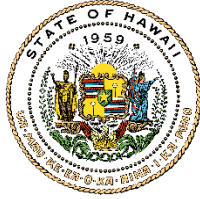


JOSH GREEN, M.D.  
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE  
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'  
OFFICE OF THE CHAIRPERSON  
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

Wednesday, March 22, 2023  
1:00 PM

State Capitol, Conference Room 224 & Videoconference

In consideration of  
SENATE CONCURRENT RESOLUTION 41/SENATE RESOLUTION 35  
DESIGNATING HAWAII'S CORAL REEFS AS CRITICAL NATURAL  
INFRASTRUCTURE AND STRONGLY SUPPORTING NATURE-BASED SOLUTIONS  
SUCH AS CORAL REEF RESTORATION FOR RISK REDUCTION

Senate Concurrent Resolution 41/Senate Resolution 35 designate Hawai'i coral reefs as critical natural infrastructure. **The Department of Land and Natural Resources (Department) strongly supports these measures.**

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

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

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.

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 Concurrent Resolution 41/Senate Resolution 35 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.

Mahalo for the opportunity to provide testimony in support of these measures.



March 18, 2023

Senator Mike Gabbard, Chair  
Senator Tim Richards, III, Vice Chair  
COMMITTEE ON AGRICULTURE AND ENVIRONMENT

Senator Lorraine R. Inouye, Chair  
Senator Brandon J.C. Elefante, Vice Chair  
COMMITTEE ON WATER AND LAND

DATE: Wednesday, March 22, 2023  
TIME: 1:00 PM

Regarding: **SCR 41 / SR 35 DESIGNATING HAWAII'S CORAL REEFS AS CRITICAL NATURAL INFRASTRUCTURE AND STRONGLY SUPPORTING NATURE-BASED SOLUTIONS SUCH AS CORAL REEF RESTORATION FOR RISK REDUCTION.**

### **Strong Support.**

HFACT is a not-for-profit, IRS 501c(5) organization, that advocates for small boat commercial, non-commercial, and recreational fishermen throughout Hawaii. HFACT board members sit on a number of federal fisheries management and endangered species advisory committees as well as state marine and coastal zone advisory committees; and, HFACT is thoroughly familiar with and participates in ocean and marine resource management in Hawaii and the central Pacific.

HFACT strongly supports SCR41 / SR35. Coral reefs in Hawaii are a critical part of the coastal infrastructure. The coral reef provides a number of different ecological and physical services. Not only does the coral reef serve as a natural barrier to high waves, it is habitat for fish and marine life that is the basis of sustainable protein source for the residents of Hawaii.

As a fishing organization, HFACT notes that coral reefs has biodiversity of marine fauna and flora that exceeds 135 different species, while sandy ocean bottom with no coral may support fewer than 10 species. Coral reef enhancement projects in Florida have proven to have multiple benefits, the benefits gained in Florida will be very similar to the benefits that Hawaii could receive from the passage of SCR 41 / SC35.

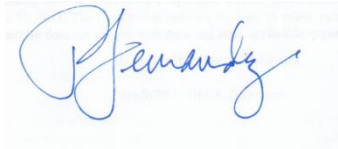
Recognition of the coral reef as infrastructure is no different than recognizing that pasture land is necessary infrastructure for raising cattle. Agricultural land receives special protection through land use planning mechanisms. However, this type of protection does not extend to the marine environment, specifically the coral reef.

***Hawai'i Fishermen's Alliance for Conservation and Tradition, Inc.***  
***75-796 Hiona Street, Holualoa HI 96725***

HFACT asks that the committees support SCR 41 / SR35.

HFACT thanks the chairs, vice-chairs, and committee members of both committees for this opportunity to provide comment and to assist in providing food to the people of Hawaii and to assist in the conservation of Hawaii's natural resources.

Sincerely and Aloha,

A handwritten signature in blue ink, appearing to read "Phil Fernandez", is centered below the closing. The signature is fluid and cursive.

Phil Fernandez  
President



# Environmental Caucus of The Democratic Party of Hawai'i

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AEN-WTL\_03-22-23 1:00pm SCR113/SC106 , SCR41/SR35

TO: COMMITTEE ON AGRICULTURE AND ENVIRONMENT

Senator Mike Gabbard, Chair

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

and

COMMITTEE ON WATER AND LAND

Senator Lorraine R. Inouye, Chair

Senator Brandon J.C. Elefante, Vice Chair

CONCERNING: SCR113: Urging the Department of Land and Natural

Resources to minimize human interaction at certain locations during  
coral spawning events.

SCR41: Designating Hawaii's Coral Reefs As Critical

Natural Infrastructure and strongly supporting nature-based  
solutions such as Coral Reef Restoration for risk reduction

POSITION: STRONG UNCONDITIONAL SUPPORT

The Environmental Caucus strongly supports both of these resolutions as vital to the health of our Islands and as consistent with Native Hawaiian Culture and Marine and Climate Science.

SCR41 Recognizes our Coral Reefs as critical natural infrastructure which are under extraordinary stress due to human interaction, human, industrial and natural pollution, invasive species and climate change.

