DAVID Y. IGE
GOVERNOR OF HAWAII

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

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
ENERGY AND ENVIRONMENTAL PROTECTION

Thursday, March 16, 2017
8:30 AM
State Capitol, Conference Room 325

In consideration of
SENATE BILL 1150, SENATE DRAFT 2
RELATING TO PRESERVING CORAL REEFS

Senate Bill 1150, Senate Draft 2, proposes to prohibit the use or application of sunscreen, sunblock, or cosmetic containing oxybenzone, except when prescribed by a medical professional, while on a beach or in the ocean. **The Department of Land and Natural Resources (Department) appreciates the intent of this measure and offers the following comments.**

The Department recognizes the concerns about the presence of oxybenzone in the water and its effects on corals. The Department has questions about how the provisions would be enforced. An enforcement officer would have to observe a person on the beach applying the product and then determine if the product contained oxybenzone.

An informational approach may be an alternative to a regulatory approach to help the public understand the issues of using oxybenzone. While the Department supports the use of sunscreens and similar products for protection from the harmful effects of the sun, the public needs to be better informed so they can make better choices regarding sun protection and reef conservation.

The Department's outreach efforts to the public have included organizing a session at the 2016 International Union for Conservation of Nature Conference on the effects and use of oxybenzone, focused one-on-one outreach at Ahihi-Kinau Natural Area Reserve, news releases, videos, information on the Department's Division of Aquatic Resources website, distribution of oxybenzone-free sunscreen samples at public events, interaction with partner organizations, and meetings with dermatologists, boat tour operators, and vendors who sell sunscreen to spread the word. These efforts are just a beginning, and the Department continues to explore other ways to inform the public on this issue.

Thank you for the opportunity to comment on this measure.

DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. Box 3378
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doh.testimony@doh.hawaii.gov

WRITTEN TESTIMONY ONLY

Testimony COMMENTING on S.B. 1150, S.D. 2

RELATING TO PRESERVING CORAL REEFS

REPRESENTATIVE CHRIS LEE-CHAIR
REPRESENTATIVE NICOLE E. LOWEN, VICE CHAIR
HOUSE COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION

Hearing Date: March 16, 2017 Room Number: 325
Time: 8:30 a.m.

Fiscal Implications: No funding is provided to implement this measure.

Department Testimony: S.B. 1150 S.D. 2 seeks to prohibit the use and application of products containing oxybenzone while on a beach. We defer to the Department of Land and Natural Resources about the feasibility of implementing a prohibition on the use and application of sunscreen containing oxybenzone by the general public on beaches in Hawaii.

The Department of Health is concerned about the release of chemicals, including oxybenzone, from personal care products into the marine environment. Research by local and national coral experts has shown that levels of oxybenzone in the marine environment may be high enough to pose deleterious effects on coral, and may exacerbate coral bleaching. However, oxybenzone plays an important role in reducing the risk of some forms of skin cancer, so balancing public health protection is a very important consideration. DOH believes more evaluation of the health and environmental impacts of restricting the use of oxybenzone is warranted. In addition, we are not aware of any impending federal or state regulations to remove this chemical from sunscreens. A key concern to be resolved is the availability of safe and effective alternatives, for example, sunscreens containing titanium dioxide and zinc oxide nanoparticles are alternatives to oxybenzone. However, titanium dioxide has been classified as a possible carcinogen when inhaled in high doses. Additionally, when zinc oxide and titanium dioxide nanoparticles wash

off skin, they enter the aquatic environment, with unknown effects on our tropical marine ecosystems.

We support development of effective public education and outreach efforts to inform Hawaii beachgoers about steps that they can take to reduce the use of oxybenzone while enjoying our beaches in Hawaii.

Thank you for the opportunity to testify on this important measure.

Offered Amendments: None.

OFFICE OF HAWAIIAN AFFAIRS
Legislative Testimony

SB1150 SD2
RELATING TO PRESERVING CORAL REEFS
House Committee on Energy & Environmental Protection

March 16, 2017 8:30 a.m. Room 325

The Office of Hawaiian Affairs (OHA) **SUPPORTS** SB1150 SD2, which would mitigate the impacts of oxybenzone on our coral reefs.

Hawai'i's marine environment and nearshore resources serve as a cultural, socioeconomic, and scientific foundation for our islands. OHA notes that economic studies in 2002 and 2003 found an overall contribution of $800 million in revenue generated from our coral reefs and coastal resources, with an added recreational, amenity, fishery, biodiversity and educational value of $364 million per year. A more recent report released in 2011 utilizing "innovative economic survey techniques" found that across U.S. households, the economic value of protecting Hawai'i's nearshore environment could be estimated at $34 billion a year. While our ocean waters clearly hold cultural, spiritual, and biological significance beyond any monetary value, these economic analyses clearly reflect the critical nature of our marine environment to our islands.[1]

This measure represents a small step towards ensuring greater resilience in our coral reefs and nearshore waters. With the overarching threats of climate change and a growing population base, it is incumbent upon the state and its residents to ensure that our foundational nearshore resources are sufficiently resilient, to best withstand the inevitably increasing pressures that will be placed upon them. While oxybenzone is just one of many stressors on our coral reefs, reducing the prevalence of this known chemical threat is a small yet positive step towards ensuring such greater resilience. Notably, this measure

[1] See Carlie S. Weiner, Mark D. Needham, & Paul Wilkinson, Hawaii's real marine life park: interpretation and impacts of commercial marine tourism in the Hawaiian Islands, 12 CURRENT ISSUES IN TOURISM 489, 489-90 (2009) citing P.J. van Beukering & H.S. Cesar, Ecological economic modeling of coral reefs: Evaluating tourist overuse at Hanauma Bay and algae blooms at the Kihei Coast, Hawai'i 58 PAC. SCIENCE 243 (2007); A.M. Friedlander et. al., The state of coral reef ecosystems of the main Hawaiian Islands in THE STATE OF CORAL REEF ECOSYSTEMS IN THE UNITED STATES AND PACIFIC FREELY ASSOCIATED STATES 222-269 (2005), K. DAVIDSON, M. HAMNET, & C. MINATO, ECONOMIC VALUE OF HAWAII'S NEARSHORE REEFS (2003), available at http://nature.forestry.oregonstate.edu/sites/default/files/2009-2%20CIT%20-%20Wiener%20Needham%20Wilkinson%20(2009).pdf; HERMAN CESAR ET. AL, ECONOMIC VALUATION OF THE CORAL REEFS OF HAWAII FINAL REPORT 74 (2002), available at http://www.coralreef.gov/meeting18/evhcri_samoa_2007.pdf; RICHARD C. BISHOP ET. AL., TOTAL ECONOMIC VALUE FOR PROTECTING AND RESTORING HAWAIIAN CORAL REEF ECOSYSTEMS: EXECUTIVE SUMMARY (2011), available at http://coralreef.noaa.gov/aboutcrcp/news/featuredstories/oct11/hi_value/resources/protecting_restoring_hawaiian_cre.pdf.

may not only directly reduce the impacts of oxybenzone on our most popular nearshore areas, but its passage may also promote greater public awareness of the need to better protect the resources we so substantially rely upon.

Accordingly, OHA urges the Committee to **PASS** SB1150 SD2. Thank you for the opportunity to testify on this measure.

Harry Kim
Mayor

Wil Okabe
Managing Director

Barbara J. Kossow
Deputy Managing Director

County of Hawai'i
Office of the Mayor

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March 14, 2017

Representative Chris Lee, Chair
Committee on Energy & Environmental
Protection
Hawai'i State Capitol
Honolulu, HI 96813

Dear Chair Lee and Committee members:

RE: SB 1150, SD 2
Relating to Preserving Coral Reefs

If there is a scientific consensus that sunscreen containing oxybenzone is harmful to the environment, and that it is worse than the alternative sunscreen products available, I would urge the Legislature to ban the sale of products containing oxybenzone in Hawaii. That would be much more efficient than banning its use on the beach. It would not eliminate the problem entirely (tourists might still bring product in) but I would think that the use of the chemical in Hawaii would be dramatically reduced.

My problem is that the Department of Health's testimony in the Senate did not assert that a scientific consensus exists, although its testimony is labeled as being in favor of the bill. If that could be clarified, I would urge the Legislature to use SB 1150 as an appropriate vehicle to forcefully address the problem.

Respectfully submitted,

Harry Kim
Mayor

UNIVERSITY OF HAWAI'I AT MANOA
Kewalo Marine Laboratory
Pacific Biosciences Research Center
41 Ahui Street, Honolulu, HI 96813

March 15, 2017

Chris Lee, Chair
Committee on Energy and Environmental Protection
State of Hawai'i House of Representatives
The Twenty-ninth Hawaii State Legislature

LATE

Dear Chairman Lee and Committee Members,

I am writing in support of Bill SB1150 SD2: "Relating to Preserving Coral Reefs." I am a coral reef scientist employed at the University of Hawaii at Manoa, a past president of the International Society for Reef Studies and served at the convener for the 13th International Coral Reef Symposium (ICRS) that was held at the Hawaii Convention Center in June, 2016.

Coral reefs throughout the world, including in Hawaii, are in serious decline as a result of coastal pollution, overfishing and the impacts of global climate change. These spectacular ecosystems support over 500 million people world-wide through their economic, cultural and ecological values and services. Hawaii's reefs alone are valued at $34 billion with an annual contribution to the State's economy of over $360 million. It's very clear, that whatever we do that is good for corals is also good for people, here and around the world.

The key consensus from the over 2,500 participants attending the 13th ICRS was that coral reefs are severely threatened but not doomed. The future of coral reefs and those who depend on them is tied to the development and implementation of sound, scientifically-based policies and practices. Climate change, an overriding problem, will take time and international cooperation to address. In order to buy time, we must address local stressors now, including coastal water quality. Removing oxybenzone exposure to corals is a sound step forward here in Hawaii and other jurisdictions where it is a documented problem.

The research performed by Dr. Craig Downs and his colleagues has demonstrated the negative effects of oxybenzone on corals, their ability to successfully reproduce and for their larvae to settle and grow on our reefs. They have also provided data to show that levels of oxybenzone from sunscreens are at levels that are negatively affecting our reefs. Hence, legislation that removes this stressor is science-based and appropriate policy, and I strongly support the proposed ban on oxybenzone based sunscreens in Hawaii. I would also suggest the language that prohibits the sale of these products in Hawaii, as that is a more appropriate means for addressing the problem without putting local residents and tourists in jeopardy for not knowing the law and hence, purchasing the problematic products here.

Protection against uv exposure can be achieved in a variety of ways that are far better for our reefs (and people) such as the use of rash guards and other uv blocking water wear, and sunblocks with non-nanotized and coated zinc oxide and titanium dioxide that are widely available. I thank the members of the Hawaii Legislature for taking this wise approach to helping our reefs at a time when they need all of the help we can provide.

Respectfully,

Robert H. Richmond, Ph.D.
Research Professor and Director

Conservation Council for Hawai'i
Hawai'i's voice for wildlife
Kō Hawai'i leo no nā holoholona lōhiu

Testimony Submitted to the House Committee on Energy and Environmental Protection
By the Conservation Council for Hawai'i
Hearing: Thursday, March 16, 2017 8:30 am
Room 325

Support for SB 1150 SD 2Relating to Preserving Coral Reefs

Chair Lee, Vice Chair Lowen, and Members of the Committee,

Aloha. The Conservation Council for Hawai'i supports SB 1150 SD 2, which prohibits the use or application of sunscreen, sunblock, or cosmetic containing oxybenzone while on a beach or in the ocean unless the sunscreen, sunblock, or cosmetic is a prescription drug

We recommend a ban on the sale in addition to the use of such products.

Our reefs are already stressed. Additional coral bleaching by oxybenzone can be avoided. There are alternative products.

Please help save our coral reef ecosystems, and give our reefs a break. Please pass SB 1150 SD 2. Mahalo nui loa for the opportunity to testify.

Marjorie Ziegler

Telephone/Fax: 808.593.0255 | email: info@conservehi.org | web: www@conservehi.org
P.O. Box 2923 | Honolulu, HI 96802 | Office: 250 Ward Ave., Suite 215 | Honolulu, HI 96814

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, March 14, 2017 9:17 AM
To: EEPtestimony
Cc: hoonanea@aol.com
Subject: *Submitted testimony for SB1150 on Mar 16, 2017 08:30AM*

SB1150
Submitted on: 3/14/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Regina Gregory	EcoTipping Points Project	Support	No

Comments:

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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HAWAI'I ALLIANCE for PROGRESSIVE ACTION

House Committee on Energy & Environmental Protection

Hawai'i Alliance for Progressive Action strongly supports: SB 1150

Aloha Chair Lee, Vice Chair Lowen, and Committee Members,

My name is Anne Frederick and I am the Executive Director for the Hawai'i Alliance for Progressive Action (HAPA). HAPA is a statewide environmental, social and economic justice organization. HAPA engages over 10,000 local residents annually through our work.

I am writing in support of SB1150. We believe this measure will help to protect and preserve Hawai'i's coral reefs. Oxybenzone was a subject that experts took up last summer at the International Coral Reef Symposium in Honolulu which resulted in the call for an oxybenzone ban.

Scientists believe coral is damaged when oxybenzone exceeds a concentration of 62 parts per trillion, which is roughly equivalent to one drop of water in six and a half Olympic-sized swimming pools. In Honolua Bay on Maui, oxybenzone was detected at nearly 2,000 parts per trillion.

Seawater testing discovered concentrations of oxybenzone — which is found in over 3,500 sunscreen products — were 12 times higher in Hawaii and the Caribbean. Oxybenzone causes the coral to bleach and inhibits its ability to reproduce.

Passing this bill will allow us to stop further damage from oxybenzone in our precious waters. I strongly urge you to support this measure.

Mahalo nui,

Anne Frederick
Executive Director
Hawai'i Alliance for Progressive Action

The Hawai'i Alliance for Progressive Action (HAPA) is a public non-profit organization under Section 501(c)(3) of the Internal Revenue Code. HAPA's mission is to catalyze community empowerment and systemic change towards valuing 'aina (environment) and people ahead of corporate profit.

March 14, 2017

TIM VANDEVEER
Chair

MARGARET WILLE
SEAN SMITH
Legislative Affairs Committee Co-Chairs

SB1150 SD2
Relating to Preserving Coral Reefs
Thursday, March 16, 2017 8:30 am State Capitol, Conference Room 325

Representative Chris Lee, Chair
Representative Nicole Lowen, Vice Chair
Committee on Energy and Environmental Protection

Submitted on Behalf of the Democratic Party of Hawai‘i

The Democratic Party of Hawai‘i strongly supports SB 1150 SD2 “Relating to Preserving Coral Reefs” (Oxybenzone ban) which bans the use of sunscreen or personal care products containing oxybenzone while on a beach or in the ocean unless being used as a prescription drug. **The DPH supports the above legislation based on our Platform and Resolutions and corresponding environmental wellbeing legislative priorities as voted on and passed by the DPH State Central Committee, in support of marine/ocean health.** The DPH Environmental Caucus has also made this bill a priority. Please pass this Bill out of your Committee.

Respectfully submitted,

/s/ Tim Vandeveer (tim@hawaiidemocrats.org)
Chair of the Democratic Party of Hawai‘i

/s/ Margaret Wille (margaretwille@mac.com)
/s/ Sean Smith (simashang@yahoo.com)
Legislative Committee Co-chairs

The Nature Conservancy
Hawai'i Program
923 Nu'uanu Avenue
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Testimony of The Nature Conservancy of Hawai'i
Supporting S.B. 1150 SD2 Relating to Preserving Coral Reefs
House Committee on Energy and Environmental Protection
Thursday, March 16, 2017, 8:30AM, Room 325

The Nature Conservancy of Hawai'i is a private non-profit conservation organization dedicated to the preservation of the lands and waters upon which life depends. The Conservancy has helped to protect nearly 200,000 acres of natural lands in Hawai'i. We manage 40,000 acres in 14 preserves and work in 19 coastal communities to help protect the near-shore reefs and waters of the main Hawaiian Islands. We forge partnerships with government, private parties and communities to protect Hawai'i's important watershed forests and coral reefs.

The Nature Conservancy supports S.B. 1150 SD2 that would prohibit the use of sunscreen and other products containing oxybenzone on beaches and in the ocean in Hawai'i. Preliminary research indicates that there may be a connection between oxybenzone and degraded reef health, and the precautionary principle suggests that we do what we can to minimize this potential threat.

However, while removing oxybenzone from Hawai'i's beaches may help our reefs, it is only a first step. Support for this measure should not stop us from doing the hard work that is needed to protect our coral reefs and nearshore fisheries from the clear and present danger of additional chemicals, nutrients and sediment entering our nearshore waters, invasive algae smothering our reefs, and unsustainable fishing practices depleting our local fisheries. With the added threats from global climate change predicted to increase over the next 50 years, the need to protect our reefs and other aquatic resources has never been more urgent.

Hawai'i's nearshore waters are home to more than 7,000 forms of marine life, a quarter of them found nowhere else on Earth. Our vast coral reefs and entire near shore ecosystem are valuable assets that contribute culturally and economically to Hawai'i's future. Coral reef ecosystems create habitat for many fish species with important subsistence, recreational and commercial value; support tourism and recreational industries; and shelter coastlines from natural disturbances. Our life and lifestyle in Hawai'i depends upon a healthy and thriving marine environment.

While we appreciate the bills this session proposing to prohibit or regulate oxybenzone, **we also urge the Legislature to continue supporting efforts to address the full range of threats to our reefs, fisheries and other marine resources. These actions include:**

- **Sufficient funding and personnel for the Department of Land and Natural Resources to:**
  - **Implement existing and develop additional marine management rules to protect and restore our coastal fisheries;**
  - **Build compliance with and enforcement of existing marine management rules and laws;**
  - **Collaboratively develop a strategic plan to address coral bleaching and guide management decisions;**
  - **Obtain the information needed to continue adaptively managing coastal resources based on the best available science and traditional knowledge; and**
  - **Build on its on-the-ground and in-water management work with partners to care for coastal and marine resources.**
- **Supporting the efforts of coastal communities around the islands that are working to co-manage their resources in partnership with the DLNR.**

Thank you for the opportunity to testify on this measure.

Imanaka Asato
A LIMITED LIABILITY LAW COMPANY

ImanakaAsato.com

March 16, 2017

Representative Chris Lee, Chair
Representative Nicole Lowen, Vice Chair
Members of the House Committee on Energy &
Environmental Protection
Twenty-Ninth Legislature
Regular Session of 2017

RE: SB 1150, SD2 Relating to Preserving Coral Reefs
Hearing date: March 16, 2017, 8:30 am

Aloha Chair, Vice-Chair and Members of the Committee,

Mahalo for the opportunity to submit testimony on behalf of Quest Global Management/Dolphin Quest. Dolphin Quest supports the proposed legislation to protect Hawai'i's coral reefs by prohibiting the use of sunscreens and cosmetics containing oxybenzone at beaches or in the ocean. This chemical has been found to harm coral reefs.

As noted on Hawai'i's Department of Land and Natural Resources website, "Recent studies have shown that oxybenzone (and octinoxate & homosalate) causes deformities in coral larvae (planulae), making them unable to swim, settle out, and form new coral colonies. It also increases the rate at which coral bleaching occurs. This puts coral reef health at risk, and reduces resiliency to climate change... Researchers have found oxybenzone concentrations in some Hawaiian waters at more than 30 times the level considered safe for corals."

Many other locations such as Mexico and the Caribbean have also joined in the effort to reduce damage to corals by prohibiting sunscreens containing oxybenzone and octinoxate & homosalate. We hope that Hawai'i will also follow in this forward-thinking direction to help preserve its coral reef health.

Dolphin Quest advocates for conservation and preservation efforts to protect the oceans and its many inhabitants, including corals. The negative impact of human activity can be reduced by this legislative measure and Dolphin Quest promotes its passage and other activities that educate humans about the oceans.

Mahalo for your consideration.

Sincerely,

IMANAKA ASATO LLLC

Michael L. Iosua

TO: Honorable Chair Lee, Vice-Chair Lowen, and Energy and Environmental Protection Committee Members, 3-16-17, 8:30 a.m.

