



**DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM**

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**DAVID Y. IGE**  
GOVERNOR

**LUIS P. SALAVERIA**  
DIRECTOR

**MARY ALICE EVANS**  
DEPUTY DIRECTOR

Statement of

**LUIS P. SALAVERIA**  
**Director**

Department of Business, Economic Development & Tourism

before the

**SENATE COMMITTEE ON WAYS AND MEANS**

Wednesday, March 29, 2017

1:40 P.m.

State Capitol, Conference Room 211

in consideration of

**HB 427 HD2 SD1**  
**RELATING TO DARK NIGHT SKIES PROTECTION.**

Chair Tokuda, Vice Chair Dela Cruz, and Members of the Committee. The Department of Business, Economic Development and Tourism **strongly supports** this Administration bill to establish a Dark Night Skies Protection Advisory Committee to assist the University of Hawaii in developing a statewide dark skies protection strategy.

Light pollution is a statewide issue that requires the cooperation of state and county agencies to develop and help implement a statewide strategy to reduce nighttime light pollution which, in turn, could help preserve Hawaii's dark skies for astronomy, protect endangered species, improve human health, and reduce nighttime energy consumption.

Although Act 287, SLH 2012 was successful in addressing appropriate temperature and shielding for State light fixtures, a more comprehensive strategy coordinating State laws with county, federal, military, and private sector lighting practices and regulations is needed to help preserve Hawaii's dark nighttime skies. We believe the proposed dark night skies protection advisory committee will play a strategic role in achieving this goal.

DBEDT strongly urges the Senate Committee on Ways and Means to pass this measure.

Thank you for the opportunity to testify on this bill.

DAVID Y. IGE  
GOVERNOR OF  
HAWAII



SUZANNE D. CASE  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA  
FIRST DEPUTY

JEFFREY T. PEARSON, P.E.  
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

Testimony of  
SUZANNE D. CASE  
Chairperson

Before the Senate Committee on  
WAYS AND MEANS

Wednesday, March 29, 2017  
1:40 PM  
State Capitol, Conference Room 211

In consideration of  
HOUSE BILL 427, HOUSE DRAFT 2, SENATE DRAFT 1  
RELATING TO DARK NIGHT SKIES PROTECTION

House Bill 427, House Draft 2, Senate Draft 1 proposes to establish a dark night skies protection advisory committee to assist the University of Hawaii in developing a statewide dark night skies protection strategy. **The Department of Land and Natural Resources (Department) supports this bill.**

Artificial lighting reduces the natural dark sky environment and directly impacts biological resources of the islands by altering wildlife behavior. Marine birds and sea turtles in Hawaii, some of which are endangered or threatened, are particularly sensitive to artificial light, attracting fledgling birds and hatchling turtles, which become disoriented and are frequently injured or killed, impacting their populations. There are many documented cases of night lighting in Hawaii attracting and killing coastal and pelagic birds and turtles every year. Newell's shearwaters and Dark-rumped petrels are particularly vulnerable, and research indicates that artificial night lighting is a major contributor to their respective population declines.

Additionally, dark night skies hold important cultural, astronomical, and tourism-related values, which are all 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.

The advisory committee would, among other things, examine issues related to artificial lighting and recommend workable solutions to reduce the negative impacts of lighting on natural and cultural resources and other activities.

Thank you for the opportunity to comment on this measure.



**HB427 HD2 SD1**  
**RELATING TO DARK NIGHT SKIES PROTECTION**  
Senate Committee on Ways and Means

March 29, 2017

1:40 p.m.

Room 211

The Office of Hawaiian Affairs (OHA) **SUPPORTS** HB427 HD2 SD1. This measure seeks to establish a Dark Night Skies Protection Advisory Committee, to assist the University of Hawai‘i in developing a strategy to preserve the dark night skies essential to Native Hawaiian cultural perpetuation and the protection of native wildlife.

The night sky is an important instrument for Native Hawaiians. In Hawaiian culture, stars, planets and the moon predict weather conditions, foretell events in the form of hō‘ailona, or omens, and serve as calendar and land markers. The night sky instructs farmers what to plant, fishers what to catch, and open-ocean navigators where to go. As Native Hawaiians continue to reconnect and revive ancient traditions, the integrity of the night sky becomes more and more significant.

