

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA

P.O. BOX 621
HONOLULU, HAWAII 96809

Testimony of
DAWN N. S. CHANG
Chairperson

Before the Senate Committee on
AGRICULTURE AND ENVIRONMENT

Monday, February 6, 2023
1:00 PM

State Capitol, Conference Room 224 & Videoconference

In consideration of
SENATE BILL 748
RELATING TO ENVIRONMENTAL PROTECTION

Senate Bill 748 proposes to appropriate funds for the construction and operation of non-chemical sunscreen dispensers on all state beaches to alleviate the damaging effects of chemical-based sunscreen on reef ecosystems and allows the Department of Land and Natural Resources (Department) to contract with private parties to assist with the maintenance and management of sunscreen dispensers at all state beaches. **The Department supports this bill, provided that its passage does not replace or adversely impact priorities indicated in the Executive Budget request, and offers the following suggestions.**

Based on recent scientific findings, the Department agrees that less use of sunscreens containing certain chemicals would benefit the health and resiliency of Hawai'i coral reef ecosystems. The Department supports the use of sunscreens that do not contain chemicals that are harmful to marine life, particularly non-nano particle, mineral-based sunscreens, as well as sun-protective clothing, as alternatives to organic chemical sunscreens.

The cost of installing, maintaining, managing, and operating mineral-based sunscreen dispensers at state beaches varies greatly depending on location, level of use, and availability of staff or volunteers to assist with installing and refilling dispensers. The Department believes that there are many community groups and individuals willing to volunteer their time to refill sunscreen dispensers. If labor is donated, the Department estimates the average annual costs could be as low as \$2,000 per dispenser. An appropriation of \$100,000 per year could fund the installation and operation of up to 50 sunscreen dispensers at beaches throughout the state.

Mahalo for the opportunity to provide testimony in support of this measure.

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

LAURA H. E. KAAKUA
DEPUTY DIRECTOR - LAND

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES
ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

SB-748

Submitted on: 2/3/2023 1:39:45 PM

Testimony for AEN on 2/6/2023 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Antoinette M Davis	Testifying for Activities & Attractions Association of Hawaii	Support	Written Testimony Only

Comments:

Aloha Honorable Chair Gabbard, Vice-Chair Richards, and Members of the Committee on Agricultural and Environment,

As the executive director of the Activities & Attractions Association of Hawaii, Inc. (A3H), representing Hawaii’s statewide in-destination experiences, which includes the states’ guided tour businesses many of which include our beautiful surrounding oceans – We strongly support any actions which will further protect our reefs.

Strongly Support SB748

SB748 is a “make it easy” for everyone to do the right thing who are visiting our beaches. Maui Island implemented this and has found it to be very successful. Currently, our charter boat members confiscate non-reef-friendly (chemical-based) sunscreen and provide free mineral-based sunscreens. Working together to protect our island ~ our Home ~ and our children's future.

Mahalo for this opportunity to testify,

Toni

Toni Marie Davis/Executive Director
Activities & Attractions Association of Hawaii, Inc.



Environmental Caucus of The Democratic Party of Hawai'i

To: The Honorable Mike Gabbard, Chair
The Honorable Herbert M. "Tim" Richards, III, Vice Chair
Members of the Committee on Agriculture and Environment

Re: **SB748 – RELATING TO ENVIRONMENTAL PROTECTION**

Hearing: Monday, February 6, 2023, 1:00 p.m., Conference Room 224 & Videoconference

Position: **Strong support**

Aloha, Chair Gabbard, Vice Chair Richards, and Members of the Committee on Agriculture and Environment:

The Environmental Caucus of the Democratic Party of Hawai'i stands in strong support of SB748. This measure appropriates funds for the construction and operation of non-chemical sunscreen dispensers on all state beaches to alleviate the damaging effects of chemical-based sunscreen on reef ecosystems. It allows the Department of Land and Natural Resources to contract with private parties to assist with the maintenance and management of sunscreen dispensers at all state beaches.

The Democratic Party of Hawai'i Platform on the environment provides that its members are to "protect and preserve Hawai'i's environment and achieve energy sustainability, advance measures to re-establish a healthy climate and environment for humans and fellow species, including actions to urgently address climate change, and work towards 100% renewable energy goals.

