

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. Box 3378
Honolulu, HI 96801-3378
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WRITTEN TESTIMONY ONLY

Testimony in SUPPORT of S.B. 1150, S.D. 1

RELATING TO PRESERVING CORAL REEFS

SENATOR GILBERT S.C. KEITH-AGARAN, CHAIR
SENATE COMMITTEE ON JUDICIARY AND LABOR

Hearing Date: March 2, 2017
Time: 9:30 a.m.

Room Number: 016

- 1 **Fiscal Implications:** No funding is provided to implement this measure.
- 2 **Department Testimony:** S.B. 1150 S.D. 1 seeks to prohibit the use and application of products
- 3 containing oxybenzone while on a beach. We defer to the Department of Land and Natural
- 4 Resources about the feasibility of implementing a prohibition on the use and application of
- 5 sunscreen containing oxybenzone by the general public on beaches in Hawaii.
- 6 The Department of Health is concerned about the release of chemicals, including oxybenzone,
- 7 from personal care products into the marine environment. Research by local and national coral
- 8 experts has shown that levels of oxybenzone in the marine environment may be high enough to
- 9 pose deleterious effects on coral, and may exacerbate coral bleaching. However, oxybenzone
- 10 plays an important role in reducing the risk of some forms of skin cancer, so balancing public
- 11 health protection is a very important consideration. DOH believes more evaluation of the health
- 12 and environmental impacts of restricting the use of oxybenzone is warranted. In addition, we are
- 13 not aware of any impending federal or state regulations to remove this chemical from sunscreens.
- 14 A key concern to be resolved is the availability of safe and effective alternatives, for example,
- 15 sunscreens containing titanium dioxide and zinc oxide nanoparticles are alternatives to
- 16 oxybenzone. However, titanium dioxide has been classified as a possible carcinogen when
- 17 inhaled in high doses. Additionally, when zinc oxide and titanium dioxide nanoparticles wash
- 18 off skin, they enter the aquatic environment, with unknown effects on our tropical marine
- 19 ecosystems.

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

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

- 5 **Offered Amendments:** None.

DAVID Y. IGE
GOVERNOR OF HAWAII



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

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

**Testimony of
SUZANNE D. CASE
Chairperson**

**Before the Senate Committee on
JUDICIARY AND LABOR**

**Thursday, March 2, 2017
9:30 AM
State Capitol, Conference Room 016**

**In consideration of
SENATE BILL 1150, SENATE DRAFT 1
RELATING TO PRESERVING CORAL REEFS**

Senate Bill 1150, Senate Draft 1, 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 we continue to explore other ways to inform the public on this issue.

Thank you for the opportunity to comment on this measure.

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
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STATE PARKS



HAWAII

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February 27 , 2017

TO: Honorable Chair Keith-Agaran and Members of the Judiciary & Labor Committee

RE: SB 1150 SD1 Relating to Preserving Coral Reefs
Support for hearing on March 2

Americans for Democratic Action is an organization founded in the 1950s by leading supporters of the New Deal and led by Patsy Mink in the 1970s. We are devoted to the promotion of progressive public policies.

We support SB 1150 SD1 as it would ban the use of sunscreen and other personal care products containing oxybenzone. The health of our coral reefs is of critical importance to the economic, cultural, and environmental wellbeing of our State. Oxybenzone has a detrimental impact on coral and other aquatic life even in minute amounts, including by lowering the temperature at which coral bleaches. There are other ways to protect skin from ultraviolet rays without destroying our reefs. Please vote to protect our marine resources.

Thank you for your consideration.

Sincerely,

John Bickel
President



February 27, 2017

TIM VANDEVEER
Chair

MARGARET WILLE
SEAN SMITH
Legislative Affairs Committee Co-Chairs

SB1150 SD1
Relating to Preserving Coral Reefs
Thursday, March 2, 2017 9:30 am State Capitol, Conference Room 016

Senator Gilbert Keith-Agaran, Chair
Senator Karl Rhoads, Vice Chair
Committee on Judiciary and Labor

Submitted on Behalf of the Democratic Party of Hawai'i

The Democratic Party of Hawai'i supports SB 1150 SD1 "Relating to Preserving Coral Reefs" (Oxybenzone ban) which bans the sale, offer for sale, or distribution for sale of sunscreen or personal care products containing oxybenzone. 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 Vandever (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



founded 1881

March 1, 2017

The Honorable Gilbert S.C. Keith-Agaran
Chair, Committee on Judiciary and Labor
Hawai'i State Senate
Hawai'i State Capitol, Room 221
Honolulu, HI 96813

RE: Opposition to S.B. 1150 SD1 (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 Keith-Agaran,

I am writing on behalf of the Consumer Healthcare Products Association (CHPA) in opposition to S.B. 1150 SD1, which is scheduled to be heard by the Senate Committee on Judiciary and Labor on Thursday, March 2. S.B. 1150 SD1 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 regarding damage to the environment and specifically coral reefs, there is 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 their proven protection against deadly skin cancers.

CHPA is the 135-year-old trade association representing the leading manufacturers and marketers of over-the-counter (OTC) medicines and dietary supplements. 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 sun protection factor (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.

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 is 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 Senate Committee on Judiciary and Labor to oppose S.B. 1150 SD1. 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 or CHPA's in-state counsel, Ms. Lauren Zirbel (LSZ Consulting) at 808-294-9968 or LaurenZirbel@gmail.com.

Respectfully submitted,



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

cc: Members, Senate Committee on Judiciary and Labor
Ms. Lauren Zirbel, LSZ Consulting



**Conservation Council
for Hawai'i**

Hawai'i's voice for wildlife

Kō Hawai'i leo no nā holoholona lōhiu



Testimony Submitted to the Senate Committee on Judiciary and Labor
By the Conservation Council for Hawai'i
Hearing: Thursday, March 2, 2017 9:30 am
Room 016

Support for SB 1150 SD 1 Relating to Preserving Coral Reefs

Chair Keith-Agaran, Vice Chair Rhoads, and Members of the Committee,

Aloha. The Conservation Council for Hawai'i supports SB 1150 SD 1, which prohibits the use or application of sunscreen, sunblock, or cosmetic containing oxybenzone while on a beach or in the ocean unless such product is prescribed.

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

Please help save our coral reef ecosystems. Pass SB 1150 SD 1. Mahalo nui loa for the opportunity to testify.

Marjorie Ziegler
Marjorie Ziegler



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President: Wayne Tanaka | Vice President: Koalani Kaulukukui | Secretary: Rachel Sprague
Treasurer: Les Welsh | Director: Anne Walton
Executive Director: Marjorie Ziegler | Administrator: Jonnetta Peters



Impact on Coral Reefs



By Akshay Gavai

Monday, April 28, 2014

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.

Company Profile

Goddess Garden is a producer of organic sunscreen products. Its headquarters and manufacturing unit are based in Longmont, Colorado. It was founded in 2004 by Nova Covington in response to her daughter having allergic reactions to traditional skin care products. The company produces a variety of organic sunscreen products for all age groups which have been categorized as follows:

- Baby – Sunscreen primarily for babies/toddlers
- Kids – Sunscreen primarily for children
- Facial – Sunscreen for the face for adults
- Everyday – Sunscreen for everyday use for adults

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.

To quantify the benefits as described above, questions such as the following would need to be answered:

How many coral reefs are saved from the usage of Goddess Garden products?

However, while thinking of the research required to answer such questions, I realized that it is extremely difficult to quantify the benefits on coral reefs from using a Goddess Garden product over a traditional one. There are just too many variables at play.

What would be better is for Goddess Garden to provide its existing and potential customers with the tools and knowledge necessary to purchase reef friendly sunscreen, which will ultimately help save coral reefs. By doing so, Goddess Garden can still achieve the objectives stated above without having to quantify something which is really immeasurable.

Hence, I have compiled the key findings from my research which can be used by Goddess Garden to achieve its objectives. This research is outlined below:

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.

