

JAN 20 2023

A BILL FOR AN ACT

RELATING TO THE DESIGNATION OF HAWAII CORAL REEFS AS CRITICAL
NATURAL INFRASTRUCTURE.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 SECTION 1. The legislature finds that the islands of
2 Hawaii include environmental resources such as coral reefs that,
3 if healthy, effectively managed, and functioning, can help
4 mitigate the risks and related loss and damage from floods and
5 the effects of climate change and natural disasters.

6 The legislature further finds that the State's coastal
7 areas and infrastructure face climate change-related risks and
8 disaster events, including exposure to storms, high wave events,
9 sea level rise, and flooding.

10 Climate scientists and other local and global experts
11 predict an increase in severity and frequency of these events.
12 Studies have shown that healthy coral reefs can absorb up to
13 ninety-seven per cent of wave energy, protecting coastal
14 properties from the power of the sea. One study has estimated
15 that Hawaii's coral reefs protect \$836,000,000 worth of coastal
16 infrastructure from flooding annually. In addition to coastal



1 protection, Hawaii's coral reefs provide residents with income
2 from fishing and tourism, food security, recreational
3 opportunities, and a cultural connection to our island home.

4 The legislature further finds that the health and vitality
5 of Hawaii's coral reefs are threatened by global stressors
6 related to climate change, including sea level rise, coral
7 bleaching, and ocean acidification; and by local stressors from
8 land-based sources of pollution, unsustainable fishing
9 practices, and invasive species. Live coral cover has declined
10 by as much as forty per cent in some areas, and Hawaii has
11 experienced three coral bleaching events in the past ten years,
12 including the first statewide mass bleaching event in 2015.
13 Coastal risks and the costs associated with them are expected to
14 increase in the future from the effects of climate change,
15 including an increase in the number and severity of hurricanes,
16 higher levels of rainfall in fewer storm events, increasing sea
17 surface temperatures, and increased ocean acidification which
18 will negatively impact coral reefs. These storms impact
19 national and local economic productivity, threaten water and
20 food security, increase diseases, damage critical public
21 infrastructure, and impede basic services.



1 Coastal ecosystems that serve as a first line of defense,
2 such as coral reefs, are being lost at alarming rates. Coral
3 reef ecosystems protect people and assets on the coast by
4 reducing wave energy, trapping sediments, and attenuating storm
5 surges. Ten million visitors travel to the State annually to
6 experience the beauty of its beaches, reefs, oceans, and other
7 natural resources, and in doing so contribute nearly
8 \$17,000,000,000 to the state economy annually. The health and
9 sustainability of our communities and economy are closely
10 intertwined with the health of our coral reefs.

11 The Federal Emergency Management Agency (FEMA) is
12 responsible for responding to natural disasters and providing
13 technical and financial hazard mitigation support, and this
14 support is primarily distributed as grant funding through FEMA's
15 hazard mitigation assistance programs. There is growing
16 interest in the use of coral restoration for hazard mitigation
17 action to reduce risks to people and property. Coral reef
18 restoration for risk reduction, known as CR4, is an active
19 restoration strategy with the aim of increasing the structural
20 integrity and complexity of coral reef ecosystems to attenuate
21 wave energy and reduce coastal flooding.



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1 A recent report by the Nature Conservancy concluded that
2 CR4 is a cost-effective hazard mitigation strategy in Hawaii.
3 FEMA provides financial assistance to all states, territories,
4 and federally recognized tribal governments through its
5 programs, including its Building Resilient Infrastructure and
6 Communities program. Legislative recognition of coral reefs as
7 critical natural infrastructure demonstrates political support
8 for nature-based solutions, and the level of a state's political
9 support is an important metric when FEMA directs activities and
10 funding towards CR4 projects.

11 The purpose of this Act is to designate Hawaii coral reefs
12 as critical natural infrastructure and to express support for
13 nature-based solutions to combat climate change impacts.

14 SECTION 2. The legislature designates Hawaii coral reefs
15 as critical natural infrastructure that help mitigate climate
16 change-related risks and disaster events including exposure to
17 storms, high wave events, sea level rise, and flooding.

18 SECTION 3. This Act shall take effect upon its approval.

19

INTRODUCED BY:



S.B. NO. 432

Report Title:

Coral Reefs; Critical Natural Infrastructure Designation;
Federal Emergency Management Agency

Description:

Designates Hawaii coral reefs as critical natural
infrastructure.

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