SCR 113 supports SCR41 by further recognizing the importance of protecting the reefs when the living coral is spawning by forbidding human interference with the process.

The legislature should do everything in its power to protect the reefs especially now when they are and will continue to be fighting to survive to side effects of climate change.

We hope that the individual loyalties of any Senators or Representatives to any persons, industries, or groups will not be allowed to defeat either of these resolutions just to protect any special interests.

**SCR-41**

Submitted on: 3/20/2023 1:38:02 PM

Testimony for AEN on 3/22/2023 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
MELYNDA DANT	Testifying for Fair Wind Cruises	Support	Written Testimony Only

Comments:

Aloha Senator Mike Gabbard, Chair Senator Herbert M. "Tim" Richards, III, Vice Chair, and Senator Lorraine R. Inouye, Chair Senator Brandon J.C. Elefante, Vice Chair

Mahalo for allowing me the opportunity to offer comments. Our family has been in Keauhou Kona running a snorkel cruise since 1971. The condition our coral reefs are in is very heartbreaking and this is due to our poor environmental behaviors. We need to do everything we can to support the health of the ocean, coral reefs, and marine life for so many reasons. I know you all know the value coral reefs and a healthy ocean means to Hawaii, for so many crucial reasons. Please support this resolution.

Sincerely,

Mendy Dant



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

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

Re: Hearing SCR41 DESIGNATING HAWAII'S CORAL REEFS AS CRITICAL NATURAL INFRASTRUCTURE AND STRONGLY SUPPORTING NATURE-BASED SOLUTIONS SUCH AS CORAL REEF RESTORATION FOR RISK REDUCTION.

Hearing: Wednesday, March 22, 2023, 1:00 p.m.

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Aloha Chairs Inouye and Gabbard, Vice Chairs Elefante and Richards, and members of the Committees on Water and Land and Agriculture and Environment:

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.

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**The Hawai'i Reef and Ocean Coalition STRONGLY SUPPORTS SCR41!**

The islands of Hawai'i include environmental resources such as coral reefs that, if healthy, effectively managed, and functioning, can help mitigate the risks and related loss and damage from floods and the effects of climate change and natural disasters. Studies have shown that healthy coral reefs can absorb up to ninety-seven percent of wave energy. One study has estimated that Hawaii's coral reefs protect \$836,000,000 worth of coastal infrastructure from flooding annually.

The State's coastal areas and infrastructure face climate change-related risks and disaster events, including exposure to storms, high wave events, sea level rise, and flooding. Climate scientists and other experts predict an increase in the number and severity of hurricanes, higher levels of rainfall in fewer storm events, increasing sea surface temperatures, and increased ocean acidification, which will negatively impact coral reefs. Coastal ecosystems, such as coral reefs, that serve as a first line of defense are being lost at alarming rates. Live coral cover has declined by as much as forty percent in some areas.



The Federal Emergency Management Agency is responsible for responding to natural disasters and providing technical and financial hazard mitigation support. This support is primarily distributed as grant funding through the Federal Emergency Management Agency's Hazard Mitigation Assistance programs. Coral reef restoration for risk reduction is an active restoration strategy with the aim of increasing the structural integrity and complexity of coral reef ecosystems to attenuate wave energy and reduce coastal flooding. A recent report by The Nature Conservancy concluded that coral reef restoration for risk reduction is a cost-effective hazard mitigation strategy in Hawai'i.

Legislative recognition of coral reefs as critical natural infrastructure demonstrates political support for nature-based solutions, and the level of a State's political support is an important metric when the Federal Emergency Management Agency directs activities and funding toward coral reef restoration for risk reduction projects.

The Senate should designate Hawaii's coral reefs as critical natural infrastructure and strongly support nature-based solutions such as coral reef restoration for risk reduction.

We thank the committees for hearing this important measure and respectfully urge your passage of SCR41!

Mahalo!

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

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**SCR-41**

Submitted on: 3/21/2023 8:48:24 AM

Testimony for AEN on 3/22/2023 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Megan Lamson	Testifying for Hawai'i Wildlife Fund	Support	Written Testimony Only

Comments:

**WE SUPPORT SCR41 DESIGNATING HAWAII'S CORAL REEFS AS CRITICAL NATURAL INFRASTRUCTURE AND STRONGLY SUPPORTING NATURE-BASED SOLUTIONS SUCH AS CORAL REEF RESTORATION FOR RISK REDUCTION.**

Hawai'i Wildlife Fund (HWF) is a small nonprofit organization that has been working to conserve native species in Hawai'i since 1996. HWF was founded by two former National Marine Fisheries scientists, and we have been actively involved in coastal and community-based restoration projects, environmental education, advocacy and protected species research for the past 27 years as of this month. We support the designation of coral reefs as critical natural infrastructure and encourage legislators to continue to protect the reefs that already exist through alleviating local stressors like eutrophication (excess nutrients) from sewage and runoff, coastal development, overfishing, and overuse (overtourism). We are also supportive of a certain amount of coral restoration, as / if needed.