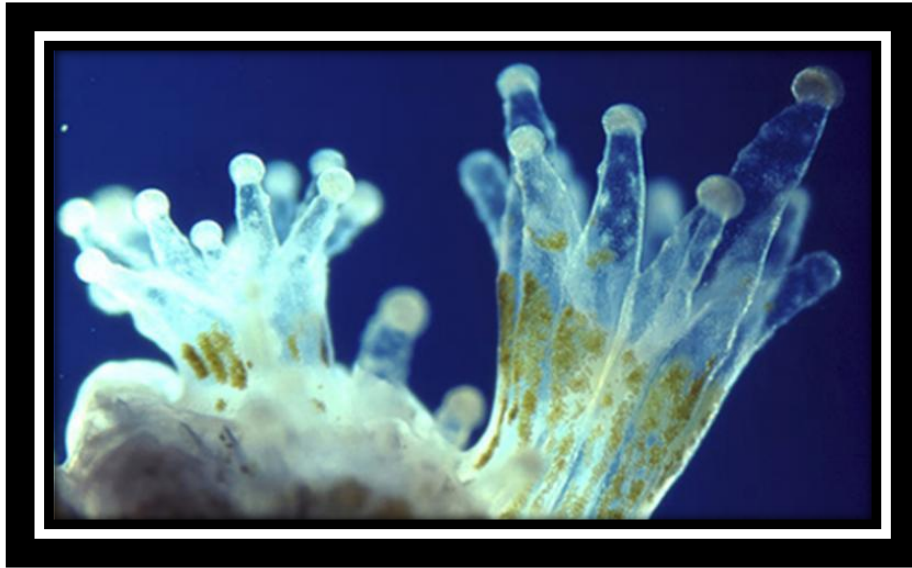


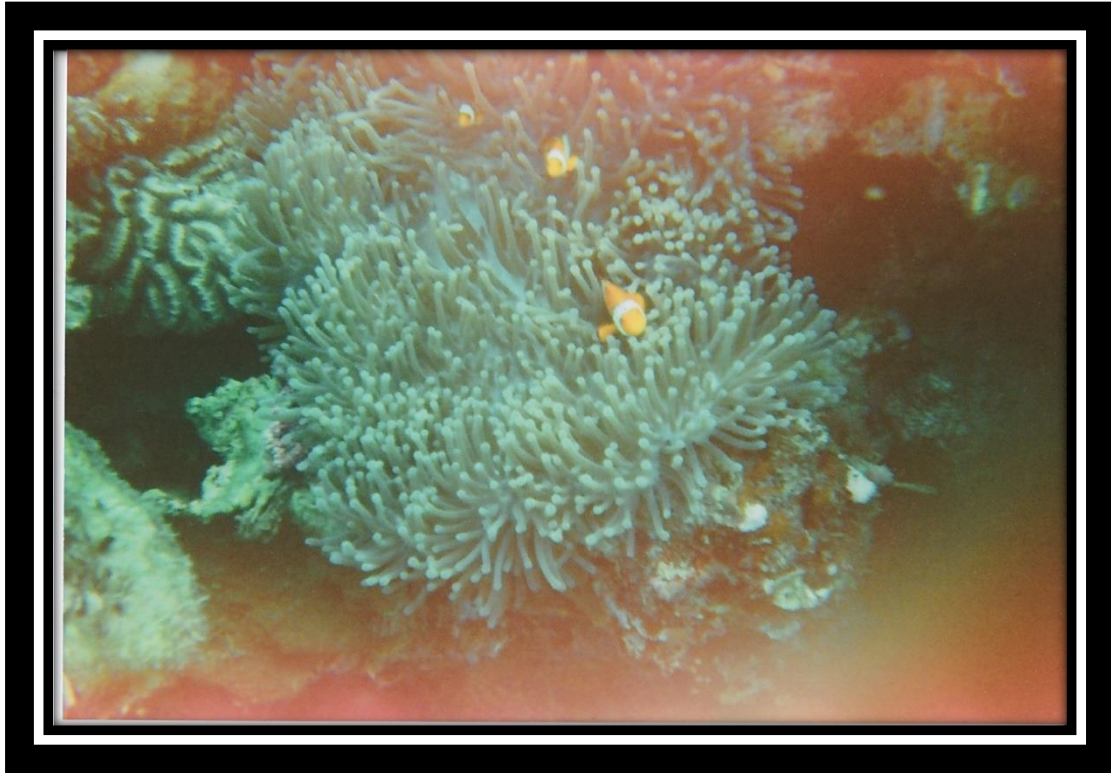
Image showing coral and the algae zooxanthellae. The zooxanthellae are the small brownish-green spots on the coral.

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.



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.
 - This includes about 4,000 species of fish, 800 species of hard corals and hundreds 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 CO₂ 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.

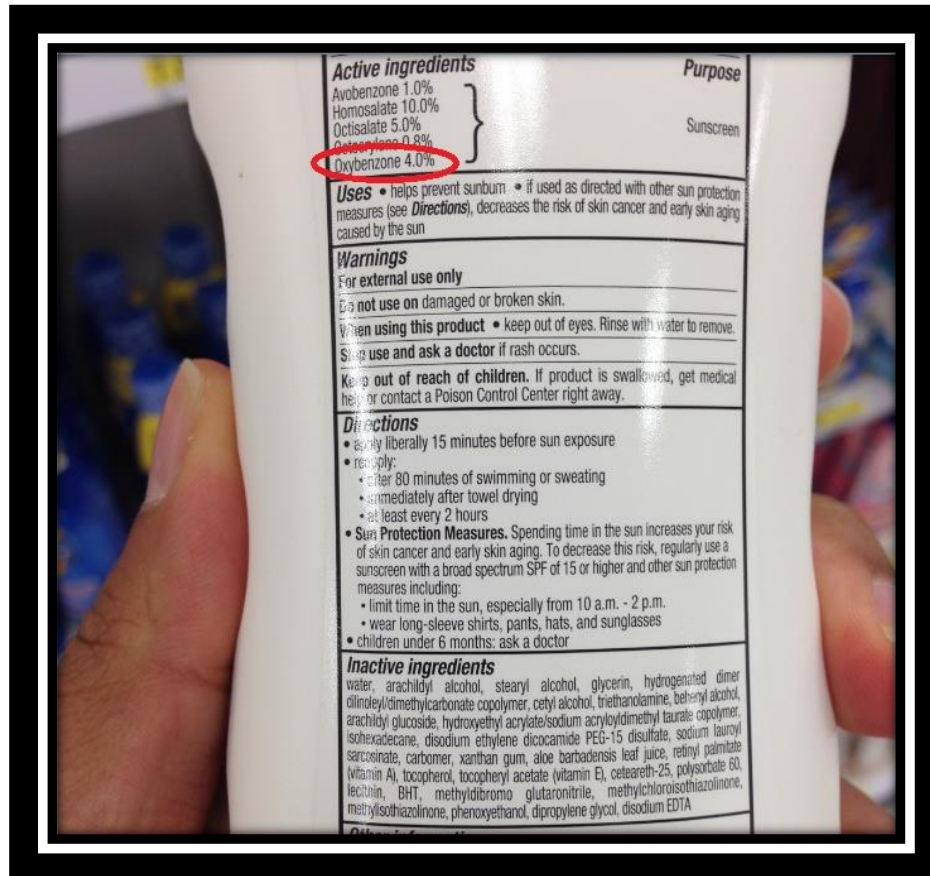
How do the Dirty Four Kill Coral Reefs?

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 manufacturers 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).

om/collections/reef-safe-suncare/products/reef-safe-biodegradable-sunblock-spf-45

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- View All
- After Sun Products
- Apparel
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- Eco-Friendly Sprays
- Novelty
- Specials
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- SPF Lotions
- Tanning
- Traveler Bags

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- Native Tan®
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- Traveler Bags
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Reef Safe™
Biodegradable Sunscreen
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- 80 minutes Water, Sweat, & Rub Resistant
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- Non-toxic to Sealife
- Bait Safe ~ Won't Kill or Contaminate your baits!

Reef-Safe brand listed on Tropical Seas' website

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: aloë 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.

Opportunity for Goddess Garden

Marketing Lens - Marketing Campaign

Goddess Garden is one of the few sunscreen manufacturers to not use any of the dirty four that are directly linked to coral bleaching. I believe Goddess Garden can use the research gathered above to create an effective marketing campaign that:

- Educates consumers about the importance of coral reefs
- Educate consumers about the ill-effects of sunscreen on coral reefs
- Empowers consumers with the information needed to make the right decisions when purchasing sunscreen

It will allow existing Goddess Garden's existing customers to understand:

- **The environmental benefits of using a Goddess Garden product vs. other sunscreens**
 - It will give existing customers one more reason as to why they have made the right decision by choosing Goddess Garden. It allows customers to feel good about the purchase they have made and informs them of their contribution towards preserving the environment.
 - It further educates existing customers about the products they are using (not just human health benefits but environmental benefits too)

It will allow Goddess Garden to entice potential customers to purchase its products by:

- **Giving potential customers one more reason why they should purchase Goddess Garden over other sunscreen manufacturers**
 - By highlighting the reduced impact on coral reefs by purchasing/switching to a Goddess Garden product

Methods of Communication / Marketing

Website – 'Why Natural Sunscreen' Section

Goddess Garden currently has a section on its website titled 'Why Natural Sunscreen'. This section details why a consumer should purchase a natural sunscreen such as Goddess Garden and primarily focuses on its health benefits. Though there is a table at the bottom of the page that lists 'reef-safe' as an environmental benefit, there is no clear information as to what is

meant by ‘reef-safe’ and there is little information regarding the overall impacts of sunscreen on the environment.



Section titled ‘Why Natural Sunscreen’ on Goddess Garden’s website

Hence, this is a great opportunity for Goddess Garden to augment its “Why Natural Sunscreen” section with information pertaining to the environmental impacts of the sunscreen industry and the benefits to the eco-system of using Goddess Garden. This page can be divided into two sections. One section can focus on its health benefits whereas the second section can focus solely on its environmental benefits, and more specifically, the impact on coral reefs.