Unfortunately, light pollution, particularly in heavily developed areas, has limited the ability of Native Hawaiians to learn about the night sky and use it as their ancestors once did. Moreover, artificial light represents a major threat to some seabirds, which also hold both cultural and ecological significance. For example, bright lights at night are known to blind and disorient Newell’s Shearwater fledglings, resulting in many of these young birds being hit by cars or preyed on by cats and dogs.

Establishing a Dark Night Skies Protection Advisory Committee will help the University of Hawai‘i defend an important part of the cultural landscape for Native Hawaiians, as well as protect our culturally and ecologically significant seabird species.

Accordingly, OHA urges the Committee to **PASS** HB427 HD2 SD1. Mahalo nui for the opportunity to testify on this measure.



# UNIVERSITY OF HAWAII SYSTEM

## Legislative Testimony

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Testimony Presented Before the  
Senate Committee on Ways and Means  
Wednesday, February 29, 2017 at 1:40 p.m.

By

Günther Hasinger, Director

And

Richard Wainscoat, Astronomer

Roy Gal, Assistant Astronomer/Outreach Coordinator/UH NGO

Institute for Astronomy

University of Hawai'i at Mānoa

### HB 427 HD2 SD1 – RELATING TO DARK NIGHT SKIES PROTECTION

Chair Tokuda, Vice Chair Dela Cruz, and members of the committee:

The University of Hawai'i strongly supports the establishment of a dark skies advisory committee via HB 427 HD2 SD1.

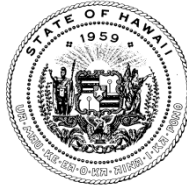
Dark night skies are a tremendously important natural, cultural, scientific, educational, and economic resource for Hawai'i. But the dark night sky is under increased threat from urban lighting.

Maunakea observatory has one of the darkest skies in the world, thanks to over 25 years of careful lighting on the Island of Hawai'i. The sky at Haleakalā observatory is less dark due in part to its close proximity to Honolulu.

Dark skies are vitally important for Hawai'i's two major astronomical observatories. These are among the best astronomical sites on the planet. If the sky is allowed to become bright over these observatories, the telescopes will lose their ability to see faint objects. On Haleakalā, the University of Hawai'i is engaged in a NASA sponsored effort to search the sky for dangerous asteroids. The aim is to find any dangerous asteroid that may hit Earth early enough that it can be deflected before impact. This search relies heavily on the dark night sky, and it would be significantly weakened if the sky on Maui becomes any brighter.

The advisory committee described in this bill will bring together representatives from the state, the counties and the public, and will provide a valuable forum for exchanging information regarding nighttime lighting and for preservation of the dark night sky. Please note that it is the University's understanding that the Land Use Commission prefers not to be on this advisory committee.

Light Emitting Diodes (LEDs) are rapidly being introduced to replace older forms of lighting. These offer some energy benefits, but their blue light is harmful to astronomy and to endangered species such as birds and turtles. The committee described in this bill will be able to provide excellent advice on limiting blue light, thereby preventing costly mistakes. Kaua'i is a prime example of a location where many expensive light replacements have had to be done because of the impact of unshielded lights on endangered birds. Recent developments related to LEDs include a recommendation by the American Medical Association to limit exposure to blue light at night, new findings that suggest road safety is improved by limiting blue light, and big improvements in energy efficiency in low correlated color temperature LEDs.



**Testimony by:**  
FORD N. FUCHIGAMI  
DIRECTOR

Deputy Directors  
JADE T. BUTAY  
ROSS M. HIGASHI  
EDWIN H. SNIFFEN  
DARRELL T. YOUNG

IN REPLY REFER TO:

**STATE OF HAWAII**  
**DEPARTMENT OF TRANSPORTATION**  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5097

March 29, 2017  
1:40 p.m.  
State Capitol, Room 221

**H.B. 427, H.D. 2, S.D.1**  
**RELATING TO DARK NIGHT SKIES PROTECTION.**

Senate Committee on Ways and Means

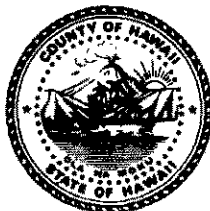
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The Department of Transportation (DOT) offers **comments** on this bill to establish a dark night skies protection advisory committee to assist the University of Hawaii in the development of a statewide dark night skies protection strategy to preserve dark night skies and reduce light pollution.

The DOT finds its membership on the committee useful to maintain and ensure transportation safety and security are carefully considered and that recommendations by the committee are thoughtful and economically feasible while protecting dark skies. We are optimistic that cooperation, input and consultation from a variety of stakeholders on the advisory committee will not only make the meetings more informative but will also result in more effective, balanced, and practicable recommendations.