SUBMITTED BY: Keith Dane, Hawaii Policy Advisor, State Affairs, Humane Society of the United States, kdane@humanesociety.org, Tel: 301-312-1489; and Teresa M. Telecky, Ph.D., Director, Wildlife Department, Humane Society International, ttelecky@hsi.org, Tel: 301.258.1430

RE: SUPPORT for SB1150 SD2, Relating to Preserving Coral Reefs

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The Humane Society of the United States (HSUS) and Humane Society International (HSI), support SB1150 SD2 which would, if enacted, prohibit the use or application of sunscreen, sunblock, or cosmetic containing oxybenzone while on a beach or in the ocean unless the sunscreen, sunblock, or cosmetic is a prescription drug. We thank the Committee for addressing this important matter that affects Hawaii's nearshore coral reefs.

Numerous studies have shown that oxybenzone in the marine environment can be harmful to coral reefs and marine life (Kim et al. 2014; Kim & Choi 2014; Tsui et al. 2014; Downs et al. 2015). These studies clearly indicate that oxybenzone poses a risk to fishes, through endocrine disruption and reproduction performance, for example, and to hard corals through bleaching. These threats are heightened in marine recreational areas frequented by beach goers, swimmers, snorkelers and divers whose sunscreen washes off when they enter the water.

It has been estimated that 4,000 – 6,000 tons of sunscreen enters coral reef areas around the world annually (U.S. National Park Service). Surveys around Hawaii's coral reefs found oxybenzone levels at concentrations 12 times higher than the level at which it impacts juvenile coral (Downs et al. 2015).

The unprecedented coral bleaching events of 2014 and 2015 had devastating effects on Hawaii's corals. A 2016 report by The Nature Conservancy found of 32 – 90% of bleached coral colonies died in some West Hawaii areas. Though oxybenzone may be just one of many stressors impacting Hawaii's coral reefs, the inevitability of future ocean warming events and subsequent coral bleaching makes it imperative to reduce the stressors to corals and increase their potential to recover and survive.

HSUS and HSI sincerely thank the Committee for taking up this important matter. ***We urge the Committee to pass SB1150 SD2*** which will help reduce oxybenzone pollution and harm to Hawaii's coral reefs and wildlife.

Thank you for this opportunity to provide testimony.

HAWAII FOOD INDUSTRY ASSOCIATION

Executive Officers:
John Erickson, Young's Market Company –Chair
Beau Oshiro, C&S Wholesale – Vice Chair
Toby Taniguchi, KTA Superstores – Secretary/Treasurer
John Schilf, Rainbow Sales and Marketing - Advisor
Stan Brown, Acosta – Advisor
Paul Kosasa, ABC Stores – Advisor
Barry Taniguchi, KTA Superstores – Advisor
Derek Kurisu, KTA Superstores – Immediate Past Chair
Lauren Zirbel, Executive Director

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TO: COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION
Representative Chris Lee, Chair
Representative Nicole E. Lowen, Vice Chair

FROM: HAWAII FOOD INDUSTRY ASSOCIATION
Lauren Zirbel, Executive Director

DATE: Thursday, March 16, 2017
TIME: 8:30 a.m.
PLACE: Conference Room 325

RE: SB1150, SD2 (Oxybenzone Use)

Position: Comments

The Hawaii Food Industry Association is comprised of two hundred member companies representing retailers, suppliers, producers, and distributors of food and beverage related products in the State of Hawaii.

HFIA believes more research needs to be done prior to passing a law banning the use of oxybenzone, a leading ingredient in sunscreen, which has been shown to protect against harmful UVA & UVB radiation. This FDA-approved and dermatologist recommended ingredient has been used commercially since 1980 to protect against skin damage and skin cancers, such as melanoma and squamous skin cell carcinoma.

Although some claim that zinc is better for coral reefs, no concrete evidence exists for this claim. We believe a prohibition on oxybenzone is extremely premature, given that scientists are still monitoring and assessing the effects of climate change on oceans and marine life and overwhelming evidence shows that global warming causes coral bleaching. Coral bleaching is occurring in areas with very little human interaction, thus very little sunscreen exposure. The body of evidence on coral bleaching does not support blaming coral bleaching on sunscreen.

More study is needed. As such, we would oppose amending this bill to ban the sale of this cancer-preventing product. At a minimum we should wait for studies conducted in the open ocean to come back before further action is taken. There is a bill to study the effects of oxybenzone moving this year. Hawaii is the only state in the USA to introduce legislation on oxybenzone. Once more research is conducted in the natural environment we will have more evidence to make an informed decision. Please

don't rush into this extreme action without proper research. A higher bar must be met when dealing with cancer prevention.

Sunscreen is a first line of defense for those seeking protection from the sun's cancer causing UV rays. Given that oxybenzone is found in an estimated 80 percent of sunscreens, banning its use in Hawaii will drastically reduce the selection of sunscreen products available to residents and visitors. The combination of reduced choice and less effective products could have the dangerous consequence of individuals using less protective sunscreens or worse, no longer using sunscreen, thereby causing more skin damage and potentially increasing skin cancer rates.

Oxybenzone Background

Oxybenzone is a safe and effective ingredient found in some of the most popular sunscreens and lotions on the market today. It is a sunscreen ingredient that protects users from both ultraviolet A (UVA) and ultraviolet B (UVB) rays that often contribute to skin cancer.

In addition to avoiding sun exposure and covering up when in direct sun light, sunscreens are a vitally important tool for individuals seeking to protect their skin against sun damage and to reduce the risk of America's most common cancer – melanoma. Oxybenzone containing sunscreens also protect against other forms of skin cancer. Some popular sunscreen products containing oxybenzone include: Coppertone, ChapStick, Blistex, Hawaiian Tropic Lotion Sunscreen, Aveeno Moisturizing Lotion, SoftLips Cube, Neutrogena lotions and sunscreen.

The Food and Drug Administration (FDA) has approved 16 sunscreens, of which only 2 provide effective UVA protection. Oxybenzone has been widely used in sunscreens for decades and is effective in screening against UVB rays which are associated with sunburns, especially in areas near the equator and with high elevations, such as some areas in the Hawaiian Islands.

Cumulative exposure to UVA and UVB rays is known to cause skin cancer so it is important to use sunscreens that protect against both – like oxybenzone. The FDA acknowledges the research that shows sunscreens aid in decreasing the risk of developing skin cancers and early skin aging.

The Impacts of Skin Cancer

Over 5 million cases of non-melanoma skin cancer are treated in more than 3 million Americans every year. Every year there are more cases of skin cancer than the combined incidents of breast cancer, prostate cancer, lung cancer, and colon cancer combined.

Over the last 30 years, more people have experienced skin cancer than all other cancers combined. One out of five Americans will develop skin cancer in their lifetime. One person dies of melanoma every hour. Melanoma, which is largely caused by sun exposure, accounts for less than 1 percent of skin cancer cases, but results in the vast majority of skin cancer deaths. A person's risk of melanoma doubles if he or she has had more than five sunburns.

Hawaii has about 200 new cases of melanoma a year, and about 20 people die from it annually. Hawaiian tourism is one of the state's largest industries, and these numbers do not include cases observed amongst those visitors.

Oxybenzone And The Environment

The exposure of the environment to cosmetic and personal care products is relatively low compared to contaminants from other industrial sectors. There is no scientific evidence that sunscreen ingredients, including oxybenzone, contribute to the decline of native coral reef colonies. **According to the U.S. National Oceanic and Atmospheric Administration's (NOAA) Coral Reef Conservation Program, coral reefs are threatened by an increasing array of impacts – primarily from global climate change, unsustainable fishing and other factors. Increasing ocean temperature and acidification, overfishing, coastal development and pollution are well known stressors on coral reefs.** They may induce coral bleaching, a process by which corals lose their symbiotic microalgae.

Ultimately, corals may die when these stressful environmental conditions last too long. Weakened corals, more susceptible to infectious diseases, show poor resilience from episodic bleaching events. Some studies have reported that certain UV filters contained in sunscreens lotions and washed off by swimmers, could contribute to coral bleaching. Studies have shown that five weeks of chronic exposure to these UV filters at concentrations above those reported in natural sea waters, did not induce coral bleaching nor reduce the photosynthetic efficiency of the symbiotic micro-algae.[1]

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[1] 26th Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), conducted at La Cité Nantes Congress Center in Nantes, France, from 22 - 26 May 2016

Predictive laboratory methodology to assess coral bleaching: application to UV filters

J. Fel, LOréal Research & Innovation, Aulnay-sous-Bois, France / Environmental Research; M. Leonard, lOREAL SA

Increasing ocean temperature and acidification, overfishing, coastal development and pollution are well known stressors on coral reefs. They may induce coral bleaching, a process by which corals lose their symbiotic microalgae (zooxanthellae). Ultimately, corals may die when these stressful environmental conditions last too long. Weakened corals, more susceptible to infectious diseases, show poor resilience from episodic bleaching events. Some studies have reported that certain UV filters (mostly 4-methylbenzylidene-camphor, benzophenones and octylmethoxycinnamate) contained in sunscreens lotions and washed off by swimmers, could contribute to coral bleaching. Media took it for granted and suspicion has been extended to all organic UV filters present in sunscreens products. The present study was aimed at clarifying the potential effect that organic UV filters (such as Avobenzone, Octocrylene, Terephtalylidene-dicamphor sulfonic acid, Silatrizole, etc…) may have on different coral species. Two herbicides (Monuron and Diuron) were used as positive references. First a preliminary laboratory screening test was developed to assess potential adverse effect of short exposure (48h) to elevated concentrations (from 1 to 100 mg/L) of the compounds. As a sublethal endpoint predictive of coral bleaching, chlorophyll photosynthetic efficiency of the symbiotic micro-algae (zooxanthellae) was monitored with PAM (Pulse Amplitude Modulated) fluorimetry on nubbins of hard coral species *Seriatopora caliendrum* and *Styllophora pistillata* In a second step, coral nubbins of *Styllophora pistillata* (hard coral) and *Turbinaria reniformis* (soft coral) were exposed for 5 weeks at lower concentrations in 15 liters aquariums, under semi static conditions with weekly solution renewal. **A specific analytical methodology was developed, combining automated solid phase extraction with UPLC-UV detection, to monitor the compounds concentrations in sea water and analyze large number of samples. 5 weeks of chronic exposure to these UV filters at concentrations above those reported in natural sea waters, did not induce coral bleaching nor reduce the photosynthetic efficiency of the symbiotic micro-algae.**

A higher standard of evidence must be met before the legislature bans products that provide a convenient way for individuals to wear sunscreen every day to prevent skin cancer. Oxybenzone is an extremely effective ingredient that rubs in clear and is contained in over 80 percent of consumers' favorite everyday choices for sunscreen.

Thank you for the opportunity to testify.

Haereticus
Environmental Laboratory

P.O. Box 92
Clifford, Virginia 24533 U.S.A.
Email: haereticus1@hughes.net
Phone/Fax: 434-263-5740
www.haereticus-lab.org

March 15, 2017

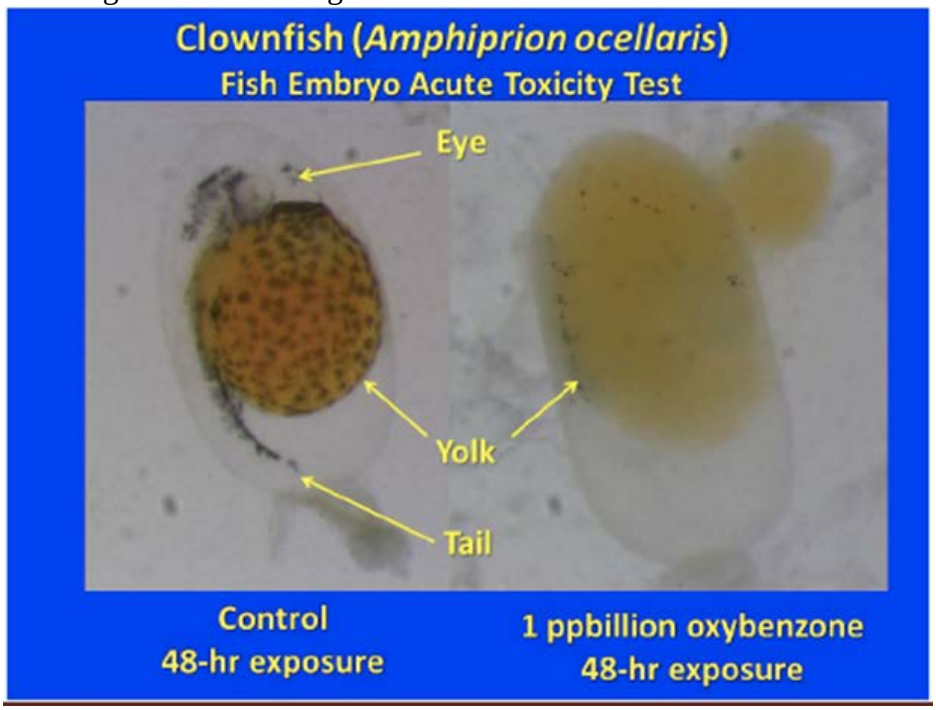
To:

Chairman Rep. Chris Lee & Rep. Committee Members
Committee on Energy & Environmental Protection
State of Hawai'i House of Representatives, The Twenty-ninth Legislature

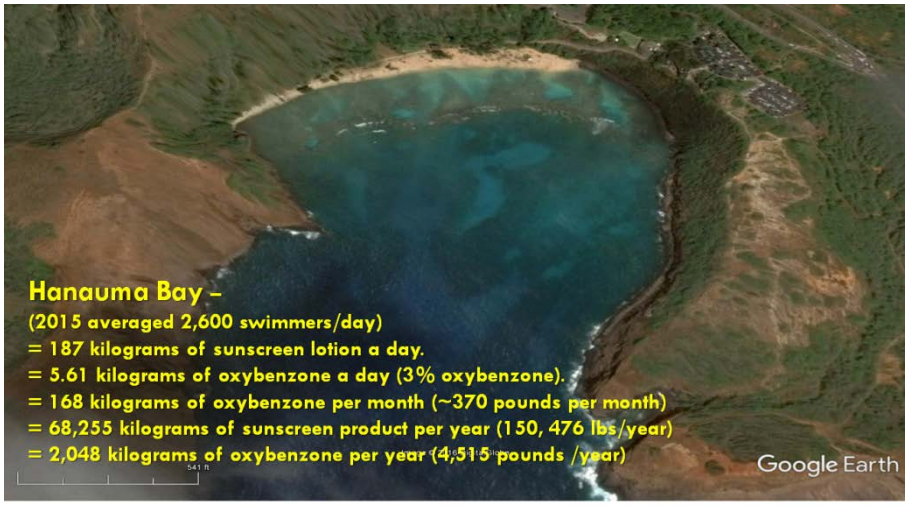
Dear Chairman Lee and the Committee Members,

I was the lead scientist who co-authored the scientific paper in Archives of Environmental Contamination and Toxicology regarding the impact of oxybenzone on coral planula and oxybenzone contamination along the coasts of Hawai'i and the U.S. Virgin Islands. I am also a graduate of the John A. Burns School of Medicine at the University of Hawai'i at Mānoa.

I am very excited that you will be hearing SB1150 SD2 in your committee. Preventing oxybenzone pollution of coral reefs is critical in protecting and bringing back Hawaii's already degrading coral reefs. We now know that oxybenzone impacts not only coral larvae and recruitment, it impacts other important species, such as shrimp, fish, and sea urchins. Already, popular tourism areas in Hawaii that were teaming with life only 20 years ago have become an underwater-wasteland. We see oxybenzone contaminating not just Hawaii's coastal waters, but the fish that we eat that are caught in Hawaiian waters. Preventing oxybenzone pollution is an important tool to help bring back coral and marine life. Coral reefs are valued not just by residents, but tourists and the businesses that depend on the underwater paradise of Hawai'i. The image below is what 1 part per billion OXYBENZONE can do to a fish embryo in 48 hours! This concentration can be seen soon after high tide in areas along Maui's West Coast and in many popular swimming areas/reefs along the coasts of Oahu and Kauai.



The amount of sunscreen that is going into Hawaiian waters is much more than most people would guess. Just an estimate on the number of visitors to a site, and what the American Dermatological Association recommends for the amount of sunscreen use per person for every two hours – the amounts estimated to pollute our waters are staggering, and are consistent with the amount we scientifically determined for Oahu, Maui, and Kauai! (see http://www.hawaiioceanambassadors.com/events--projects)



You will be receiving SB1150, SD2 and it currently states that it "prohibits the use or application of products containing oxybenzone while on a beach or in the ocean unless it is a prescription drug." Though we support the SPIRIT of this legislative language, we cannot support its consequences. Such adverse consequences will remove the onus of responsibility from the cosmetic industry and its associated D.C. lobby groups, and places it directly onto locals, tourists and businesses that interact directly with tourism. **THIS IS WRONG.**

We strongly encourage this committee to amend the bill to "**PROHIBIT THE SALE**" of oxybenzone products, similar to the language found in SB260, allowing for a medical prescription to be used. We know that public health is important, and we don't see a trade-off in protecting both public health and wildlife. There are ample commercial sunscreen products that contain safer active ingredients than oxybenzone, and that these products are sold by the super-majority of manufacturers that distribute their products in Hawaii (e.g., Avene, L'Oreal, Coppertone, Banana Boat, Neutrogena). These safer products all comply with U.S. Food & Drug Administration's regulations on SPF values and UV protection and are cost-competitive to oxybenzone products.

We understand this issue is critical and that it has brought national and international attention to Hawaii. Just from looking at previous testimonies, the D.C. Lobby groups are using the same tactics and slogans used during the Tobacco Wars. We ask that you ignore the influence of D.C. lobby groups whose goal is to profit its members, and consider the health and well-being of Hawaiians and their highly valued and imperiled natural marine resources.

Ua Mau ke Ea o ka Aina i ka Pono

Craig A. Downs, Ph.D.
Executive Director

UNIVERSITY OF CENTRAL FLORIDA

Dr. John E. Fauth | John.Fauth@ucf.edu

March 9, 2017

Dear Honorable Members of the Hawai'i Legislature:

I am a co-author of the scientific paper that demonstrated the damaging effects of oxybenzone on corals[i] and I urge you to ban the nonprescription sale and use of sunscreens and cosmetic products containing this ingredient.

Oxybenzone damages corals in five different ways. Oxybenzone causes

1. DNA damage

2. cell death

3. deformities in coral larvae

4. coral bleaching, which is a disease

5. increased susceptibility to viral infections.[ii]

Significant negative effects occur when corals are exposed to minute concentrations of oxybenzone (in the part per billion to part per trillion range), including concentrations lower than those observed on popular Hawaiian beaches. All published scientific evidence agrees: oxybenzone damages corals and other marine life. **I personally do not use sunscreens that contain oxybenzone and I urge my family, friends and colleagues not to use them, either.**

Fortunately, almost every major sunscreen manufacturer has a product that uses safe and effective ingredients such as zinc oxide and titanium dioxide instead of oxybenzone. Lightweight beach clothing such as hats, rash guards, fishing shirts and sundresses also provide protection against UV radiation. When Dr. Craig A. Downs and I did our initial field work in the US Virgin Islands[iii], to ensure we were clean, we showered with a harsh laboratory soap and were not allowed to use any personal care products: no sunscreen, no deodorant, no lotion – nothing.

Department of Biology, 4000 Central Florida Boulevard, Orlando, Florida 32816 USA

Office: 407-823-1661 | http://biology.cos.ucf.edu/faculty/john-fauth/

We expected to endure a smelly and sunburned week lugging our SCUBA gear and scientific equipment all over St. John, but that did not happen. Instead, wearing hats and loose-fitting clothing while on land (and working in the shade whenever possible) and lightweight dive skins in the water was sufficient protection. This is an especially good combination for tourists from higher latitudes visiting the tropical shores of Hawai'i.

As a scientist who believes in solving problems, I urge you to ban both the sale and use of sunscreens, sun block and cosmetic products containing oxybenzone. All waters in Hawai'i eventually drain to the ocean, so even sunscreens applied and washed off at home eventually will reach the ocean. A sales ban will be more effective and easier to enforce, and **clever vendors actually could increase sunscreen, sun block and cosmetic sales by offering a discount to any customer who turns in a product containing oxybenzone.**

I spent my honeymoon on O'ahu and Kaua'i, and returned with warm memories of beautiful islands, vibrant marine life and welcoming people. Passing legislation to ban the nonprescription sale and use of sunscreens and other products containing oxybenzone will help ensure that future generations of honeymooners and tourists return with similar memories . . . and perhaps with a new bottle of sunscreen containing safer active ingredients! I urge you to amend SB 1150 to include both a ban on nonprescription sale and use of sunscreens, sun block and other cosmetics containing oxybenzone, and to pass this legislation that is so important for protecting Hawai'i's coral reefs.

