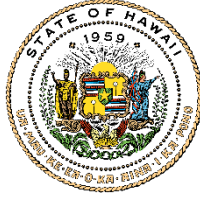


JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA

P.O. BOX 621
HONOLULU, HAWAII 96809

DAWN N.S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT
RYAN K.P. KANAKA'OLE
FIRST DEPUTY
DEAN D. UYENO
ACTING DEPUTY DIRECTOR - WATER
AQUATIC RESOURCES
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HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

Testimony of
DAWN N. S. CHANG
Chairperson

Before the House Committee on
ENERGY & ENVIRONMENTAL PROTECTION

Thursday, February 8, 2024
9:30 AM

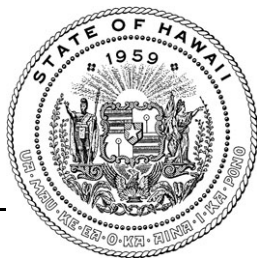
State Capitol, Conference Room 325 and Via Videoconference

In consideration of
HOUSE BILL 2027
RELATING TO LIGHT POLLUTION

House Bill 2027 proposes to establish a Dark Night Skies Protection Advisory Committee within the Department of Land and Natural Resources (Department) and expedite the repeal of the existing advisory committee within the University of Hawai'i. **The Department supports this measure provided that its passage does not replace or adversely impact priorities indicated in the Executive Budget request.**

The Department recognizes that light pollution from artificial lights impacts wildlife, including seabirds and turtles, and interferes with astronomical research. The responsibilities of the proposed committee address the need for a statewide coordinated lighting strategy and exploration of novel energy-efficient and cost-saving lighting that considers cultural, natural, and astronomical values.

Mahalo for the opportunity to provide testimony in support of this measure.



**DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM**
KA 'OIHANA HO'OMOHALA PĀ'OIHANA, 'IMI WAIWAI
A HO'OMĀKA'IKĀ'I

JOSH GREEN, M.D.
GOVERNOR

SYLVIA LUKE
LT. GOVERNOR

JAMES KUNANE TOKIOKA
DIRECTOR

DANE K. WICKER
DEPUTY DIRECTOR

No. 1 Capitol District Building, 250 South Hotel Street, 5th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804
Web site: dbedt.hawaii.gov

Telephone: (808) 586-2355
Fax: (808) 586-2377

Statement of
JAMES KUNANE TOKIOKA
Director
Department of Business, Economic Development, and Tourism
before the
HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Thursday, February 8, 2024
9:30 AM
State Capitol, Conference Room #325

In consideration of
HB2027
RELATING TO LIGHT POLLUTION

Chair Lowen, Vice Chair Cochran and members of the Committee. The Department of Business, Economic Development and Tourism (DBEDT) supports HB2027 that establishes a dark night skies protection advisory committee within the Department of Land and Natural Resources (DLNR). This advisory committee will assist DLNR in the development of a statewide dark night skies protection strategy to preserve dark night skies and reduce light pollution.

According to the US Fish & Wildlife Service, under the Endangered Species Act of 1973 (16U.S.C. 1531et seq.): we understand that federally and state protected Hawaiian Bird Species and turtles are negatively affected by artificial lighting at night.

As the Hawai'i state film office, we work alongside various state agencies, such as DLNR, to mitigate and prevent any potentially adverse effects that photography and film productions could have on these protected species and environmental resources.

We strongly believe that the dark night skies committee alongside DLNR, will allow us to seamlessly work together, and ensure that the film industry continues to move forward responsibly, with the well-being of our protected species at night in mind.

Thank you for the opportunity to testify.



UNIVERSITY OF HAWAII SYSTEM

‘ŌNAEHANA KULANUI O HAWAII

Legislative Testimony

Hō'ike Mana'o I Mua O Ka 'Aha'ōlelo

Testimony Presented Before the
House Committee on Energy & Environmental Protection
Thursday, February 8, 2024 at 9:30 a.m.