Website – ‘Ingredients’ section

Currently, there is an ingredients section on the website which highlights all the ingredients used by Goddess Garden. This is a great initiative and is informative for existing and potential customers. Though it gives comprehensive information regarding the ingredients used in Goddess Garden products, it does not give any information as to which ingredients consumers should look out for (and avoid) when purchasing sunscreen. This information is critical as it can help consumers weed out the bad sunscreens. By knowing which ingredients are harmful, consumers can investigate their own sunscreens at home and while shopping and decide for themselves which is the right sunscreen to purchase.

Here is a screenshot of the existing page which currently only lists the ingredients used in Goddess Garden products:

Our Ingredients

Aloe Vera
 We use organic Aloe Vera plant for many different reasons. Not only is it a great moisturizer, but it is also very soothing to the skin (think of products with aloe to soothe sunburns). Aloe Vera is great in sunscreen for the same reasons why it is great to treat sunburns!

Sunflower - Helianthus Annuus Seed Oil
 We love the sunflower seed oil that we include in our sunscreens. Sunflower is a great moisturizer that has a lot of vitamin E, which acts as a powerful anti-oxidant. Our sunflower seed oil is certified organic, non-GMO, and is sourced right here in the US!

Soybeans - Glycine Soja Oil
 Goddess Garden's certified soybean oil comes from non-GMO crops sourced in the US. Soybean oil also serves a dual purpose as both a moisturizer and as a "fixative" that protects the essential oils we use in our products.

Minerals - Zinc Oxide and Titanium Dioxide
 The active ingredients are zinc oxide and titanium dioxide, unlike many other sunscreens that use active synthetic chemical ingredients such as oxybenzone and avobenzone. When zinc

Other Marketing Material

The research and findings can also be used on the following:

- On the back of Goddess Garden products (where ingredients are listed)
- Brochures or fliers (used during trade shows or promotional events)
- On the back of employee business cards

Operations Lens – 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

- How much water do we consume when manufacturing sunscreen? Are we efficient?
 - Since we have been examining the effects of our products on water resources (the oceans), we should take one step back and look at our total effect on water as a resource (consumption, pollution, etc.)

- How much energy do we consume through our manufacturing methods?
 - How much electricity do we consume? Is any of it through renewable resources?
 - What are our greenhouse gas emissions?

Waste

- What types of waste do we generate as a result of our manufacturing techniques?
 - How much of each type of waste do we generate?
 - Is any of this waste hazardous? If so, how is it treated?

Recycling

- What is the impact of our product packaging?
 - Is it recyclable? How much is recyclable? (Bottles currently may be but what about sample sachets?)
 - Are consumers aware of our recyclable packaging materials? (Is this indicated on our website and explicitly on our packaging?)

Supply Chain

- Are our partners (retailers, suppliers, etc.) helping us achieve sustainability?
- Can we do anything more with our supply chain partners to reduce our impact on the environment?

Ethical Lens – Corporate Social Responsibility

In its pursuit of providing healthy products for its consumers, Goddess Garden has shown its commitment to being a responsible organization. However, this is just the first step towards corporate social responsibility. We must examine how Goddess Garden can go above and beyond government regulations and industry standards to take its corporate social responsibility efforts to the next level. Here are some ways this can be achieved:

Transparency of Ingredients – Use of Material Safety Data Sheets (Reporting)

Though Goddess Garden lists the ingredients used for its products on its website (which is a great first step), there is no way to verify if these are the actual ingredients used in the products. Also, we are not sure if the claims made regarding the safety of the ingredients are true. Supplementing the current ingredients section of the website with Material Safety Data Sheets (MSDS) is a great way to portray the organization's commitment to being transparent and earn the trust of the consumer. MSDS sheets are used by many organizations whose products contain chemicals that have the potential of making contact with the skin. These are even used by organizations such as manufacturers of cleaning products (e.g. Ecolab) where there might be less direct contact with the skin in comparison to cosmetic products. Hence, one would imagine that

those products that are applied directly on the skin have MSDS sheets available for the consumer. Here is the link to Tropical Seas' MSDS sheet for its Reef-Safe products <http://www.tropicalseas.com/products/reef-safe-sunscreen-spf-30> (link to MSDS at bottom of page).

Stakeholder Dialogue – Partnerships with NGOs and Governments

It is great that Goddess Garden has decided to take the initiative to examine the impacts of its industry on coral reefs. By having consumers understand these effects and switch to Goddess Garden products, we are helping consumers make the right choices for the betterment of the environment and also improving our own position within the industry. However, true corporate social responsibility efforts are exhibited when an organization engages in an activity that does not deliberately result in any financial benefit for itself. For example, Goddess Garden can form partnerships with the following:

National Oceanic and Atmospheric Administration (NOAA)

NOAA is a principle member of the Coral Reef Task Force (CRTF), an initiative created in 1998 by the President of the United States to protect and conserve coral reefs. Being a principle member of the CRTF and as directed by The Coral Reef Conservation Act of 2000, NOAA has the responsibility to conserve coral reef systems. Hence, NOAA would be a great organization to partner with for Goddess Garden's mission of protecting the coral reefs. Here are some ways this can be done:

- Create educational programs for students. Perhaps NOAA has ties with school districts which could be leveraged to further increase the awareness of coral reef conservation. For example, The Orchid hotel in Mumbai, India partnered with an NGO to create educational CDs pertaining to sustainability that was distributed on Earth Day to students.
- Become a corporate partner with NOAA for its overall efforts towards coral reef conservation. This can be done by simply asking NOAA, "How can we further help towards the conservation of coral reef systems?"

The Going Blue Foundation

The Going Blue Foundation's mission is "*To raise funds for, and disburse sums to, projects that regenerate, or make use of, the world's bodies of water to further sustain life.*" It was co-founded by Professor Robert Danovaro, the very same gentleman who spearheaded the groundbreaking research that has been referenced in my research. Goddess Garden can form a partnership with The Going Blue Foundation by helping it to achieve its goals and vice-versa. For example:

- Goddess Garden could commit to donate a portion of its profits to projects undertaken by The Going Blue Foundation

- Goddess Garden can advocate The Going Blue Foundation to create a certification that certifies sunscreens as 'reef-safe'. Goddess Garden could be the first sunscreen manufacturer to get certified and urge consumers to buy products from manufacturers that are 'reef-safe' certified. This will encourage other manufacturers to get certified. Goddess Garden can achieve this while ensuring that there is no conflict of interest.
- Goddess Garden can help The Going Blue Foundation create awareness regarding issues that pertain to achieving its mission. This can be done through information provided on Goddess Garden's website and other mediums of communication used to reach customers (the newsletter).

Overall Recommendation

First, I would recommend that Goddess Garden use the research I have gathered and embed it in its overall marketing efforts (Marketing Lens).

Next, Goddess Garden should explore the opportunities discussed in the Operational Lens and Ethical Lens of this paper.

This will ensure that Goddess Garden not only achieves its primary objective of creating awareness pertain to sunscreens and coral reefs, but also provides a roadmap for it to engage in the overall sustainability efforts that our planet seeks to achieve.

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

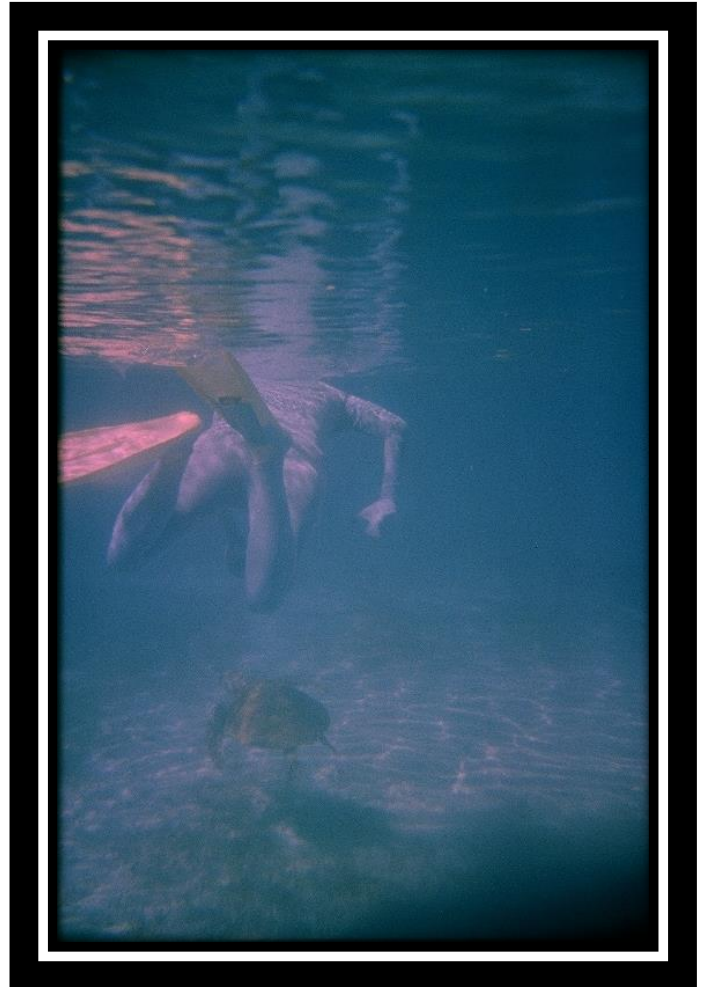


Photo of myself following the turtle

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 - <http://www.alertdiver.com/Sunscreens-Coral-Bleaching>;
 - http://cdhc.noaa.gov/docs/Site%20Bulletin_Sunscreen_final.pdf;
 - <http://www.telegraph.co.uk/travel/travelnews/759600/Tourist-sunscreen-killing-off-coral-reefs.html> ;
 - <http://oceanservice.noaa.gov/news/feb14/sunscreen.html>
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- <http://www.aethic.com/>