Sincerely,

John E. Fauth

John E. Fauth, Ph.D.

Associate Professor of Biology

[i] Downs, C.A., E. Kramarsky-Winter, R. Segal, J. Fauth, S. Knutson, O. Bronstein, F. R. Ciner, R. Jeger, Y. Lichtenfeld, C.M. Woodley and P. Pennington. 2016. Toxicopathological effects of the sunscreen UV filter, Oxybenzone (Benzophenone-3), on coral planulae and cultured primary cells and its environmental contamination in Hawaii and the US Virgin Islands. Archives of Environmental Contamination and Toxicology 70(2):265-288.

Department of Biology, 4000 Central Florida Boulevard, Orlando, Florida 32816 USA

Office: 407-823-1661 | http://biology.cos.ucf.edu/faculty/john-fauth/

[ii] Danovaro, R., L. Bongiorni, C. Corinaldesi, D. Giovannelli, E. Damiani, P. Astolfi, L. Greci, and A. Pusceddu. 2008. Sunscreens cause coral bleaching by promoting viral infections. Environmental Health Perspectives 116(4):441-447.
[iii] Downs, C.A., C. M. Woodley, J. E. Fauth, S. Knutson, M.M. Burtscher, L.A. May, A.R. Avadanei, J.L. Higgins, and G.K. Ostrander. 2011. A survey of environmental pollutants and cellular-stress markers of *Porites astreoides* at six sites in St. John, US Virgin Islands. Ecotoxicology 20:1914-1931.

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McMaster University

School of Geography
and Earth Sciences

1280 Main Street West
Hamilton, Ontario, Canada
L8S 4K1

To:
Chairman Rep. Chris Lee and Committee Members
Committee on Energy and Environmental Protection
State of Hawaii

From:
Dr. Michael J Risk
Durham ON Canada

Date: Mar. 15, 2017

Re: Oxybenzone.

Dear Chairman Lee:

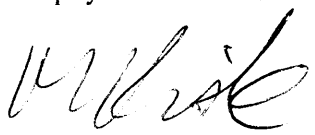
I am a coral reef ecologist, with many years of experience in the Pacific. To date, my work has been cited almost 8000 times in the scientific literature. I have been to Hawaii several times, as a guest of your federal government. I have been greatly impressed by the mind-boggling bounty of beauty in this state. It would seem to me to be sensible to preserve what you have.

I try to keep up with recent science, and to those of us who know the literature, it is absolutely no secret that oxybenzone is a coral killer. The damaging effect on coral larvae can be seen at unbelievably low concentrations. Not only that, oxybenzone is incorporated into the food chain so that it contaminates human food.

The use of this compound in sunscreen can no longer be defended. Many companies produce more reef-friendly products at competitive prices. The only reason to continue with this compound is: greed.

I understand you will be reviewing legislation called SB1150 SD2 in your committee. This would be a good start, but as worded, it prohibits the use of, rather than the sale of. With the scientific picture being so clear, it would make much more sense simply to ban the sale of any products containing oxybenzone in the state of Hawaii.

It is interesting that this struggle has reached around the world. Globally, coral reefs are in terrible shape, under threat from a host of sources. Removing this one threat would be easy to do, and would send a message. I hope you understand that I am not interfering here, I am commenting as a concerned scientist.



MJRiskEnvironmental Ltd.
PO Box 1195, Durham ON
Canada

Support SB1150 SD2

Amend to Ban the SALE of Oxybenzone

March 15, 2017

Dear Chairman Lee and the Committee Members,

I recently learned of your interest in the negative effects of sunscreens that contain Oxybenzone and other chemicals that have recently been shown to affect corals and especially their all-important larvae. I am a Florida native and have been studying coral reefs since the 1950s. I retired from the USGS in 2006 and am now affiliated with the University of South Florida College of Marine Science in St. Petersburg, Florida. I have published many peer-reviewed papers on the geology and growth rates of corals in the Florida Keys.

The studies by Dr. Craig Downs and others showing the toxicity of sunscreens to corals was a real eye-opener since I have been documenting the demise of coal reefs in the Florida Keys for more than 60 years. Initially I assumed the problems were cause by sewage, which is disposed of in septic tanks and shallow injection wells. My studies while with the USGS also demonstrated that sewage contaminated groundwater flows seaward in the Florida Keys and upwells offshore in the vicinity of our coral reefs. Unfortunately these reefs are now mostly dead but were alive and well when I began diving and researching these reefs in the 1950s. During that time I was not aware that Oxybenzone in addition to nutrients is also a component of Keys wastewater. The studies by Dows and his colleagues made me aware that in addition to sunscreen those toxic chemicals can be found in many cosmetic products that ultimately go down the drain when tourists and residents bath. Those chemicals quickly become components of the wastewater that upwells offshore where they filter through our dying coral reefs. This path of delivery to the reefs has not been adequately considered before but is yet an additional way Oxybenzone reaches coral reef areas. And of course there are the tourist swimming on these reefs often producing an oily slick on the water surface.

Because of these observations I encourage you to ban the sale of Oxybenzone containing products if you wish your reefs to recover to their former health condition.

Sincerely,

Eugene A. Shinn PhD

COLLEGE OF MARINE SCIENCE
eugeneshinn@mail.usf.edu

March 15, 2017

Dear Chairs Chris Lee, Nicole Lowen, and
Members of the Committee on Energy and Environmental Protection,

As an aquarist and researcher at the National Aquarium, I was one of the co-authors the scientific paper in Archives of Environmental Contamination and Toxicology regarding the impact of oxybenzone on coral planula and oxybenzone contamination along the coasts of Hawai'i and the U.S. Virgin Islands. I now am working with SEA LIFE Aquariums and the SEA LIFE TRUST.

Research concludes that oxybenzone can have detrimental effects to all marine life, including changes in fish behavior, pathological changes to fish sexual identity, damage to genomic and DNA integrity, and may suppress restoration of coral reefs by preventing juvenile corals to recruit into an area that is polluted by oxybenzone.

There are many other ways to protect skin from the damage of the sun and passing a ban on the sale of products containing oxybenzone (unless it is a medical prescription by a medically licensed physician) can effectively reduce the oxybenzone entering the ecosystems.

The SEA LIFE TRUST and I support SB 1150, SD2 and it being amended to "Prohibit the Sale of Oxybenzone products unless a medical prescription", as being an effective means in reducing oxybenzone pollution.

Respectfully submitted,

Kelli Cadenas
Curator
SEA LIFE Michigan

AMEND SB 1150, SD2

PRESERVING CORAL REEFS BY PROHIBITING THE SALE OF OXYBENZONE-CONTAINING PRODUCTS!

March 15, 2017

Aloha Chairs and Members of the Committee:

On behalf of the team here at Hawaii Mermaid Adventures operating in the beautiful waters of Maui, WE STRONGLY ASK that you amend Senate Bill 1150, SD2 to a ban on the sale of sunscreen and products that contain oxybenzone.

The growing numbers of visitors are having an impact on the reef systems. Every step we can make to improve the life of our single greatest visitor attraction and lifeblood of Hawaii we must take.

The coral reefs, and our businesses, do not have the luxury of time for half measures or political indecision. Our reefs are disappearing NOW, and we need to protect them so they can restore themselves.

Our team is committed to doing the right thing and we will strongly support everyone who understands the importance of saving our reefs from these and other harmful chemicals.

Mahalo,

Lila Jones
Head Instructor

Hawaii Mermaid Adventures | 27-D Halekuai St, Kihei, HI 96753 United States (US)
https://hawaiimermaidadventures.com

Strongly Supporting Amendment to SB1150 Banning the SALE of Oxybenzone Products

March 15, 2017

Aloha Chairs and Members of the Committee:

On behalf of myself and the entire team at Hawaiian Paddle Sports we strongly support the amending SB1150, SD2 to "**PROHIBIT THE SALE**" of oxybenzone products, similar to the language found in SB260, allowing for a medical prescription to be used.. Oxybenzone products must be banned in Hawaii and across the US as they are harming our reef systems.

Only a complete ban on these types of sunscreens will be acceptable.

Our employees depend on the income derived from a healthy prosperous reef. Visitors come all the way to Hawaii to have a quality reef experience. We must continue to provide help, improve and protect that which we all hold so dear.

Please support and amend SB1150, SD2 as a "BAN on SALES" and make it known that Hawaii is at the forefront of eco-friendly and sustainable tourism efforts worldwide.

Mahalo,

Tim Lara
Owner

Hawaiian Paddle Sports - Maui Ocean Activities | 27 Halekuai St., Kihei, HI 96753 |(808)442-6436
https://hawaiianpaddlesports.com

Strongly Supporting SB 1150 SD2 But to Amend as a Prohibition of Sale

March 15, 2017

Aloha Chairs and Members of the Committee:

On behalf of all our employees at Maui Kayak Adventures we strongly urge you to support the bill SB 1150SD2, but please amend this legislation so that is more closely resembles SB260 or HB818 v2, which is the **Prohibition of sale of oxybenzone products unless a medical prescription**. Ban oxybenzone sunscreen across Hawaii and give our reefs another chance to survive.

The reefs are under siege from a variety of human and natural events. This is one simple thing we can do to help it withstand the assaults. Our organization is taking proactive steps to teach guests about the harms they can do to our precious reefs. Reef Safe Sunscreen is part of that lesson.

None of the other bills goes far enough to really impact the health of our reefs. Support A Ban on Sales to make Hawaii a tourism leader. There are a large number of FDA-approved sunscreen products that can be used instead of oxybenzone-containing products. Banning oxybenzone products is NOT a compromise between people's health and well-being, and the conservation and restoration of Hawaii's precious coral reefs. Our coral reefs are disappearing, and we don't need half measures that are not effective in protecting our coral reefs!

Mahalo,

Kathi Sollars
Manager

Maui Kayak Adventures , 551 S Kihei Rd Kihei, HI 96753 United States (US)
https://mauikayakadventures.com

Amend SB 1150 SD2 to
Prohibit the Sale of Oxybenzone Products!

March 15, 2017

Aloha Chairs and Members of the Committee:

We strongly support an amendment of SB1150 SD2 to "**PROHIBIT THE SALE of oxybenzone products**" for a number of reasons:

1. Banning oxybenzone which harms marine life and disrupts reef activity causing damage.

2. The success of SB1150, SD2 will bring to light on a national level the state of our environment and immediately put Hawaii in the forefront of tourism worldwide.

3. The educational opportunities from this ban will afford can also greatly improve other aspects of the tourism and go far to repair the relationship residents of the islands have with tourism.

4. It shows respect to the Hawaiian culture that cared for the reefs and managed them for hundreds of years.

5. It gives the residents of Hawaii confidence that their government is making the right decisions for the good of the reef. Now more than ever we need confidence in our lawmakers to stand up and do the right thing.

6. Our clients depend on beautiful reefs for paying tours. Increasing Average Daily Rates without adding more visitors are dependent on a healthy reef to show off. We need to make all investments in it we can.

Please give your full support to amending SB1150 as a BAN on the sale of oxybenzone products!

Mahalo,
Daniel Logtenberg
President

Maui Marketing - Wailuku, HI, 96793 - (808) 633-1739 - info@mauimarketing.com
https://www.mauimarketing.com

Do The Right Thing Support Sb 1150

March 15, 2017

Aloha Chairs and Members of the Committee:

We are writing to you today to encourage you to consider SB 1150, SD2 by amending the bill and change it from a “ban on the beach” to “**PROHIBIT THE SALE**” of oxybenzone products, similar to the language found in SB260, allowing for a medical prescription to be used.

Coral reefs are degrading all over coast of Hawaii. More importantly, the reefs that sustain tourism in Maui has been a precipitous decline in the past 15 years. We know there are many factors causing their decline, but a healthy system can bounce back quickly. Removing oxybenzone pollution from our coastal waters gives the reefs a chance to heal, and become a beautiful place for both locals and tourists. Tourism depends on having a beautiful reef and it’s under attack from multiple angles. Sunscreen is one of them.

You only have to look under a big boat that drops people off at Turtle Town to see the clouds of non-reef-safe sunscreen drifting thru the water.

We are asking that you do the right thing for our environment and the marine life which so many visitors come to see.

Mahalo,

Laurie Pyle
Head Guide

Maui Stand Up Paddle Boarding | 27-B Halekuai St. Kihei Hawaii 96753 | (808)568-0151
https://mauistanduppaddleboarding.com

Please Amend SB 1150 SD2

To Ban the SALE of Oxybenzone Products

March 15, 2017

Aloha Chairs and Members of the Committee:

On behalf of myself and the entire team at Maui Surf Lessons we strongly encourage and support amending of SB 1150, SD2 to BAN the SALE of Oxybenzone products, unless . Oxybenzone products must be banned in Hawaii and across the US as they are harming our reef systems.

Only a complete ban on these type of sunscreens will be acceptable. Labeling products as dangerous will not be effective!

Our employees depend on the income derived from a healthy prosperous reef. Visitors come all the way to Hawaii to have a quality reef experience. We must continue to provide help, improve and protect that which we all hold so dear.

Please amend SB 1150 and make it known that Hawaii is at the forefront of eco-friendly and sustainable tourism efforts worldwide.

Mahalo,

Tim Lara
Owner

Maui Surf Lessons LLC , 27-C Halekuai St. Kihei Hi 96753 United States (US) | (808)442-7252
https://mauisurflessons.com

Valley Isle
EXCURSIONS

We Strongly Support SB 1150

March 15, 2017

Aloha Chairs and Members of the Committee:

We strongly support any effort that improves the health of our reef systems. A healthy reef improves all water activities, provides for more fish and habitat for many endangered species. You must support a full ban on oxybenzone containing sunscreens and skincare products. The livelihood of thousands in the tourism industry are at stake and we trust that you will do the right thing and hear SB1150 SD2.

Though we support the SPIRIT of this legislative language, we cannot support its consequences. Such adverse consequences will remove the onus of responsibility from the cosmetic industry and its associated D.C. lobby groups, and places it directly onto locals, tourists and businesses that interact directly with tourism. **THIS IS WRONG.**

We strongly encourage this committee to amend the bill to "**PROHIBIT THE SALE**" of oxybenzone products, similar to the language found in SB260, allowing for a medical prescription to be used. We know that public health is important, and we don't see a trade-off in protecting both public health and wildlife.

No other bill out there does enough to protect our primary industry driver from sunscreen and skin care products that utilize harmful chemicals. Many of these products are not made in the islands and banning them will only encourage a larger local industry where the profits stay in Hawaii.

Make Hawaii known throughout the world as the top tourism destination in the world and the best place to live by amending SB1150 to "**PROHIBIT THE SALE" of oxybenzone products.**

Yours,

Ray Hutaff
Vice President

Studies show oxybenzone sunscreens harm our health and that of our coral reefs. We can no longer ignore the studies, nor the reality of what's happening in our coastal waters. The reefs are dying, the sea life is contaminated.

Our near-shore reefs equate to around a billion dollars a year. Their failure could be an economic disaster in our not-so-distant future (parts of the Caribbean wish they'd banned oxybenzone and other hormone disruptors much sooner; some marine reserves in Mexico ban the sale, use and even confiscate sunscreens that contain *any* of the ingredients on the DLNR Ahihi-Kinau Natural Area Reserve list. How is it that even parts of Mexico have figured this out?). Are we too busy selling out for tourist money now, at the expense of future generations.

If we don't change our ways, have we calculated how much the necessary restoration will eventually cost? Will it even be possible? They're spending millions in Florida… unfortunately they're learning you can't restore if the cause is still in effect! Restoration in oxybenzone filled waters, for corals, sea urchin, it's just not possible. Their DNA is damaged, their sperm count is zero. We are just getting a peek at what it's doing to larger fish and mammals. Some people point blank have stopped eating local fish because they know they're filled with sunscreen chemicals. What will this reality eventually do to local restaurants. How is this damaging our fisheries. People already complain there's no more fish when they swim / snorkle. Boats are going out furture, and dumping visitors lathered in sunscreen at any area with some sign of life they can find… til those areas die off as well.

This issue is getting attention globally and people are looking at Hawaii to make a stand. We support the spirit of this legislation, though we believe amending it to include banning the sale of oxybenzone will make a stronger statement, that can resonate, and truly effect positive change. If we were able to figure out a plastic bag ban, I imagine we can figure out the logistics for oxybenzone. The corporate brands have known for years this day was coming, they all have oxybenzone-free formulas. And of course, there are many quality alternatives that contain no toxic chemicals or endocrine disruptors in the first place. That don't come in the form of atomized chemical sprays, which greatly effect the quality of life - the air we breathe - for everyone who likes to go to the beach. They dont come off the second you enter the water. They're not filled with UV filters that get absorbed into the skin, and pissed out, and make their way right into the ocean (even if you never get in the water).

We appreciate your efforts to represent the people of Hawai'i and that you will **vote yes on bill SB1150** and help protect human health, corals, and sea life. Mahalo!

Wil McClaren. Ban Toxic Sunscreens.

SIERRA CLUB OF HAWAI'I
MĀLAMA I KA HONUA. Cherish the Earth.

HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Thursday, March 16, 2017 8:30 AM Room 325

In SUPPORT SB 1150 SD2 Relating to the Environment

Aloha Chairman Lee and members of the House Energy & Environmental Protection Committee,

On behalf of our 20,000 members and supporters the Sierra Club of Hawai'i strongly supports SB 1150 SD2, which seeks to ban the use of any sun protectant that contains oxybenzone on Hawai'i's beaches. Oxybenzone is a chemical UV filter that is added to nearly 70 percent of non-mineral sunscreens[1] and commonly washes into our oceans when applied at the beach, harming our coral reef ecosystems.

Oxybenzone damages coral DNA and inhibits its ability to reproduce, causes deformities on the coral, makes coral more susceptible to bleaching, and initiates endocrine disruption.[2] These pathologies can occur at concentrations as low as 62 parts per trillion, but some beaches in Hawai'i have oxybenzone levels higher than 700 parts per trillion[3], a major concern when our reef system annually generates about $800 million in gross revenues.[4]

Panels held at the International Union for the Conservation for Nature (IUCN) and International Coral Reef Symposium (ICRS) in Honolulu have both suggested that Oxybenzone is toxic to corals and urge that we stop using these products[5].[6] The State's Department of Land and Natural Resources is also asking people who enter the ocean to avoid using sunscreens which contain oxybenzone.[7]

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[1] http://www.ewg.org/sunscreen/report/the-trouble-with-sunscreen-chemicals/

[2] Downs CA, Kramarsky-Winter E, Segal R, et al. Toxicopathological Effects of the Sunscreen UV Filter,Oxybenzone (Benzophenone-3), on Coral Planulae and Cultured Primary Cells and Its Environmental Contamination in Hawaii and the U.S. Virgin Islands. *Arch Environ Contam Toxicol* 2015 Oct 20. doi: 10.1007/s00244-015-0227-7.

[3] http://www.marinesafe.org/blog/2016/05/12/how-sunscreen-is-putting-coral-reefs-at-risk/

[4] http://www.hawaii.edu/ssri/cron/files/econ_brochure.pdf

[5] http://www.civilbeat.org/2016/09/drop-the-oxybenzone-or-stop-swimming-in-hawaiian-waters/

[6] http://www.honolulumagazine.com/Honolulu-Magazine/June-2016/Your-Sunscreen-Might-Be-Killing-Coral-Reefs-in-Hawaii/

[7] http://governor.hawaii.gov/newsroom/latest-news/dlnr-news-release-ocean-users-urged-to-use-reef-safe-sunscreens/

While these voluntary, educational efforts to curb the usage of these products are commendable, an effective way to prevent these chemicals from entering our waterways is to pass SB 1150 SD2 and ban the use of sun protectants containing oxybenzone on the beaches of Hawai'i. Additionally, we suggest that further amendments be made that ban the sale, offer for sale, or distribution of these products. Many visitors purchase sunscreen once they arrive to the islands and this bill ensures that Oxybenzone and other reef harming chemicals will not be sold in the State. Therefore, the ban will encompass both the use of oxybenzone-containing sun protectants as well as their sale on the islands.

