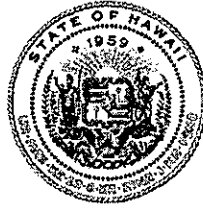


SB 2402

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



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

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

**Testimony of
WILLIAM J. AILA, JR.
Chairperson**

**Before the Senate Committees on
ENERGY AND ENVIRONMENT
&
ECONOMIC DEVELOPMENT AND TECHNOLOGY**

**Thursday, February 09, 2012
3:00 PM
State Capitol, Conference Room 225**

**In consideration of
SENATE BILL 2402
RELATING TO LIGHT POLLUTION**

Senate Bill 2402 proposes to require that certain light sources be modified or replaced with fixtures that will limit and reduce sources of light pollution. The measure provides exemptions for public safety, lights that are temporary in nature, fixtures that emit less than 3,000 lumens, and any lights installed prior to July 1, 2013. The measure would apply only to state agencies. The Department of Land and Natural Resources supports Senate Bill 2402 but suggests amendments to enhance its effectiveness.

Light pollution in Hawaii impacts wildlife and increases consumption of fossil fuels that contribute to climate change. Lighting can disrupt breeding the breeding biology of endangered sea turtles and cause harm or death to seabirds, which can become disoriented and grounded by the lights. Once on the ground, the birds quickly fall prey to cats and other predators. On Kauai, for example, seabird fallout due to lights is a major threat contributing to the decline of the endangered Newell's Shearwater, a Hawaiian seabird whose population is now on a trajectory to extinction, having declined by approximately 75% in recent years.

Light sources that impact wildlife and endangered species are not limited to those maintained by state agencies and in fact some of the most impactful lights are operated at facilities other than those of the State. Further, impacts from lights are not a future problem, for which future changes are needed, they are a current problem, for which changes in existing lights are needed. With regard to the latter, the department notes that there appears to be a contradiction in the intent of Sections 201-___(c) and 201-___(g)(7). While the intent of Section 201-___(c) appears to require that certain existing lights be replaced in compliance with the provisions of the bill, Section 201-___(g)(7) exempts ALL outdoor lighting fixtures installed prior to July 1, 2013. To

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

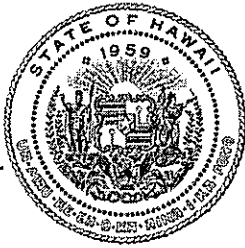
GUY H. KAULUKUKUI
FIRST DEPUTY

WILLIAM M. TAM
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
STATEPARKS

address these concerns, the department recommends that line 13 be amended to strike “state agencies” and replace it with “persons” and that Section 201-____(g)(7) be struck in its entirety.

With the above amendments, the department supports the measure, which will contribute to a reduction of light pollution in Hawaii, reduce emissions of greenhouse gasses, and enhance the survival of endangered sea turtles and seabirds.



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

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NEIL ABERCROMBIE
GOVERNOR

RICHARD C. LIM
DIRECTOR

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DEPUTY DIRECTOR

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Statement of
RICHARD C. LIM
Director

Department of Business, Economic Development & Tourism
before the

**SENATE COMMITTEES ON
ENERGY AND ENVIRONMENT**

and

ECONOMIC DEVELOPMENT AND TECHNOLOGY

Thursday, February 9, 2012

3:00 p.m.

State Capitol, Conference Room 225

in consideration of

SB 2402

RELATING TO LIGHT POLLUTION.

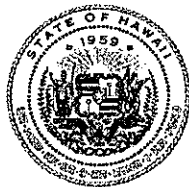
Chairs Gabbard and Fukunaga, Vice Chairs English and Wakai, and members of the Committees. The department supports the intent of SB 2402 to minimize glare and light pollution in Hawaii's night skies.

Our department convened a Starlight Reserve Committee in July of 2010 to study the impacts of nighttime light pollution statewide and provide recommendations for a Starlight Reserve Strategy that would address these issues. The chairman of this committee, Dr. Richard Wainscoat, is providing testimony today on this measure.

In addition, we would request that care be taken to ensure that this bill does not weaken any existing county ordinances that mandate full shielding of outdoor lighting.

Thank you for the opportunity to testify on this bill.

