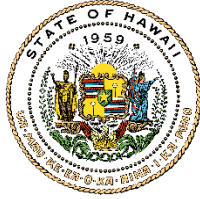


JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'
DEPARTMENT OF LAND AND NATURAL RESOURCES

P.O. BOX 621
HONOLULU, HAWAII 96809

Testimony of
DAWN N. S. CHANG
Chairperson

Before the Senate Committees on
AGRICULTURE AND ENVIRONMENT
and
WATER AND LAND

Monday, January 30, 2023
1:00 PM

State Capitol, Conference Room 224 & Videoconference

In consideration of
SENATE BILL 432
RELATING TO THE DESIGNATION OF HAWAII CORAL REEFS AS CRITICAL
NATURAL INFRASTRUCTURE

Senate Bill 432 proposes to designate Hawai'i coral reefs as critical natural infrastructure. **The Department of Land and Natural Resources (Department) supports this bill and offers the following comments.**

Pursuant to Hawaii Revised Statutes Section 26-15(b), the Department is responsible for managing and administering the aquatic and terrestrial wildlife resources of the State, including coral reefs. In Hawai'i, coral reefs serve as the first line of defense to shoreline erosion and tidal flooding related events. This is because coral reefs act as natural breakwaters, dissipating up to 97% of wave energy impacting shorelines and trapping sediment. This wave energy attenuation service is valued around \$836 million annually when considering people, property, and jobs.

Hawai'i coral reefs are threatened by the effects of climate change including sea level rise, coral bleaching, and ocean acidification. Other stressors include land-based sources of pollution, impacts to groundwater discharge, unsustainable fishing practices, anchor damage, and invasive species. Hawai'i has experienced three major coral bleaching events in the past eight years resulting in 40% live coral cover loss in some areas. As these hazards continue to threaten this ecosystem, the State must be proactive in protecting and restoring our coral reefs.

DAWN N. S. CHANG
CHAIRPERSON
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KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

The effort to protect and restore coral reefs is already underway in the Department through the operation of a coral restoration nursery, regular monitoring of reef health, invasive species prevention and control, and management of nearshore fisheries. However, to further support these efforts, the Department would like to utilize the Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance (HMA) program, which can provide a 3:1 match with \$2 billion - \$4 billion available funds annually for competition throughout the United States and associated territories. The formal designation of coral reefs as critical natural infrastructure demonstrates the Legislature's political support for nature-based solutions to combat climate change impacts and increases our likelihood of receiving funding through FEMA's HMA program towards coral reef protection and restoration in Hawai'i.

Additionally, this designation will promote an awareness of conservation and restoration for an important natural resource. Not only do coral reefs provide shoreline protection services, but they also provide a way of life for the people of Hawai'i through sustenance, economy, and recreation. It is estimated that annually coral reef fisheries provide 7 million meals to the people of Hawai'i, of which about 5 million are sourced from non-commercial catches. Also, coral reef associated tourism contributes \$1.23 billion to the State's economy. Furthermore, coral reefs support an intrinsic value and identity to communities rooted in culture, tradition, and recreation.

Senate Bill 432 will support the Department's continued management of coral reefs as critical natural infrastructure and support nature-based solutions to combat climate change in the State.

Thank you for the opportunity to comment on this measure.



To: The Honorable Chairs Gabbard and Inouye, Vice-chairs Richards and Elefante, and members of the Senate Committees on Agriculture and Environment, and Water and Land

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

Re: Hearing SB432 **RELATING TO THE DESIGNATION OF HAWAII CORAL REEFS AS CRITICAL NATURAL INFRASTRUCTURE**

Hearing: Monday, January 30, 2023, 1:00 p.m.

Aloha Chairs Gabbard and Inouye, Vice Chairs Richards and Elefante, and members of the Committees:

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 SB432!

This Act would designate Hawai'i coral reefs as critical natural infrastructure. Legislative recognition of coral reefs as critical natural infrastructure demonstrates political support for nature-based solutions, an important metric when the federal emergency management agency (FEMA) directs activities and funding toward

coral reef restoration for risk reduction strategies such as coral restoration for hazard mitigation.

Coral reefs are critical in protecting our shorelines, attenuating wave energy, and reducing coastal flooding. Coral reefs help mitigate climate-change related risks and disaster events including exposure to storms, high wave events and sea level rise. Meta analyses have revealed that coral reefs provide substantial protection against natural hazards by reducing wave energy by an average of 97%.

We thank the committees for hearing this important measure! We respectfully urge your passage of SB432.

Mahalo!