Although there are many causes of reef degradation, SB 1150 SD2 provides a sensible opportunity to help maintain the economic, ecological, cultural, and recreational value of Hawai'i's reef systems. No one likes to see a film of floating chemical-laden sunscreen on our beaches. Banning oxybenzone protects our vulnerable reef ecosystems from toxic products and promotes the usage of reef-safe sunscreens that are mineral, not chemical based.

Thank you very much for this opportunity to provide testimony on this important issue.

Mahalo,

Martha Townsend
Director

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, March 14, 2017 10:06 PM
To: EEPtestimony
Cc: lisa.fohb@gmail.com
Subject: Submitted testimony for SB1150 on Mar 16, 2017 08:30AM

SB1150
Submitted on: 3/14/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Lisa Bishop	Friends of Hanauma Bay	Support	No

Comments: 14 March 2017 Lisa bishop President Friends of Hanauma Bay (808) 748-1819 Testimony for the Committee on Energy & Environmental Protection Hearing date 16 March 2017 at 0830 Measure number: SB1150 SD2 Aloha Chair Lee and other distinguished Committee members, Respected studies show sunscreens and other personal care products containing oxybenzone are harmful to not only our health, but that of our fragile coral reefs. We can no longer ignore the studies nor the reality in our coastal waters: the reefs are dying, the sea life is contaminated, and we may very soon reach the point where recovery is impossible. This issue is receiving global attention. Hawaii, a proud state in the middle of the Pacific Ocean that honors and relies so heavily on the marine environment that surrounds it, should lead the way in minimizing or banning the use of these reef-toxic products. There are readily available reef-safe alternatives to oxybenzone. We support the intent of this legislation, but are concerned that it will not be enforceable. So we urge that it be made stronger and enforceable by also banning the sale of sunscreen, sunblock or cosmetic containing oxybenzone unless the sunscreen, sunblock or cosmetic is a prescription drug. The time is now. Hawaii residents embrace this opportunity to preserve and protect our marine environment.

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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To: EEPtestimony
Cc: octopus@maui.net
Subject: *Submitted testimony for SB1150 on Mar 16, 2017 08:30AM*

SB1150
Submitted on: 3/14/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Rene Umberger	For the Fishes	Support	No

Comments:

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NAPILI
Bay and Beach Foundation

PO Box 10823
Lahaina, HI 96761

March 14, 2017

Honorable Members of Hawaii State Legislature:

We have recently become aware of the growing body of scientific knowledge regarding deleterious effects of oxybenzone on a variety of reef life.

We are concerned about the continuing losses in coral reef coverage and resilience in face of global warming trends, and diminished reef building activity in the State of Hawaii. Oxybenzone's damage to marine life includes changes in fish behavior, pathological changes to fish sexual identity, damage to genomic and DNA integrity, and loss of motility and viability in juvenile corals that are essential for building new reefs.

Passage of a ban on the sale of products containing oxybenzone (unless it is a medical prescription by a medically licensed physician) can be a very effective means of mitigating oxybenzone pollution in our coastal waters.

Napili Bay and Beach Foundation, Inc. and I support Senate Bill 1150 SD2 as a good first step to reduce oxybenzone pollution, but urge you to amend it to ban sales of these products altogether. This amended version would not require any increases to Hawaii State budget to cover costs of 'enforcing compliance' at the many beaches around the islands. Further, banning sales of these products in the State would encourage development and sales of safe and efficacious sunscreens by Hawaiian and other U.S. companies.

Respectfully submitted,

Pat B. Lindquist

Pat B. Lindquist, President , Napili Bay and Beach Foundation

We are a non-profit organization formed to protect and improve the health of Napili beach and bay, tax ID # 20 5394259

goddess garden
ORGANICS

Impact on Coral Reefs

By Akshay Gavai

Executive Summary

Goddess Garden, a manufacturer of sunscreen products is looking to create awareness regarding the benefits associated with using its products versus those of other sunscreen manufacturers on coral reefs. By investigating these benefits (or negative effects caused by traditional sunscreen products), Goddess Garden can create a marketing campaign aimed at empowering sunscreen consumers with the information necessary to make the right choices while purchasing sunscreen products. This will ultimately help consumers understand the importance of coral reefs to the earth's environment, the negative impacts on coral reef by traditional sunscreen products, and why purchasing a Goddess Garden product over a traditional sunscreen one helps preserve these delicate eco-systems. The following research provides Goddess Garden with all the information necessary to educate consumers of the impact on coral reefs by sunscreen products for its overall marketing efforts.

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ph 303.651.3678 • fax 1.888.370.2878
www.goddessgarden.com

Company Profile

Goddess Garden is a producer of organic sunscreen products. Its headquarters in Longmont, CO,

Objective of Research

Goddess Garden is one of the few producers of organic sunscreen in the sunscreen market. Its products have typically been marketed by focusing on the human health benefits of using organic sunscreen. This is obvious because Covington started the company in response to her daughter having allergic reactions on her skin to traditional non-organic sunscreen. In addition, there have been studies linking chemicals such as Oxybenzone, which is used in traditional sunscreen, to hormone disruption in humans. However, along with the negative effects of traditional sunscreen on humans, recent research also links its usage with damage to the environment, specifically coral reefs. Unlike traditional sunscreen, Goddess Garden's sunscreen products do not damage coral reefs and can be termed as "reef-safe" sunscreens. Hence, Covington would like to quantify the benefits to the coral reefs as a result of a consumer using a Goddess Garden product vs. a traditional sunscreen product. This information will then be used in its marketing campaigns to educate existing and potential customers of the benefits to coral reefs of using Goddess Garden's products versus traditional sunscreen. Hence, the overall objectives are to:

- Educate consumers regarding the importance of coral reefs
- Educate consumers regarding the negative impacts of traditional sunscreens on coral reefs
- Convince consumers to switch to Goddess Garden products from other sunscreen manufacturers with an effort to save coral reefs.

This research is outlined below:

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Key Research on Sunscreen and Impact on Coral Reefs

Corals

Corals are small colorful soft-bodied organisms that live in clear, shallow, warm waters. At their base is a hard, protective limestone (calcium carbonate) skeleton called a calicle, which forms the structure of a coral reef. They are often mistaken for plants since they look like them, but are in fact animals since they do not prepare their own food. Corals get their color from zooxanthellae, the algae which they host. They have a symbiotic relationship with this algae since they both depend on each other for survival.

Zooxanthellae

Zooxanthellae are an algae that live inside corals. They perform photosynthesis and share the resulting food with corals, their hosts. The zooxanthellae are also responsible for the beautiful colors that corals contain.

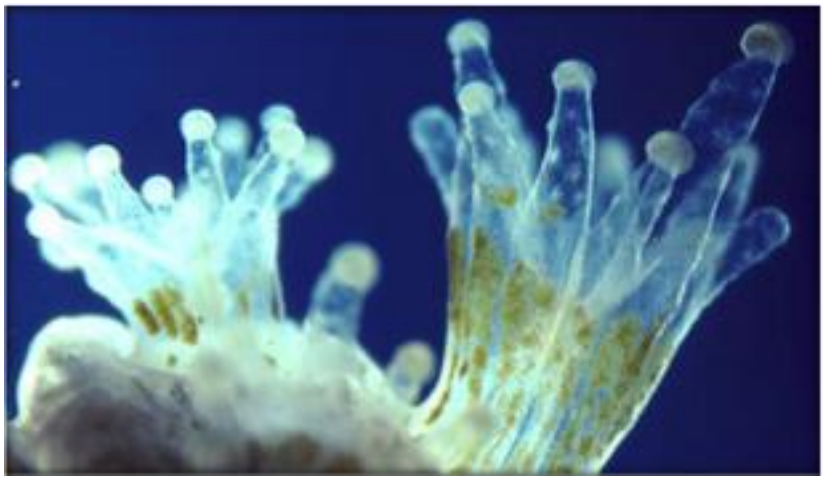

Image showing coral and the algae zooxanthellae. The zooxanthellae are the small brownish-green spots on the coral.

Coral Reefs

A coral reef consists of underwater structures made from calcium carbonate (limestone) secreted by corals. A reef is host to various marine life such as sea slugs, oysters, clams, crabs, shrimp, sea worms, star fish, sea urchins, jelly fish, various types of fungi, sea turtles, and many species of fish.

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Coral reef in the Great Barrier Reef of Australia

Photograph taken by myself of a coral reef in Krabi, Thailand in April 2012

The Importance of Coral Reefs

- Coral reefs are one of the most diverse eco-systems in the world ○ Hence, they are often called the rainforests of the sea

➢ Coral reefs support more species per unit area than any other marine environment. ○ Thisincludesabout4,000speciesoffish,800speciesofhardcoralsandhundreds

of other species. ○ Hence, they feed about 30 to 40 million people every year

➢ They provide a natural barrier between the ocean and the shore ○ By protecting the coasts from strong currents and waves by slowing down the

water

Current Impacts on Coral Reefs

When corals die they lose their vibrant colors and turn white. This is known as coral bleaching. Coral bleaching can occur for a variety of reasons. The known anthropogenic (human induced) cause of coral bleaching are as follows:

❖ Pollution in oceans ➢ Chemical run-off from agricultural practices

❖ Fishing practices ➢ Certain destructive fishing methods that use cyanide or dynamite

❖ Ocean acidification from an increase in greenhouse gas emissions ➢ Increase in CO_2 in oceans absorbed from the atmosphere increases acidity of

ocean water ❖ Temperature increase – Global warming

➢ Ocean temperature increases due to global warming ❖ Sunscreen

➢ Release of chemicals from sunscreen products It is estimated that:

- ➢ ·10% of all coral reefs are degraded beyond recovery
- ➢ ·30% are in critical condition and may die within the next 10 to 20 years

- ·60% of world's coral reefs may die completely by 2050 if we continue with 'business as usual'. Image depicting coral bleaching. The coral on the left is a perfectly healthy one whereas the one on the right is bleached.

Sunscreen's Impact on Coral Reefs

In January 2008, Professor Robert Danovaro and a group of researchers at the Polytechnic University of Marche in Italy, published groundbreaking research regarding the impact of sunscreen on coral reefs. This research was published in the peer-reviewed journal, Environmental Health Perspectives. The following are the key findings from their research:

Chemicals in Sunscreen Responsible for Coral Reef Bleaching

There are more than 20 chemical compounds that are used in sunscreen products. Danovaro and his team tested 7 of the most common chemicals found in sunscreen products which are used as either active or inactive ingredients. Out of these 7, they found that 4 chemicals are primarily responsible for the complete bleaching of corals. The 4 chemicals (henceforth termed as the 'dirty four') are as follows:

Butylparaben

- It is used as an antimicrobial preservative in cosmetics such as eye shadow, foundation, sunscreen, facial moisturizer and skin anti-aging

treatment.

Ethylhexylmethoxycinnamate (Octyl Methoxycinnamate) – OMC, OCT

- Its primary use is in sunscreens and other cosmetics to absorb UV-B rays from the sun, protecting the skin from damage.

Benzophenone-3 (Oxybenzone) - BZ

- Provides protection against UVA and UVB rays. 4-Methylbenzylidene Camphor - MBC

- An organic camphor derivative that is used for its ability to protect the skin against UV, specifically UV B radiation.

How do the Dirty Four Kill Coral Reefs?

Corals contain an algae known as zooxanthellae. The zooxanthellae and coral are dependent on each other for survival. Zooxanthellae have latent viruses which multiply when exposed to the dirty four. The viruses eventually kill the zooxanthellae which leaves the coral with no food source. The coral, without its symbiotic partner, loses its color (coral bleaching) and eventually dies (as shown in photo above).

Loss of the corals causes all the other species dependent on the corals to lose their home and their food source. This causes a widespread destruction of coral reefs. The following video features Professor Robert Danovaro explaining how sunscreens impact the coral reefs
https://www.youtube.com/watch?v=sDia05xVy9U&noredirect=1

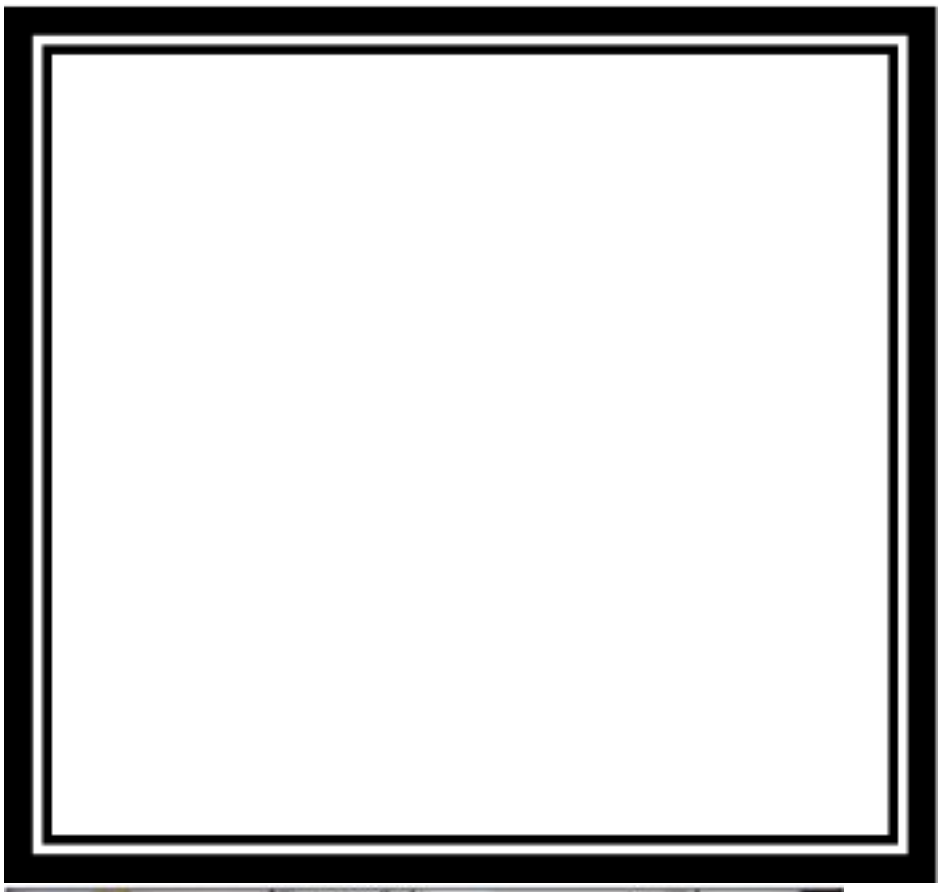
The Dirty Four and the Sunscreen Market

While conducting some market research I found that most sunscreen products contain 1 of the 4 chemicals listed above. The following photograph shows a sunscreen product containing Oxybenzone that I found at the popular retailer Target.

It is not surprising to find that many traditional sunscreen products contain at least one of the dirty four. It simply validates the research conducted by Danovaro and his team. However, what was more interesting to find was that there are sunscreen manufacturers whose products are marketed as 'biodegradable' and 'reef safe' but in fact contain one of the 'dirty four'.

Tropical Seas Inc. manufactures a brand of sunscreen known as 'Reef Safe' which is marketed as being 'biodegradable' and 'reef safe'. However, when examining the Material Safety Data Sheet (MSDS) found on its website, one can clearly see that Oxybenzone (one of dirty four) is listed as one of the active ingredients used. So what is going on here? Why is a company that is being so transparent with its use of ingredients claiming that its product is reef-safe?

I do not believe that the company is intentionally being malicious. Unfortunately, not all sunscreen manufactures are aware of the research conducted by Danovaro and his team. In this case, the manufacturer claims the product to be 'reef-safe' since it believes that the ingredients used are biodegradable. However, even though the dirty four may be biodegradable, they are still harmful to coral reefs. Therefore, they inadvertently use the dirty four in their formulations since

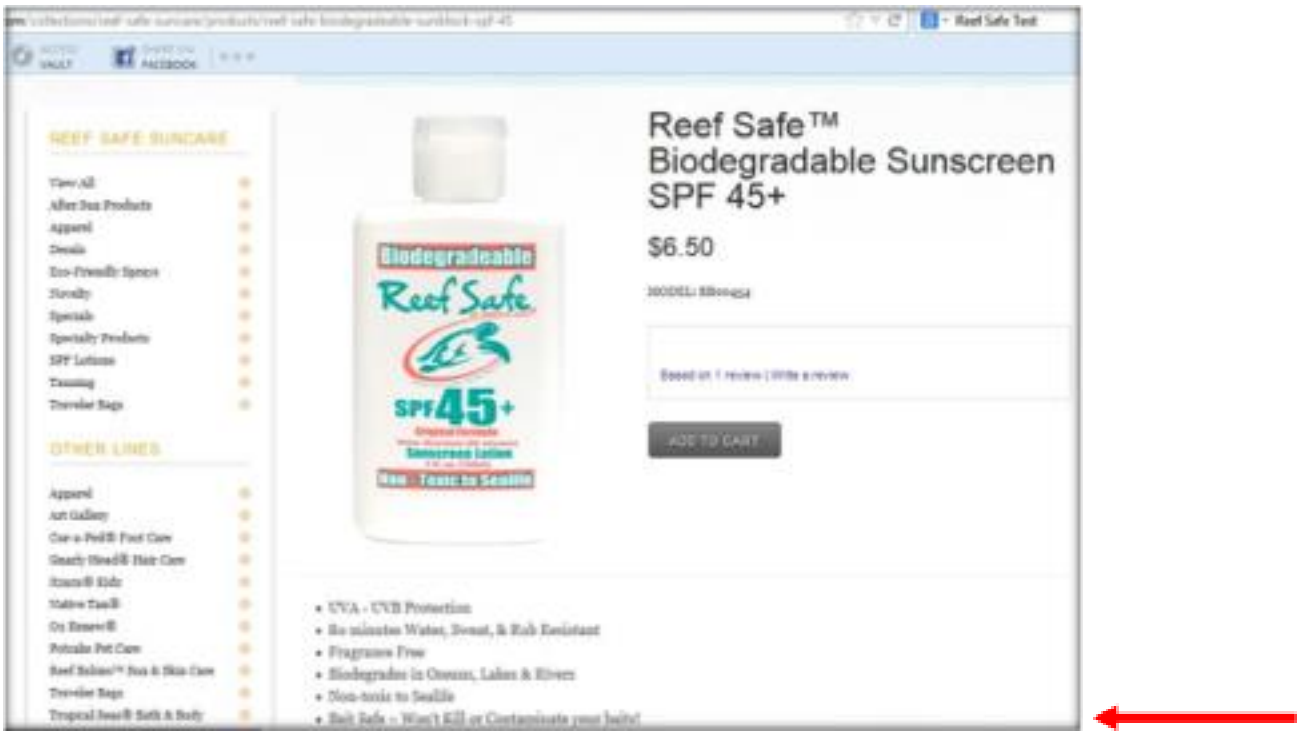


they are not aware of their negative effects. Hence, they continue to use these

chemicals and claim their products are ‘reef-safe’ when in fact, they are not ‘reef-safe’ when we take into account the dirty four.

Below is a photo of the claim made on Tropical Seas’ website followed by a snapshot of the MSDS sheet which lists Oxybenzone (one of the dirty four).

Reef-Safe brand listed on Tropical Seas’ website



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TROPICAL SEAS, INC **MATERIAL SAFETY DATA SHEET**

NAME OF PRODUCT: REEF SAFE by Beach Buff SPF 45 SUN BLOCK LOTION

FORMULA #: 50-0045-00

ORIGINAL MSDS DATE: 03.05.07 **REVISION DATE: 04.17.14**

SECTION 1: COMPANY IDENTIFICATION

MANUFACTURER: Tropical Seas, Inc.
ADDRESS: 346 Flomich Street
Holly Hill, FL 32117
EMERGENCY PHONE: 386-677-6161
CHEMTREC PHONE: -
OTHER CALLS: -
FAX PHONE: 386-677-6171
PREPARED BY: DK

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS: NONE

ACTIVE INGREDIENTS:
8.0 OCTOCRYLENE
7.5 OCTINOXATE
6.0 OXYBENZONE
5.0 HOMOSALATE
5.0 OCTISALATE

OTHER INGREDIENTS: Aqueous extracts of: aloe barbadensis leaf extract, algae extract (hawaiian seaplant), chamomilla recutita (matricaria) flower extract, symphytum officinale (comfrey) root & leaf extract, taraxacum officinale (dandelion) leaf extract, echinacea purpurea (coneflower) extract, sambucus nigra (elder) flower extract, panax quinquefolium (ginseng) root extract, macrocystis pyrifera (kelp) extract, lavandula angustifolia (lavender) extract, cymbopogon schoenanthus (lemon grass) extract, althea officinalis (marshmallow) root extract, achillea millefolium (yarrow flower) extract, camellia sinensis (white tea) extract, stearic acid (vegetable derived), glyceryl stearate se (vegetable derived), titanium dioxide, cetyl dimethicone, glycerin (coconut derived), sodium hydroxide, emulsifying wax (vegetable derived), tricontanyl-pvp, polyethylene, acrylates/c10-30 alkyl acrylates cross-polymer, methylparaben, cetyl alcohol (vegetable derived), diazolidinyl urea and propylparaben.