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Other Useful Information

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2. Toxicology effects of UV filter benzophenone -2. <http://link.springer.com/article/10.1007/s10646-013-1161-y>
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NAPILI

Bay and Beach Foundation

*PO Box 10823
Lahaina, HI 96761*

February 27, 2017

Honorable Members of Hawaii State Legislature:

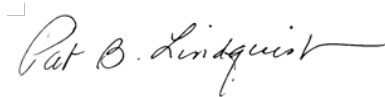
We have recently become aware of the growing body of scientific knowledge regarding deleterious effects of oxybenzone on a variety of reef life.

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 both coastal and inland waters.

Napili Bay and Beach Foundation, Inc. and I support [Senate Bill 1150](#) as effective means to reduce oxybenzone pollution, without any cost to State budgets, thus helping protect the State's valuable coral reefs.

Respectfully submitted,



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

Pat B. Lindquist, President
Scott Ullrich, Director

Gregg Nelson, Vice-President
Jamie Lung-Ka'eo, Director

Nane Aluli, Secretary
Dana Reed, Director



RAW ELEMENTS

CERTIFIED NATURAL SUNSCREEN

House Leadership-

Thank you for all that you do.

I would like to express our very strong concern on the harmful effects of Oxybenzone on our coral reefs and the bills to ban.

We hope that you take strong consideration to pass these bans as our reefs are so critical. We as industry, consumers and protectors can all do a better job in our practices. This would be a great step.

Our most clear grounds:

- (1) the evidence is strong that this chemical is polluting Hawaii's reefs - contaminating coral, fish, and most likely sea turtles and marine mammals
- (2) Oxybenzone increases the sensitivity of corals to undergo bleaching, especially as it relates to climate change
- (3) Oxybenzone can kill coral and other marine life, especially juveniles (The FDA requires that labeling of products containing oxybenzone should state "that it must not be used on children less than 6 months old).
- (4) Oxybenzone can PREVENT the restoration of Hawaii's already devastated reefs from this last mass bleaching event

We appreciate your strong consideration on this matter, thank you!!

A handwritten signature in black ink, appearing to read 'Brian A. Guadagno', with a long, sweeping underline.

Brian A. Guadagno

Founder / CEO

Fax: (888)-545-9706

brian@rawelementsusa.com

www.rawelementsusa.com

From: mailinglist@capitol.hawaii.gov
To: [JDLTestimony](#)
Cc:
Subject: Submitted testimony for SB1150 on Mar 2, 2017 09:30AM
Date: Saturday, February 25, 2017 9:17:01 AM

SB1150

Submitted on: 2/25/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Robert Wintner	Snorkel Bob's Hawaii	Support	No

Comments: Aloha Chair Agaran & JUD Committee Members, I support SB1150 and urge you to support it too. Snorkel Bob's puts more people in the ocean across Hawaii than any other business. Sunscreen damage to coral polyps is not new--we stopped selling sunscreen in 2005, because Hawaii reefs need our support every bit as much as they support us. In this new era of respect for public trust resources--of ending the unfortunate lack of reef kuleana--banning oxybenzoate sunscreen is easy, obvious and just. Please pass SB 1150. Thank you, Robert Wintner, President, Snorkel Bob's Hawaii

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We Strongly Support SB 1150

Feb 9th 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 support SB1150.

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 supporting bills like SB1150.

Yours,

Ray Hutaff
Vice President

From: mailinglist@capitol.hawaii.gov
To: [JDLTestimony](#)
Cc:
Subject: Submitted testimony for SB1150 on Mar 2, 2017 09:30AM
Date: Monday, February 27, 2017 9:11:21 AM

SB1150

Submitted on: 2/27/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Joseph Kohn MD	We Are One, Inc. - www.WeAreOne.cc - WAO	Support	No

Comments: Because once they are gone, they will be gone for a long time.
www.WeAreOne.cc

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Strongly Supporting SB 1150

Feb 25th 2017

Aloha Chairs and Members of the Committee:

On behalf of all our employees at Maui Kayak Adventures we strongly urge you to support bills SB 1150. 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 SB 1150 to make Hawaii a tourism leader.

Mahalo,

Kathi Sollars
Manager

Maui Kayak Adventures , 551 S Kihei Rd Kihei, HI 96753 United States (US)

<https://maui kayak adventures.com>



Support SB 1150

Feb 25th 2017

Aloha Chairs and Members of the Committee:

We strongly support Sb 1150 for a number of reasons:

1. Banning oxybenzone which harms marine life and disrupts reef activity causing damage.
2. The success of SB1150, SD1 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 SB 1150!

Mahalo,

Daniel Logtenberg
President



Do The Right Thing Support Sb 1150

Feb 25th 2017

Aloha Chairs and Members of the Committee:

We are writing to you today to encourage you to accept SB 1150, SD1 as the right pathway forward to protect and improve our reef system. 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



Please Support SB 1150

Oxybenzone Ban

Feb 25th 2017

Aloha Chairs and Members of the Committee:

On behalf of myself and the entire team at Maui Surf Lessons we strongly support the passage of SB 1150, SD1. 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 support Sb 1150 and make it known that Hawaii is at the forefront of eco-friendly and sustainable tourism efforts worldwide.

Mahalo,

Tim Lara
Owner

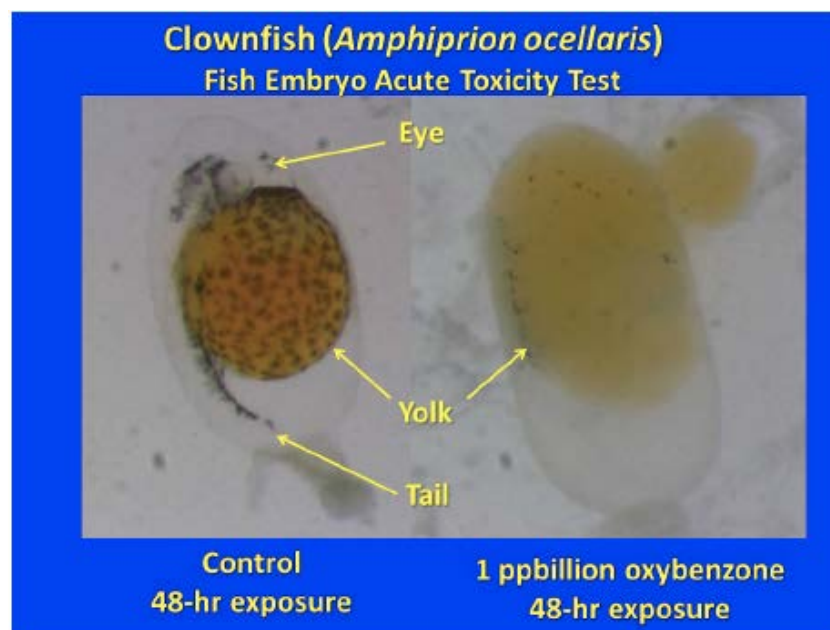
February 25, 2017

SUPPORTING SB1150, SD1 to PRESERVING CORAL REEFS
By Prohibiting the Use of Sunscreens Containing Oxybenzone

Dear Senators Keith-Agaran, Karl Rhoads, and other Members of the
Committee on Judiciary and Labor,

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**.

Oxybenzone in the marine environment 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 the developmental success of almost ALL of Hawaii's marine biodiversity. Its greatest **DANGER** is as a poison that can kill or maim juveniles of corals, sea urchins, and fish. This poison **THREATENS** the restoration of Hawaii's already degraded coral reefs by preventing juvenile marine life into recruiting into an area that is polluted by oxybenzone. 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 SCIENCE is strong that Oxybenzone poses a threat to marine life, from directly killing juveniles to inducing pathological behaviors in fish. There are at least 5 other scientific papers that have been published in peer-reviewed scientific journals since 2015 on the Ecotoxicology of Oxybenzone on aquatic and marine life. There are over 20 papers in the scientific literature that demonstrate the toxic effects in aquatic and marine life, or the contamination of wildlife. We don't really understand why the U.S. Food and Drug Administration has not banned the use of this chemical already. There are over 50 scientific papers describing the toxicity of Oxybenzone to humans and mammalian laboratory models! A recent study has provided strong evidence of an association between prenatal exposure of human fetuses and the occurrence of Hirschsprung's Disease – a congenital intestinal disease that strikes between 1:5,000 to 1:2,000 infants (Huo et al. (2016) The relationship between prenatal exposure to oxybenzone and Hirschsprung's disease. Chemosphere 144:1091-1097).