Thank you for the opportunity to provide testimony.

Harry Kim  
Mayor



Wil Okabe  
Managing Director

Barbara J. Kossow  
Deputy Managing Director

County of Hawai'i  
Office of the Mayor

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March 28, 2017

Senator Jill N. Tokuda, Chair  
Committee on Ways and Means  
Hawai'i State Capitol  
Honolulu, HI 96813

Dear Senator Tokuda and Committee Members,

**RE: HB 427 HD 2, SD 1  
Relating to Dark Night Skies Protection**


Thank you for this opportunity to comment on HB 427 HD2, SD1.

Hawaii County has worked to transition 11,000 County and State street lamps to LED which results in reduced light pollution and 50% reduction (\$1 million annually) in operating energy costs.

Our Department of Research and Development, in partnership with the Department of Public Works Traffic Division, the Department's Energy Program, the Institute for Astronomy, Hawai'i Wildlife Center, and Hawai'i Volcanoes National Park, is promoting friendly night skies through its Dark Sky initiative. This initiative is the outcome of the successful LED streetlight replacement project that installed fully shielded LED lamps with custom designed blue spectrum filters.

Research has shown that nighttime illumination interferes with migratory bird and nesting turtle activity, in addition to interfering with sleep cycles in humans. The replacement of energy wasting incandescent fixtures with light emitting diodes (LED) saves energy, but the blue light spectrum from most LED fixtures is particularly harmful to the health of wildlife and humans, in addition to interfering with astronomy, star-gazing activities, and encroaching on wilderness areas. So the Dark Sky initiative works to encourage the use of appropriate lighting for the benefit of all.

Respectfully submitted,

  
for Harry Kim  
Mayor



**Conservation Council  
for Hawai'i**

*Hawai'i's voice for wildlife*

*Kō Hawai'i leo no nā holoholona lōhiu*



Testimony Submitted to the Senate Committee on Ways and Means  
By the Conservation Council for Hawai'i  
Hearing: Wednesday, March 29, 2017 1:40 pm  
Room 211

Support for HB 427 HD 2 SD 1 Relating to Dark Night Skies Protection

Chair Tokuda, Vice Chair Dela Cruz, and Members of the Committee,

Aloha. The Conservation Council for Hawai'i supports HB 427 HD 2 SD 1, which establishes a Dark Night Skies Protection Advisory Committee to assist the University of Hawai'i in developing a statewide dark night skies protection strategy

Bright lights are harmful to native wildlife:

- \* They disorient nesting threatened honu (green sea turtles) and endangered honu'ea (hawksbill sea turtles) coming onto land to lay their eggs, and sea turtle hatchlings as they scramble to the sea and try and avoid being killed by predators.
- \* They disorient seabirds returning to their nests to feed their young after hunting in the ocean during the day, and fledgling seabirds on their maiden flights from nests to sea. Hawaiian seabirds negatively impacted by bright lights include the endangered 'ua'u (Hawaiian petrel), threatened 'a'o (Newell's shearwater), and 'ua'u kani (wedge-tailed shearwater).
- \* After becoming disoriented by bright lights in their flyways, the birds often collide with utility polls and lines, fall to the ground, and are injured or killed by automobiles or predators. During nesting season, you will see many dead wedge-tailed shearwaters along the Pali and Likelike highways near the tunnel entrances after they become disoriented by the lights and fall out.

Bright lights are also overdone and irritating, especially on O'ahu (note 24-hour large gas stations and food marts along Beretania Street, for example). Please protect our native animals from bright lights. Adopt HB 427 HD 2 SD 1 and see what the task force recommends.

Mahalo nui loa for the opportunity to testify.

*Marjorie Ziegler*

Marjorie Ziegler



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President: Wayne Tanaka | Vice President: Koalani Kaulukukui | Secretary: Rachel Sprague  
Treasurer: Les Welsh | Director: Anne Walton  
Executive Director: Marjorie Ziegler | Administrator: Jonnetta Peters



**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Tuesday, March 28, 2017 9:47 AM  
**To:** WAM Testimony  
**Cc:** gifts9954@gmail.com  
**Subject:** \*Submitted testimony for HB427 on Mar 29, 2017 13:40PM\*

**HB427**

Submitted on: 3/28/2017

Testimony for WAM on Mar 29, 2017 13:40PM in Conference Room 211

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Susan Vickery	Individual	Support	No

Comments:

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