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: When used according to instructions, the product applicable to this MSDS is safe and presents no immediate or long term health hazard. However, abnormal entry routes, such as gross ingestion, may require medical attention.

POTENTIAL HEALTH EFFECTS:

EYES: May cause eye irritation.

SKIN: No irritation or reaction expected. Wash off with soap and water.

INGESTION: May cause upset stomach, nausea (Abnormal entry route)

INHALATION: Not applicable

CARCINOGENICITY: Not listed as a carcinogen by NTP, IARC, OSHA or ACGIH.

Tropical Seas MSDS Sheet for its Reef-Safe Brand

Data Related to Sunscreen Usage

❖ Between 16,000 to 25,000 tons of sunscreen are used globally by consumers in reef areas.

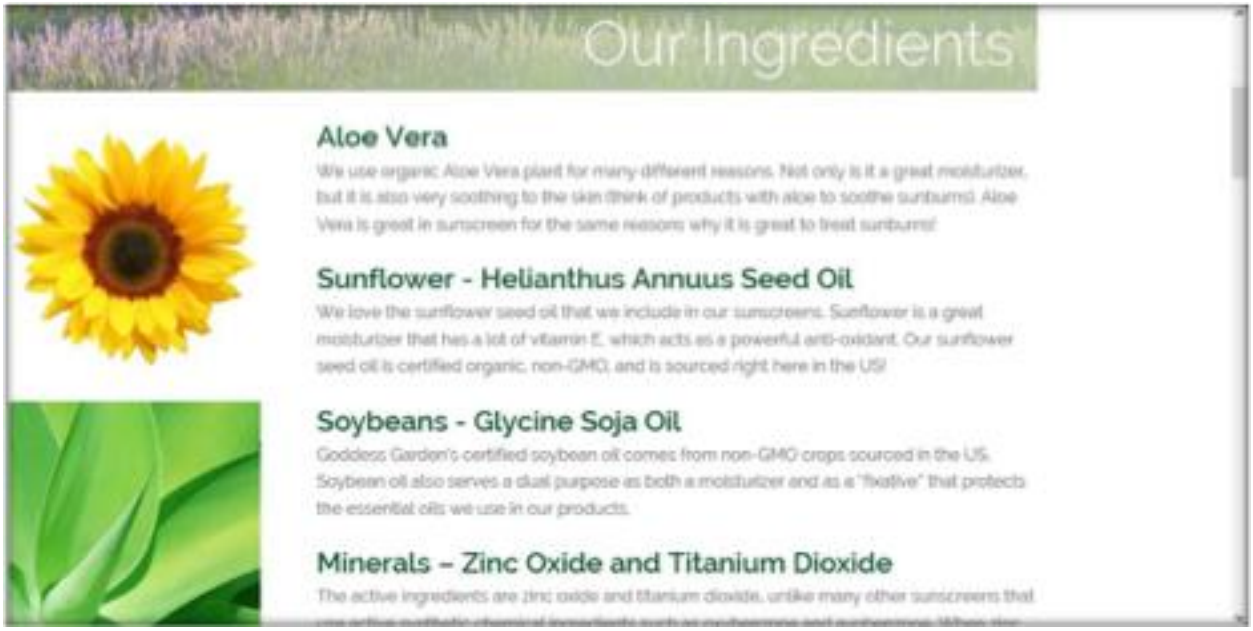
➢ 25% of the amount applied is washed off into oceans as a result of swimming and bathing.

➢ This results in 4,000 to 6,000 tons of sunscreen being released in reef areas.

- Hence, it is estimated that 10% of the world's coral reefs are at risk of bleaching due to sunscreen use. The Great Barrier Reef, the largest coral reef system in the world, covers an area of 133,000 square miles. This equates to 13,300 square miles of the reef disappearing.

Goddess Garden

Goddess Garden is one of the few sunscreen manufacturers to not use any of the dirty four that are directly linked to coral bleaching.



Systems Thinking and Life-Cycle Analysis

Now that Goddess Garden is moving beyond its traditional focus on the human health benefits of its products to including its environmental impacts, this is a great opportunity for it to incorporate a systems thinking approach towards its future sustainability endeavors. For example, since we have examined the impacts on coral reefs of the products at their end-use (when used as a sunscreen), the next steps are to examine the impact of the products throughout the manufacturing process. This means that we should examine the entire value chain from acquisition of raw materials

to end-product. The following areas should be examined as part of a systems thinking approach: Resource Usage

Personal Note

I applaud Goddess Garden for engaging in this project and would like to thank Nova Covington and the entire team for giving me the opportunity to work with them. It has been a great learning experience for myself and has further encouraged me to explore ways to help conserve the coral reefs at a more personal level. It is wonderful and refreshing to see a corporation engage in such efforts and I hope to see Goddess Garden succeed in this endeavor.

One of the most memorable experiences I have had in my life was swimming alongside a turtle in the coastal waters of Green Island in the Great Barrier Reef of Australia in December of 2008. I was so overjoyed when I saw the turtle and had the chance to swim near it. This experience always reminds me how beautiful the coral reefs are, tucked away under the sea, most of the time hidden from the view of humans. We must never forget that even though we don't always see the beauty of nature, we are bound to it and our actions impact it in every way.

Photo of the turtle underwater

Photo of myself following the turtle

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12. Sunscreen and coral reefs.

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• http://www.telegraph.co.uk/travel/travelnews/759600/Tourist-sunscreen-killing-off- coral-reefs.html ;

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March 15, 2017

RE: Support for SB 1150 SD2 (Relating to Preserving Coral Reefs)

Energy & Environmental Protection (EEP) Committee Hearing on Thur., 3/16, 8:30am, Rm. 325.

Dear Chair Lee, Vice Chair Lowen and EEP Committee Members,

As the Hawaii Manager of the Surfrider Foundation, I am writing in strong support of SB 1150 SD2 to ban sunscreens with the toxic chemical oxybenzone due to its destructive effects on Hawaii's coral reefs. The Surfrider Foundation's five chapters in Hawaii and our extensive network of supporters are concerned about the damage chemicals like oxybenzone are doing to our reef system, which annually generates about $800 million in gross revenues.

On behalf of our 10,000 supporters, activists and members across the state, we strongly support SB 1150, which seeks to ban the use of sunscreen or personal care products containing oxybenzone at our beaches or in the ocean. This chemical UV filter is added to nearly 70 percent of non-mineral sunscreens and commonly washes into our oceans when applied at the beach, harming our coral reef ecosystems.

Along with damaging coral DNA and inhibiting its ability to reproduce, oxybenzone causes deformities on coral reefs, makes them more susceptible to bleaching, and initiates endocrine disruption. In 2016, scientific panels held at the International Union for the Conservation for Nature (IUCN) and the International Coral Reef Symposium (ICRS) in Honolulu both suggested that Oxybenzone is toxic to corals and recommended a ban on sunscreen products that contain it. There have also been studies showing that this chemical and its many derivatives are toxic to human health as well.

The State's Department of Land and Natural Resources is also asking people who enter the ocean to avoid using sunscreens that contain oxybenzone. We support educational efforts to curb the usage of these products, but they are not enough. The most effective way to prevent these chemicals from entering our waterways is to ban the sale and distribution of these products. Many visitors purchase sunscreen once they arrive in the Islands, and this bill ensures that oxybenzone and other reef harming chemicals will not be sold in the State. With a gross annual revenue of $800 million, our reefs are an important and valuable part of Hawaii's ecosystem, and we must do all we can to protect them.

There may be other causes of reef degradation, but this bills offers a solution to help maintain the economic, ecological, cultural, and recreational value of Hawai'i's reef systems. As a regular ocean swimmer and surfer on Oahu's South Shore, I can tell you that I often see a film of chemical-laden sunscreen in our waters. As an amendment, we suggest banning oxybenzone. This would protect our vulnerable reef ecosystems and promote the usage of reef-safe sunscreens that are mineral-based and not made from harmful chemicals to our reefs and skin. Mahalo for considering my testimony.

Aloha,
Stuart Coleman
Stuart H. Coleman, Hawaii Manager

Surfrider Foundation Hawaii Chapters * 2927 Hibiscus Pl. * Honolulu, HI 96815
808-381-6220 * scoleman@surfrider.org * www.surfrider.org

Oxybenzone

Dillon DeCoite, Sydni Pawn, Gemini Carman, and Geovanni Ka'apuni

Event: Since 1980, sunscreen containing oxybenzone has been marketed and sold.

Problem: Oxybenzone is leaching the coral of its nutrients and bleaching it white.

Issue: Should the sale of sunscreen containing oxybenzone be banned in Hawaii?

Background:

The Hawaiian Islands have 4100 acres of living reef within the main islands (hawaiireef). This habitat provides shelter for fish and food for people. The reef protects the shoreline from waves and sand erosion. Hawaii has 1,250 unique species of marine life that can only be found in Hawaii.

Oxybenzone is used in hairspray, cosmetics, nail polish, and over 3,500 sunscreens. There are 25-60 million bottles of sunscreen chemicals that wash into coral reef areas each year (Sun). About 25% of sunscreen applied to skin is released into water within twenty minutes of application (Sun). Even though sunscreen is worn away from the ocean, chemicals still wash off when showering and ends up in the ocean. Oxybenzone concentrations have been found in Hawaiian water at 30 times the normal level (Sun). This chemical disrupts the development of marine life and causes deformation in larval form of coral polyps, which contributes to coral bleaching (Sun). Oxybenzone also disrupts human behavior by causing high rates of skin allergy, and it disrupts the endocrine system (Sun). Coral reefs are being affected by oxybenzone.

The sunscreen industry has over 1,800 different products available for purchase (Nichols). The industry brings in over $800 million annually (Nichols). There is a difference between sunblock and sunscreen. Sunblock products use minerals such as zinc oxide or titanium dioxide. It blocks the UV rays from the skin and has a pasty texture, which makes it more difficult to wash off (Nichols). On the other hand, sunscreen uses chemicals that penetrate the skin. Instead of blocking the UV rays, the sunscreen absorbs it. The product leaves a thin clear layer on the skin's surface (Nichols).

Work Cited:

- "A Living Reef Gives Our Islands Life." *Www.hawaiireef.org*. N.p., n.d. Web. 8 Mar. 2017. http://www.hawaii.edu/ssri/cron/files/pr_fs-facts.pdf
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- Nichols, Sarah. "What to Look For In Non-Toxic Sunscreen." *Modern Alternative Health*. N.p., 04 Feb. 2016. Web. 01 Mar. 2017. http://www.modernalternativehealth.com/2014/07/03/look-non-toxic-sunscreen/
- Sun,Wendy Ewg. "Do the Chemicals in Your Sunscreen Damage Fragile Coral Reefs?" *EWG*. N.p., 6 July 2016. Web. 01 Mar. 2017. http://www.ewg.org/enviroblog/2016/07/do-chemicals-your-sunscreen-damage-fragile-coral-reefs

Research Questions:

1. To what extent do Hawaii residents/visitors think sunscreens containing oxybenzone should be banned in Hawaii?

2. To what extent are Hawaii residents/visitors knowledgeable about the environmental effect of oxybenzone?

3. What are Hawaii residents/visitors behaviors regarding sunscreen?

Methodology:

We collected a total of 488 surveys.
We collected 191 surveys in person and 297 surveys online.

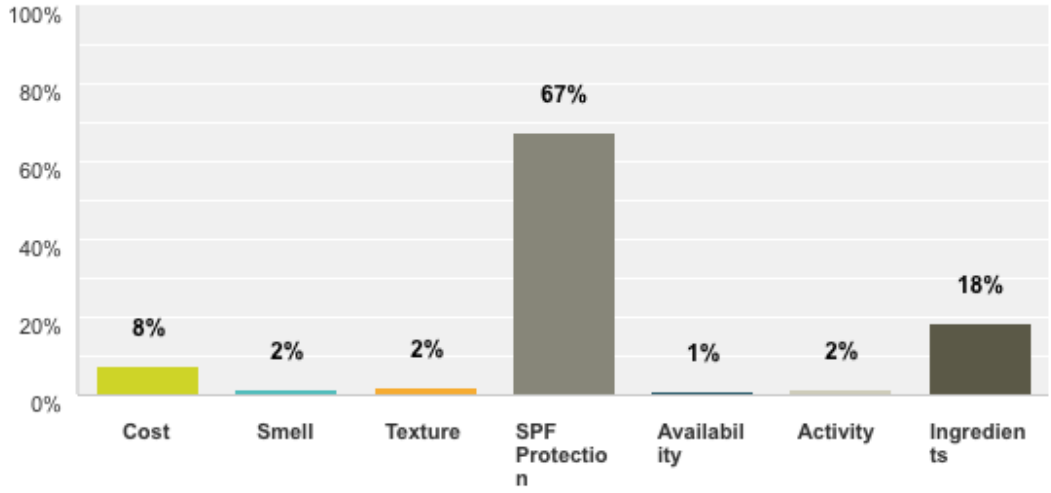
Sample Technique:

We used a sample of convenience and collected data in person. We also used Survey Monkey to collect data online.

75% of the people surveyed use sunscreen. 91% of them use sunscreen at the beach.

What is the most important factor you consider when choosing sunscreen? Choose one.

Answered: 346 Skipped: 142

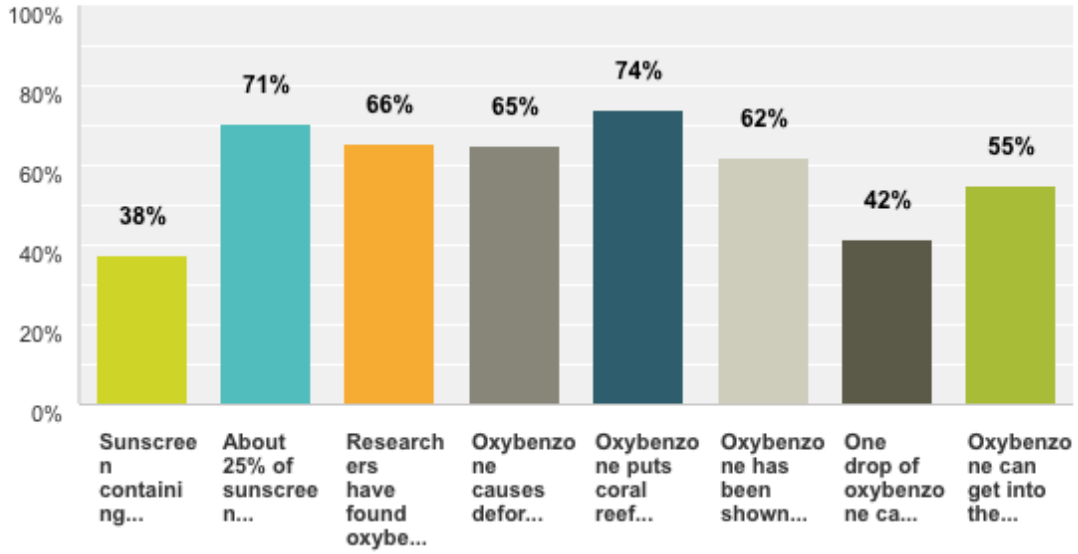


Answer Choices	Responses	
Cost	8%	26
Smell	2%	6
Texture	2%	7
SPF Protection	67%	233
Availability	1%	4
Activity	2%	6
Ingredients	18%	64
Total		346

Conclusion- 67% of the people chose SPF Protection and 18% said ingredients.
Inference- It makes sense that SPF protection is important because that's the purpose of sunscreen or skin conditions. We think 18% have heard about oxybenzone or may have allergies or skin conditions. In fact, oxybenzone was named "Allergen of the Year" by the American Contact Dermatitis Society in 2014.

Select all the statements that are true.

Answered: 400 Skipped: 88

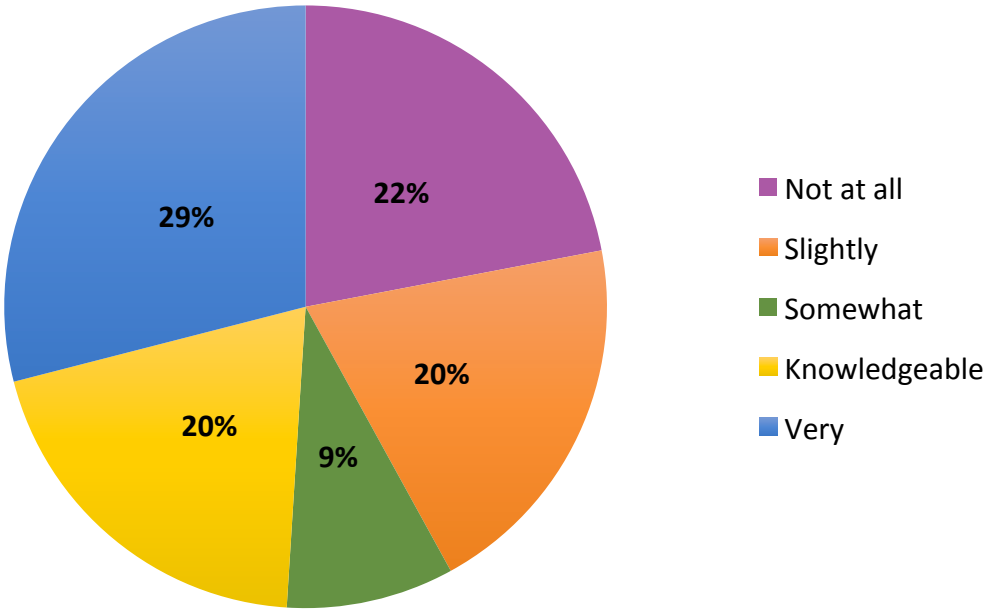


Answer Choices	Responses	
Sunscreen containing oxybenzone is less expensive than sunscreen that don't.	38%	151
About 25% of sunscreen applied to the skin is released into the water within 20 minutes of submersion.	71%	282
Researchers have found oxybenzone concentrations in some Hawaiian waters at more than 30 times the level considered safe for corals.	66%	262
Oxybenzone causes deformities in coral larvae making them unable to swim, settle out and form new colonies.	65%	261
Oxybenzone puts coral reef health at risk and reduces reef resiliency to climate change.	74%	297
Oxybenzone has been shown to disrupt the development of fish and other marine animals.	62%	248
One drop of oxybenzone can impact one acre of coral reef.	42%	166
Oxybenzone can get into the ocean even when people don't use it at the beach.	55%	220
Total Respondents: 400		

The first statement is false. All the rest are true. The following graph shows the level of knowledge of our respondents.

One of our primary concerns is that people don't understand that you don't have to use oxybenzone products at the beach for it to end up in the ocean. When you shower, the product will wash off and enter the wastewater system.

