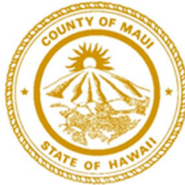


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September 6, 2022

**TO:** Climate Action, Resilience, and Environment Committee  
**FROM:** Keola R. Whittaker, Deputy Corporation Counsel  
**SUBJECT:** Seabird and Biodiversity Protection, Bill No. 21, CD1, FD1 (2022) (CARE-74)

This letter is sent in response to Councilmember Tamara Paltin's request that we provide the CARE Committee with written responses to some issues that have been raised in consideration of Bill 21.

## **I. Brief History of Current Outdoor Lighting Standards**

The County's current Outdoor Lighting Standards were drafted by the Outdoor Lighting Standards Committee which included among its members both Dr. Fern Duvall III, a Wildlife Biologist with the Department of Land and Natural Resources, and Dr. Joe Ritter, a Physicist with the University of Hawaii's Institute for Astronomy. After working with the Outdoor Lighting Standards Committee, and meeting with the Institute of Astronomy, the Director of Public Works presented proposed amendments to the Street Lighting Standards to the Maui County Council's Infrastructure Management Committee, on October 31, 2011.

Both Dr. Duvall and Dr. Ritter were present at that committee meeting. Dr. Duval offered public testimony at the October 31, 2011 committee meeting, stating that any LED lighting should be shielded, and the correlated color temperature should be less than 4100K (kelvins) "to make the light no bluer than moonlight" and to address wildlife concerns.

## **II. There Is No Scientific Consensus Regarding Hawaiian Seabird Attraction to Blue Light**

The Committee has been told that there is scientific evidence that Hawaiian seabirds are more attracted to light in the blue end of the light spectrum than any other part of the spectrum. There does not appear to be any consensus on that conclusion. The claim that seabirds are attracted by blue

light appears to be pushed by a few individuals, not any U.S. agency dedicated to studying these issues, and not a coalition of scientists.

Our research has revealed the following:

- On May 17, 2017, Jay Penniman wrote to dozens of addressees including county, state, and federal regulators acknowledging that there is no empirical evidence or data suggesting that spectral blue-light content has any affect whatsoever on seabirds. (Attachment 1)
- When questioned under oath, Mr. Penniman admitted that the only paper he relies on for his conclusion that seabirds are attracted to blue light is a paper entitled “Rapid Assessment of lamp spectrum to quantify ecological effects of light at night.” That paper indisputably demonstrates the Newel Shearwater is not particularly sensitive to blue light, but rather is comparatively much more affected by light in the red and yellow spectral range. In short, the paper shows that the present restrictions in Bill 21 could have a detrimental impact on seabirds.
- Around May 20, 2020 the U.S. Fish and Wildlife Service declined to revise the Kauaʻi Seabird Habitat Conservation Plan as requested by a comment letter regarding the effects of light color spectrum on seabirds. The USFWS went one step further and said that the KSHCP recommendations for light minimization (which do not include alleged light spectrum requirements related to seabirds) “represent the best available science” and that current science regarding light color sensitivity in seabirds “remains extremely limited.”
- On July 15, 2022, the U.S. Fish and Wildlife Service confirmed by letter that their recommendation to the Maui County Council is to wait until further study is complete on Hawaiian seabird reactions to light before enacting this sweeping legislation. A copy of that letter was attached to our August 26, 2022 memorandum.
- According to a peer reviewed study on a Honolulu LED Streetlighting project, fully shielded LED lights did not have a significant impact on seabirds, even though those lights had a higher blue light content than previously installed streetlights. This study was based on eight years of data and concluded that “there is no evidence suggesting that the shielded LED streetlights impacted the number of birds affected by fallout overall.” (Urmston, et al., “Quantifying wedge-tailed shearwater (*Ardenna pacifica*) fallout after changes in highway lighting on Southeast Oʻahu, Hawaiʻi”, March 24, 2022)

### III. Costs to the County of Maui

We recently learned that light fixtures compliant with the bill's blue light standards cost three times as much as other light fixtures, in part due to the limited supply of lights that comply with a standard that has not been adopted in any other state.