A swimmer's hand coated with a sunscreen lotion can be the HAND OF DEATH to a coral. Where the hand print has touched the coral, the coral tissue is BLEACHED!



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 in mitigating oxybenzone pollution in both coastal and inland waters.

Haereticus Environmental Laboratory and I support House Bill 1150, SD1 as being an effective means in reducing oxybenzone pollution, preserving and restoring Hawaii's coral reefs, and protecting the resource that so many local businesses depend upon.

Respectfully submitted,



Craig A. Downs, Ph.D.
Executive Director



Strongly Supporting SB1150

Feb 25th 2017

Aloha Chairs and Members of the Committee:

On behalf of myself and the entire team at Hawaiian Paddle Sports we strongly support the passage of SB1150, SD1. 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.

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 SB1150, SD1 and make it known that Hawaii is at the forefront of eco-friendly and sustainable tourism efforts worldwide.

Mahalo,

Tim Lara
Owner



Support of SB 1150, SD1

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

Feb 25th 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 support Senate Bill 1150, SD1 which bans the sale of sunscreen and products that contain oxybenzone.

The growing number 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.

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

From: mailinglist@capitol.hawaii.gov
To: [JDLTestimony](#)
Cc:
Subject: Submitted testimony for SB1150 on Mar 2, 2017 09:30AM
Date: Wednesday, March 1, 2017 8:16:48 AM

SB1150

Submitted on: 3/1/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

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

Comments: I live in Waikiki and love the ocean as well as realize the importance of the marine ecosystem. I have been fortunate to visit Coconut Island in Kaneohe and hear firsthand about the detrimental effects of oxybenzone on coral. Please help protect precious corals by banning oxybenzone sunscreens. Mahalo for supporting this bill and protecting our precious ocean resources.

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: [JDLTestimony](#)
Cc:
Subject: Submitted testimony for SB1150 on Mar 2, 2017 09:30AM
Date: Monday, February 27, 2017 1:42:25 PM

SB1150

Submitted on: 2/27/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Andrew Ma	Individual	Support	No

Comments: I think we should past this bill because it will protect our beaches from the harmful effects of oxybenzone.

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Angela T. Beck

Aloha,

I am testifying as an individual citizen in support of SB1150 SD1 prohibiting the use of oxybenzone at the beach or on the ocean. Our coral reefs here in Hawai'i and around the world are facing a great many threats: damage from boats and divers, overfishing, and a number of issues related to increasing carbon dioxide in the atmosphere: sea level rise, increased number of severe storms, and most importantly oceans that are warming and becoming more acidic, leading to coral bleaching and a weakening of corals' calcium carbonate skeleton. Reefs that are already stressed due to one or two of these problems are even more vulnerable to other threats.

Coral reefs cover a very small percentage of the oceans' total area, but harbor 40% of ocean life. A great diversity of species depend on coral reefs, and millions of human beings around the world cannot live without healthy reefs as the source of their livelihood and protection of their homes.

Oxybenzone has been shown to contribute to coral bleaching, a problem that is already increasing due to warming oceans and in severe cases can lead to the death of corals. Recent studies have shown that even a single drop of oxybenzone sunscreen can cause measurable damage to fragile reefs. It is our responsibility to protect the families that depend on reefs for food, protect our economy that depends heavily on our beautiful reefs and the beautiful beaches they create and shelter, protect our shorelines from storms and waves for which reefs are our first line of defense, and protect the unique biodiversity of native species that depend on coral reef ecosystems.

I am strongly in support of a ban on oxybenzone. We must do everything we can to help our corals survive.

Mahalo,

Angela Tiare Beck

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Subject: Submitted testimony for SB1150 on Mar 2, 2017 09:30AM
Date: Wednesday, March 1, 2017 9:02:35 AM

SB1150

Submitted on: 3/1/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Arianna Feinberg	Individual	Support	No

Comments: I am lifelong Maui resident, active Democrat and frequent ocean user and I support SB1150 to ban oxybenzone sunscreen. We should do everything in our power to help our struggling coral reef. It is very bothersome that at many popular snorkeling sites, the coral reef is noticeably degraded from the time I was a kid. Please pass SB1150 as we can easily use sunscreen that does not have Oxybenzone in it and the reef will be helped.

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Subject: *Submitted testimony for SB1150 on Mar 2, 2017 09:30AM*
Date: Saturday, February 25, 2017 6:45:03 PM

SB1150

Submitted on: 2/25/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Barbara Best	Individual	Support	No

Comments:

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TESTIMONY

Mike Gabbard; Chair
Agriculture and Environment committee
Bill: HB600 HD1
Date: Thursday, March 2, 2017
Time: 9:30
Place: Conference Room 016
State Capitol
415 South Beretania Street

My name is Brianna Hull and I am a Junior at Mililani High school. I am testifying on the measure of banning the sale and distribution of oxybenzone. I am testifying in favor of this ban. I support this ban because our Hawaiian islands flourish with coral reefs and tourists. The tourists and locals have been threatening the reefs unconsciously, with their use of sunscreen. The sunscreen contains a toxic contaminant called oxybenzone and this contaminant kills our reefs. It causes coral bleaching. The toxic chemicals in the water cause stress to the coral causing them to release the zooxanthellae which is a microscopic algae that feeds the reef. Without food the reef dyes and becomes permanently bleached leaving it lifeless. If tourists come to visit our reefs then there should be reefs for them to look at, if oxybenzone continues to be produced and sold I fear the reefs will become bleached to the point of a loss in tourism. Our state is tourist dependent, so let's save our reefs and keep our tourists. I solemnly support this ban and am testifying for it.

Contact me:
Brianna Hull

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Subject: *Submitted testimony for SB1150 on Mar 2, 2017 09:30AM*
Date: Wednesday, March 1, 2017 10:35:25 AM

SB1150

Submitted on: 3/1/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Bridget Walker	Individual	Support	No

Comments:

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Gilbert S.C. Keith-Agaran
Senate Committee on Judiciary and Labor

Bill SB 1150 SD1

Thursday, March 2, 2017

9:30 a.m in Conference Room 016, State Capitol

Hello, my name is Bryce Yonemori. I am testifying on bill SB 1150 SD1, which would “prohibit the use or application of sunscreen, sunblock, or cosmetic containing oxybenzone while on a beach or in the ocean.” I support this bill but have some concerns on it.

It is proven that oxybenzone has detrimental effects on coral reefs, which are important to save for Hawaii’s economy and tourism, cultural value, and beauty. Prohibiting the use of sunscreen containing oxybenzone would benefit the reefs because they wouldn’t be exposed from it and keep them healthier. However, there is the question on how this would be enforced. Would there have to be an officer patrolling the beaches, watching for beachgoers to put on sunscreen, and then confront the person and take the sunscreen to determine if it contains oxybenzone? Or would sunscreen containing oxybenzone be prohibited from being sold in stores?

The bill is a good idea to protect our beloved reefs, but has to be smartly enforced, something that may be very hard to do. I am in support of this bill, but hope that it is implemented strategically and smartly.

Bryce Yonemori

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SB1150

Submitted on: 2/26/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Chris Mentzel	Individual	Support	No

Comments:

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SB1150

Submitted on: 3/1/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Christina Leopold	Individual	Support	No

Comments: I support this measure to reduce impacts of human presence on coral reefs. Adopting rules regarding sunscreens will help keep our reefs healthy and beautiful. Signed, Christina Leopold Puna resident; active voter

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SB1150

Submitted on: 2/28/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Daniel Logtenberg	Be Reef Safe	Support	No

Comments: We strongly support this bill as our reefs need a chance to survive and continue to be a major asset to the tourism industry.

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SB1150

Submitted on: 2/27/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Dave Strang	Individual	Support	No

Comments: The two chemical product organizations which oppose this bill cite a quote from Terry Hughes to support their opposition to this bill, but I believe they took his quote out of context. He was quoted as saying, "the conclusion from the media is sunscreen is killing the world's coral, and that's laughable." He is not saying that sunscreen doesn't harm corals. He's just saying that sunscreen by itself hasn't led to the worldwide threat to coral reefs. Climate change is the biggest danger, but that doesn't mean we should ignore some of the lesser stressors. The dangers to coral reefs act in a cumulative manner, and alleviating as many of the threats as we can is essential. We can't legislate climate change away, but we can legislate oxybenzone away.

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Testimony

Mike Gabbard; Agriculture and Environmental Committee

Bill: SB1150 SD1

DATE: Thursday, March 2, 2017

TIME: 9:30 a.m.