Knowledge About Oxybenzone

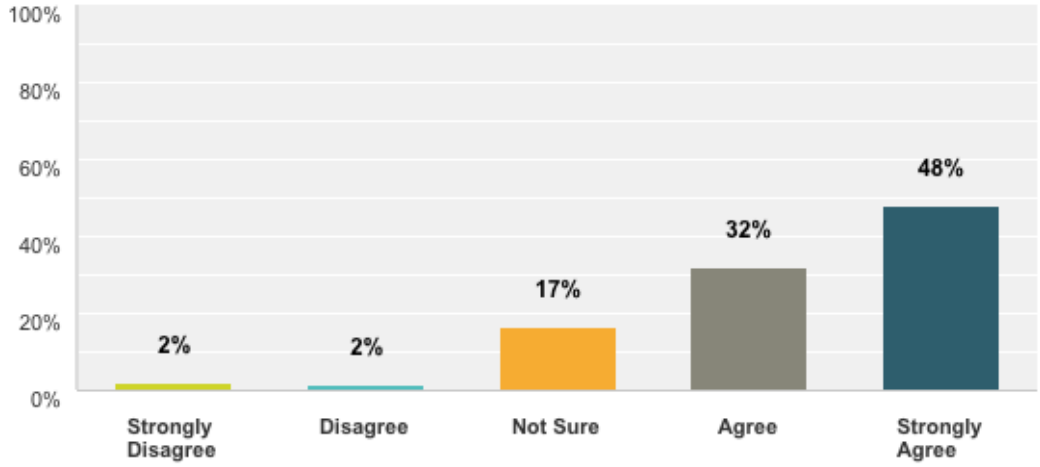


Conclusions:
49% of the people surveyed were knowledgeable or very knowledgeable about oxybenzone
9% were somewhat knowledgeable
42% were slightly or not at all knowledgeable

Inferences
We think half the people were knowledgeable about oxybenzone because it's been in the news recently and there were 13 bills introduced about oxybenzone this year.

Do you support the ban of oxybenzone products? (HB 600)

Answered: 469 Skipped: 19

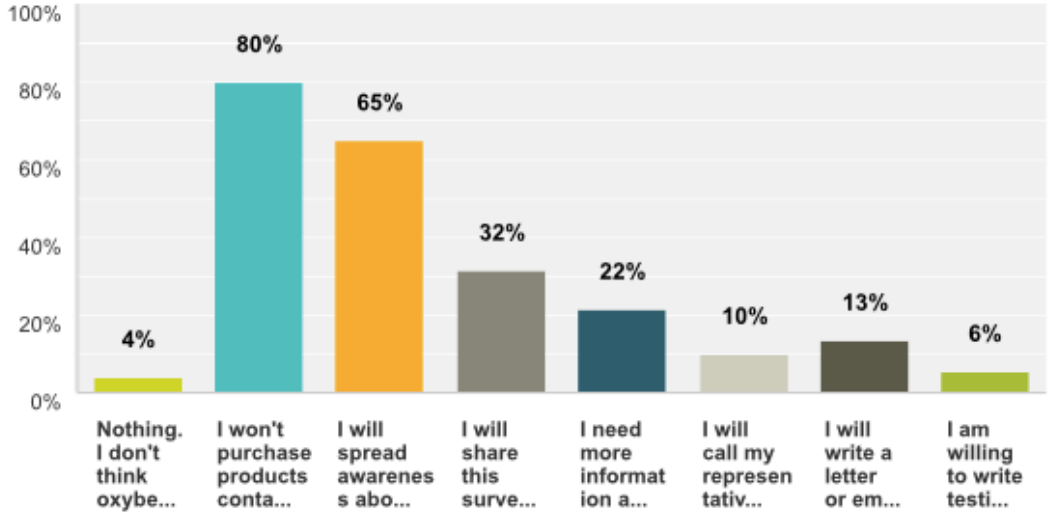


Answer Choices	Responses	
Strongly Disagree	**2%**	9
Disagree	**2%**	8
Not Sure	**17%**	78
Agree	**32%**	149
Strongly Agree	**48%**	225
Total		469

Conclusion- 80% agreed or strongly agreed that oxybenzone products should be banned.

Inference- We can infer that they chose to support legislation because they know the importance of Hawaii's reefs. Also, a ban on this chemical would relieve the need to constantly read labels or educate visitors and residents who don't know about oxybenzone.

How would you support the reduction or elimination of oxybenzone products in Hawaii?



Answer Choices	Responses	
Nothing. I don't think oxybenzone is a problem.	4%	19
I won't purchase products containing oxybenzone.	80%	369
I will spread awareness about the effects of oxybenzone to my friends and family.	65%	300
I will share this survey URL with my friends and family so they can share their opinion.	32%	145
I need more information and will read the House Bills and Senate Bills regarding oxybenzone before taking action.	22%	99
I will call my representatives in support of House Bill 600.	10%	46
I will write a letter or email in support of House Bill 600.	13%	61
I am willing to write testimony or testify in support of House Bill 600.	6%	26

Conclusions: 80% said they won't purchase products with oxybenzone as an ingredient. 65% said they will spread awareness to friends and family. 10% said they would call their representative, 13% would write a letter, and 6% would write testimony.

Inferences: We think people are much more comfortable talking to friends and family and taking personal action rather than talking to legislators or writing testimony. Many people are uncomfortable with public speaking or writing testimony on a subject about which they don't feel knowledgeable. People may not have access to computer technology or they may not know how to submit testimony.

Revisiting Research Questions:

1. To what extent do Hawaii resident/visitors think sunscreens containing oxybenzone should be ban in Hawaii?

80% of the people we surveyed agreed or strongly agreed or strongly agreed that the sale of sunscreen should be banned in Hawaii. We think they understand the importance of coral reefs in Hawaii and they want to make sure reefs are protected.

2. To what extent are Hawaii resident/visitors knowledgeable about the environmental effect of oxybenzone?

7% of the people we surveyed were knowledgeable or very knowledgeable about the environmental effects of oxybenzone.

3. What are Hawaii residents/visitors behaviors regarding sunscreen?

73% of the people we surveyed use sunscreen, and we ask when do they use it. The 73% of the people that use sunscreen, 91% said they use sunscreen at the beach.

Recommendations:

In 2017:

The data our group collected supports the following actions:

- Educating Hawaii residents/visitors on the environmental effects of oxybenzone
  - Public service announcements for residents
  - Video about the effects of oxybenzone to be shown on flights coming into Hawaii
- Banning or reducing products containing oxybenzone in Hawaii
  - Sending our testimony to any House Bill that has to do with limiting, reducing, or banning oxybenzone products

We are respectfully submitting this testimony on behalf of our community and the people who responded to our survey.

HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION
Thursday March 16th 2017
Supporting Intent of SB 1150 Relating to the Environment

Aloha Chair Lee and members of the House Energy & Environmental Protection Committee,

The Surfrider Foundation's Oahu Chapter is writing to support the intent of SB 1150 to protect both our coral reef ecosystems and human health from adverse effects of the chemical oxybenzone often found in sunscreens. Our members are greatly concerned about these effects and encourage the State to exercise the precautionary principle in dealing with oxybenzone based sunscreens. We support the concept of eliminating these chemicals from our beaches, but question the mechanisms by which we can effectively do this. Ideally this bill can be amended to include a ban on sales of products with oxybenzone, rather than on the application of the product. This amendment would serve as a far more effective way to reduce detrimental impacts because it is inherently more enforceable. Checks are far more easily made on the shelves of a store then with individuals on the beach who carry sunscreens in personal bags and spread around the island. In either case it would also be an advisable addition to have a State run education campaign that proliferated through the tourism industry and residents to help them understand the potential toxicity of these products.

Oxybenzone damages coral DNA and inhibits its ability to reproduce, causes deformities on the coral, makes coral more susceptible to bleaching, and initiates endocrine disruption. These negative can occur at concentrations as low as 62 parts per trillion, but some beaches in Hawai'i have oxybenzone levels higher than 700 parts per trillion , a major concern when our reef system annually generates about $800 million in gross revenues.

Surfrider spent time during 2016 at both the International Coral Reef Symposium and the International Union on Conservation of Nature World Conservation Congress (both held in Honolulu) in focus groups on the issues associated with oxybenzone based sunscreens. Top scientists on coral reef health indicated in localized studies that this chemical was not only detrimental to reef health but also to humans, exhibiting endocrine disrupting effects. In September 2016, Governor Ige made a World Conservation Congress Legacy Commitment to have 30 percent of Hawaii's nearshore waters effectively managed by 2030. Taking steps to reduce harmful chemicals that are damaging our reefs is a step toward effective management.

In addition to scientific studies, Surfrider is continuously alerted by recreational users of the nearshore environment of slicks of sunscreen creating a sheen across ocean water in highly used regions. There are also reports of a smell of sunscreen emanating from beaches in Waikiki and other tourist locations. Alternatives to oxybenzone exist and education and outreach will

need to accompany a ban so that ocean users understand that they have other options to protect themselves from UV sun rays.

Surfrider advocates for a precautionary principle in which we take measures to protect both environmental and human health when possible harmful agents exist. Given that Hawaii's economy relies almost exclusively on our ocean resources, it is imperative that we take necessary steps to protect these areas. Banning the use of oxybenzone based products is a step towards limiting the damage we are doing to our reefs.

Mahalo for Considering this bill.

Rafael Bergstrom
Oahu Chapter Coordinator, Surfrider Foundation.

From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, March 15, 2017 3:06 PM
To: EEPtestimony
Cc: execasst@mauichamber.com
Subject: Submitted testimony for SB1150 on Mar 16, 2017 08:30AM

SB1150
Submitted on: 3/15/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Pamela Tumpap	Maui Chamber of Commerce	Comments Only	No

Comments: We understand the concerns about oxybenzone, coral bleaching, and keeping coral alive. Not only is this important to the environment, but also to our visitor industry. If this bill passes, we think it could create enforcement issues and could damage visitor impressions of Hawaii. It would be extremely difficult to monitor and enforce people using oxybenzone sunscreens and cosmetics on the beach. We would prefer to see a plan for an educational and awareness program to educate both residents and guests about the harms of oxybenzone as well as provide information on alternative options. We appreciate the opportunity to provide comments on this bill. Sincerely, Pamela Tumpap President Maui Chamber of Commerce

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From: mailinglist@capitol.hawaii.gov
Sent: Monday, March 13, 2017 8:54 PM
To: EEPtestimony
Cc: launahele@yahoo.com
Subject: *Submitted testimony for SB1150 on Mar 16, 2017 08:30AM*

SB1150
Submitted on: 3/13/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Benton	Individual	Support	No

Comments:

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From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, March 14, 2017 9:39 AM
To: EEPtestimony
Cc: tbohl8@yahoo.com
Subject: Submitted testimony for SB1150 on Mar 16, 2017 08:30AM

SB1150
Submitted on: 3/14/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Ted Bohlen	Individual	Support	No

Comments: Lab results show oxybenzone sunscreens harm the precious coral reefs on which our economy and indeed island survival depend. There are alternative sunscreens that protect our skin and we must transition to those now. Please pass this bill and others to protect our reefs, which are threatened by multiple factors, or reefs will die within a few decades. Mahalo!

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From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, March 14, 2017 1:16 PM
To: EEPtestimony
Cc: lauolegal@gmail.com
Subject: Submitted testimony for SB1150 on Mar 16, 2017 08:30AM

SB1150
Submitted on: 3/14/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Lorri Crockett	Individual	Support	No

Comments: Lab results show oxybenzone sunscreens harm the precious coral reefs on which our economy and indeed island survival depend. There are alternative sunscreens that protect our skin and we must transition to those now! Please pass this bill and others to protect our reefs, which are threatened by multiple factors, or reefs will die within a few decades. Mahalo nui loa, Lorri Crockett

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15 Mar 2017

From: Diann K Lynn, 2333 Kapiolani Blvd., Honolulu 96826
To: State of Hawaii, House of Representatives, 29th Legislature Committee on Energy and Environmental Protection, Rep. Chris Lee (Chair), Rep. Nicole E. Lowen (Vice Chair)

Subj: SB1150 RELATING TO PRESERVING CORAL REEFS

1. I am writing to comment on the subject bill before you on 28 February, which prohibits the use or application of sunscreen, sunblock, or cosmetic containing oxybenzone while on a beach or in the ocean unless the sunscreen, sunblock, or cosmetic is a prescription drug.

2. As noted in the article in today's paper, oxybenzone is a threat to coral reefs by causing bleaching, DNA damage and deformities in coral larvae. In addition, data show it presents a danger to human health by mimicking hormones or causing skin allergies, with follow-on questions about other unintended consequences of using sunscreens with this chemical. Personally, I disposed of all of my sunscreens which contained this chemical when I learned about its effects last year. The effects of oxybenzone are well documented.*

3. I am 100% in favor of this bill. Although banning the sale of sunscreens containing this this chemical would be even better than banning its use, this bill represents an important first step to stemming this environmental and health threat.

4. Having strong State support of our natural resources is critical for the State's essence and economic livelihood, and in this case, also for our health. I thank you for your efforts to oversee and protect the same.

Sincerely

DIANN K LYNN

*References abound; among them:
http://www.ewg.org/sunscreen/report/the-trouble-with-sunscreen-chemicals/
http://coral.org/blog/sunscreen-and-corals/
http://today.ucf.edu/lathering-up-with-sunscreen-may-protect-against-cancer-killing-coral-reefs-worldwide/
http://www.wri.org/publication/reefs-risk-revisited
http://www.npr.org/sections/thetwo-way/2015/10/20/450276158/chemicals-in-sunscreen-are-harming-coral-reefs-says-new-study

From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, March 15, 2017 7:30 AM
To: EEPtestimony
Cc: cwaggy44@gmail.com
Subject: Submitted testimony for SB1150 on Mar 16, 2017 08:30AM

SB1150
Submitted on: 3/15/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
christopher wagaman	Individual	Support	No

Comments: We all have a responsibility to become educated on the harmful effects of chemicals in sunscreen. Specific studies from very qualified people have proved that Oxybenzone is damaging the environment (coral reefs) in the State of Hawaii. It is time to allow this movement to change the way people think. It is the only way to create the ripple effect so we can make a change and protect Hawaii. I don't even live in Hawaii however I visit frequently and have a special place in my heart for Hawaii. Hawaii is driven by tourism and specifically people that are in the water experiencing the beauty of the ocean and coral reefs. We need a change now!

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From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, March 15, 2017 7:28 AM
To: EEPtestimony
Cc: cushmanzoo@hawaiiantel.net
Subject: Submitted testimony for SB1150 on Mar 16, 2017 08:30AM

SB1150
Submitted on: 3/15/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Sharron Cushman	Individual	Support	No

Comments: I strongly support SB1150 SD2 as it helps to protect the environment.

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From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, March 15, 2017 7:24 AM
To: EEPtestimony
Cc: pvcaloha@hotmail.com
Subject: Submitted testimony for SB1150 on Mar 16, 2017 08:30AM

SB1150
Submitted on: 3/15/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
patrick coan	Individual	Comments Only	No

Comments: This bill needs to be amended to include the sale or distribution of products containing oxybenzone, as well as the personal use of this chemical. I work at the most popular surf shop in the tourist industry of Hanalei. We only sell chemical free, reef safe sunscreens, for several years. There are great products that work well available to replace the dangerous ones. Although public knowledge of this issue is growing, with exposure to the science behind it, there is still a large percentage of our visitors who are unaware of the dangers of oxybenzone, and the availability of reef safe sunscreens. This is why we need the help in form of this bill. If the dangerous products weren't readily available for purchase, we could really combat this problem. Making it illegal to use, right after someone purchased it, makes no sense, and people will still use it. Putting up multi language signs every 50 ft would be ridiculous, how would people know not to use it?

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Sent: Wednesday, March 15, 2017 6:50 AM
To: EEPtestimony
Cc: georgina808@gmail.com
Subject: *Submitted testimony for SB1150 on Mar 16, 2017 08:30AM*

SB1150
Submitted on: 3/15/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Georgina Mckinley	Individual	Support	No

Comments:

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From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, March 15, 2017 12:22 AM
To: EEPtestimony
Cc: tulsigreenlee@icloud.com
Subject: Submitted testimony for SB1150 on Mar 16, 2017 08:30AM

SB1150
Submitted on: 3/15/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Tulsi Greenlee	Individual	Support	No

Comments: A complete ban on sales would have been better but at least you can ban its use. Thank you for supporting this bill. Tulsi

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Sunscreen containing Oxybenzone Should Be Banned in Hawaii.

Alicia Rittenberry

ABSTRACT

Coral reefs are incredibly important for marine ecosystems and to the Hawaiian economy. There are many increasing threats to the health of the world's coral. One that has recently been discovered is sunscreen. Certain ingredients in sunscreens, mainly oxybenzone, cause damage to coral health and exaggerate the negative effects of coral bleaching and are a threat to Hawaii's reefs in particular. Oxybenzone can also negatively impact human health, especially in children.

BACKGROUND

Coral reefs are vital to livelihood in Hawaii. The Hawaii Coral Reef Initiative Research Program, a joint venture of the state's Department of Land and Natural Resources and the University of Hawaii, estimates that Hawaii's nearshore reefs annually generate $800 million in gross revenues and $25 million for Kihei alone. The HCRI-RP points out, "Aside from economic, there are many other values that Hawaii's people place on nearshore reefs. Broadly speaking, these include: educational, social, recreational, cultural, physical, biological, and ecological, as well as assurances that reefs will be there for future generations." Also, reefs protect the shoreline by dispersing wave energy, which lessens storm damage and are responsible for creating Hawaii's famous beaches.

Corals have a symbiotic relationship with microscopic algae called zooxanthellae that live in the coral's tissue. These algae are coral's primary food source through the process of photosynthesis and give them their color. When the symbiotic relationship becomes stressed, the algae leave the coral's tissue. Without the primary food source, zooxanthellae, coral turns white or very pale and is more susceptible to diseases. This is called coral bleaching.

Example of coral bleaching provided by State of Hawaii Department of Land and Natural Resources

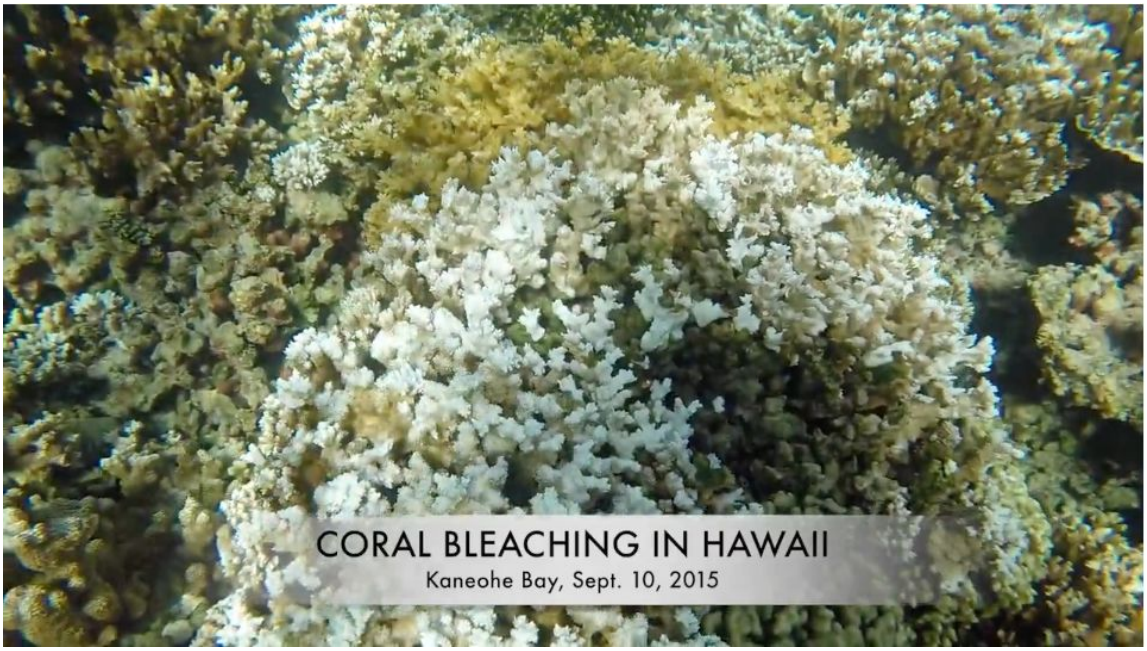
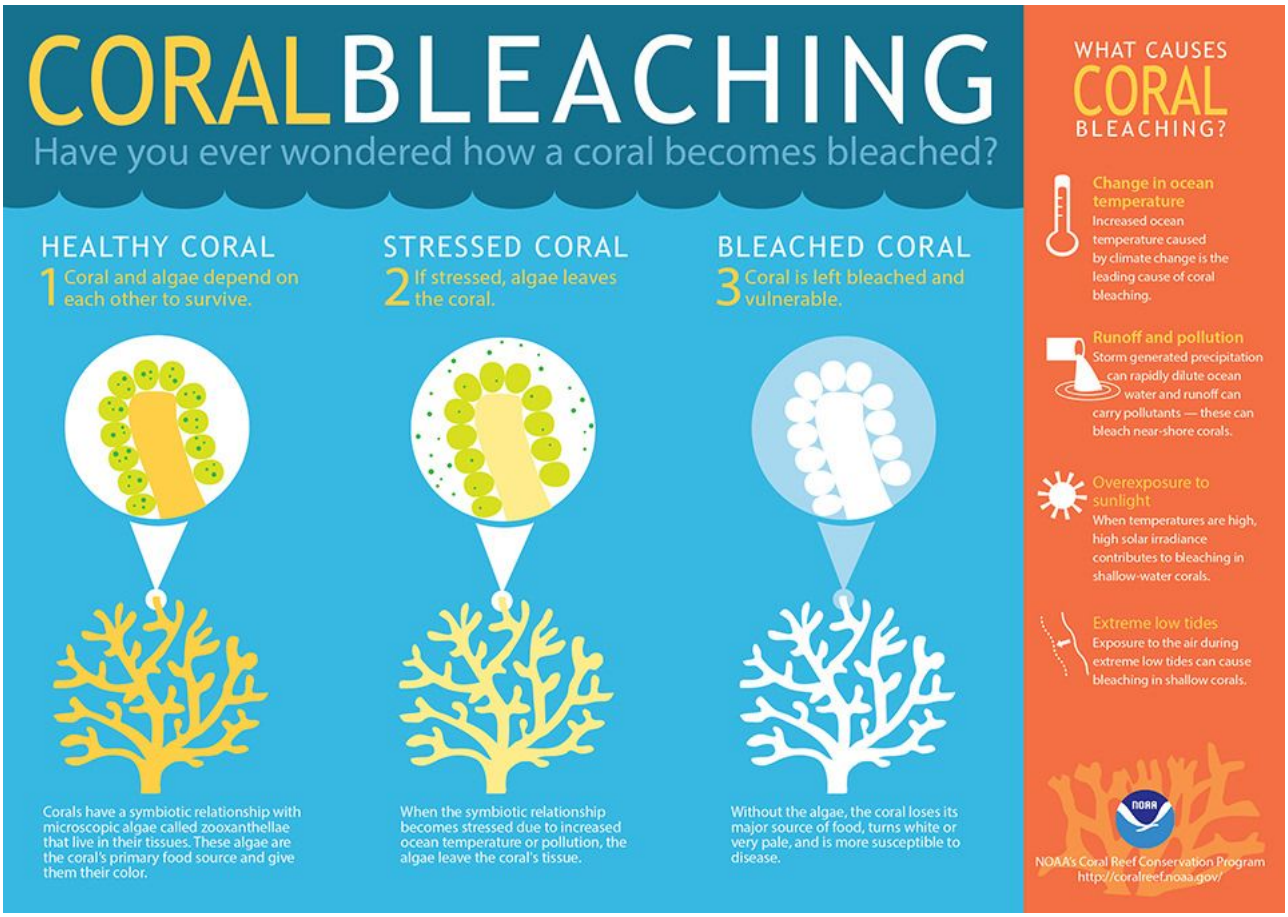


