



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

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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

Thursday, February 25, 2016
1:00 p.m.
State Capitol, Conference Room 211

in consideration of

SB 2302
RELATING TO DARK SKIES PROTECTION.

Chair Tokuda, Vice Dela Cruz, and Members of the Committee. The Department of Business, Economic Development and Tourism supports the intent of this bill to establish an advisory committee to assist DBEDT in developing and implementing a statewide dark skies protection strategy.

A Starlight Reserve Committee was originally established (through Act 161, SLH 2009) to develop and help implement a statewide strategy to reduce nighttime light pollution which, in turn, will help preserve Hawaii's dark skies for astronomy, protect endangered species, improve human health, and reduce nighttime energy consumption.

Although this Committee (which terminated on June 30, 2015) was successful in developing and promoting legislation (Act 287, SLH 2012) that addresses 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 Skies Advisory Committee could play a strategic role in achieving this goal.

We support this bill provided that its passage does not replace or adversely impact priorities indicated in our Executive Budget.

Thank you for the opportunity to testify on this measure.

DAVID Y. IGE
GOVERNOR OF
HAWAII



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

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Testimony of
SUZANNE D. CASE
Chairperson

Before the Senate Committee on
WAYS AND MEANS

Thursday, February 25, 2016
1:00 PM
State Capitol, Conference Room 211

In consideration of
SENATE BILL 2302
RELATING TO DARK SKIES PROTECTION

Senate Bill 2302 proposes to establish a Dark Skies Protection Advisory Committee (Committee) to assist the Department of Business, Economic Development, and Tourism in developing a dark skies protection strategy. **The Department of Land and Natural Resources (Department) supports this bill.**

Artificial lighting reduces dark skies 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 fledglings and newly hatched turtles, which then become disoriented and lost, impacting their populations. There are many documented cases of night lighting in Hawaii attracting and killing coastal and pelagic birds and turtles every year.

Additionally, dark night skies hold important cultural, astronomical, and tourism-related values, which are all negatively impacted as a result of artificial lighting. Not to mention energy consumption associated with excessive use of artificial lights, which contributes to wasted 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 related activities.

The Department appreciates the opportunity to provide these comments.



UNIVERSITY OF HAWAII SYSTEM

Legislative Testimony

Written Testimony Presented Before the
Senate Committee on Ways and Means
Thursday, February 25, 2016 at 1:00 p.m.

By

Robert Bley-Vroman, Chancellor

And

Richard Wainscoat, Astronomer

Roy Gal, Assistant Astronomer/Outreach Coordinator/UH NGO
University of Hawai'i at Mānoa

SB 2302 – RELATING TO DARK SKIES PROTECTION

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

The University of Hawai'i strongly supports SB 2302 which establishes of a dark skies advisory committee. 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, partly due to less stringent lighting rules on Maui, and also due to its 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 a valuable forum for exchanging information regarding nighttime lighting and for preservation of the dark night sky.

Light Emitting Diodes 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. Kua'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.

Light travels great distances, and lighting is not simply a county matter. It is important to form this state committee to address lighting issues across the state, and the preservation of dark skies across all of Hawai'i.

Testimony Related to
Senate Bill 2302
RELATING TO DARK SKIES PROTECTION

Presented before the
Senate Committee on Ways and Means
The Twenty-Eighth Legislature

February 25, 2016

by

Richard J. Wainscoat

Chair Tokuda, Vice-Chair Dela Cruz and members of the Committee. My name is Richard Wainscoat and I am submitting this testimony in strong support of the establishment of a dark skies advisory committee.

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

Dark skies are vitally important for Hawaii's two major astronomical observatories – Maunakea on the Island of Hawaii, and Haleakala on Maui. 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.

The advisory committee described in this bill will bring together representatives from the state, the counties and the public, and is a valuable forum for exchanging information regarding nighttime lighting.

A similar committee (for which I was the Chair), called the Starlight Reserve Committee, operated until 2015. The committee dealt with issues such as energy preservation, endangered species, astronomy, public safety and quality of life. All of these are long-term issues.

Lighting is presently undergoing a major transformation. There is a widespread change from traditional forms of lighting, such as incandescent, fluorescent, and high intensity discharge lamps to solid state lighting (light emitting diodes, or LEDs). LEDs offer lower maintenance costs and energy savings. It is particularly important that the dark skies committee enabled by this bill meets and provides advice during this transition period. LED lights have higher amounts

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Senate Committee on Ways and Means
February 25, 2016
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of blue light, and this blue light is very harmful to astronomy, endangered species, and may also be harmful to human health. Therefore, careful limits on the amount of blue light from LEDs should be put in place.

Light travels tremendous distances at night. For example, Haleakala observatory is affected by lighting in Honolulu. Light does not obey county boundaries — it is important to form a state level committee to address lighting issues and preservation of dark skies across all of Hawaii.