PLACE: Conference Room 016
State Capitol
415 South Beretania Street

My name is Dorian-Gray Lacno attending Mililani High School as a senior. I am testifying on the preservation of the coral reefs. I am testifying in a favor of this ban. All around the islands of Hawaii there are beautiful coral reefs for many people to enjoy. There has been a dilemma with tourist and locals lately, with them applying sunscreen containing oxybenzone. Oxybenzone is harmful to the reefs health due to the fact that it contaminates the water. If the sunscreen use with oxybenzone in it continues it poses a threat to bleaching our reefs and making fish sick. Banning oxybenzone will help to ensure a healthy reef in the near future. I'm testifying in favor of the ban of oxybenzone and preservation of our reefs.

Dorian-Gray Lacno

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Subject: *Submitted testimony for SB1150 on Mar 2, 2017 09:30AM*
Date: Friday, February 24, 2017 10:05:25 AM

SB1150

Submitted on: 2/24/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Doug Killpatrick	Individual	Support	No

Comments:

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SB1150

Submitted on: 2/24/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Douglas Perrine	Individual	Support	No

Comments:

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SB1150

Submitted on: 2/27/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Emily White	Individual	Support	No

Comments: Dear leaders, please support SB1150. In our state, healthy reefs directly correlate to a healthy economy. This bill will help stop the sunscreen damage occurring at an alarming rate to our reefs. The fact that oxybenzene and other sunscreen ingredients destroy reefs is established; the time to act is now. Alternative sunscreens are widely available and can be easily encouraged with legislation and education. Reefs are a central part of our economy. Mahalo, Emily White, JD, MA Kahului, HI 96732

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SB1150

Submitted on: 3/1/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Etta Karth	Individual	Support	No

Comments: I am in support of banning the use of oxybenzone in products available to Hawaii. I am in support of efforts to educate the public about the negative impacts on surrounding coral reef ecosystems in Hawaii and feel this would likely be the best method to fund/support in order to make a measurable impact.

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SB1150

Submitted on: 2/27/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Hoku	Sustainable Coastlines	Support	No

Comments:

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SB1150

Submitted on: 2/26/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Jean Young	Individual	Support	No

Comments:

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From: [Joe DiNardo](#)
To: [Sen. Roz Baker](#); [JDL Testimony](#)
Cc:
Subject: SB 1150 Oxybenzone as an Active
Date: Wednesday, March 1, 2017 11:21:22 AM

Aloha Senator Baker, it has come to my attention that several dermatologists have come to you and said that if Oxybenzone is banned, there will be no viable alternative for sun screen. Dermatologists are not usually aware of how sunscreens are formulated and/or how sunscreens are tested for efficacy using the FDA guidelines (see below). Simply put, Oxybenzone is one of the least effective UVA sunscreen actives that one can use in a product (see table below) ... only Avobenzone, Titanium Dioxide and Zinc Oxide have absorption spectrums above 370 nm with Zinc Oxide demonstrating the greatest absorption potential covering all of the UVB and 95% of the UVA spectrum. Additionally, oxybenzone barely makes the FDA's criteria for UVA claims called critical wavelength (covering up to 370 nm) and would be tied for 5th/6th place with Octocrylene. In addition to Oxybenzone's minimal effectiveness compared to Zinc Oxide, it is also a contact and photo-contact allergen and was considered the 2014 Allergen of the Year by the American Contact Dermatitis Society.

Please vote to support the Oxybenzone ban and save Hawaii's beautiful reefs and minimize adverse reactions to humans.

Mahalo,

Joe DiNardo

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

Viable and Effective Substitutes for Oxybenzone

The ability of a sunscreen product to protect against Ultraviolet (UV) rays is not based on an individual ingredient contained in a formula, but rather how the formula performs, as a whole, when tested according to the Food & Drug Administration (FDA) guidelines for Labeling and Effectiveness Testing; Sunscreen Drug Products for Over-The-Counter Human Use (1). In other words, one could use the most effective UV absorbing ingredients allowed (see graph below), put them together in an inappropriate way and end up having a product that has with little to no protection from the damaging effects of UV rays. This is why FDA has established these guidelines as well as requires, by law, that all formulas be tested for efficacy and stability prior to being sold in the marketplace. Therefore, any product that claims a Sun Protective Factor (SPF) and that makes a Broad Spectrum Claim, regardless of the ingredient(s) used in the product, can be trusted to perform according to the package labeling.

Absorption bands and critical wavelength for the most commonly used UV filters (2)



Based on the results of product testing, the following statements are required by FDA and must appear on the package labeling (3).

- For sunscreen drug products that do not pass the Broad Spectrum Test or that have SPF values less than 15, the first statement under *Warnings* must be:

“Skin Cancer/Skin Aging Alert: Spending time in the sun increases your risk of skin cancer and early skin aging. This product has been shown only to help prevent sunburn, **not** skin cancer or early skin aging.”

- For sunscreen drug products that are Broad Spectrum with SPF 15 or higher according to the tests in 21 CFR 201.327(i) and (j):

“Sun Protection Measures. Spending time in the sun increases your risk of skin cancer and early skin aging. To decrease this risk, regularly use a sunscreen with a Broad Spectrum SPF value of 15 or higher and other sun protection measures including:

- limit time in the sun, especially from 10 a.m. - 2 p.m.
- wear long-sleeved shirts, pants, hats, and sunglasses”

- For sunscreen drug products that do not satisfy the water-resistance test in 21 CFR 201.327(i)(7):

“• reapply at least every 2 hours

- use a water-resistant sunscreen if swimming or sweating”

- For sunscreen drug products that satisfy the water-resistance test in 21 CFR 201.327(i)(7):

“reapply:

- after [‘40 minutes of’ or ‘80 minutes of’] swimming or sweating
- immediately after towel drying
- at least every 2 hours”

Lastly, it is important to note that SPF testing is conducted in 10 human subjects, as outlined in the 21 CFR 201.327(i)(3). However, Broad Spectrum testing is an analytical method (in vitro) that only measures critical wavelength (CW) based on the parameters below:

To label your sunscreen drug product as “Broad Spectrum,” you must conduct the in vitro test described in 21 CFR 201.327(j) and demonstrate that your drug product has a critical wavelength of at least 370 nm. The critical wavelength is the wavelength at which the area under the absorbance curve represents 90 percent of the total area under the curve in the UV region.

Based on the FDA definition - Zinc Oxide, Titanium Dioxide, Avobenzone, Meradimate (Menthyl Anthranilate), Oxybenzone and Octocrylene would all qualify (see graph above).

References:

1) US DEPARTMENT OF HEALTH AND HUMAN SERVICES Food and Drug Administration 21

CFR Parts 201 and 310 Labeling and Effectiveness Testing; Sunscreen Drug Products for Over-the-Counter Human Use Federal Register/Vol. 76, No. 117/Friday, June 17, 2011/Rules and Regulations pg 35620 – 35665. Available at <https://www.regulations.gov/document?D=FDA-1978-N-0018-0698>

2) Brian L. Diffey, DSc, Paul R. Tanner, BS, Paul J. Matts, PhD, and J. Frank Nash, PhD. In vitro assessment of the broad-spectrum ultraviolet protection of sunscreen products. J AM ACAD DERMATOL VOLUME 43, NUMBER 6 1024 – 35, December 2000.

3) U.S. Department of Health and Human Services Food and Drug Administration Center for Drug Evaluation and Research (CDER). Guidance for Industry Labeling and Effectiveness Testing: Sunscreen Drug Products for Over-The-Counter Human Use — Small Entity Compliance Guide. December 2012 . Available at <https://www.fda.gov/drugs/guidancecomplianceregulatoryinformation/guidances/ucm330694.htm>

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SB1150

Submitted on: 3/1/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
kami carter	Individual	Support	No

Comments: Please please support this life saving bill. Our oceans need you to act now before it's too late. It is time for drastic changes to save our reefs, and we must step up.

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SB1150

Submitted on: 3/1/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Karen Ippoliti	Individual	Support	No

Comments:

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SB1150

Submitted on: 3/1/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Keikilani Holloway	Individual	Support	No

Comments:

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SB1150

Submitted on: 3/1/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Kim Loper	Individual	Support	No

Comments: In strong support of protecting our reefs and island ecosystems by banning use of substances know to harm coral reefs while in/near the ocean.

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SB1150

Submitted on: 2/26/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Larry Stevens	Individual	Oppose	No

Comments:

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Subject: Submitted testimony for SB1150 on Mar 2, 2017 09:30AM
Date: Monday, February 27, 2017 9:42:19 AM

SB1150

Submitted on: 2/27/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

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

Comments: SB 1150 should be passed because oxybenzone is a dangerous chemical that must be dealt with. I hope this ban leads to a total ban on oxybenzone.

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SB1150

Submitted on: 3/1/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Linda Xiong	Individual	Comments Only	No

Comments: Please require that all beach goers use sunscreen without oxybenzone. A small change like this can make a huge impact on our reefs.

