

USCRTF Resolution 47.2

Coral Reefs as National Natural Infrastructure

WHEREAS, the U.S. Coral Reef Task Force (USCRTF), originally established in 1998 by Executive Order #13089, was codified in 2022 by the Reauthorization of the Coral Reef Conservation Act (R-CRCA) to, among other things, coordinate, in cooperation with covered entities and other nongovernmental and academic partners as appropriate, activities regarding the mapping, monitoring, research, conservation, mitigation, and restoration of coral reefs and coral reef ecosystems, and;

WHEREAS, many local, indigenous, and coastal communities have long maintained strong biocultural, spiritual, ecological, and social connections to coral reefs critical to preserving cultures and cultural diversity, and coral reefs, and;

WHEREAS, coral reef-lined communities with small size, low elevation, remote geographical location, and concentration of infrastructure along coastlines have populations denser, growing faster, and composed of more people from lower-middle income groups than the global average, are especially vulnerable to climate change impacts, and;

WHEREAS, coral reef degradation in the US threatens “at-risk” (<16 years old, >65 years old, low-income, and minority) communities, especially in territories. Therefore improving coral reef conservation and restoration will enhance coastal resilience for these vulnerable communities, and;

WHEREAS, healthy coral reefs are among the most biologically diverse, culturally important, and economically valuable ecosystems on Earth, and;

WHEREAS, coral reefs worldwide provide an estimated \$172 billion annually in economic value via tourism, food production, and coastal infrastructure protection. In the US, the estimated economic value of coral reefs is \$3.42 billion annually, not including shoreline protection and hazard reduction values, and;

WHEREAS, coral reefs offer coastal protection services by reducing flooding and erosion through wave breaking and friction. Reefs behave as low-crested, submerged breakwaters, dissipating on average 97% of wave energy before it reaches coastlines. Individual coral colonies induce drag on waves, further reducing wave energy reaching the shoreline and causing coastal flooding. Coral colonies grow together and alongside each other to form a reef, resulting in greater reduction in wave energy and thus greater reduction in adjacent onshore flooding, and;

WHEREAS, the value of U.S. coral reefs for flood protection has been quantitatively assessed at greater than \$1.8 billion dollars annually for the direct benefits of avoided flood damages to property. The value of the coastal protection services provided by reefs can be retained or enhanced through active coral restoration, a nature-based solution that seeks to meet conservation and hazard mitigation management goals, and;

WHEREAS, potential reef restoration across Florida and Puerto Rico has been valued at \$232 million and \$40 million, respectively, in terms of the annual value for flood risk reduction. The present value (PV) of potential large-scale reef restoration across Florida and Puerto Rico exceeds \$3.75 billion; when reef restoration is considered as an infrastructure project with a 50-year project lifetime at a 7% discount rate, the guidelines suggested by FEMA for hazard mitigation projects,

WHEREAS, this Resolution strongly aligns with multiple Executive Orders (EO) related to the US National Climate Assessment, including Nature-Based Solutions (EO 14072), Climate Adaptation (EO 14008), and Environmental Justice (EO 14096). Furthermore, the US Office of Management and Budget (OMB) and the White House Office of Science and Technology Policy (OSTP) called out natural capital accounting, nature-based solutions, and climate as agency research and development priorities,

NOW, THEREFORE BE IT RESOLVED, the USCRTF acknowledges the significant and diverse values of and threats to coral reefs and the need to increase recognition of coral reefs' role as national natural infrastructure, for the aforementioned reasons, within federal agencies resulting in additional federal funding, which is more readily available through efficient processes that minimize or avoid the loss of coral before and after disasters, and state, territorial, and international partners have a clear roadmap to secure funding sources. Adoption and effective implementation of this resolution will require the expertise and capacity of federal, state, territorial, and local government agencies and other non-governmental, academic, and private partners to increase coral reef and coastal community resilience.

Recognizing coral reefs as national natural infrastructure will facilitate future federal funding of coral reef restoration by supporting the identification of coral reef restoration as an eligible project type across federal grant programs. For example, coral reef restoration can be an eligible mitigation activity under FEMA Hazard Mitigation Assistance (HMA) and Public Assistance (PA) grant programs when program eligibility requirements are met. However, the novelty of funding coral reef restoration under FEMA's grant programs presents challenges to applicants seeking funding for these types of projects. A federal recognition of coral reefs as national natural infrastructure would strengthen applications for coral reef restoration under FEMA grant programs, for example, particularly under PA where funding can only be allocated to repair or protect disaster-damaged public infrastructure.

RESOLVED - NATIONAL

To declare coral reefs as national natural infrastructure essential for protecting the coasts of the United States and its inherent relationship in the conservation of associated coastal ecosystems and communities that depend on them. We recommend all federal USCRTF members review and use their authorities and policies in a manner consistent with this declaration and empower them to use federal funds for the protection, maintenance, and enhancement of coral reefs.