By

Doug Simons, Director
Institute for Astronomy

And

Michael Bruno, PhD
Provost

University of Hawai'i at Mānoa

HB 2027 – RELATING TO LIGHT POLLUTION

Chair Lowen, Vice Chair Cochran, and members of the Committee:

Thank you for the opportunity to provide testimony in support of HB 2027 relating to light pollution. The University of Hawai'i Institute for Astronomy (IfA) conducts research in astronomy using telescopes located on Haleakalā, Maunakea and Mauna Loa that are operated by IfA and our partner institutions. These sites are among the best in the world for astronomical research because of their elevation, clear skies, favorable atmospheric conditions, and low levels of light pollution. Hawai'i-based observatories have played major roles in the advancement of astronomy and astrophysics for over 50 years and are well positioned to remain at the forefront of astronomical research for decades to come.

Because of the outstanding quality and productivity of these facilities, IfA is acutely concerned about negative impacts on astronomy from increased light pollution. Our work to address light pollution has also brought us into contact with others concerned about light pollution for various reasons, including impacts on wildlife (particularly seabirds) and on human health. While IfA's comments focus on the impacts of light pollution on astronomy, appropriate mitigation measures also help to reduce non-astronomy impacts.

Any new or additional artificial light at night has an adverse effect on astronomical observations by increasing the night sky brightness. Nearly all observations performed by the telescopes on Maunakea are sky-background limited. This means that there is a natural sky brightness coming from airglow and zodiacal light. Artificial light increases the sky brightness, thereby decreasing the sensitivity of the telescopes. Honolulu is close enough to Haleakala for its lights to make the northwestern sky artificially bright, limiting our ability to study faint objects. Light does not obey county boundaries, making this a statewide problem.

The University of Hawai'i at Mānoa teaches astronomy to undergraduate and graduate students, including an introductory laboratory class that uses small portable telescopes. The high level of light pollution on Oahu hinders our teaching efforts by making only the brightest objects in the night sky accessible to students and eliminates our view of the Milky Way. The University of Hawai'i at Hilo also teaches astronomy to undergraduates via on-sky techniques that are threatened by light pollution.

Nearly all lights are being replaced by Light Emitting Diodes (LEDs). Much of this replacement is being done to save energy without appropriate regard for its environmental impact. LEDs typically have more blue light than the lights they replace, and blue light is harmful to endangered and threatened species such as seabirds and turtles, is harmful to astronomy, and limits the ability of casual stargazers to see stars in the night sky. With careful selection of LEDs, energy can be saved and their impact to the environment minimized.

With that as background, IfA welcomes the opportunity to participate on a new dark night skies protection advisory committee, to be placed within the Department of Land and Natural Resources for administrative purposes and to develop a comprehensive statewide dark night skies protection strategy. The potential benefits of such a strategy include energy reduction, cultural, scientific, and ecological improvements, as well as helping protected species, public safety, etc.

Thank you for the opportunity to provide comments on this bill.



335 Hahani Street #342132 * Kailua, HI 96734 * Phone/Fax (808) 262-0682 E-Mail: htf3000@gmail.com

February 6, 2024

COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Rep. Nicole E. Lowen, Chair
Rep. Elle Cochran, Vice Chair
Committee Members

HB 2027
RELATING TO LIGHT POLLUTION

Hawaii's Thousand Friends, a statewide non-profit water and land use planning organization dedicated to protecting the environment, human health, and cultural and natural resources supports HB 2027, which seeks to reduce night light pollution.

The creation of an advisory committee within the Department of Land and Natural Resources (DLNR) solely dedicated to finding ways to reduce light pollution is needed to get a statewide perspective on the impacts of night lighting on state and federally protected migratory and water birds.

Annually young seabirds primarily petrels and shearwaters that leave their nest for the first time use natural lighting such as moonlight to navigate out to sea. They become disoriented by artificial lights causing them to circle lights for hours leaving them tired, dehydrated and more likely to collide with structures or fall to the ground from exhaustion or injury. Once grounded, young seabirds are extremely vulnerable to predators and easily hit by cars.

