

JAN 22 2016

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# A BILL FOR AN ACT

RELATING TO DARK SKIES PROTECTION.

**BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:**

1           SECTION 1. The legislature finds that dark night skies  
2 hold important cultural, scientific, astronomical, natural,  
3 landscape, and tourism-related value. The legislature also  
4 finds that light pollution, caused by the excessive,  
5 misdirected, or obtrusive use of artificial light, has become a  
6 worldwide problem, and is now posing significant challenges for  
7 the State of Hawaii.

8           Inappropriate use of lighting at night includes over-  
9 illumination, excessive use of artificial light, use of fixtures  
10 that direct light upwards causing glare and sky glow, and use of  
11 fixtures that have excessive amounts of blue light, which is  
12 scattered by the atmosphere to cause sky glow.

13           Light pollution can be avoided by a careful selection of  
14 light fixtures, with particular regard to the spectrum of the  
15 light these fixtures emit, and by specifying the amount of light  
16 that should be used so that areas are not over lit.



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1           The legislature also finds that light can travel long  
2 distances, and that reduction of light pollution is a statewide  
3 issue. For example, the western part of Molokai has a much  
4 brighter night sky than the eastern part due to the sky glow  
5 from Oahu, and the sky glow from Oahu is easily visible from  
6 Haleakala and interferes with astronomical observations in the  
7 western part of the sky.

8           In addition, the legislature finds that light at night  
9 interferes with various species of animals, including threatened  
10 and endangered birds and turtles. Historical use of poorly  
11 designed light fixtures has required very costly retrofits to  
12 reduce the impact on these species.

13           The legislature further finds that light at night,  
14 particularly blue light, interferes with circadian rhythms,  
15 including those in humans. The World Health Organization has  
16 listed "shift work" that involves circadian disruption as a  
17 probable carcinogen. According to Professor Steven Lockley of  
18 Harvard Medical School, light intrusion, even if dim, is likely  
19 to have measurable effects on sleep disruption and melatonin  
20 suppression. Even if these effects are relatively small from



1 night to night, continuous chronic circadian sleep, and hormonal  
2 disruption may have long-term health risks.

3 Finally, the legislature additionally finds that nighttime  
4 illumination of state highways, harbors, airports, and other  
5 facilities is costly and consumes large amounts of energy, and  
6 that application of new lighting technologies could produce  
7 substantial energy and cost savings.

8 The purpose of this Act is to establish a dark skies  
9 protection advisory committee to assist the department of  
10 business, economic development, and tourism in developing a dark  
11 skies protection strategy.

12 SECTION 2. Chapter 201, Hawaii Revised Statutes, is  
13 amended by adding a new section to be appropriately designated  
14 and to read as follows:

15 "§201- Dark skies protection strategy; advisory  
16 committee. (a) The department of business, economic  
17 development, and tourism shall develop a statewide dark skies  
18 protection strategy. There is established a dark skies  
19 protection advisory committee, to be placed within the  
20 department for administrative purposes. The advisory committee  
21 shall assist the department in developing a statewide dark skies



1 protection strategy. The members of this advisory committee  
2 shall include:

3 (1) The director of business, economic development, and  
4 tourism, or the director's designee;

5 (2) The comptroller, or the comptroller's designee;

6 (3) The director of the institute for astronomy, or the  
7 director's designee;

8 (4) The director of health, or the director's designee;

9 (5) The director of transportation, or the director's  
10 designee;

11 (6) The chairperson of the board of land and natural  
12 resources, or the chairperson's designee;

13 (7) A representative from each of the mayoral offices of  
14 the counties of Kauai, Maui, Hawaii, and the city and  
15 county of Honolulu;

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

18 (9) A member of the Hawaiian Astronomical Society, as  
19 selected by its board of directors; and

20 (10) A lighting engineer selected by the director of  
21 business, economic development, and tourism.



1        (b) The director of business, economic development, and  
2 tourism shall designate a chairperson of the advisory committee  
3 from among the members of the advisory committee.