Image provided by NOAA



According to the report, *Reefs at Risk Revisited* by Lauretta Burke, Katie Reytar, Mark Spalding and Allison Perry, 75% of coral reefs are currently threatened and over the last 20 years, massive coral bleaching has increased dramatically, both in frequency and spatial extent. According to NOAA, “In 2005, the U.S. lost half of its coral reefs in the Caribbean in one year due to a massive bleaching event.” As of right now the total loss there is 80%. The main culprit behind coral bleaching is elevated seawater temperatures tied to climate change. However, recent studies have concluded that oxybenzone, a main ingredient in many sunscreens, is also a factor in coral health.

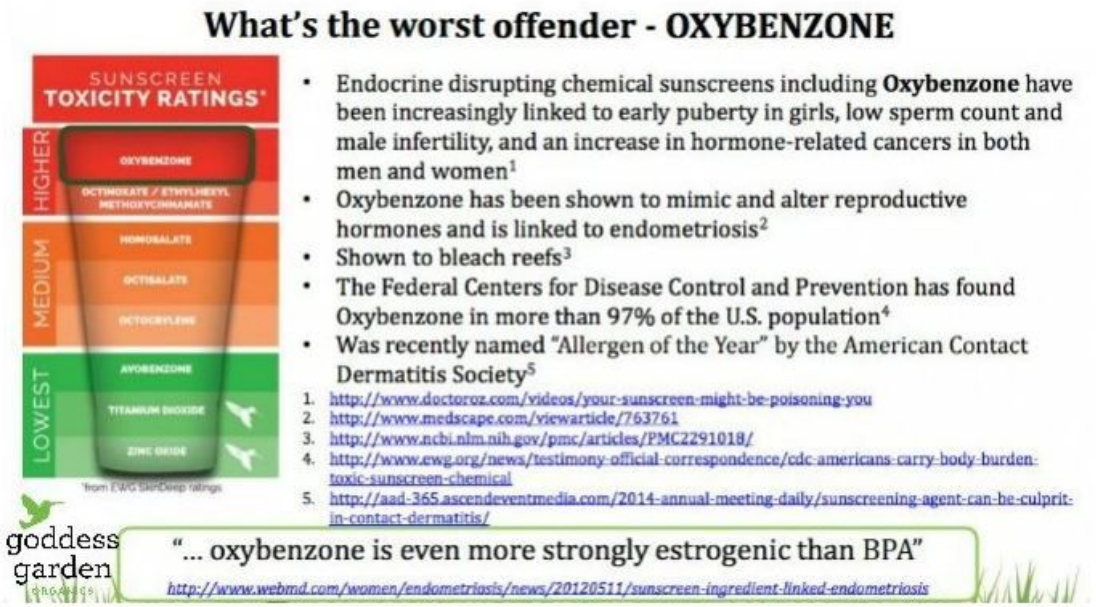
Oxybenzone, or benzophenone-3, is a chemical that blocks UV light and acts as a “penetration enhancer” that helps the product adhere to skin. According to the Environmental Working Group (EWG), it is found in over 3500 sunscreens, or roughly 80% of the non-mineral sunscreens. The University of Central Florida reports that a team of international scientists found that oxybenzone “causes DNA damage in adult corals and deforms the DNA in coral in the larval stage, making it unlikely they can develop properly. In laboratory experiments, the team exposed coral larvae and cells of adult corals to increasing concentrations of oxybenzone. The research team discovered that oxybenzone deforms coral larvae by trapping them in their own skeleton, making them unable to float with currents and disperse.” Dr Karl Kruszelnicki, a popular Australian science communicator, backs this up and explains that the effects the researchers saw on juvenile coral larva is because “oxybenzone acts as a powerful endocrine (hormone) disruptor in coral. The juvenile coral produce too much calcium carbonate”, which leads to the skeletal encapsulation. He goes on to explain that with adult coral, “the overall result is that coral with damaged DNA are less able to reproduce. In the case of the coral that are able to reproduce, their offspring are likely to be unhealthy. This leads to each generation of coral being less healthy than the one before.” He also explains that oxybenzone predisposes coral to bleaching at lower temperatures than normal, thereby increasing the effect of warming ocean temperatures. In a 2008 study published by the National Center for Biotechnology Information, concluded that chemical sunscreens caused coral bleaching by inducing the lytic cycle in symbiotic zooxanthellae with latent viral infections. In other words,

oxybenzone, in addition to other sunscreen chemicals actively promotes viruses in the zooxanthellae, causing the coral to expel them, which results in coral bleaching. The scientific consensus of the group was, "Our results indicate that sunscreens promoting lytic cycle in viruses can cause coral bleaching. Because human use of tropical ecosystems and coral reef areas is progressively increasing, we predict that the impact of sunscreens on coral bleaching will grow considerably in the future on a global scale. Actions are therefore needed to stimulate the research and utilization of UV filters that do not threaten the survival of these endangered tropical ecosystems."

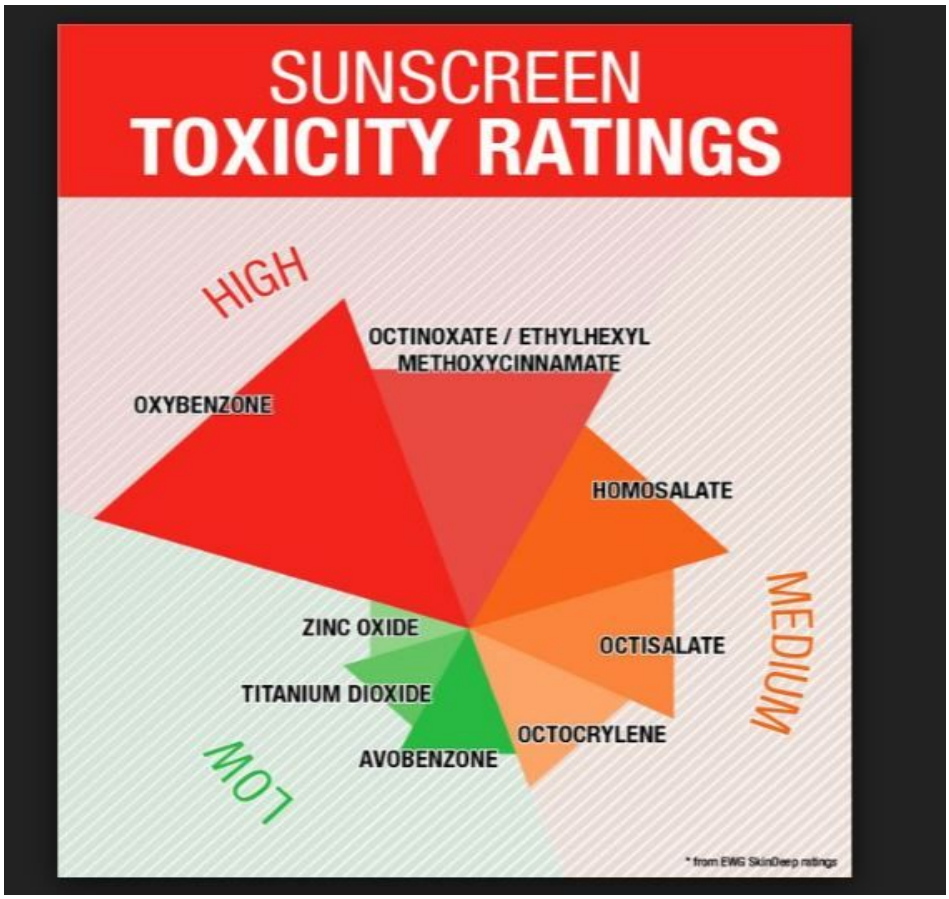
Oxybenzone is not only dangerous to coral but can be to humans as well. Dr. Kruszelnicki states that oxybenzone is a fat loving, aka lipophilic, chemical so it easily crosses the skin into the body. He reports that, "On average, oxybenzone will appear in the urine of over 96 percent of those who apply it to their skin." This number is confirmed by the U.S. Centers for Disease Control (CDC), which conducted a study in 2008 and found that 97% of Americans have oxybenzone in their system, including children, as reported by EWG. EWG also cites two studies that proved that sunlight causes oxybenzone to form free radical chemicals that may be linked to cell damage. So, the main ingredient in the majority of our sunscreens has negative side effects when exposed to sunlight. Oxybenzone is also an endocrine disruptor, which affects hormones. EWG reports that, "Studies on cells and laboratory animals indicate that oxybenzone and its metabolites, the chemicals the body makes from oxybenzone in an attempt to detoxify and excrete it, may disrupt the hormone system. Under study conditions, oxybenzone and its metabolites cause weak estrogenic (Nakagawa 2002;

Schlumpf 2001, 2004; Kunz 2006; van Liempd 2007) and anti-androgenic (Ma 2003) effects. Oxybenzone displays additive hormonal effects when tested with other sunscreen chemicals (Heneweer 2005). Laboratory study also suggests that oxybenzone may affect the adrenal hormone system (Ziolkowska 2006).” EWG also reports that oxybenzone is associated with epidermal allergic reactions triggered by sun exposure. Benzophenones, the group of chemicals that oxybenzone is a part of, was named American Contact Dermatitis Society’s 2014 Contact Allergen of the Year.

This chemical is even more dangerous for children. EWG explains, “ The surface area of a child's skin relative to body weight is greater than adults. As a result, the potential dose of a chemical following dermal exposure is likely to be about 1.4 times greater in children than in adults (SCCNFP 2001). In addition, children are less able than adults to detoxify and excrete chemicals, and children's developing organ systems are more vulnerable to damage from chemical exposures, and more sensitive to low levels of hormonally active compounds (NAS 1993; Janjua 2004). Children also have more years of future life in which to develop disease triggered by early exposure to chemicals (NAS 1993).” According to K. Aleisha Fetters, nutrition author, “Oxybenzone has been linked to low birth weights—a risk factor for future coronary heart disease, hypertension, type 2 diabetes, and other diseases. It's also known to interfere with the body's hormones, which may cause developmental problems in unborn babies.”



Images provided by http://northshoresurfgirls.com/oxybenzone-suncreen/



Oxybenzone is of concern particularly in Hawaiian waters. Dr. Kruszelnicki claims, “Oxybenzone can be toxic to baby coral at levels as low as 62 parts per trillion. In plain English, that's equivalent to one drop in 6.5 Olympic swimming pools. Dr C. Downs surveyed reefs in Hawaii and the US Virgin Islands. His team measured levels as high as 1,400,000 parts per trillion. That's more that 20,000 times higher than the toxic levels.” The Department of Land and Natural Resources report levels at the Ahihi-Kinau Natural Area Reserve on Maui at 800 parts per trillion, which is 12 to 14 times the lethal dose for coral.

There is growing governmental support to ban oxybenzone sales in Hawaii. West Hawaii Today reports, “A nonbinding resolution asking the Legislature to ban oxybenzone in sunscreens is heading to the state Capitol, following a unanimous vote Wednesday (November 2, 2016) by the County Council.” Senator Will Espero, an Ewa Beach Democrat, is the author of the bill and says, “Banning sales of personal care products and education will be the focus of the legislation,” Espero said by email Wednesday. “Banning the sale of these sunscreens will automatically provide a huge reduction in use in Hawaii. This will help the coral and other marine life.” The Department of Land and Natural Resources is also focusing on reducing the use of oxybenzone by asking people not to wear any sunscreen containing the chemical. They have also posted a statement and a video on the hawaii.gov website that warns of the dangers of oxybenzone.

CONCLUSION

In conclusion, oxybenzone has been proven at very low levels to cause damage to coral DNA, coral larva mutations, and coral bleaching. There are also well founded concerns for its effect on human health, especially children. These include free radicals, endocrine disruption, allergic reactions, and low birth weights, which leads to higher risk of other health ailments. Climate change is by far the main culprit in the massive coral bleaching phenomenon we have been experiencing in the past few years. However, a healthy reef that is not being negatively affected by oxybenzone or other harmful pollutants is much more resilient to climate change. The amount of oxybenzone that is found in Hawaiian waters ranges from 12 to 20,000 times higher than the base toxic levels. Climate change requires a united global effort to combat on many fronts. The presence of oxybenzone in Hawaiian waters is something that each individual living in or visiting Hawaii has an opportunity to alter. Coral needs every advantage that it can get in order to survive rising ocean temperatures. These reasons are why it should be banned in Hawaii.

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From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, March 14, 2017 10:48 PM
To: EEPtestimony
Cc: Bmcd63@gmail.com
Subject: Submitted testimony for SB1150 on Mar 16, 2017 08:30AM

SB1150
Submitted on: 3/14/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Elizabeth McDermott	Individual	Support	No

Comments: Recent studies have made it abundantly clear that oxybenzone based sunscreens are damaging and contributing to the die off of Hawaii's coral reefs. While we can't do much to stop some of the stresses our reefs suffer, from climate change driven ocean warming and acidification, this is one area where we CAN act, tipping the balance to help our invaluable coral reefs. DLNR and Suzanne Case are all wet in suggesting that we should rely on to date minimally effective educational efforts in lieu of a ban, claiming that enforcement would be too difficult. The police don't catch every person speeding or failing to wear their seat belt. Still those laws act as a deterrent. And that is what this ban would do. I can't count the number of times I have watched both residents and tourists douse themselves in chemical sunscreen then jump directly into the ocean. With this ban in place I could inform them that this is no longer allowed, and hurting our reefs, and direct them to alternatives- like the zinc oxide based sunscreen I use while swimming for hours. A quick glance at the bottle lists the active ingredients. That is all that would be required for enforcement by authorities, with most people applying their sunscreen at the beach. It's time to get these slimy, sheen producing chemicals out of our ocean, off our corals, out of the fish we eat, and out of our bodies. Hawaii of all states should be taking the lead on this. Or we will soon have no reef left. Pass the bill.

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From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, March 14, 2017 6:56 PM
To: EEPtestimony
Cc: mjellings@hawaii.rr.com
Subject: *Submitted testimony for SB1150 on Mar 16, 2017 08:30AM*

SB1150
Submitted on: 3/14/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Carl M Jellings Sr	Individual	Support	No

Comments:

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The following information is being submitted with respect to supporting SB1150 SD2 Banning Oxybenzone Containing Products While on the Beach or in the Ocean

Oxybenzone concentrations in water are at or above the Lethal Concentration 50 levels observed for many species of coral/aquatic life and higher than the reported predicted no effect concentration level in wastewater treatment plants (WWTP) in some parts of the world. Oxybenzone is known to bioaccumulate in all types of waters, concentrating in fish, which we in turn eat. Urine content of Oxybenzone in humans, regardless of female (gravid or non-gravid), male or child is disconcerting and appears to be directly related to application of products that contain the chemical, but may very well be increased by washing it off our bodies and having it return in our drinking water. Oxybenzone has been shown to react with chlorine, producing hazardous by-products that can concentrate in swimming pools and WWTP. Research scientists from all parts of the globe are finding Oxybenzone at high levels not just in water, but in human/animal tissues and fluids with concerns of estrogenic and anti-androgenic activity making it unclear as to what the potential health effects may be (in addition to the chemical being known to produce allergic, photo-allergic and contact urticaria reactions in humans). Lastly the apparent rise in skin cancer rates appears to be more likely attributed to life style decisions (less than 25% of the population choose to use screens) than having products that contain Oxybenzone ... there are more effective substitutes available currently in the marketplace that contain Zinc Oxide and/or Titanium Dioxide.

I am neither for nor against industry, but merely wish to protect the beauty and diversity of our environment and the health of people. Please do not allow a $9 billion sunscreen industry to control a $350 billion market in global coral tourism, food and erosion protection.

I realize that there is a lot of information in the above paragraphs, however, I would be happy to share the full publications (listed below) that support my statements as well as be happy to come to Hawaii to further discuss them with you personally – if given enough notice to find reasonable airfare.

Most Respectfully
Joe DiNardo
6920 Irish Creek Road
Vesuvius, Virginia 24483
1976 – 2013: CTFA/PCPC member working on various scientific committees/issues
1976 – 1993: Revlon-Almay, Inc.; Vice President of R&D and Corporate Vice President
1993 – 2013: Pharma Cosmetix Research, Executive Vice President and Chief Scientific Officer
2013 - Current: Scientist Emeritus

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SB1150 should go into effect immediately. 2059 is too late. There are alternatives that sunscreen manufacturers can use. Protect our coral reefs now. So many other environmental factors causing problems as well. No more to be said. Please modify this to start at the beginning of 2018!!!

Mahalo

James Zampathas
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Kamuela Hawaii, 96743

UNIVERSITY OF HAWAI'I AT MANOA
Kewalo Marine Laboratory
Pacific Biosciences Research Center
41 Ahui Street, Honolulu, HI 96813

March 15, 2017

Chris Lee, Chair
Committee on Energy and Environmental Protection
State of Hawai'i House of Representatives
The Twenty-ninth Hawaii State Legislature

Dear Chairman Lee and Committee Members,

I am writing in support of Bill SB1150 SD2: "Relating to Preserving Coral Reefs." I am a coral reef scientist employed at the University of Hawaii at Manoa, a past president of the International Society for Reef Studies and served at the convener for the 13th International Coral Reef Symposium (ICRS) that was held at the Hawaii Convention Center in June, 2016.

Coral reefs throughout the world, including in Hawaii, are in serious decline as a result of coastal pollution, overfishing and the impacts of global climate change. These spectacular ecosystems support over 500 million people world-wide through their economic, cultural and ecological values and services. Hawaii's reefs alone are valued at $34 billion with an annual contribution to the State's economy of over $360 million. It's very clear, that whatever we do that is good for corals is also good for people, here and around the world.