We believe that all people have the right to live in a clean, healthy and safe environment. We believe that the preservation of our natural environment and its ecological well-being is essential to ensuring a safe, healthy, bountiful life for future generations in Hawai'i. We support policies that create a more sustainable society. We support the restoration, preservation, and protection of native ecosystems.

We believe in the resource management principles outlined in the Public Trust doctrine [in Article XI, Section 1 of] the Hawai'i State Constitution." [OUR PLATFORM | DPH \(hawaiidemocrats.org\)](https://www.democrats.org/our-platform)

Chemicals in both lotion and aerosol sunscreens can impair the growth of plants, stunt, and deform animals, and contribute to the bleaching of coral; therefore, providing non-chemical sunscreen dispensers at all state beaches would alleviate the damaging effects of chemical-based sunscreen on reef ecosystems.

Appropriating funds for non-chemical sunscreen dispensers and allowing the Department of Land and Natural Resources to contract with private parties to assist with the maintenance and management of sunscreen dispensers at all state beaches are consistent with the state and counties' duties under the Public Trust Doctrine and the DPH Platform environmental plank to advance measures that preserves our natural environment and its ecological well-being to ensure a safe, healthy, bountiful life for future generations in Hawai'i. Please support and pass this bill.

/s/ Melodie Aduja and Alan Burdick, Co-Chairs, DPH Environmental Caucus



RE: SB 748 Relating to Environmental Protection

Description: Appropriates funds for the construction and operation of non-chemical sunscreen dispensers on all state beaches to alleviate the damaging effects of chemical-based sunscreen on reef ecosystems. Allows the Department of Land and Natural Resources to contract with private parties to assist with the maintenance and management of sunscreen dispensers at all state beaches.

Hearing Date: Monday, Feb. 6, 2023 1:00 PM; Conference Room 224 & Videoconference.

Position: **Strongly Support SB748**

To: The Honorable Senator Mike Gabbard, Chair; The Honorable Senator Herbert Richards Vice-Chair; and Members of the Senate Committee on Agriculture and Environment

Coral reefs are intrinsic to Hawaiian culture and provide critical natural protection against coastal erosion and sea level rise. Currently, these reefs we depend on are at risk. Where people use marine environments as recreational resources, there is sunscreen pollution. This is a grave concern because it has been reported in the scientific literature that specific chemicals in sunscreen can have irreversibly detrimental effects on marine life, including changes in fish behavior, damage to coral DNA and larvae, and the health of algae, fish, shellfish, urchins, and marine mammals.

The National Oceanic and Atmospheric Administration has already recognized this existential threat to our coral reefs (See: <https://oceanservice.noaa.gov/news/sunscreen-corals.html>)

SUNSCREEN CHEMICALS AND MARINE LIFE

How sunscreen chemicals enter our environment:

- The sunscreen you apply may not stay on your skin.
- When we swim or shower, sunscreen may wash off and enter our waterways.

How sunscreen chemicals can affect marine life:

- GREEN ALGAE:** Can impair growth and photosynthesis.
- CORAL:** Accumulates in tissues. Can induce bleaching, damage DNA, deform young and even kill.
- MUSSELS:** Can induce defects in young.
- SEA URCHINS:** Can damage immune and reproductive systems, and deform young.
- FISH:** Can decrease fertility and reproduction, and cause female characteristics in male fish.
- DOLPHINS:** Can accumulate in tissues and be transferred to young.

Chemicals in some sunscreens that can harm marine life:

- 3-Benzylidene camphor
- 4-Methylbenzylidene camphor
- Octocrylene
- Benzophenone-1
- Benzophenone-8
- OD-PABA
- nano-Titanium dioxide
- nano-Zinc oxide
- Octinoxate
- Oxybenzone

Here are a few ways to protect ourselves and marine life:

Consider sunscreen without chemicals that can harm marine life, seek shade between 10 am & 2 pm, and use Ultraviolet Protection Factor (UPF) sunwear.

- Seek shade
- Umbrella
- Sun hat
- Sunscreen
- UV Sun glasses
- Sun shirt
- Leggings

Revised Sep. 2020 | oceanservice.noaa.gov/sunscreen

The Food & Drug Administration (FDA) has requested that the sunscreen industry prove that their sunscreen chemicals are safe and/or effective for human use. Therefore, placing dispensers with FDA approved Generally Recognized as Safe and Effective (GRASE) ingredients zinc oxide and titanium dioxide is an excellent interim measure to provide tourist and citizens alike with an alternative option.