NEIL ABERCROMBIE
GOVERNOR



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

GLENN M. OKIMOTO
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RANDY GRUNE
JADINE URASAKI

IN REPLY REFER TO:

February 9, 2012

**SB 2402
RELATING TO LIGHT POLLUTION**

SENATE COMMITTEE(S) ON ENERGY & ENVIRONMENT
and ECONOMIC DEVELOPMENT & TECHNOLOGY

The Department of Transportation supports this Senate Bill 2402 with comments.

The DOT has testified on similar bills last session expressing concerns that implementation of new and replacement outdoor light fixtures be fully shielded will require coordination with the scientific and environmental parties to properly address our lighting needs and to ensure that energy waste, light trespass, visual confusion, sky glow, etc. are considered so as not to adversely impact the need for dark night sky in areas such as astronomy or the protection of endangered species in Hawaii. These considerations to maintain and ensure transportation safety and security are necessary.

Thank you for the opportunity to provide testimony.



Testimony Related to

Senate Bill 2402

RELATING TO LIGHT POLLUTION

Presented before the

**Senate Committee on Energy and the Environment
and
Senate Committee on Economic Development and Technology**

The Twenty-Sixth Legislature

February 9, 2012

by

Richard J. Wainscoat

Chair, Starlight Reserve Committee

Chairs Gabbard and Fukunaga, and members of the Committees. My name is Richard Wainscoat and I am here today to submit this testimony in my capacity as Chair of the Starlight Reserve Committee.

The Starlight Reserve Committee was established by the 2009 state legislature. It held its first meeting in July 2010, and during 2011 met on a regular basis. One of the tasks of the Committee is to develop proposed legislation for statewide intelligent lighting laws that reduce light pollution. This bill contains language recommended by the committee related to proper shielding of outdoor lights in Hawaii.

The bill contains numerous exemptions aimed at reducing or eliminating any possible additional cost by using properly shielded lights. These include:

1. Existing legally installed lights are exempt — only new and replacement lights are affected;
2. Full shielding is required only for bright light sources (brighter than 3,000 lumens) — this means that most residential lighting is exempt; and
3. Numerous other exemptions such as emergency lighting, temporary lighting, and navigational lighting.

Full shielding of lights has the following important advantages:

1. Light sources are not visible from above, meaning that the impact on endangered birds that are attracted to lights at night, such as the Newell's shearwater, is much reduced.

2. Fully shielded lights emit little light near the horizontal, so the impact on endangered turtles that become disoriented by lights on beaches is much reduced.
3. Fully shielded lights cause much less glare than partially shielded lights, improving safety, including on our roadways. It is particularly important to avoid glare for elderly drivers, who may have degraded vision due to cataracts or other reasons.
4. Fully shielded lights cause much less skyglow, dramatically reducing the impact of artificial lighting on Hawaii's astronomical observatories. Light emitted at small angles above the horizontal travels enormous distances through Earth's atmosphere. It does not respect county boundaries. Light from Honolulu affects both Haleakala and Mauna Kea Observatories. Use of fully shielded light fixtures is the most important technique for protecting astronomy in Hawaii.
5. Partially shielded lights emit some of their energy directly into space where it is wasted. Fully shielded lights direct their energy downwards only, where it is needed, and can therefore save energy. Substantial energy savings of up to 40% are possible by use of carefully shielded lights.
6. Fully shielded lights emit much less light at near horizontal angles, meaning that light trespass is substantially reduced. Light from adjacent properties or from streetlights entering our bedrooms is a form of light trespass. It can make it difficult to sleep at night. Excessive light at night has been linked to some forms of cancer, particularly breast cancer.
7. Use of fully shielded lights across Hawaii will result in a substantial decrease in skyglow, and restore the ability of Hawaii's residents and visitors to see the night sky. The Milky Way is no longer visible from urban Honolulu. Only about the brightest 20 stars are visible from urban Honolulu. About 2,000 stars can be seen from a dark location. The dark night sky on the island of Hawaii is slowly becoming a tourist attraction — many of Hawaii's visitors come from urban locations that have severe light pollution, and are amazed by the view of the dark night sky from the island of Hawaii. Sadly, many of our children are growing up without ever seeing the magnificent night sky. This is unnecessary, and is a direct result of irresponsible and careless use of light at night.