Seabird fallout season happens every year roughly 9/15 to 12/15. The Hawaii Wildlife Center on Oahu reports that they've collected 637 birds by the last week of November.

It is our hope that with the passage of HB 2027 the statewide impacts of night lighting on birds will be better understood and issue recommendations on how to preserve dark skies so that the number of killed and downed birds does not continue to escalate.

Honolulu night lighting



February 5, 2024

RE: House Bill 2027 Relating to Light Pollution

Dear Chair Lowen, Vice Chair Cochran, and members of the House Committee on Energy & Environmental Protection,

Founded in 1968, the Kona-Kohala Chamber of Commerce works to enhance the quality of life for our community through a strong, sustainable economy on Hawai'i Island. With 470 member businesses and organizations, our mission is to provide leadership and advocacy for a successful business environment in West Hawai'i.

The Kona-Kohala Chamber of Commerce **supports** House Bill 2027: Relating to Light Pollution.

This bill establishes a dark night skies protection advisory committee to assist the Department of Land and Natural Resources in the development of a statewide dark night skies protection strategy to preserve dark night skies and reduce light pollution.

The Kona-Kohala Chamber of Commerce strongly supports the astronomy industry on Maunakea noting significant scientific discovery, global leadership, educational outreach, workforce pipelines, jobs, and economic impact.

Clear skies, high elevation, and low levels of light pollution make Maunakea one of the best sites in the world for astronomical research. The research generated from Hawai'i-based observatories has played a major role in the advancement of astronomy for over 50 years and will continue for years to come. It's important to note that Hawai'i's clear nighttime skies not only benefit those in Hawai'i but all of humankind.

We ask you to vote in favor of House Bill 2027: Relating to Light Pollution.

Sincerely,



Wendy J. Laros, President and CEO
Kona-Kohala Chamber of Commerce



Hawai'i Island Chamber of Commerce

1321 Kino'ole Street
Hilo, Hawai'i 96720
Phone: (808) 935-7178
Fax: (808) 961-4435
E-mail: admin@hicc.biz
www.hicc.biz

February 6, 2024

Testimony to the House Committee on Energy & Environmental Protection Thursday, February 8, 2024, 9:30 am

RE: HB 2027 – RELATING TO LIGHT POLLUTION

Aloha Chair Lowen, Vice Chair Cochran and Members of the Committee,
The Hawai'i Island Chamber of Commerce (HICC) is in full **support** of HB 2027 and the benefits this initiative will bring to Hawai'i Island and our State.

Founded in 1898, HICC has been a part of our island's business community for 125 years. Our organization is comprised of over 300 member businesses, professionals and non-profit organizations from Hawai'i Island. We have embraced business and economic development since our humble beginnings.

Maunakea, Mauna Loa and Haleakala are among the best in the world for astronomical studies because of their clear skies, favorable atmospheric conditions, and low levels of light pollution. The observatories on these mountains are concerned about the adverse effects of increased light pollution on astronomical studies. HICC welcomes the formation of a new dark night skies protection advisory committee which will be placed within the Department of Land and Natural Resources for administrative purposes and to develop a comprehensive statewide dark night skies protection strategy.

HICC has steadfastly supported the astronomy industry for over 50 years, ever since Chamber Executive Secretary, Mitsuo Akiyama's work on behalf of our organization significantly contributed to building astronomy into the successful economic driver it is today on our Island. Through our support of this bill and its passage, we hope astronomy will continue to thrive on our Island and offer opportunities to our youth so they know there is a future for them here in Hawai'i.