There are over 250 types of outdoor lighting fixtures that have been identified for the County of Maui. It will take staff significant time to search for or create proper fixture that is compliant with the less than 2% blue light standard that also meets the illumination requirements for safety, across all types of outdoor lighting.

It is estimated that compliance with this bill will require increased staffing and could cost hundreds of thousands or millions of dollars. The Department of Public Works will likely request a budget amendment to comply with these standards.

### IV. Ability to Obtain Compliant Lights

Supporters of Bill 21 have argued that compliant lights are readily available. That is not accurate. There are a small number of lights that will be identified as compliant, as demonstrated by the difficulties faced by the County of Hawai'i.

- The County of Hawai'i has approved a small handful of compliant lights, which are not available to most consumers and come from a single lighting vendor.
- Compliant lights are **not** available on Amazon or other commercial sellers. Some have insisted that outdoor lights that comply with the bill can be purchased in stores or on Amazon or other online sellers. There is no way for our department or the Department of Public Works to confirm that lights purchased commercially comply with the 2% blue light standard. Making that determination requires receipt of information that is not publicly available. For that reason, the County of Hawai'i has only approved a small number of compliant light fixtures, none of which are available to average consumers.
- DPW cannot rely on the State of Florida's list of compliant lights because they have adopted a different definition of "blue light." The Office of Council Services has suggested that our Department of Public Works could adopt the list of lights approved under the State of Florida's limited sea turtle lighting ordinances. Those ordinances

have a different definition of blue light and have different standards. In addition, the certification process to have lights approved by Florida involves the submission of information to the Florida Fish and Wildlife Conservation Commission, which reviews the data and provides approval. There is no way for our Department of Public Works to know whether the process used by Florida would meet the standards set forth in the bill without receiving the same information from those manufacturers.

# Attachment 1

>>  
>> On Wed, May 17, 2017 3:27 pm, Jay F. Penniman wrote:  
>>  
>> Aloha No,  
>>  
>> Here is the latest contribution documenting the impacts of  
>>  
>> anthropogenic light at night on seabirds worldwide. If anyone knows of  
>>  
>> locations where light induced seabird fallout is documented, where we  
>>  
>> could change out lights to low blue content LED luminaires, please be  
>>  
>> in contact. There is a real need to answer the question of whether or

>>  
>> not eliminating as much blue content of nighttime lighting as possible  
>>  
>> will reduce or eliminate distraction of seabirds. Lighting with  
>>  
>> minimized blue content has been demonstrated to eliminate turtle  
>>  
>> distraction. There are numerous studies documenting the negative  
>>  
>> impacts of blue light at night on astronomy and other species; salmon,  
>>  
>> soy beans, humans, etc. We need to answer the question for seabirds.  
>>  
>> Cheers,  
>>  
>> Jay  
>>  
>> Jay F. Penniman, Manager  
>>  
>> Maui Nui Seabird Recovery Project  
>>  
>> P.O. Box 903  
>>  
>> Makawao, Hawai'i 96768  
>>  
>> (808) 572-3500 (office)  
>>  
>> (808) 280-4114 (mobile)  
>>  
>> (808) 573-BIRD (2473) - Found A Downed Bird  
>>  
>> Jay F. Penniman, Manager  
>>  
>> Maui Nui Seabird Recovery Project  
>>  
>> P.O. Box 903  
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>> (808) 280-4114 (mobile)  
>>  
>> (808) 573-BIRD (2473) - Found A Downed Bird

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Keith Swindle  
Resident Agent in Charge  
U.S. Fish and Wildlife Service  
Office of Law Enforcement  
3375 Koapaka St, Suite B-296  
Honolulu, HI 96819  
808-861-8525

## CARE Committee

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**From:** Graham Resell <Graham.M.Resell@co.maui.hi.us>  
**Sent:** Thursday, September 8, 2022 1:01 PM  
**To:** CARE Committee  
**Subject:** CARE-74 Ord Amd Ch 20.35 Outdoor Lighting  
**Attachments:** CARE-74 2022-09-06 Bill 21 CD1 Letter.pdf

Council Member Paltin,

Please find attached correspondence relating to the proposed seabird lighting bill. Please let me know if there are any questions.

Thank you,  
Graham

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Graham M. Resell  
Law Technician  
Department of the Corporation Counsel  
Telephone: (808)270-1778