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



ROAR

RESCUE OF ANIMAL RIGHTS

to
the Senate
Committees
WLT & AEN

The Hawaii State
Legislature

Aloha Chairs, Vice Chairs, and the Committees of Water & Land and
Agriculture & Environments,

from
Zhizi Xiong
(Angela
Melody
Young)
Creator

Internationally, the EPA estimates 1 billion people worldwide benefit from the many ecosystem services coral reefs provide including food, coastal protection, and income from tourism and fisheries. Healthy coral reefs provide habitats & nurseries for marine species, including commercially harvested fish species. Coral reefs also provide medicine & food for people, and recreation & tourism opportunities. Coral reefs also provide protection as a coastal infrastructure against storms, tsunamis, floods & erosions. The total net benefits per year of the world's coral reefs is \$29.8 billion. Tourism and recreation account for \$9.6 billion, coastal protection for \$9.0 billion, fisheries for \$5.7 billion, and biodiversity, representing the dependence of many different marine species on the reef structure, for \$5.5 billion. Coral reefs are integral to our communities. 1

The purpose of this act is to designate Hawaii coral reefs as critical natural infrastructure and to express support for natural solutions to combat global warming. ROAR is in strong support.

Thank you for the opportunity to testify.

Blessings,

ANGELA MELODY YOUNG

Zhizi Xiong

808-724-0047

alohadivinedesign@gmail.com



WRITTEN ONLY

Testimony by Evelyn Eckberg
To the Senate Committee on Agricultural and Environment and
To the Senate Committee on Water and Land
On
Senate Bill No. 432

**Monday, January 30
3:00 PM
Conference Room 224 & Videoconference
State Capitol
415 South Beretania Street**

Honorable Chairman Gabbard and Chairman Inouye and Committee Members.

My name is Evelyn Eckberg, I am a student at the University of Hawai'i, Mānoa and I am writing in support of this bill to designate Hawai'i Coral Reefs as Critical Natural Infrastructure.

Coral reefs are one of the most biologically diverse ecosystems in the world. Having healthy coral reefs is important for at least three reasons. First, they serve as a barrier absorbing energy from waves, storms, and floods preventing loss of life, property, and coastal erosion, costs of which can be substantial. Second, coral reefs serve as a habitat, a feeding and spawning ground as well as a nursery for commercial and subsistence fish, thus supporting the fishing industry and providing food for people living near our reefs. Third, with healthy coral reefs, recreation and tourism opportunities can thrive contributing to the local economy. And finally, it is possible that with a healthy coral reef, new sources of medicines or disease treatments may be discovered.

While these are the facts, let me tell you why I personally would like to see coral reefs designated as critical natural infrastructure. I have spent a lot of time snorkeling and have seen the different biodiversity living among the reefs. Over time, I have seen how coral has been damaged or died off. Humans have contributed to this as well as climate change (arguably human induced). Protecting our reefs helps ensure that we will have food in the future and that our islands will be protected. Protecting our reefs will ensure that visitors will come to the islands and learn about our oceans and see the importance of coral reefs. If we protect our reefs, our reefs will protect us.

Thank you for your consideration, and I would encourage you to support Senate Bill 432 and designate Hawai'i Coral Reefs as Critical Natural Infrastructure.

Respectfully submitted.

Evelyn Eckberg
evelyn.c.eckberg@gmail.com

SB-432

Submitted on: 1/27/2023 6:11:22 PM

Testimony for AEN on 1/30/2023 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Klayton Kubo	Individual	Support	Written Testimony Only

Comments:

Support

SB-432

Submitted on: 1/29/2023 5:38:44 PM

Testimony for AEN on 1/30/2023 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Virginia Tincher	Individual	Support	Written Testimony Only

Comments:

Chair Gabbard, Vice Chair Richards and Committee on Agriculture and Environment

Chair Inouye, Vice Chair Elefante and Committee on Water and Land

Mahalo Senators Gabbard, Richards, Elefante and others for introducing this critically important bill. I am with you as strong supporter

As you know the benefits of healthy coral reefs are many. It's important to me to have a healthy ocean environment that supports diverse aquatic life. Now we know from studies that coral reefs protect our shorelines.

Hawaii can set a precedent along with other nations to protect and preserve coral reefs.

SB-432

Submitted on: 1/29/2023 12:08:53 PM

Testimony for AEN on 1/30/2023 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
janice palma-glennie	Individual	Support	Written Testimony Only

Comments:

aloha,

i strongly agree that our coral reefs are "infrastructure" given to us by nature to protect our coastal land and sea. that protection gives us food, environmental balance, economic stability not to mention improved mental and physical health that comes from using it recreationally and spiritually.

please support this bill.

mahalo and sincerely,

janice palma-glennie

kailua-kona

**Testimony of The Nature Conservancy
Supporting SB 432, Relating to the Designation of Hawai'i Coral Reefs as Critical Natural
Infrastructure.**

**Committee on Agriculture and Environment
Committee on Water and Land
January 30, 2023, 1:00 pm
Conference Room 224 and via Videoconference**

Aloha Chair Gabbard, Chair Inouye, Vice Chair Richards, Vice Chair Elefante, and Members of the Committee:

The Nature Conservancy (TNC) supports SB 432, Relating to the Designation of Hawai'i Coral Reefs as Critical Natural Infrastructure.