Sincerely,

Miles Yoshioka, Executive Officer
Hawai'i Island Chamber of Commerce

HB-2027

Submitted on: 2/6/2024 11:12:03 AM

Testimony for EEP on 2/8/2024 9:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Tina Halfpenny	DesignLights Consortium	Support	Written Testimony Only

Comments:

My name is Tina Halfpenny and I live in Kailua. I am the Executive Director of the DesignLights Consortium, a non-profit organization that improves energy efficiency, lighting quality, and the human experience in the built environment by creating minimum thresholds for lighting efficacy, quality, controllability, and reliability. For outdoor lighting we focus on finding a balance to energy saving with LEDs and mitigating the ever growing problem of with light pollution.

I'm very optimistic that H.B 2027 was introduced to reconvene a Dark Sky Advisory Committee to address outdoor lighting on O'ahu. Outdoor lighting is ubiquitous in our communities, but light pollution is increasing year-over-year and we need to mitigate it's negative impacts. As an example, the darkest place on O'ahu is Kaena Point, which is still twice as bright as the natural night sky due to sky glow from artificial lighting.

New LED technology offers a variety of choice when it comes to outdoor lighting. Brighter (white) LEDs have an increased amount of violet and blue wavelengths which scatters more in the atmosphere and has been linked to potentially harmful effects on all living beings: humans, animals, insects, even plants. Light pollution can have adverse effects on not only the natural rhythms of the day/night cycle for people, plants and animals; it can increase unwanted outdoor light entering into our homes and spaces and cause uncomfortable glare. Because of this, using only the right amount of light in the right location is critically important to ensure comfort and safety. While our communities need an optimal amount of outdoor lighting to help us see at night, stay and feel safe, there are many solutions for lighting our spaces that cause less light pollution and save energy.

Outdoor LED lighting offers many benefits over older lighting types, including improved energy efficiency, better optical control, and more dimming capabilities. When thoughtfully applied, these benefits can help avoid the unintended consequences of light pollution. It's critical that city and county officials, building owners and other lighting decision makers recognize the importance of darkness and ensure that our human needs for light are balanced with protection of

the dark. If not responsibly designed, outdoor light at night uses more energy than necessary, increases sky glow, impedes upon adjacent properties, and negatively impacts wildlife and environmental ecosystems.

H.B. No 2027, a Bill related to Light Pollution address the complexity of outdoor lighting by reconvening a committee who hold a broad spectrum of thought leadership and responsibility for the needs of people, communities, and transportation, as well as habitat and species protection under the leadership of the Department of Land and Natural Resources.

As the recent City and County parks projects represent, there is not enough guidance on best practice for lighting as the needs for lighting on the pickleball court are necessarily different than the needs for Hanauma Bay at night. Similarly, the lights from the pickle ball courts should not be causing glare for drivers passing by any district park or light trespass for nearby residents.

The committee proposed will evaluate issues related to light pollution, energy conservation, public safety, species and habitat protection for native and endangered species, as well as the cultural and economic value of dark skies on O'ahu.

Mahalo for considering this bill that establishes a much needed step to addressing and mitigating the growing problem of light pollution on O'ahu.

HB-2027

Submitted on: 2/6/2024 12:36:46 PM

Testimony for EEP on 2/8/2024 9:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Ted Bohlen	Hawaii Reef and Ocean Coalition	Support	Written Testimony Only

Comments:

Support!

HB-2027

Submitted on: 2/6/2024 4:28:08 PM

Testimony for EEP on 2/8/2024 9:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Brian Walsh	Feather and Fur Animal Hospital	Support	In Person

Comments:

Aloha,

I am submitting testimony based on my experiences overseeing the care of hundreds of wedgetail shearwaters every year. Our hospital takes in over 600-700 hundred wedgetail shearwaters every year sometime around the last two weeks of November and the first two weeks of December. These are birds that are learning to fly for the first time and head out towards the lights of the night sky that is supposed to be the stars and the moon over the ocean. Instead, all our city lights disorient many of these birds and they end up crashing and needing assistance in parking lots, streets, backyards, and many other places around the Island. We have taken in over 100 confused shearwaters in a single day day and every year recently has been worse than the year before. Oahu has the biggest issue with this species because we have the most light pollution compared to the other Islands. Additionally, the light pollution interferes with observatories and is a waste of electricity. We should be looking at ways to reduce this pollution and in doing so reduce the disruption to native wildlife and reduce the disruption to astronomy and the environment. Let me know if you have any questions.