We ask your strong support for SB 748 to appropriate funds for the construction and operation of non-chemical sunscreen dispensers on all state beaches.

Mahalo nui loa

Cynthia Punihaole Kennedy
Director
Kahalu'u Bay Education Center
The Kohala Center



To: Committee on Agriculture and Environment

Senator Maile Gabbard, Chair
Senator Herbert M. "Tim" Richards III, Vice Chair

Date: Monday, February 6, 2023
Time: 1:00 PM
Place: conference Room 224 and Videoconference

From: Friends of Hanauma Bay

Re: **Strong support for SB748**

Aloha Chair Gabbard, Vice Chair Richards, and AEN Committee members,

Friends of Hanauma Bay strongly supports SB748 which appropriates funds for the construction and operation of non-chemical sunscreen dispensers on all state beaches to alleviate the damaging effects of chemical-based sunscreen on reef ecosystems. It is important the Department of Land and Natural Resources contract with private parties to assist with the maintenance and management of sunscreen dispensers at all state beaches.

Hawaii is the world's leader in recognizing the ecological damage to our marine environments from chemical sunscreens, and enacted landmark Act 104, 2018 to that effect.

We strongly urge you to continue this leadership by passing SB748 for the health of our marine environments.

With aloha,

Lisa Bishop
President
Friends of Hanauma Bay



To: The Honorable Chair Gabbard and Vice-chair Richards, and members of the Senate Committee on Agriculture and Environment

From: Hawai'i Reef and Ocean Coalition (by Ted Bohlen)

Re: Hearing SB748 **RELATING TO ENVIRONMENTAL PROTECTION**

Hearing: Monday, February 6, 2023, 1:00 p.m.

Aloha Chairs Gabbard, Vice Chair Richards, and members of the Committee:

The Hawai'i Reef and Ocean Coalition (HIROC) is a group of scientists, educators, filmmakers and environmental advocates who have been working since 2017 to protect Hawaii's coral reefs and ocean.

The Hawai'i Reef and Ocean Coalition STRONGLY SUPPORTS SB748!

Scientific studies have shown that various chemical sunscreens are harmful to both coral reefs and human health. Maui and Hawaii counties have banned the sale or use of chemical sunscreens.

This Act would help protect some of Hawaii's reefs by providing non-chemical (mineral based) sunscreens at State beaches. This will not only facilitate the avoiding of chemical sunscreens, but it will provide education on the importance of doing so.

We thank the committee for hearing this important measure! We strongly urge your passage of SB748.

Mahalo!

Hawai'i Reef and Ocean Coalition (by Ted Bohlen)

SB-748

Submitted on: 2/5/2023 7:23:18 PM

Testimony for AEN on 2/6/2023 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
R A Culbertson	Testifying for Big Island Reef Keepers hui	Support	Written Testimony Only

Comments:

Aloha Senators,

As a member of the Big Island Reef Keepers hui, we are united in supporting this expeditious bill to make true 'reef-safe' sunscreen available at our state beach parks.

While we are sending a message that this community is serious about reef protection, we are also bending the market by encouraging more thoughtful behaviors and choices that will inevitably benefit the people who think they need these products in the first place.

And it is likely that this public effort won't be necessary in the not too distant future as people become 'akamai' about other health risk mitigation actions they can take other than sunscreen lotions such as protective clothing and the timing of exposure.

But for now, let's meet the problem head on.

Please pass and support SB748!

Mahalo nui loa!



TO:

Senate Committee on Agriculture & Environment
Senator Mike Gabbard, Chair
Senator Tim Richards, Vice Chair

FROM:

Lynn Miyahira representing Public Access to SunScreens (PASS) Coalition

DATE: Monday, February 6, 2023

TIME: 1:00 PM

PLACE: Conference Room 224 & Videoconference

Re: SB 748

Position: COMMENT

The [Public Access to SunScreens](#) (PASS) Coalition is a multi-stakeholder coalition composed of public health groups, dermatologists, sunscreen manufacturers, and leading advocates for skin cancer patients.

We support public access to all FDA-approved sunscreens. While we support the intent of providing free, public access to sunscreen for the general public via dispensers, sunscreens should not be limited to only mineral ingredients under the assumption they are “reef-safe.”