The best and most cost-effective solution to sea-level rise and climate impacts to our shoreline (flood events, coastal inundation) is to PROTECT the reefs that are already there. Please use your vote to designate these ecosystems as critical infrastructure and provide the funding needed to state agencies, including DLNR and DOH, and community groups to do what it takes to protect the watershed and allow for corals to recover naturally. We believe coral restoration is not the best solution as it always costs more to restore (versus conserve / protect), and one cannot replicate a natural ecosystem without extreme cost, if at all. However, it could be used in select situations, like a triage category 1 (urgent).

We also hope that you continue to support the Marine Holomua Initiative within the DLNR's Division of Aquatic Resources, that works with community members to establish rules to best protect their marine resources.

Mahalo for your time and consideration!

Best,

Megan Lamson, M.Sc.

HWF President





*Dedicated to the conservation of coastal and marine environments,  
emphasizing stewardship of the natural resources of Hanauma Bay*

COMMITTEE ON AGRICULTURE AND ENVIRONMENT

Senator Mike Gabbard, Chair

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

COMMITTEE ON WATER AND LAND

Senator Lorraine R. Inouye, Chair

Senator Brandon J.C. Elefante, Vice Chair

DATE:	Wednesday, March 22, 2023
TIME:	1:00 PM
PLACE:	Conference Room 224 & Videoconference

**Re: Strong Support for SCR41 / SR35**

Aloha AEN Chair Gabbard and Vice Chair Richards; WTL Chair Inouye and Vice Chair Elefante; and members of the Joint pSenate AEN and WTL Committees:

Friends of Hanauma Bay **Strongly Supports SCR41 / SR35** designating Hawaii's coral reefs as critical infrastructure and strongly supporting nature-based solutions such as coral reef restoration for risk reduction.

Hawaii's coral reefs are critical to the environmental, cultural, and economic health of our State, yet they continue to face increasing existential threats.

The Federal Emergency Management Agency provides financial assistance to all states, territories, and federally recognized tribal governments of the United States through its Hazard Mitigation Assistance programs, including its Building Resilient Infrastructure and Communities program.



*Dedicated to the conservation of coastal and marine environments,  
emphasizing stewardship of the natural resources of Hanauma Bay*

Legislative recognition of coral reefs as critical natural infrastructure demonstrates political support for nature-based based solutions, and the level of a State's political support is an important metric when the Federal Emergency Management Agency directs activities and funding toward coral reef restoration for risk reduction projects.

Mahalo for hearing and supporting SCR41 / SR35 that is critically important to our coral reefs!

With Aloha,

Lisa Bishop  
President  
Friends of Hanauma Bay

**Testimony of The Nature Conservancy  
Supporting SCR 41/SR 35, Designating Hawai'i's coral reefs as critical natural infrastructure  
and strongly supporting nature-based solutions such as coral reef restoration for risk  
reduction.**

**Committee on Agriculture and Environment  
Committee on Water and Land  
March 22, 2023, 1:00 pm  
Conference Room 224 and via Videoconference**

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

The Nature Conservancy (TNC) supports SCR 41/SR 35, Designating Hawai'i's coral reefs as critical natural infrastructure and strongly supporting nature-based solutions such as coral reef restoration for risk reduction.

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 SCR 41/SR 35.

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*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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**SCR-41**

Submitted on: 3/19/2023 10:55:49 AM

Testimony for AEN on 3/22/2023 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Barbara Best	Individual	Support	Written Testimony Only

Comments:

We can't have a healthy environment without healthy reefs, so restoration and risk reduction is vital. Natural solutions make the most sense.



**SCR-41**

Submitted on: 3/19/2023 1:49:08 PM

Testimony for AEN on 3/22/2023 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Douglas Perrine	Individual	Support	Written Testimony Only

Comments:

Hawaii's coral reefs are essential for protection of our shorelines and the continuation of our island lifestyle. SCR41 rightly recognizes this and encourages protection of our reefs.

**SCR-41**

Submitted on: 3/21/2023 6:28:30 AM

Testimony for AEN on 3/22/2023 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Virginia Tincher	Individual	Support	Written Testimony Only

Comments:

Members of the Water and Land Committee and the Agriculture and Environment Committee,

I'm testifying in strong support of SCR41.

With increasing impacts to our oceans Hawaii needs to pass bills and resolutions protecting and restoring our coral reefs.

Designating our coral reefs as critical natural infrastructure and an important part of nature-based solutions is a strong start.

Mahalo for this opportunity to testify.

Virginia Tincher, Oahu

**SCR-41**

Submitted on: 3/21/2023 9:59:10 AM

Testimony for AEN on 3/22/2023 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Caroline Azelski	Individual	Support	Written Testimony Only

Comments:

In support.

Thank you.

**SCR-41**

Submitted on: 3/21/2023 12:43:40 PM

Testimony for AEN on 3/22/2023 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Molly Whiteley	Individual	Support	Written Testimony Only

Comments:

Please support SCR41.

Mahalo!

M. Whiteley