The coral reefs that line our coasts are environmental, economic, recreational, and cultural treasures that support our island lifestyle and livelihoods. Each year, they also provide flood protection to people, property, and jobs valued at more than \$836 million, support nearshore fisheries worth \$13.4 million, and contribute more than \$1.2 billion through reef-related tourism to the state's economy. Studies have shown that coral reefs' structure can protect against natural hazards by reducing up to 97% of wave energy reaching the shoreline, resulting in less coastal flooding onshore.

The Federal Emergency Management Agency (FEMA) provides billions of dollars in hazard mitigation assistance to reduce or eliminate long-term disaster risks. FEMA is now embracing nature-based solutions (utilizing natural processes to provide increased resilience) as a viable and preferred hazard mitigation solution. Most of these programs require State or local government to apply for funding, and Hawai'i's recognition of coral reefs as critical natural infrastructure will help in future applications for FEMA funding.

Coral reefs are an important nature-based solution to coastal hazards for Hawai'i and we can potentially be a model to showcase healthy coral reefs as critical natural infrastructure that helps our communities become more resilient in the face of natural disasters, climate change, and other stressors. Mahalo for the opportunity to provide comments on SB 432.

The Nature Conservancy of Hawai'i and Palmyra is a non-profit organization dedicated to the preservation of the lands and waters upon which all life depends. The Conservancy has helped protect more than 200,000 acres of natural lands in Hawai'i and Palmyra Atoll. We manage 40,000 acres in 13 nature preserves and work in over 50 coastal communities to help protect and restore the nearshore reefs and fisheries of the main Hawaiian Islands. We forge partnerships with government, private parties, and communities to protect forests and coral reefs for their ecological values and for the many benefits they provide to people.

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DEPARTMENT OF DEFENSE
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OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAII' 96816-4495

STATE OF HAWAII'
DEPARTMENT OF DEFENSE
HAWAII' EMERGENCY MANAGEMENT AGENCY

TESTIMONY ON SENATE BILL 432
RELATING TO THE DESIGNATION OF HAWAII CORAL REEFS
AS CRITICAL NATURAL INFRASTRUCTURE

BEFORE THE SENATE COMMITTEES ON **AGRICULTURE AND ENVIRONMENT**
AND **WATER AND LAND**

BY

LUKE P. MEYERS
ADMINISTRATOR
HAWAII' EMERGENCY MANAGEMENT AGENCY

JANUARY 29, 2023

Aloha Chair Gabbard, Chair Inouye, Vice-Chair Richards, Vice-Chair Elefante, and members of the committees:

I am Luke Meyers, Administrator of the Hawaii' Emergency Management Agency (HI-EMA).

The HI-EMA provides written testimony to **OFFER COMMENTS** on SB432.

SB432 would designate Hawaii's coral reefs as critical natural infrastructure and mentions specific Federal Emergency Management Agency (FEMA) hazard mitigation programs to which this designation is relevant.

The HI-EMA is the State's primary point of contact with FEMA in securing these hazard mitigation grants and recognizes the value of designating reefs as critical natural resources for the purposes of hazard mitigation. The agency would note that current FEMA eligibility rules for these hazard mitigation grants require that State and County mitigation plans must identify hazards and actions to mitigate them or seek funding.

In the past, Hawaii' has seen hazard mitigation grant requests submitted before the hazards were identified in planning documents, which delayed the

ability to submit otherwise eligible applications until the State and County plans could be updated. While designating coral reefs as critical natural infrastructure is a necessary step to open the door to federal mitigation-grant funding, HI-EMA respectfully suggests that the Committees consider adding language to SB 432 that would also direct that this designation be considered by the State and Counties in their hazard mitigation planning. This would streamline and support the State's ability to pursue these grants, premised on the new designation, at the earliest possible opportunity.

HI-EMA recognizes that partners throughout the State are proactively working to reduce hazard vulnerabilities, consequences, and impacts, and looks forward to continuing to work with them in areas of resiliency and hazard mitigation planning. The State Hazard Mitigation Forum and the Hawaii Earthquake and Tsunami Advisory Committee are two such bodies that would benefit from further integration with additional partners.

With this comment, we otherwise support this bill provided that its passage does not replace or adversely impact priorities indicated in our Executive Budget.

Thank you for the opportunity to provide testimony.

Luke P. Meyers: Luke.P.Meyers@hawaii.gov; 808-733-4300