In August 2022, the National Academies of Sciences, Engineering and Medicine (NASEM), issued a report that found:

- **There is currently insufficient evidence that sunscreens are actually harming corals in their natural environment.**
- **“Reef-safe” sunscreen is not a scientifically defined term and there is no regulatory definition.**
- **This means there is insufficient data to say that mineral sunscreen ingredients (zinc oxide and titanium dioxide) are “reef-safe.”**

Within the NASEM report, they used the following chart to show what kind of acute toxicity data (or lack of data) there is about certain UV filters on marine life.

Table 1: Acute toxicity data for UV filters in sunscreens on marine life.

Source: National Academies of Sciences, Engineering and Medicine, "[Review of Fate, Exposure, and Effects of Sunscreens in Aquatic Environments and Implications for Sunscreen Usage and Human Health](#)"

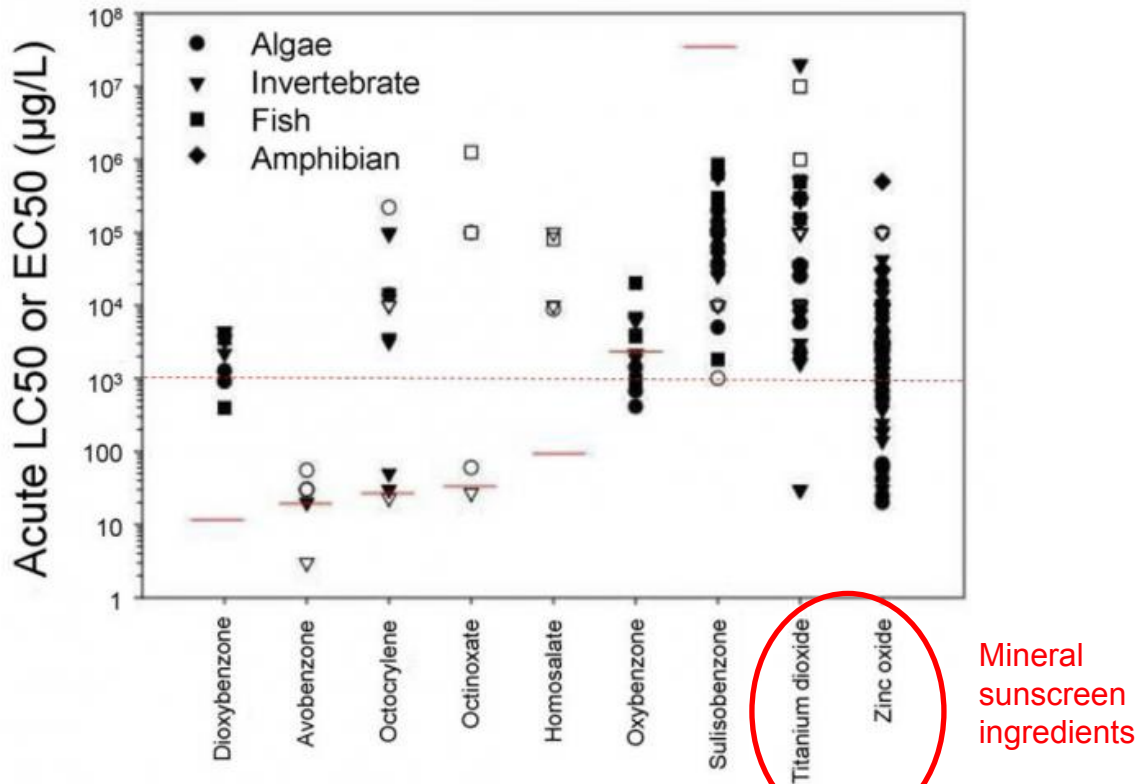


FIGURE 1 Representative acute toxicity data for select UV filters.

NOTES: 1,000 µg/L is used as a threshold for comparison across UV filters (red dashed line); toxicity at lower concentrations indicates a more toxic UV filter. However, due to the low water solubility of some UV filters (red solid lines), the potential environmental concentrations could be below toxic levels. LC/EC50 results that were unbounded (not < or >) values are displayed with closed (black) symbols whereas greater than (>) values are displayed as open (white) symbols. LC50 = Lethal concentration for 50 percent of the test population; EC50 = Concentration of nonlethal effects on 50 percent of the test population that are effectively equivalent to mortality.