The key consensus from the over 2,500 participants attending the 13th ICRS was that coral reefs are severely threatened but not doomed. The future of coral reefs and those who depend on them is tied to the development and implementation of sound, scientifically-based policies and practices. Climate change, an overriding problem, will take time and international cooperation to address. In order to buy time, we must address local stressors now, including coastal water quality. Removing oxybenzone exposure to corals is a sound step forward here in Hawaii and other jurisdictions where it is a documented problem.

The research performed by Dr. Craig Downs and his colleagues has demonstrated the negative effects of oxybenzone on corals, their ability to successfully reproduce and for their larvae to settle and grow on our reefs. They have also provided data to show that levels of oxybenzone from sunscreens are at levels that are negatively affecting our reefs. Hence, legislation that removes this stressor is science-based and appropriate policy, and I strongly support the proposed ban on oxybenzone based sunscreens in Hawaii. I would also suggest the language that prohibits the sale of these products in Hawaii, as that is a more appropriate means for addressing the problem without putting local residents and tourists in jeopardy for not knowing the law and hence, purchasing the problematic products here.

Protection against uv exposure can be achieved in a variety of ways that are far better for our reefs (and people) such as the use of rash guards and other uv blocking water wear, and sunblocks with non-nanotized and coated zinc oxide and titanium dioxide that are widely available. I thank the members of the Hawaii Legislature for taking this wise approach to helping our reefs at a time when they need all of the help we can provide.

Respectfully,

Robert H. Richmond, Ph.D.
Research Professor and Director

From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, March 15, 2017 2:45 PM
To: EEPtestimony
Cc: marilynmick@pobox.com
Subject: Submitted testimony for SB1150 on Mar 16, 2017 08:30AM

SB1150
Submitted on: 3/15/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Marilyn Mick	Individual	Support	No

Comments: Oxybenzone is a chemical commonly found in sunscreens and has been proven to harm coral reefs. Therefore I strongly support this bill.

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To: EEPtestimony
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Subject: *Submitted testimony for SB1150 on Mar 16, 2017 08:30AM*

SB1150
Submitted on: 3/15/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Terez Amato Lindsey	Individual	Support	No

Comments:

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PERSONAL CARE
PRODUCTS COUNCIL

March 15, 2017

The Honorable Chris Lee
Chairman, Committee on Energy & Environmental Protection
Hawaii State Capitol, Room 325
415 South Beretania Street
Honolulu, HI 96813

RE: Opposition to SB 1150

Chairman Lee:

On behalf of the Personal Care Products Council (the Council), I am writing to express opposition to Senate Bill 1150, which would prohibit the use or application of sunscreen or cosmetics containing oxybenzone while on a beach or in the ocean. SB 1150 is under consideration by the Committee on Energy & Environmental Protection on March 16, 2017.

The Council is the leading national trade association representing the cosmetic and personal care products industry. The Council's approximately 600 member companies manufacture and distribute the vast majority of products marketed in the U.S. As the makers of a diverse range of products that consumers rely on daily, from sunscreen, shampoo, and toothpaste to antiperspirant, moisturizer and lipstick, personal care product companies are global leaders committed to safety, quality and innovation.

Senate Bill 1150 is not based on proven science, but rather is based on a single laboratory experiment that lacks sufficient scientific evidence connecting a sunscreen ingredient to coral bleaching. Regulations and legislation should be based on validated methods, reproducible studies, and conducted by more than one independent lab. The laboratory experiment was based on preliminary research conducted under exaggerated laboratory conditions, which do not accurately reflect the complexity of the natural marine environment. According to noted scientists, coral requires an elaborate ecosystem to survive. Transporting coral to an artificial setting alone, such as a laboratory, makes the coral less viable and likely to die in the face of any disturbance. In addition, the data presented by Downs *et al.* (2015) raise questions over the validity and reliability of the study's analytical and toxicological findings.

In a recent news article, Terry Hughes, Director of the Australian Research Council Centre of Excellence for Coral Reef Studies at James Cook University, suggests that extrapolations asserting sunscreen is damaging the world's coral "are a bit of a stretch." He continues, "the conclusion from the media is sunscreen is killing the world's coral, and that's laughable." Another study involving five weeks of chronic exposure to UV filters at concentrations above those reported in natural sea waters reported that sunscreens did not induce coral bleaching nor reduce the photosynthetic efficiency of the symbiotic micro-algae.

The threat to the world's coral reefs is a very serious concern. According to the U.S. National Oceanic and Atmospheric Administration's (NOAA) Coral Reef Conservation Program, coral reefs are impacted by an increasing array of hazards – primarily from global climate change, ocean acidification, and unsustainable fishing practices. Climate change and ocean warming are the most notable culprits for reef bleaching. According to NOAA, coral bleaching events have occurred as the world's oceans temperatures have increased to the warmest levels recorded since measuring began in the late 19th century.

Sunscreen products are vital to human health. A state-specific restriction on the use of this product would put the citizens of Hawaii and tourists visiting the state at great risk. The U.S. Food and Drug Administration (FDA), the Centers for Disease Control and Prevention (CDC), the U.S. Surgeon General, the American Academy of Dermatology (AAD), the Skin Cancer Foundation and health care professionals worldwide emphasize that using sunscreens is a critical part of a safe sun regimen. The dangers of sun exposure are clear and universally recognized by public health professionals and dermatologists. The National Institutes of Health Report on Carcinogens identifies solar UV radiation as a 'known human carcinogen.' A single bad burn in childhood greatly increases the risk of developing skin cancer later in life.

Oxybenzone is an FDA approved critical ingredient to the U.S. sunscreen market. It is a broad spectrum sunscreen, absorbing both UVA and UVB rays, that also photostabilizes other sunscreens to provide long lasting protection. The cost of oxybenzone containing sunscreens is substantially less than other alternative ingredients. Consumer costs for effective sunscreen products that have the same or similar high SPF levels will increase significantly with no measurable environmental impact.

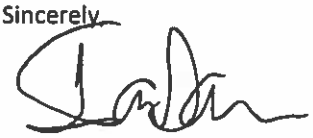
SB 1150, although well intended, lacks the necessary scientific evidence to demonstrate that this sunscreen ingredient is in any way responsible for coral bleaching. Moreover, skin cancer is the most commonly diagnosed cancer in the United States. We fear this legislation will create confusion, put consumers' health at risk and potentially discourage the use of sunscreens – an important part of a safe sun regimen. Oxybenzone based sunscreens are affordable daily use products that have excellent skin cancer prevention properties that cannot be easily attained using alternative ingredients.

Since this legislation is based on one, selectively chosen, laboratory experiment, it would seem appropriate to support further research, and not rush to judgement.

Please oppose SB 1150.

Thank you for your consideration.

Sincerely,



Iain Davies, Ph.D.
Senior Environmental Scientist
Personal Care Products Council

Cc: Members, Committee on Energy & Environment

From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, March 15, 2017 11:47 PM
To: EEPtestimony
Cc: mkhan@hawaiiantel.net
Subject: Submitted testimony for SB1150 on Mar 16, 2017 08:30AM

SB1150
Submitted on: 3/15/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Leimomi Khan	Democratic Party of Hawaii, Hawaiian Affairs Caucu	Support	No

Comments: Aloha, The Hawaiian Affairs Caucus, DPH, urges your support of SB1150 SD2. Researchers have found oxybenzone concentrations in some Hawaiian waters at more than thirty times the level considered safe for coral. From a spiritual and Hawaiian cultural view, the Kumulipo, a Hawaiian Creation Chant, tells us that the first organism born was the coral polyp, a very small and simple organism that was the basic building block for life in the seas. Thus, we must protect the coral. As an island community, coral reefs help protect our coastlines from the damaging effects of wave action and tropical storms and provide habitats and shelter for many marine organisms. Healthy reefs contribute to our economy through tourism. Diving tours, fishing trips, hotels, restaurants, and other businesses based near reef systems provide jobs and contribute to the economy. Please adopt this bill.

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LATE

CHPA

founded 1881

March 15, 2017

The Honorable Chris Lee
Chair, Committee on Energy and Environmental Protection
Hawai'i House of Representatives
Hawai'i State Capitol, Room 436
Honolulu, HI 96813

RE: Opposition to S.B. 1150 SD2 (English et al.) – Prohibiting the use or application of sunscreen, sunblock, or cosmetic containing oxybenzone while on a beach or in the ocean

Dear Chairman Lee,

I am writing on behalf of the Consumer Healthcare Products Association (CHPA) in opposition to S.B. 1150 SD2, which is scheduled to be heard by the House Committee on Energy and Environmental Protection on Thursday, March 16. S.B. 1150 SD2 proposes to ban the use of sun protection products containing oxybenzone, an ingredient approved by the U.S. Food and Drug Administration (FDA). While our industry shares the legislature's concern with the health of coral reefs, there is absolutely no evidence that prohibiting the use of oxybenzone will improve the health of coral reefs. Moreover, such a prohibition will likely have adverse effects on the health of Hawaiian residents and visitors, who depend on products containing oxybenzone for high sun protection factor (SPF) protection against damaging sun rays.

CHPA is the 135-year-old trade association representing the leading manufacturers and marketers of over-the-counter (OTC) medicines and dietary supplements – including the makers of valuable sunscreens relied upon by millions of consumers annually. Every dollar spent by consumers on OTC medicines saves the U.S. healthcare system $6-$7, contributing a total of $102 billion in savings each year. CHPA is committed to empowering consumer self-care by preserving and expanding choice and availability of consumer healthcare products.

Oxybenzone is a safe, and effective ingredient approved by the FDA in 1978 and found in nearly 2,000 personal care products on the market today, including some of the most popular sunscreens, lip balms, and lotions designed to guard against sun damage. In fact, oxybenzone offers broad spectrum protection against both ultraviolet A (UVA) and ultraviolet B (UVB) rays that often contribute to skin cancer.

Importance of Protection Against Skin Cancer

Skin cancer is the most common form of cancer. Every year there are more cases of skin cancer in the United States than incidences of breast cancer, prostate cancer, lung cancer, and colon cancer combined. In fact, over the last 30 years, more people have experienced skin cancer than all other cancers combined. One out of five Americans will develop skin cancer in their lifetime, and one person

dies of melanoma (the deadliest form of skin cancer) every hour. The vast majority of melanomas are caused by the sun, and a person's risk of melanoma doubles if he or she has had more than five sunburns.

When used as directed, sunscreens containing oxybenzone have proven to be very effective in protecting skin against the sun's harmful rays. The FDA has acknowledged research that shows sunscreens aid in decreasing the risk of developing skin cancers and early skin aging. The FDA recommends use of a broad spectrum sunscreen with SPF values of 15 or higher regularly and as directed to protect against UVA and UVB sun rays as provided by oxybenzone sunscreen products. In addition, organizations including the American Cancer Society recommend the use of broad spectrum sunscreen products with at least SPF30. Broad-spectrum products with those SPF levels are necessary to appropriately protect a large portion of consumers spending time outdoors under conditions of moderate to high UV index, like when going to the beach. Oxybenzone is also a critical ingredient because it helps to stabilize other FDA-approved sun-filters when exposed to intense UV light. Without oxybenzone, adequate sun protection may not be achieved.

Oxybenzone and the Environment

We believe the recent coral bleaching events are of great concern, and have noted that coral experts around the world are unanimous in the opinion that global climate change is the major factor affecting coral health.[1] The most recent global coral bleaching event began in 2014, and is directly tied to the fact that the last three years have been the warmest years on record. Climate change is the main causal factor in high water temperatures, high UV exposure, and ocean acidification, all of which affects coral health and drives changes to local reef ecologies. The U.S. National Oceanic and Atmospheric Administration's (NOAA) Coral Reef Conservation Program notes that in addition to global climate change, critical factors include unsustainable fishing practices, coastal development, agricultural run-off, nutrient enrichment, and pollution from industry and sewage.[2,3] Craig Downs of the Haereticus Environmental Laboratory noted in an interview that "agriculture run-off and sewage are probably responsible for the historical collapse of coral reefs for the past 40 years."[4]

While many of the deleterious effects on coral reefs can be tied to human activity, there is no scientific evidence that under naturally-occurring environmental conditions, sunscreen ingredients are contributing to coral degradation. Terry Hughes, director of the Australian Research Council Centre of Excellence for Coral Reef Studies at James Cook University suggests that extrapolations asserting sunscreen is damaging the world's coral "are a bit of a stretch."[5] He continues, "the conclusion from the media is sunscreen is killing the world's coral, and that's laughable."[6] Coral bleaching events are happening all over the world, even in remote reefs with no local human interference.

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[1] Mydlarz et. al., 2010; Aeby et al., 2016.
[2] Fabricius, 2005; Messina and Biggs, 2016.
[3] http://coralreef.noaa.gov/issues/welcome.html
[4] No, your sunscreen isn't killing the world's coral reefs. http://mashable.com /2015/11/10/sunscreen-killing-coralreefs/.
[5] Ibid.
[6] Ibid.

Opportunity Cost

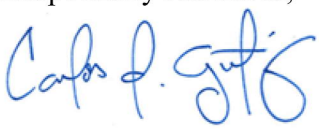
Over-the-counter sunscreen containing oxybenzone are an affordable, accessible first line of defense for individuals seeking protection from the sun's cancer causing UV rays. Banning the use of oxybenzone, an important UV filter ingredient, will drastically reduce the selection of sunscreen products available to Hawai'i's residents and tourists. The combination of reduced choice and less effective products could have the dangerous consequence of individuals using less protective sunscreens or worse – not using sunscreen at all – thereby, causing more skin damage and potentially increasing skin cancer rates.

Conclusion

No state has taken the drastic action of banning the use of oxybenzone beyond what is already mandated by the FDA. Since there have been no studies published to date that scientifically prove any sunscreen active ingredient is a hazard to coral reefs, CHPA respectfully encourages the House Committee on Energy and Environmental Protection to oppose S.B. 1150 SD2. A greater standard of evidence must be considered before a product so valuable to people's health is prohibited.

CHPA sincerely appreciates your consideration of our position on this important issue. If you have any questions regarding our position, please contact me directly at your convenience.

Respectfully submitted,



Carlos I. Gutiérrez
Vice President, State and Local Government Affairs
Consumer Healthcare Products Association
202-429-3521 cgutierrez@chpa.org

cc: Members, House Committee on Energy and Environmental Protection

LATE

March 15, 2017

To:

Chairman Rep. Chris Lee & Rep. Committee Members
Committee on Energy & Environmental Protection
State of Hawai'i House of Representatives, The Twenty-ninth Legislature

Dear Chairman Lee and the Committee Members,

My name is Caroline Duell, and I am the CEO of All Good products. Our vision is that people are inspired to live in balance with nature. We offer organic body care products including sunscreens that are reef friendly in every aspect because we believe that it is our responsibility to offer alternatives to harmful ingredients. All of our products are Oxybenzone free.

We are very excited that you will be hearing SB1150 SD2 in your committee. Preventing oxybenzone pollution of coral reefs is critical in protecting and bringing back Hawaii's already degrading coral reefs. We now know that oxybenzone impacts not just coral larvae and recruitment, it impacts other important species such as shrimp, fish, and sea urchins. Already, popular tourism areas that were teaming with life only 20 years ago are an underwater-wasteland. We see oxybenzone contaminating the fish that we eat in Hawaiian waters. Preventing oxybenzone pollution is an important tool to helping bring back coral and marine life, to be valued not just by residents, but tourists and the businesses that depend on the underwater paradise of Hawai'i.

You will be receiving SB1150, SD2 and it currently states that is "prohibits the use or application of products containing oxybenzone while on a beach or in the ocean unless it is a prescription drug. Though we support the SPIRIT of this legislative language, we cannot support its consequences. Such adverse consequences removes the onus of responsibility from the cosmetic industry and its associated D.C. lobby groups, and places it directly onto locals, tourists and businesses that interact directly with tourism. **THIS IS WRONG.**

We strongly encourage this committee to amend the bill to "**PROHIBIT THE SALE**" of oxybenzone products, similar to the language found in SB260, allowing for a medical prescription to be used. We know that public health is important, and we don't see a trade-off in protecting both public health and wildlife. There are ample commercial sunscreen products that contain safer active ingredients than oxybenzone, and these products are sold by the super-majority of the manufacturers that distribute their products in Hawaii (e.g., Avene, L'Oreal, Coppertone, Banana Boat, Neutrogena). These safer ingredients all comply with U.S. Food & Drug Administration's regulations on SPF values and UV protection and are cost-competitive to oxybenzone products.

Thank you for your vote for the oceans.

Ua Mau ke Ea o ka Aina i ka Pono

Mahalo, Caroline Duell
CEO, All Good

All Good | 1149 Market Ave | Morro Bay, CA 93442
allgoodproducts.com | 805.235.4521 | caroline@allgoodproducts.com

From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, March 15, 2017 11:19 PM
To: EEPtestimony
Cc: yappygrl1@aol.com
Subject: *Submitted testimony for SB1150 on Mar 16, 2017 08:30AM*

SB1150
Submitted on: 3/15/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Sandra Fujita	Individual	Support	No

Comments:

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From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, March 15, 2017 10:31 PM
To: EEPtestimony
Cc: birdofparadise@hawaii.rr.com
Subject: Submitted testimony for SB1150 on Mar 16, 2017 08:30AM

SB1150
Submitted on: 3/15/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Andrea Nandoskar	Individual	Support	No

Comments: Please support this bill banning oxybenzone! Studies confirm oxybenzone sunscreens harm coral reefs which are an irreplaceable ecosystem and necessary for the health of our oceans. We must educate the public about the harm oxybenzone causes and provide alternative sunscreens that effectively protect our skin without harming our reefs. We cannot allow our reefs to die on our watch. What will you tell your grandchildren? Mahalo for your stewardship of our ocean resources on behalf of your constituents.

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From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, March 15, 2017 9:50 PM
To: EEPtestimony
Cc: treasurer@oahu.surfrider.org
Subject: Submitted testimony for SB1150 on Mar 16, 2017 08:30AM

SB1150
Submitted on: 3/15/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Oahu Treasurer	Individual	Support	No

Comments: I vote in Support of this bill!

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From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, March 15, 2017 8:59 PM
To: EEPtestimony
Cc: ealoi@hawaii.edu
Subject: Submitted testimony for SB1150 on Mar 16, 2017 08:30AM

SB1150
Submitted on: 3/15/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Edward Aloi	Individual	Support	No

Comments: Edward Aloi 45 Stephen lane unit 822, Laha We must protect our valuable and threatened near shore coral reef ecosystem for the environmental and economic well-being of our islands.

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From: mailinglist@capitol.hawaii.gov
Sent: Thursday, March 16, 2017 7:36 AM
To: EEPtestimony
Cc: angkpix@hotmail.com
Subject: *Submitted testimony for SB1150 on Mar 16, 2017 08:30AM*

SB1150
Submitted on: 3/16/2017
Testimony for EEP on Mar 16, 2017 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
ANGELA	Individual	Support	No

Comments:

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EEPtestimony

From: Jodelle <getfitwithjodelle@gmail.com>
Sent: Thursday, March 16, 2017 10:19 AM
To: EEPtestimony
Subject: Testimony for EEP Hearing of SB1150 3-16 8:30 AM

While I may not live in Hawaii, I frequent it for it's beauty, divine spirit, innate vast creation, and wonderful natives both animals and humans. I would hate to see anything destroy it in the least bit that could be prevented.

Studies show oxybenzone sunscreens harm our health and that of our precious coral reefs. There are alternatives that protect our skin better while having less of a negative impact.

We can no longer ignore the studies, nor the reality of what's happening in our coastal waters. The reefs are dying, the sea life is contaminated. Our nearshore reefs equate to almost a billion dollars a year. Their failure could be an economic disaster in our not-so-distant future. Have we calculated how much the necessary restoration will cost? Will it be too late? This issue is getting attention globally and people are looking at Hawaii to make a stand.

We support the spirit of this legislation [though we believe amending it to include banning the sale of oxybenzone may be stronger]. We appreciate that in your efforts to represent the people of Hawai'i you will pass this bill and help protect human health, corals, and sea life. Mahalo!

Jodelle Fitzwater, Stand Up Paddle Professional Athlete, and proud Sponsor of Whale Trust of Maui
417-230-0554
getfitwithjodelle.com