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Subject: *Submitted testimony for SB1150 on Mar 2, 2017 09:30AM*
Date: Sunday, February 26, 2017 9:04:50 PM

SB1150

Submitted on: 2/26/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Lou Young	Individual	Support	No

Comments:

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Aloha,

I'm writing to support SB 1150, which would "prohibit the use or application of sunscreen, sunblock, or cosmetic containing oxybenzone while on a beach or in the ocean."

According to a 2015 study published in the *Archives of Environmental Contamination and Toxicology*, oxybenzone:

"not only kills the coral, it causes DNA damage in adults and deforms the DNA in coral in the larval stage, making it unlikely they can develop properly."

<http://www.dcbd.nl/journal/archives-environmental-contamination-and-toxicology>

Anyone who has been diving, surfing or even swimming on Maui in the past few years can tell you first hand that our reefs are in bad shape, and continue to get worse.

As we all know, coral reefs are a fundamental part of our ocean ecosystems, and the continued degradation of our reefs will have increasingly devastating impacts on our state.

My family and I have already switched to non-oxybenzone based sunscreens, which are readily available at local stores.

This is a common sense regulation that will benefit our islands. I strongly urge you all to support this bill.

Aloha,
Madison Furlong
Haiku, Maui

From: mailinglist@capitol.hawaii.gov
To: [JDLTestimony](#)
Cc:
Subject: Submitted testimony for SB1150 on Mar 2, 2017 09:30AM
Date: Wednesday, March 1, 2017 8:43:07 AM

SB1150

Submitted on: 3/1/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Marilee Wallace	Environmental Caucus/DPH	Support	No

Comments: I am in support of SB1150 as written. Please promote its passage as an opportunity to preserve the health of Hawaii's Coral Reefs. Respectfully, Marilee Wallace, Chair Environmental Caucus Democratic Party of Hawaii

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Subject: Submitted testimony for SB1150 on Mar 2, 2017 09:30AM
Date: Wednesday, March 1, 2017 9:46:59 AM

SB1150

Submitted on: 3/1/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Megan Lamson	Hawai'i Wildlife Fund	Support	No

Comments: Aloha Senators, Mahalo for scheduling this hearing on Senate Bill 1150 during this legislative session. Research has shown that certain chemicals in sunscreen, including Oxybenzone, have been detrimental to the health of coral larvae. In this time when our oceans are already negatively impacted from the threats of rising temperatures (causing bleaching), overfishing, eutrophication (excessive nutrient inputs), marine debris, and the spread of invasive species, it is CRUCIAL for us to takes steps towards protecting coral reef ecosystems. Hawaii Wildlife Fund (HWF) is a small nonprofit organization founded in 1996 that is dedicated to the conservation of native wildlife. We are based out of Paia, Maui and Volcano, Hawaii and conduct most of our restoration and research projects with community volunteers and island visitors. We are educators, scientists, artists, activists, mothers, fathers, daughters, cultural practitioners, business owners, etc. who have come together to protect the thousands of species of native wildlife that call Hawaii home. We wholeheartedly agree with the intent of this bill (SB1150) to prohibit oxybenzone in sunscreens and urge you to move it forward to becoming a law to protect Hawaii's coral reefs and our residents. Many thanks for your time and consideration. Sincerely, Megan Lamson, M.S. HWF Vice President meg.HWF@gmail.com

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Subject: *Submitted testimony for SB1150 on Mar 2, 2017 09:30AM*
Date: Thursday, February 23, 2017 10:08:22 PM

SB1150

Submitted on: 2/23/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Nancy Davlantes	Individual	Support	No

Comments:

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February 25, 2017

To: Members of Senate Committee JDL:

I am writing to encourage your support for further committee hearings of SB1150, so that there is an opportunity to share scientific information and viewpoints of all stakeholders. I am the President of the Napili Bay and Beach Foundation, whose mission is "to Protect and Improve the health of Napili Beach and Bay.

There is a growing body of knowledge from scientific laboratories (e.g. Israel, China, Spain) around the globe, that shows that Oxybenzone:

(1) increases the sensitivity of corals to increased water temperatures which is resulting in coral bleaching. Increased water temperatures have been very well documented in West Maui among many other places, and coral bleaching in such rich coral beds as Kapalua Bay and Kahekili has been severe during hot weather of Fall 2015 & Fall 2016.

(2)) causes developmental deformities in coral and other marine life, especially juveniles (see slides in attached pdf file). These deformities in juvenile coral cause them to lose their ability to swim/move to a new site and begin a new colony, thus impeding reef building, an essential element for maintaining healthy reefs.

So, from an environmental perspective, we know that Oxybenzone is one of many substances that pollutes our coastal waters and causes damage.

BUT, what about the human health issue for many folks who surf, stand-up paddleboard, snorkel, swim, and play in Hawaii's wonderful waters?

Obviously, the idea is not to tell folks not to use an effective sunscreen. We want to show people how to protect themselves/their skin while protecting Hawaii's reef life. There are a number of good products out there which work... and we can't promote one over the other, but there are sticks, lip glosses, and lotions that go on well, and do the job without having toxic components.

I've been very pleased at the support for mitigating this pollutant, based on the educational information Napili Bay and Beach Foundation has shared with the resorts here on the bay, and with the two businesses who sell sunscreen products. The latter two have voluntarily changed the lines of sunscreen products they offer, so that they aren't promoting use of the sunscreens/sunscreen sprays that they now know damage the coral reef life here and elsewhere.

I've also been very encouraged by the innovative local business people who are creating effective personal care products including sunscreens, that do not contain oxybenzone. This is a clear case of local residents working to create better products which will protect people's health & the health of the island's valuable reef life.

An eye opener for me, and for the legislators who attended a slide presentation I gave at Democratic Headquarters in Honolulu, on January 17th was quantitative information on the amounts of sunscreen and oxybenzone that are going onto Hawaiian reefs, yearly. These data were based on 2015 tourist numbers, and we know that has increased the past two years.

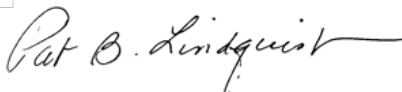
In 2015:

- 78 million visitor days in 2015, and more in 2016
- American Dermatology Assoc. estimates people spend 4 hours on beach and use 72 grams (2.5 ounces) of sunscreen in that time
- 78 million x 72 grams/day => 12, 346 lbs (**6,173 tons**) of sunscreen "GOOP" every year
- At 3% oxybenzone concentration in sunscreens alone => **186 tons/year** on hawaiian reefs

At Hanauma Bay alone, given the number of swimmers allowed every day, more than 2 tons of oxybenzone could be impacting that reef in a one year time period.

So, this is a pollutant that contributes to the morbidity and mortality of coral reefs, and it is one we can reduce just by changing to sun care products that do not contain Oxybenzone; just by substituting better personal care products for poorer quality products.

Mahalo for your consideration on this matter and for your time and efforts on many issues for the State of Hawaii."

┌


Condominium owner at Napili Shores Resort, Maui

From: mailinglist@capitol.hawaii.gov
To: [JDLTestimony](#)
Cc:
Subject: Submitted testimony for SB1150 on Mar 2, 2017 09:30AM
Date: Wednesday, March 1, 2017 7:25:50 AM

SB1150

Submitted on: 3/1/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

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

Comments: I work and live in the ocean tourism economy of Hanalei. in the last couple years, many tourists and locals alike have been made aware of the dangers of chemical sunscreens. The shop I work in for many years is considered to be the premier surf shop on Kaua'i. We offer ocean activities of all types to all types of people. We only offer oxybenzone-free sunscreen and it is very popular, and a conversation piece, many people ask questions about it. Our sunscreen sales have skyrocketed over the last few years because the big stores like foodland & costco only sell chemical suncreens which contain oxybenzone and other chemical UV filters, people are becoming educated on the hazards that oxybenzone create for our already overstressed reef environment. The replacement products exist. Local shops won't be hurt, they will prosper from having something that tourists will need. I strongly urge unanimous support of this measure.

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Subject: *Submitted testimony for SB1150 on Mar 2, 2017 09:30AM*
Date: Sunday, February 26, 2017 6:13:48 PM

SB1150

Submitted on: 2/26/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Rachel Rounds	Individual	Support	No

Comments:

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From: [Roger Rowland](#)
To: [JDLTestimony](#)
Cc:
Subject: coral reef protection; Senate Bill 1150 SD 1
Date: Monday, February 27, 2017 5:15:38 AM

Please protect coral reefs by banning oxybenzone in sunscreens and personal care products. New sunscreens are on the market which do NOT harm coral reefs but DO protect skins from sunburn. Tourists will be happy to buy these sunscreens because they love the coral reefs and clean waters of Hawaii, and want them protected. My home town is Key Largo, Florida. Our reefs are mostly bleached and largely dead. It is quite heartbreaking. We did not know, until the last few years, how toxic oxybenzone was to coral. Hawaii's reefs, while still relatively healthy, need protection NOW. Please push forward senate bill 1150 SD 1.

