u>Fully</u> shielded	Off from 11:00 p.m. to sunrise*
Class IV		
<del>[Existing]</del> <u>All lights</u>	Fully shielded	None
<del>[Low pressure sodium]</del>	<del>[Fully shielded]</del>	<del>[None]</del>
<del>[High pressure sodium]</del>	<del>[Fully shielded]</del>	<del>[None]</del>
<del>[Others]</del>	<del>[Fully shielded]</del>	<del>[None]</del>

\*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 6. 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 7. This Ordinance takes effect on January 1, 2023.

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INTRODUCED BY:

*Kelly T. King*

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KELLY TAKAYA KING