4        (c) The department of business, economic development, and  
5 tourism, assisted by the advisory committee, shall develop a  
6 statewide dark skies protection strategy to reduce light  
7 pollution, save energy, preserve the quality of the night sky,  
8 and restore the dark night sky and its associated cultural,  
9 scientific, astronomical, natural, tourism, and landscape-  
10 related values. The department shall develop proposed  
11 legislation as needed to implement the light pollution reduction  
12 strategies, including laws to eliminate lighting that uses  
13 unnecessary or excessive light, or poorly designed luminaries,  
14 including use of excessive amounts of blue light.

15        (d) The statewide dark skies protection strategy shall be  
16 based on principles that include:

- 17        (1) The cultural heritage of the night sky, including its  
18 place in Hawaiian culture;  
19        (2) Protection of threatened and endangered species that  
20 are affected by artificial light at night;



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- 1        (3) Protection of the dark night sky for astronomical  
2        observations from Mauna Kea and Haleakala, including  
3        measures to prevent degradation of the dark night sky  
4        from artificial light;
- 5        (4) Protection of the dark night sky for educational  
6        purposes, especially for elementary, middle, and  
7        secondary school and university students;
- 8        (5) Establishing dark sky parks, which are designated  
9        locations that have special protections for the night  
10       sky, and are locations where residents and visitors  
11       can view the night sky with minimal interference from  
12       artificial light; and
- 13       (6) Preserving and recovering the dark night sky to reveal  
14       nocturnal landscapes that have traditionally been part  
15       of the natural and cultural landscape.
- 16       (e) The light pollution reduction strategy shall have the  
17       following components:
- 18       (1) Intelligent lighting systems that include reduction  
19       and prevention of light pollution, reduction and  
20       prevention of glare and sky glow, and conservation of  
21       energy;



1       (2) A tourism component that involves innovative and  
2       educational ecotourism related to the dark night sky  
3       in Hawaii, recognizing that many visitors to Hawaii  
4       come from cities that have severe light pollution;

5       (3) An educational component to educate Hawaii's students,  
6       residents, and visitors about the importance of a dark  
7       night sky and how to reduce light pollution; and

8       (4) Statewide monitoring of light pollution to monitor  
9       light pollution levels and long-term trends.

10      The advisory committee shall consult frequently with the United  
11      States Fish and Wildlife Service.

12      (f) The department of business, economic development, and  
13      tourism, with the assistance of the advisory committee, shall  
14      develop proposed legislation to implement statewide protective  
15      lighting and light pollution reduction strategies.

16      Considerations shall include:

17      (1) Outdoor lighting requirements consistent with section  
18      201-8.5, including the spectrum of the lights, or  
19      amendments thereto, to protect the dark night sky;

20      (2) Measures to conserve energy;



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- 1        (3) Standards for dark night skies protective lighting  
2        design;
- 3        (4) Strengthening statewide commitment to preserving the  
4        dark night sky by adopting protective lighting in the  
5        public sector consistent with section 205A-71;
- 6        (5) Labeling that recognizes protective lighting in the  
7        public sector;
- 8        (6) Developing alliances with public and private entities  
9        responsible for outdoor lighting;
- 10       (7) Developing measures to avoid obtrusive light sources,  
11       eliminate light trespass, and improve the quality of  
12       life of the local population; and
- 13       (8) Educating local residents about lighting solutions, as  
14       well as the environmental, personal, and energy-  
15       savings benefits that intelligent lighting produces.
- 16       (g) The department of business, economic development, and  
17 tourism shall submit an annual report to the legislature no  
18 later than twenty days prior to the convening of each regular  
19 session. The report shall include findings, recommendations,  
20 and proposed legislation to reduce and control light pollution."
- 21       SECTION 3. New statutory material is underscored.



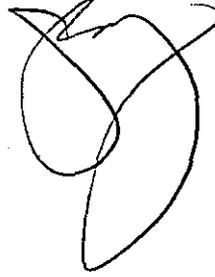
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1 SECTION 4. This Act shall take effect upon its approval.

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INTRODUCED BY:

Will Lopez



Chenue D. Smith



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**Report Title:**

Dark Skies Protection Strategy; Department of Business, Economic Development, and Tourism; Advisory Committee

**Description:**

Establishes an advisory committee to assist the Department of Business, Economic Development, and Tourism in developing and implementing a statewide dark skies protection strategy.

*The summary description of legislation appearing on this page is for informational purposes only and is not legislation or evidence of legislative intent.*