This chart shows that there are numerous studies showing that zinc oxide and titanium dioxide may be hazardous to marine life.

Past research that led lawmakers to ban certain UV filters was conducted in labs at concentrations 100 to 1,000 times higher than what is generally found in the ocean. More and more researchers agree that there is not enough evidence to state that sunscreens are negatively impacting coral reefs.

For example, Dr. Ku'ulei Rodgers, principal investigator at the University of Hawai'i Coral Reef Ecology Lab, was asked by the Star-Advertiser about sunscreen threats at Hanauma Bay. [In an article on Nov 20, 2021](#), she was quoted saying that "There is no strong evidence to state sunscreens threaten coral reefs." She goes on to say, "Our coral reef ecology lab has not seen the effects of sunscreen use on bleaching in our monitoring efforts. If there were effects from sunscreen it would be evident." Dr. Rodgers and her team have been studying Hanauma Bay for over 20 years and we can be sure that if sunscreen was a major threat to corals, they would see it in their research.

Additionally, in reaction to an announcement about another mass coral bleaching event on the Great Barrier Reef, Professor Nial Wheate from the University of Sydney published an essay titled, "[No, sunscreen chemicals are not bleaching the Great Barrier Reef](#)" in The Conversation on 3/27/2022.

While we understand the intent of this bill to provide free access to sunscreen and protect coral reefs, we urge Senators to examine all data – not only select data – on sunscreen and the marine environment. **We urge lawmakers to protect access to all FDA-approved sunscreens, which include both organic chemical and inorganic chemical (mineral) UV filters.**

Mahalo you for the opportunity to comment.

Sincerely,

Lynn Miyahira
Public Access to SunScreens (PASS) Coalition

SB-748

Submitted on: 2/3/2023 10:06:21 PM

Testimony for AEN on 2/6/2023 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Dana Kurtzman	Individual	Support	Written Testimony Only

Comments:

Dear Senator Mike Gabbard Chair, Senator Herbert Richards Vice Chair, and members of the Agriculture and Environment Committee

I am in strong support of SB 748 to appropriate funds for the construction and operation of non-chemical sunscreen dispensers on all state beaches to alleviate the damaging effects of chemical-based sunscreen on reef ecosystems. It is important the Department of Land and Natural Resources contract with private parties to assist with the maintenance and management of sunscreen dispensers at all state beaches.

I respectfully ask for your full support for SB 748.

Sincerely

Dana Kurtzman

**In Favor of Bill SB748 Non-Chemical (Mineral) Sunscreen Dispensers;
Department of Land and Natural Resources; State Beaches; Appropriation**

Dear Senators: there continues to be scientific concern about the impact that sunscreens have on human health and the environment (particularly the numerous forms of life that live on or near coral reefs). Numerous studies have been published that have identified various organic sunscreen actives, at relevant concentrations, that can harm reef life. Additionally, the Food & Drug Administration (FDA) has requested that the sunscreen industry provide data, such as but not limited to carcinogenicity and reproductive toxicity testing, because the published scientific literature does not support that these chemicals are safe and/or effective for human use.

Therefore, placing dispensers with appropriate formulas that meet Hawaii's guidelines is an excellent stopgap measure to provide tourist and citizens alike with an alternative option to products that have yet to be approved by the FDA from both domestic and foreign sources that may find their way to Hawaii.

To date there have been several prominent Hawaii locations making a difference with "Non-Chemical" (Mineral based) sunscreen product dispensers that have been placed at:

Kahalu'u Beach Park
SurfJack Hotel
Queen Kapiolani hotel
Sheraton Maui Resort and Spa
Westin Resort and Spa
Westing Princeville
Sheraton Princess Kaiulani
Waikiki Aquarium
Kualoa Ranch
Kukui'ula Golf Club
Aqua Palms. Hotel
HITech Surf Shop
Poipu Surf Shop
One Ocean Research Haleiwa
Holo Holo Charters Napili

Again, thank you for thinking outside of the box and finding creative ways to preserve both human health and the diversity of Hawaii's coral reefs.