Thanks,

Brian Walsh, DVM



To: Representative Nicole Lowen, Chair
Representative Elle Cochran, Vice Chair
Committee on Energy and Environmental Protection

From: Maunakea Observatories

RE: **HB 2707 - Relating to Light Pollution - In Support**
Thursday, February 8, 2024; 9:30 a.m.

Aloha Chair Lowen, Vice Chair Cochran, and Members of the Committee,

Mahalo for the opportunity to provide testimony **in support** of HB 2027 relating to light pollution. The Maunakea Observatories are collectively the most scientifically productive ground-based astronomy facilities in the world due to Maunakea's elevation, clear skies, favorable atmospheric conditions, and low levels of light pollution. We are humbled to have played major roles in the advancement of astronomy for decades, and work hard to remain at the forefront of astronomical research now and into the future.

Light pollution creates a wide variety of serious concerns, including its effects on wildlife (particularly seabirds) and human health. Our local community's ability to observe the stars is one of those practices affected by light pollution, whether we are talking about the practice of non-instrument deep sea navigation training on land, the practice of citizen science with home telescopes, or astronomy practiced by researchers using the Maunakea observatories.

Addressing light pollution is a key factor in supporting astronomy in Hawai'i and around the world. Any increase in light pollution has a negative impact on astronomy because the brightness in the night sky obscures our ability to observe distant objects. Nearly all observations performed by the telescopes on Maunakea are sky-background limited. This means that the natural sky brightness coming from airglow and zodiacal light already restricts what we can see and artificial light sources further decrease the sensitivity of telescopes. Because light scatters in the atmosphere irrespective of island or county boundaries, light pollution is a statewide issue. Hence the need for a statewide strategy on protecting dark skies, as articulated in this bill.

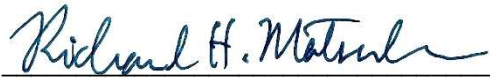
Preserving Hawai'i's dark night skies is a matter of protecting our state's scientific, environmental, and community health.

Thank you for the opportunity to provide testimony for HB 2707.


With aloha,

A handwritten signature in black ink, appearing to read "Jean-Gabriel Cuby", is written over a horizontal line.

Director Jean-Gabriel Cuby, Canada-France-Hawai'i Telescope



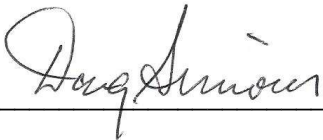
Director Richard Matsuda, W.M. Keck Observatory (Keck I and Keck II)



Director John Rayner, NASA Infrared Telescope Facility



Director Christoph Baranec, University of Hawai'i 2.2-meter Telescope



Director Doug Simons, University of Hawai'i, Institute for Astronomy



Director Satoshi Miyazaki, Subaru Telescope

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February 7, 2024

RE: The Outdoor Circle full support of HB2027 regarding dark skies

Dear Representatives,

The Outdoor Circle would like to testify in full support of HB2027 regarding the need to establish a dark nights protection advisory committee in DLNR. This step, while small, is an important one in working towards diminishing light pollution in Hawaii.

Light pollution affects both animals and humans, but especially in Hawaii where our location in the middle of the Pacific provides a rare resting place for birds, does light pollution have an especially negative effect on them. Our world-class observatories are also affected by light pollution and many of the recommendations that such a committee comes up with will most likely be common sense and even help to save energy. Others have spoken more in depth on this matter and we refer to their testimony as well.

We welcome the passage of HB2027 and ask that you support it.

