
A BILL FOR AN ACT

RELATING TO LIGHT POLLUTION.

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

1 SECTION 1. The legislature finds that the night sky is a
2 tremendously valuable natural and cultural resource for the
3 residents of Hawaii, and for visitors to Hawaii. The dark night
4 sky has tremendous scientific value for astronomy, and is
5 vitally important for endangered species in Hawaii including
6 birds and turtles. Mauna Kea, on the island of Hawaii, is the
7 best astronomical observatory site in the northern hemisphere,
8 and arguably the best site on Earth. Haleakala on the island of
9 Maui is also a world class astronomical observatory site.

10 Unnecessary light pollution is threatening the dark night
11 sky over the Hawaiian islands. This light pollution includes
12 sky glow, energy waste, glare, light trespass, visual confusion,
13 and environmental harm. Light can travel enormous distances
14 through the Earth's atmosphere, and therefore does not respect
15 county boundaries. Light pollution therefore spreads across the
16 entire State and must be addressed using statewide legislation.
17 Furthermore, endangered species that are affected by light at
18 night live on many of the Hawaiian islands.



1 Many of the problems with light pollution that Hawaii faces
2 are caused by improperly shielded lights. Poorly shielded
3 lights direct energy straight into the atmosphere, where it is
4 wasted. This light produces sky glow, which limits residents'
5 ability to see stars. For example, in Honolulu only about the
6 brightest twenty stars are visible, whereas about two thousand
7 stars can be seen from a dark location. Poorly shielded lights
8 also cause glare, which diminishes our ability to see at night.
9 Poorly shielded lights also enter locations where the light is
10 unwanted (light trespass), including bedrooms, making it
11 difficult for residents to sleep. Excessive light in the
12 sleeping environment has recently been linked to an increased
13 incidence of breast cancer. Improperly shielded lights on the
14 island of Kauai have led to many bird deaths, particularly of
15 the endangered Newell's shearwater.

16 Act 161, Session Laws of Hawaii 2009, formed a temporary
17 advisory committee to assist the department of business,
18 economic development, and tourism to develop a statewide
19 starlight reserve strategy to preserve the quality of the night
20 sky and its associated cultural, scientific, astronomical,
21 natural, and landscape-related values. The temporary advisory
22 committee recommends the enactment of certain measures in the



1 2011 regular session to conserve energy and promote responsible
2 use of light.

3 The purpose of this Act is to implement the recommended
4 legislation of the temporary advisory committee established
5 pursuant to Act 161.

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

9 "§201- Starlight reserve strategy. (a) Beginning
10 July 1, 2013, every new and replacement outdoor light fixture
11 shall be fully shielded; provided that artificial light on
12 shoreline and ocean waters shall be subject to section 205A-71.
13 A light fixture is considered fully shielded when the light
14 fixture is:

15 (1) Constructed so that no light is emitted above the
16 horizontal plane; and
17 (2) Installed in a manner that does not allow light to be
18 directed above the horizontal plane.

19 (b) Lighting for outdoor athletic fields, courts, or
20 tracks shall be fully shielded unless a registered electrical
21 engineer certifies that fully shielded lighting is impractical.



1 Where fully shielded fixtures are not used, acceptable luminaire
2 shall include those that are:

3 (1) Equipped with internal, external, or both, glare
4 control louvers and are installed so as to limit
5 direct up-light to less than five per cent of the
6 total lumens exiting from the installed fixtures and
7 minimize offsite light trespass; and

8 (2) Installed and maintained with minimum aiming angles of
9 twenty-five degrees downward from the horizontal;
10 provided that the aiming angle shall be measured from
11 the axis of the luminaire maximum beam candlepower as
12 certified by an independent testing agency.

13 (c) The following lighting shall be exempt from this
14 section:

15 (1) Light sources of three thousand lumens or less;

16 (2) Emergency lighting used by police, firefighters,
17 correctional personnel, or medical personnel for the
18 duration of the emergency;

19 (3) Temporary outdoor lighting used for construction or
20 major renovation of buildings or for highway
21 improvements or construction;



1 (4) Temporary outdoor lighting used for night-time film
2 production; and

3 (5) Navigational lights that are required for waterways
4 and aircraft.

5 (d) This section shall be considered to be supplemental to
6 any county lighting ordinance and shall not be construed to
7 supersede or modify county lighting ordinances or rules;
8 provided that the ordinance is not less restrictive than this
9 section."

10 SECTION 3. This Act does not affect rights and duties that
11 matured, penalties that were incurred, and proceedings that were
12 begun before its effective date.

13 SECTION 4. New statutory material is underscored.

14 SECTION 5. This Act shall take effect on July 1, 2011.



Report Title:

Outdoor Lighting; Starlight Reserve

Description:

Requires every new and replacement outdoor light fixtures to be fully shielded beginning on July 1, 2013, with certain exemptions. Defines fully shielded. Effective July 1, 2011.
(SB1493 HD1)

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