Sincerely,
Joe DiNardo
Personal Care Products Toxicologist (Since 1976)

SB-748

Submitted on: 2/4/2023 8:38:27 AM

Testimony for AEN on 2/6/2023 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Wendy Galasso	Individual	Support	Written Testimony Only

Comments:

Dear Senator Mike Gabbard Chair, Senator Herbert Richards Vice Chair, and members of the Agriculture and Environment Committee

I am in strong support of SB 748 to appropriate funds for the construction and operation of non-chemical sunscreen dispensers on all state beaches to alleviate the damaging effects of chemical-based sunscreen on reef ecosystems. It is important the Department of Land and Natural Resources contract with private parties to assist with the maintenance and management of sunscreen dispensers at all state beaches.

As a volunteer at Reef Teach at Kahalu'u Bay on the Big Island I have observed that visitors and locals alike, once educated, are in favor of mineral only sunscreen and by providing this alternative to harmful chemical products we all are part of the preservation chain.

I respectfully ask for your full support for SB 748.

Sincerely

Wendy Galasso

SB-748

Submitted on: 2/4/2023 11:40:41 AM

Testimony for AEN on 2/6/2023 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Mikena Shay	Individual	Support	Written Testimony Only

Comments:

Dear Senator Mike Gabbard Chair, Senator Herbert Richards Vice Chair, and members of the Agriculture and Environment Committee

I am in strong support of SB 748 to appropriate funds for the construction and operation of non-chemical sunscreen dispensers on all state beaches to alleviate the damaging effects of chemical-based sunscreen on reef ecosystems. It is important the Department of Land and Natural Resources contract with private parties to assist with the maintenance and management of sunscreen dispensers at all state beaches.

I respectfully ask for your full support for SB 748.

Sincerely,

Mikena Shay

SB-748

Submitted on: 2/4/2023 2:00:05 PM

Testimony for AEN on 2/6/2023 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Robert P Thomas Jr	Individual	Support	Written Testimony Only

Comments:

Dear Senator Mike Gabbard Chair, Senator Herbert Richards Vice Chair, and members of the Agriculture and Environment Committee,

Having lived in Kona for several years and visiting since 2007, we have seen the damage caused by chemical-based sunscreens to the waters of all islands. I am in strong support of SB 748 to appropriate funds for the construction and operation of non-chemical sunscreen dispensers on all state beaches to alleviate the damaging effects of chemical-based sunscreen on reef ecosystems. It is important the Department of Land and Natural Resources contract with private parties to assist with the maintenance and management of sunscreen dispensers at all state beaches.

I respectfully ask for your full support for SB 748.

Sincerely,

Robert Thomas

11650 N. Europa Place

Tucson, Az. 85737

970-618-5424

SB-748

Submitted on: 2/4/2023 2:06:40 PM

Testimony for AEN on 2/6/2023 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Eleanor Thomas	Individual	Support	Written Testimony Only

Comments:

Dear Senator Mike Gabbard Chair, Senator Herbert Richards Vice Chair, and members of the Agriculture and Environment Committee,

Having lived in Kona for several years and visiting since 2007, we have seen the damage caused by chemical-based sunscreens to the waters of all islands. I am in strong support of SB 748 to appropriate funds for the construction and operation of non-chemical sunscreen dispensers on all state beaches to alleviate the damaging effects of chemical-based sunscreen on reef ecosystems. It is important the Department of Land and Natural Resources contract with private parties to assist with the maintenance and management of sunscreen dispensers at all state beaches.

I respectfully ask for your full support for SB 748.

Sincerely,

Eleanor Thomas

11650 N. Europa Place

Tucson, Az. 85737

970-618-5424

SB-748

Submitted on: 2/5/2023 8:54:12 AM

Testimony for AEN on 2/6/2023 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Yasuko Banville	Testifying for Kohala center	Support	Written Testimony Only

Comments:

I respectfully ask for your full support for SB748.

Mahalo,

Yasuko Banville

SB-748

Submitted on: 2/5/2023 12:25:05 PM

Testimony for AEN on 2/6/2023 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Michael McGuire	Individual	Support	Written Testimony Only

Comments:

Dear Senator Mike Gabbard Chair, Senator Herbert Richards Vice Chair, and members of the Agriculture and Environment Committee

Our family supports SB 748 to appropriate funds for the construction and operation of non-chemical sunscreen dispensers on all state beaches to alleviate the damaging effects of chemical-based sunscreen on reef ecosystems. It is important the Department of Land and Natural Resources contract with private parties to assist with the maintenance and management of sunscreen dispensers at all state beaches.

We respectfully ask for your full support for SB 748.

Sincerely

Michael and Deborah McGuire