Support SB 1150

Banning oxybenzone from ocean use also sends an educational message to sunscreen users. If it does indeed have a detrimental effect on coral reefs it should be banned from use in Hawaii's oceans. Solution to pollution is dilution and its effects should be determined beyond a scientific doubt before acting. We do need to protect coral reefs the best we can.

Reducing carbon footprints and going green should be societies goal. Phosphates in detergents should be looked at too. Run off and construction sources of pollution also contribute to coral health. Corals can grow as much as 5 to 7 inches per year dependent on light so the fastest and most growth occurs in shallow areas more susceptible to chemicals like oxybenzone.

Ron Tubbs

From: mailinglist@capitol.hawaii.gov
To: [JDLTestimony](#)
Cc:
Subject: *Submitted testimony for SB1150 on Mar 2, 2017 09:30AM*
Date: Wednesday, March 1, 2017 2:48:58 PM

SB1150

Submitted on: 3/1/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Sara Tekula	Individual	Support	No

Comments:

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Testimony Submitted to the Senate Committee on Judiciary and Labor

Support for SB 1150 SD1 Relating to Preserving Coral Reefs

Hearing: Thursday, March 2, 2017 9:30 AM Room O16

Chair Keith-Agaran, Vice Chair Rhoads, and Members of the Committee,

Aloha. My name is Seaenna Correa-Garcia, from Mililani High School's A.P Environmental class. I am very passionate for the health of our coral reefs and am currently doing a study which goes into more depth of hazardous effects of active ingredient in chemical based sunscreen which includes oxybenzone. I support SB 1150 SD1, which prohibits the use or application of sunscreen, sunblock, or cosmetic containing oxybenzone while on a beach or in the ocean.

Hawaii's coral reef ecosystem not only plays a huge role in the Hawaiian culture, education, physically, biologically, and ecologically but also in our economy and tourism industry.

Hawaii's reefs alone annually generate about \$800 million in gross revenues. If our coral reefs have to face stressors such as the use of oxybenzone, then our future generations may no longer have these benefits. Many studies have been conducted and support that the use of oxybenzone have many negative effects on our coral reef ecosystem and all marine life. Effects such as: damage to genomic and DNA integrity, changes in fish behavior, and may suppress restoration of coral reefs by preventing juvenile corals to recruit into an area that is polluted by oxybenzone. There are other alternative products which act the same as products with oxybenzone, but are environmental friendly that could be used in place of oxybenzone products.

Although oxybenzone is only one of the many stressors our coral reefs face, reducing the prevalence of this chemical is a small but effective step towards ensuring greater resilience in our coral reefs. Please help save our coral reef ecosystems. Pass SB 1150 SD1.

Mahalo nui loa for the opportunity to testify,

Seaenna Correa-Garcia

Aloha,

I'm writing to support SB 1150, which would "prohibit the use or application of sunscreen, sunblock, or cosmetic containing oxybenzone while on a beach or in the ocean."

According to a 2015 study published in the *Archives of Environmental Contamination and Toxicology*, oxybenzone:

"not only kills the coral, it causes DNA damage in adults and deforms the DNA in coral in the larval stage, making it unlikely they can develop properly."

<http://www.dcbd.nl/journal/archives-environmental-contamination-and-toxicology>

Anyone who has been diving, surfing or even swimming on Maui in the past few years can tell you first hand that our reefs are in bad shape, and continue to get worse.

As we all know, coral reefs are a fundamental part of our ocean ecosystems, and the continued degradation of our reefs will have increasingly devastating impacts on our state.

My family and I have already switched to non-oxybenzone based sunscreens, which are readily available at local stores.

This is a common sense regulation that will benefit our islands. I strongly urge you all to support this bill.

Aloha,
Shane Albritton
Haiku, Maui

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To: [JDLTestimony](#)
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Subject: *Submitted testimony for SB1150 on Mar 2, 2017 09:30AM*
Date: Sunday, February 26, 2017 9:44:01 AM

SB1150

Submitted on: 2/26/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Susan Vickery	Individual	Support	No

Comments:

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Subject: Submitted testimony for SB1150 on Mar 2, 2017 09:30AM
Date: Wednesday, March 1, 2017 1:28:07 AM

SB1150

Submitted on: 3/1/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

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

Comments: Please help protect precious corals by banning oxybenzone sunscreens.

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Date: Monday, February 27, 2017 11:53:03 AM

SB1150

Submitted on: 2/27/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

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

Comments: Please help save the coral reefs...thank you

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While melanoma and skin cancer is a concern, we do not need to sacrifice Hawaii corals to stay sun safe!

Apapa (coral reefs) and the inshore ocean world were of enormous importance to Ancient Hawaiians. As we disconnect from nature, we are losing our ability to see the importance of protecting the corals and sea life. Instead it seems we are turning a blind eye, selling out the health of our waters, for a piece of the tourism pie (as long as we keep the tourists happy...). We may soon end up like areas of the Caribbean (who regret not banning chemical sunscreens) where there are few corals left.

We allow people to come, gob on oxybenzone sunscreen lotions and sprays, which are rarely even water resistant, and immediately come off and contaminate our rivers and ocean as toxic waste.

The majority of aerosol sunscreens sold in Hawaii also contain the hormone disruptor oxybenzone. Those who enjoy Hawaii beaches have noticed it's getting more difficult to do so. The air and waters is now typically filled with the scent of these chemical sunscreens. They get in your mouth, nose, eyes... Forget cigarette smoke (rightly banned), aerosol sunscreens are far more insidious. The FDA and Consumer Reports have made it clear "Don't use sprays on children" (and not just because they have a tendency to set people ablaze near an open flame) because they are so highly toxic. But how can we protect our children when other parents are not following this guideline? We can't. With our trade and convection winds, you're forced to inhale the ingredients (these atomized particles can travel hundreds of feet!). This is very dangerous for children as well as those with any lung / asthma issues (and everyone really).

The studies are now impossible to ignore. Hormone disruptors in these sunscreens, particularly oxybenzone, are creating an environment that is detrimental to our corals (bleaching, destroying their DNA, preventing reef restoration). DLNR already made a public declaration that people should not be using oxybenzone, octinoxate, and homosalate at the beach or when going in the water. (Ahihi-Kina'u Natural Reserve, who are seeing a terrible impact from all the visitors wearing sunscreens on their reefs, has taken it a step further, and included oxybenzone, avobenzone, octinoxate, methoxycinnamate, octocrylene). This ban simply helps amplify that request.

We understand no one is going to go out there and patrol the beaches. Hopefully this bill can lead to public education, from locals, tourists, and buyers at shops to help people make more eco-conscious choices - from covering up to using better sunscreen options.

Those who support this bill are not blind to the need people have to protect themselves from UV rays, particularly in Hawaii where UV levels are among the highest in the US. It's still controversial, but with the increase in sunscreen usage we've seen a rise in skin cancers. This may be not just from the carcinogens in many of these products, but from a false sense of security. Chemical sunscreens may prevent a burn but still allows UV damage on a cellular level. Choosing sunscreens that actually block the sun's rays from hitting the skin in the first place are much more effective in long term prevention of melanoma and skin cancers. Note: most major sunscreen brands, whose lobbyists are representing, have better options without oxybenzone... and this can lead to more commercial brands making reef safe options in the future).

Everyone who has lived in Hawaii has seen the depletion of the fish and our reefs. Though there are a multitude of causes, using chemical sunscreens is ONE of the things we can easily change to lessen the stressors.

As our local Big Island celebrity and influencer Alison Teal (Alison's Adventures, Discovery Channel, NatGeo, Naken and Afraid) said the other day on her social media:

"Visit any popular beach in Hawaii and the smell of chemical sunscreen saturates the sea breeze. Not only are most commonly used sunscreens bad for our skin and potentially cancer causing, but now studies show that coral reefs and tropical fish are dying from the toxins. Growing up in a Hawaiian fishing village I've watched it with my own eyes and it's incredibly sad AND hopefully reversible if we spread awareness and use natural sunscreens."

I don't know if Hawaii Tourism and the legislators are aware of the negative press Hawaii will receive when the public sees that there was no stand made to protect our corals. If we do make a stand of course, we will be seen as an example, or caretakers of the environment here in Hawaii, which speaks more to Hawaiian tradition.

Mahalo!

Wil McClaren

From: mailinglist@capitol.hawaii.gov
To: [JDLTestimony](#)
Cc:
Subject: Submitted testimony for SB1150 on Mar 2, 2017 09:30AM
Date: Wednesday, March 1, 2017 5:04:23 PM

SB1150

Submitted on: 3/1/2017

Testimony for JDL on Mar 2, 2017 09:30AM in Conference Room 016

Submitted By	Organization	Testifier Position	Present at Hearing
Julie Neuman	Individual	Support	No

Comments: Protecting our coral reefs is important, and we have viable alternatives for sunscreen other than oxybenzone. I hope that the future of our coral reefs is considered.

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