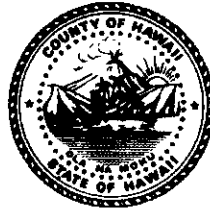


Harry Kim  
Mayor



Wil Okabe  
Managing Director

Barbara J. Kossow  
Deputy Managing Director

County of Hawai'i  
Office of the Mayor

25 Aupuni Street, Suite 2603 • Hilo, Hawai'i 96720 • (808) 961-8211 • Fax (808) 961-6553  
KONA: 74-5044 Ane Keohokalole Hwy, Bldg C • Kailua-Kona, Hawai'i 96740  
(808) 323-4444 • Fax (808) 323-4440

February 15, 2017

Representative Justin Woodson  
Higher Education  
Hawai'i State Capitol  
Honolulu, HI 96813

Dear Chair Woodson and members:

RE: **HB 427**

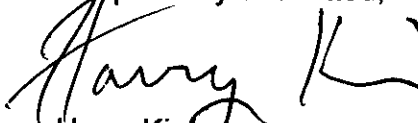
Thank you for this opportunity to comment on HB 427.

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,

  
Harry Kim  
Mayor



# UNIVERSITY OF HAWAII SYSTEM

## Legislative Testimony

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Testimony Presented Before the  
House Committee on Higher Education  
Thursday, February 16, 2017 at 2:04 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 HD1 – RELATING TO DARK NIGHT SKIES PROTECTION

Chair Woodson, Vice Chair Hashem, and members of the committee:

The University of Hawai'i strongly supports the establishment of a dark skies advisory committee via HB 427 HD1.

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.

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.



**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

**HOUSE COMMITTEE ON HIGHER EDUCATION**

Thursday, February 16, 2017

2:04 P.m.

State Capitol, Conference Room 309

in consideration of

**HB 427 HD1**  
**RELATING TO DARK NIGHT SKIES PROTECTION.**

Chair Woodson, Vice Chair Hashem, 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 House Committee on Higher Education to pass this measure.

Thank you for the opportunity to testify on this bill.

DAVID Y. IGE  
GOVERNOR OF  
HAWAII



**STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES**

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

**Testimony of  
SUZANNE D. CASE  
Chairperson**

**Before the House Committee on  
HIGHER EDUCATION**

**Thursday, February 16, 2017  
2:04 PM  
State Capitol, Conference Room 309**

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

House Bill 427, House 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 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 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.

**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

DAVID Y. IGE  
GOVERNOR



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

February 16, 2017  
2:04 p.m.  
State Capitol, Room 309

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

House Committee on Higher Education

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The Department of Transportation (DOT) offers **comments** to 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.

**Testimony by:**

FORD N. FUCHIGAMI  
DIRECTOR

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

IN REPLY REFER TO:



**HB427 HD1**  
**RELATING TO DARK NIGHT SKIES PROTECTION**  
House Committee on Higher Education

February 16, 2017

2:04 p.m.

Room 309

The Office of Hawaiian Affairs (OHA) Committee on Beneficiary Advocacy and Empowerment will recommend that the Board of Trustees **SUPPORT WITH AMENDMENTS** HB427 HD1. This measure establishes 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.

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 can 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.

To more appropriately reflect the administrative structure of the OHA, OHA respectfully requests amending the language on page 4, line 1, to read as follows:

- (8) The administrator of the office of Hawaiian affairs,  
or the administrator's designee;

Accordingly, OHA urges the Committee to **SUPPORT WITH AMENDMENTS** HB427 HD1. Mahalo nui loa for the opportunity to testify on this measure.

**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Tuesday, February 14, 2017 2:51 PM  
**To:** HEDtestimony  
**Cc:** makiaweli2012@gmail.com  
**Subject:** Submitted testimony for HB427 on Feb 16, 2017 14:04PM

**HB427**

Submitted on: 2/14/2017

Testimony for HED on Feb 16, 2017 14:04PM in Conference Room 309

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
keomailani von gogh	Individual	Comments Only	No

Comments: aloha, I support having dark night skies. It seems though, that this is for the benefit for the astronomy community. The tax payers have paid enough of their money into astronomy and they should pay for the low-sodium lighting. mahalo

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Monday, February 13, 2017 11:03 PM  
**To:** HEDtestimony  
**Cc:** d.bt@live.com  
**Subject:** \*Submitted testimony for HB427 on Feb 16, 2017 14:04PM\*

**HB427**

Submitted on: 2/13/2017

Testimony for HED on Feb 16, 2017 14:04PM in Conference Room 309

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Diane Brucato	Individual	Support	No

Comments:

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**Sent:** Monday, February 13, 2017 7:19 PM  
**To:** HEDtestimony  
**Cc:** mamaupin@hotmail.com  
**Subject:** \*Submitted testimony for HB427 on Feb 16, 2017 14:04PM\*

**HB427**

Submitted on: 2/13/2017

Testimony for HED on Feb 16, 2017 14:04PM in Conference Room 309

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Margaret Maupin	Individual	Support	No

Comments:

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