HISTORIC HAWAII FOUNDATION

To: Sen. Mike Gabbard, Chair
Sen. Kalani English, Vice Chair
Committee on Energy and Environment

Sen. Carol Fukunaga, Chair
Sen. Glenn Wakai, Vice Chair
Committee on Economic Development and Technology

From: Kiersten Faulkner
Executive Director, Historic Hawai'i Foundation

Committee Date: Thursday, February 9, 2012
3:00 p.m.
Conference Room 225

Subject: **SB 2402, Relating to Light Pollution**

On behalf of Historic Hawai'i Foundation (HHF), I am writing with comments on SB 2402, Relating to Light Pollution. The bill would develop standards for outdoor lighting to reduce light pollution by requiring every new and replacement outdoor light fixture to be fully shielded, with certain exemptions.

Since 1974, Historic Hawai'i Foundation has been a statewide leader for historic preservation. HHF's 850 members and numerous additional supporters work to preserve Hawaii's unique architectural and cultural heritage and believe that historic preservation is an important element in the present and future quality of life, economic viability and environmental sustainability of the state.

Overall, HHF finds the proposed measure is an important step in safeguarding the night sky and Hawaii's wildlife. We note that the starry sky, indigenous birds, turtles and other wildlife and natural resources are important cultural resources and HHF support efforts to preserve and protect them through reasonable restrictions on outdoor lighting design, location, intensity and direction.

In most cases, outdoor lighting that is associated with historic buildings or sites should be able to comply with the proposed standards. However, in some circumstances, historic properties may include historic lighting fixtures or design features that are important character-defining elements that are significant to the historic integrity of the property. In these cases, the Secretary of the Interior's Standards for the Treatment of Historic Properties directs that, "distinctive materials, features, finishes...that characterize a property will be preserved," and "deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials" (emphasis added).

Historic Hawai'i Foundation

680 Iwilei Road, Suite 690 • Honolulu, HI 96817 • Tel: 808-523-2900 • FAX: 808-523-0800 • www.historichawaii.org

Historic Hawai'i Foundation was established in 1974 to encourage the preservation of historic buildings, sites and communities on all the islands of Hawai'i. As the statewide leader for historic preservation, HHF works to preserve Hawaii's unique architectural and cultural heritage and believes that historic preservation is an important element in the present and future quality of life, environmental sustainability and economic viability of the state.

In order for historic property rehabilitation projects to comply with both national preservation standards and the proposed light pollution reduction standards, HHF recommends that SB 2402 Section (g) include an exemption for historic properties. This revision should state, "Refurbishment, repair or replacement of in-kind lighting fixtures that are character-defining features of a historic property, as determined by the department of land and natural resources historic preservation division."

HHF supports SB 2402 with the suggested amendment to include an exemption for historic properties.

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Testimony for EDT/ENE 2/9/2012 3:00:00 PM SB2402

Conference room: 225
Testifier position: Support
Testifier will be present: No
Submitted by: Ronnie Perry
Organization: Individual
E-mail: babyjean@hotmail.com
Submitted on: 2/3/2012

Comments:

I strongly support light pollution control. Light pollution is a serious problem that is becoming out of control on our island. Light pollution causes birds/turtles to lose their way by confusing them from following the moonlight, it causes glare, therefore making it unsafe for drivers, brings down property value from light trespass has been proven to cause cancer and insomnia and in general, is very unsightly and takes much away from the beauty of our island. It is a huge problem on our island. Please pass this bill.

Testimony for EDT/ENE 2/9/2012 3:00:00 PM SB2402

Conference room: 225
Testifier position: Support
Testifier will be present: No
Submitted by: George Peabody
Organization: <http://www.MolokaiAdvertiserNews.com>
E-mail: MolokaiMAN@basicisp.net
Submitted on: 2/6/2012

Comments:

YES! But amend it to include ALL lights, not just new ones, all to be shielded by 2013. Good grief we have been fighting for this for 20 years on Maui, and few lights are yet shielded. We need ENFORCEMENT to shield the lights of neighbors who have flood and spot lights pointing at the highways and into neighbors' homes and yards. No consideration, and they get mad is you ask them to shield theirlight, say just no look this way.

Testimony for EDT/ENE 2/9/2012 3:00:00 PM SB2402

Conference room: 225
Testifier position: Support
Testifier will be present: No
Submitted by: Patrick Adams
Organization: Individual
E-mail: tandemadams@yahoo.com
Submitted on: 2/1/2012

Comments:

I agree with the regulation. Enforcement is more of a concern than regulation. The police departments must be trained in regard to light pollution and their responsibility to enforce the law. I would like to see a stronger enforcement clause in this bill.