BRANCHES

Hawai'i

East Hawai'i

Kona

Waikoloa Village

Waimea

Kaua'i

O'ahu

East Honolulu

Lani-Kailua

Mānoa

North Shore

Greater Waikiki

STAFF

Winston Welch
Executive Director

Jacqueline Wah
Operations Director

Myles Ritchie
Programs Director

Helping to keep Hawai'i
clean, green, beautiful,
livable and sustainable
since 1912

Thank you,

Winston Welch
Executive Director
The Outdoor Circle

HB-2027

Submitted on: 1/31/2024 7:37:39 PM

Testimony for EEP on 2/8/2024 9:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Justin Silva	Individual	Support	Written Testimony Only

Comments:

The advisory committee shall be dissolved on June 30 2028

HB-2027

Submitted on: 2/1/2024 7:39:34 AM

Testimony for EEP on 2/8/2024 9:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Andrew Crossland	Individual	Support	Written Testimony Only

Comments:

I **support** this Bill.

HB-2027

Submitted on: 2/2/2024 7:46:39 AM

Testimony for EEP on 2/8/2024 9:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Dilek Sahin	Individual	Support	Written Testimony Only

Comments:

I fully support this bill. Light pollution is one of the main reasons behind declining native seabird populations on the Hawaiian Islands. Our native seabirds, honu, and many other wildlife need urgent dramatic steps to reduce light pollution and I believe this bill is a necessary first step.

HB-2027

Submitted on: 2/2/2024 12:28:40 PM

Testimony for EEP on 2/8/2024 9:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Linda Elliott	Individual	Support	Written Testimony Only

Comments:

I strongly support HB2027, For the preservation of the State’s dark night skies as it is essential to the State’s well—being and that the State needs a statewide coordinated strategy to address this issue. Hundreds of Hawai’s native seabirds are confused by the light pollution and become grounded, facing injuries and predation and require extensive response to rescue, rehabilitate and return them to the wild each year. In addition, threatened seaturtles that hatch at night are facing similar hurdles to survival. As a human I enjoy and benefit as well of the beauty of the night sky lit up only by the stars and planets. Mahalo for your consideration to support this bill.

HB-2027

Submitted on: 2/2/2024 5:08:39 PM

Testimony for EEP on 2/8/2024 9:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Lisa Crampton	Individual	Support	Written Testimony Only

Comments:

Dear Representatives-

I am writing in support of HB2027. This bill is an important step in protecting dark skies for our viewing pleasure, and also our native seabirds, honu, and many more species statewide. Light pollution is one of the main factors behind native seabird population declines on Kaua'i.

Thank you for joining me in supporting this measure.

Sincerely,

Dr. Lisa Crampton

Kalaheo, HI

HB-2027

Submitted on: 2/3/2024 8:01:27 AM

Testimony for EEP on 2/8/2024 9:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Lory Ono	Individual	Support	Written Testimony Only

Comments:

I support this measure as it will help our seabirds from becoming disoriented by too much light, causing many of them to become lost, injured or to die.

Mahalo!

HB-2027

Submitted on: 2/6/2024 12:59:48 PM

Testimony for EEP on 2/8/2024 9:30:00 AM

Submitted By	Organization	Testifier Position	Testify
GUSTAVO PARDO	Individual	Support	Written Testimony Only

Comments:

Light pollution poses significant challenges in Hawaii, disrupting natural rhythms and ecosystems while hindering astronomical observation and cultural practices. With initiatives like H.B. 2027, which proposes reconvening a Dark Sky Advisory Committee, there's hope for mitigating these impacts.

Hawaii can preserve its unique night skies, protect wildlife, and support sustainable development by promoting responsible outdoor lighting practices and utilizing technologies like LED with proper control measures.

HB-2027

Submitted on: 2/6/2024 3:46:44 PM

Testimony for EEP on 2/8/2024 9:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Ruta Jordans	Individual	Support	Written Testimony Only

Comments:

Hawaii (excluding Waikiki) is one of the few places on earth where can actually see the Milky Way. In addition, we have birds and turtles we have to foster to be sure our lights do not send them in the wrong direction. Please support this bill.

HB-2027

Submitted on: 2/6/2024 4:35:54 PM

Testimony for EEP on 2/8/2024 9:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Dylan P. Armstrong	Individual	Support	Written Testimony Only

Comments:

COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Rep. Nicole E. Lowen, Chair

Rep. Elle Cochran, Vice Chair

RE: House Bill 2027

Dear Representatives,

I support House Bill 2027, which would establish "a dark night skies protection advisory committee to assist the Department of Land and Natural Resources" in limiting light pollution and preserving scenic values.

We are now increasingly aware of broad human health impacts owing to light pollution. It is worth also mentioning that at times the few available measures have often ranked Hawai'i as low-to-last among all US states for reported sleep quality and duration. Hawai'i communities are very much burdened with all the problems of high-density communities. using aging infrastructure including excessive artificial light and noise exposure.

Poor sleep alone is linked to "[heart disease](#), high blood pressure, [diabetes](#), kidney disease, and cancer. It can also worsen existing [mental health conditions](#), such as anxiety and depression." It is also linked to obesity for reasons more complicated than I can elaborate on here.

<https://www.sleepfoundation.org/sleep-news/why-cant-hawaii-sleep-best-worst-for-insufficient-sleepers>

In addition, Hawaiian culture has within it a rich tradition of moon-gazing and star-gazing that is very relevant to this measure's policy framework.

Thank you for your consideration.

Dylan P. Armstrong, *individual capacity only*.

TO: Members of the Committee on Energy & Environmental Protection

FROM: Natalie Iwasa, CPA, CFE
808-395-3233

HEARING: 9:30 a.m. Thursday, February 8, 2024

SUBJECT: HB2027, Relating to Light Pollution - **SUPPORT**

Aloha Chair Lowen and Committee Members,

Thank you for allowing the opportunity to provide testimony on HB2027, which would establish a dark night skies protection advisory committee under the Department of Land and Natural Resources to develop a strategy to reduce light pollution. The bill also sunsets the current UH committee.

While I support this bill, the reality is we are simply not doing enough to protect our night skies. Honolulu had a wonderful opportunity in 2016 to reduce light pollution when it started replaced about 53,000 streetlights. They could have installed lights that can be adjusted to reduce lighting in the very early morning hours, when significantly fewer people are on our roadways, but the city did not do that. They could also have used warmer lighting that would not be so glaring. They did not do that either.

Despite several requests during the past decade to create an ordinance to address wayward lighting on commercial buildings and on public properties such as parks, not a single bill has been introduced to do so.

It is very sad that some young people these days have never seen the Milky Way and may only have that opportunity on nights when the power goes off.

HB-2027

Submitted on: 2/7/2024 12:07:45 PM

Testimony for EEP on 2/8/2024 9:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Kathryn Righter	Individual	Support	Written Testimony Only

Comments:

As an environmental advocate and local resident, I am concerned about the issue of light pollution in our state, and the current lack of oversight regarding this issue. Care and research needs to go into lighting decisions, which affect our native seabirds, turtles, as well as our human residents. Different colors and positions of lighting affect people's homes, neighborhoods, and enjoyment of the night sky. Bill HB2027 is one part of the solution to this escalating problem, by including experienced representatives in the decision making process.

HB-2027

Submitted on: 2/7/2024 6:11:02 PM

Testimony for EEP on 2/8/2024 9:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Rachael Sitzer	Individual	Support	Written Testimony Only

Comments:

More than two thirds of the native Hawaiian birds that come into rehab are seabirds that were negatively affected by light pollution, over 700 birds just during this past November and December, solely on Oahu. That doesn't include the many that were killed on the roadways once the disorientation or a collision brought them falling to the ground. The magnitude of this problem on Oahu does not compare to that of any other island. Maui has already issued protections for Hawaii's native seabirds by limiting light pollution. It is time for Oahu to take responsibility and address this problem which is having a negative effect on its native wildlife.