RESOLVED - STATE/TERRITORIAL/INTERNATIONAL

We call on the coral jurisdictions, which have not yet made declarations, to declare their coral reefs as natural infrastructure essential for protecting their coasts. We recommend that all state, territorial, and international agencies that are USCRTF members to adopt and/or amend all the necessary regulations, policies and/or plans to be consistent with this declaration and empower them to use federal, state, and/or territorial funds for their protection, maintenance, and enhancement.

RESOLVED - ACTION

All federal agencies will, through the USCRTF, commit to working with Task Force members to provide technical assistance and guidance for the actions taken under this resolution.

1. All USCRTF members will consider adopting similar language recognizing corals as natural infrastructure.
2. All federal agencies who are USCRTF members will consider recognizing corals as eligible for funding for natural infrastructure purposes.

Appendix 1- State and Territorial Laws and Resolutions Relating to Coral as Nature Infrastructure

Puerto Rico Law No. 72 of the year 2020

<https://www.lexjuris.com/lexlex/Leyes2020/lexl2020072.htm>

(P. of the C. 2308); 2020, law 72

To declare coral reefs as an essential structure for the protection of the coasts of Puerto Rico and its inherent relationship in the conservation of beaches and other elements of nature.

Law No. 72 of July 23, 2020

To declare coral reefs as an essential structure for the protection of the coasts of Puerto Rico and its inherent relationship in the conservation of beaches and other elements of nature; order the Department of Natural and Environmental Resources of Puerto Rico to adopt and/or amend all the necessary regulations so that they are consistent with this declaration and empower them to process state or federal funds for their protection and maintenance; and for other purposes.

STATEMENT OF MOTIVES

Coral reefs are intricate and diverse groups of species that interact with each other and with the physical environment. Corals are a kind of colony of animals that are related to hydrozoans, jellyfish and sea anemones. They are home to a wide variety of marine life, including various kinds of sponges, oysters, clams, crabs, starfish, sea urchins, and many species of fish. Coral reefs are also ecologically related to the surrounding seagrass, mangrove and salt marsh communities. For this reason, they constitute the habitat of a great biodiversity of marine species, including corals. Precisely, one of the reasons why coral reefs are so valuable lies in their function as a center of activity for marine life.^[1]

Coral reefs are also one of the most valuable and biologically diverse ecosystems on Earth. They fulfill various functions, but one of the most important is the protection of coastal infrastructure and prevention of loss of life due to storms, tsunamis, floods and erosion. Coral reefs and dunes reduce wave energy and thus coastal erosion. During Hurricane Maria, for example, the coral reef dissipated more than 90% of the storm surge energy in Puerto Rico. It is estimated by the United States National Marine Fisheries Service that coral reefs provide some \$9.0 billion for coastal protection.

However, it has been publicly revealed that the Government of Puerto Rico does not have the necessary funds for optimal protection of these ecosystems. It has been pointed out that there is access to certain federal programs for the protection and conservation of these reefs; however, it has not been possible to fully access these since the reefs are not considered essential structures.

Therefore, and in order to achieve greater protection of coral reefs in Puerto Rico, and consistent with our geographic and meteorological realities, it is a priority for this Legislative Assembly to declare coral reefs as an essential structure for the protection and conservation of our coasts and other ecosystems. Climate change is a reality today, and it is up to us to adopt the necessary measures to fully comply with

our responsibility to protect our resources and pave the way for obtaining economic resources that contribute to this task.

BE IT ENACTED BY THE LEGISLATURE OF PUERTO RICO:

Section 1.-To declare coral reefs as an essential structure for the protection of the coasts of Puerto Rico and its inherent relationship in the conservation of beaches and other elements of nature.

Section 2.- Declaration of Public Policy and Promulgation

It is public policy for the Government of Puerto Rico to protect our ecosystem with all its components. Due to our geographical nature, coral reefs constitute our first defense barrier for the protection of our coasts. Therefore, and in order to prioritize and elevate their protection and conservation to the rank of law, the coral reefs that are located within our territory are declared as essential structures.

Article 3.- Regulation

The Department of Natural and Environmental Resources is hereby ordered to adopt and/or amend the regulations it deems necessary, to comply with the provisions of this legislation. The Department of Natural Resources of Puerto Rico will hold the meetings it deems necessary to design the necessary action plans consistent with this Act.

Article 4.- Collaborative alliances

The Department of Natural and Environmental Resources is hereby authorized to make the necessary collaborative alliances with any department, agency or corporation of the Government of Puerto Rico, the Federal Government, the private sector and non-profit organizations for the development of the purposes of this Act. .

Article 5.- Separability Clause

If any clause, paragraph, subparagraph, sentence, word, letter, article, provision, section, subsection, title, chapter, subchapter, subheading or part of this Law is annulled or declared unconstitutional, the resolution, opinion or sentence to that effect issued will not affect, harm, or invalidate the remainder of this Law. The effect of said sentence will be limited to the clause, paragraph, subparagraph, sentence, word, letter, article, provision, section, subsection, title, chapter, subchapter, subheading or part of it that has thus been annulled or declared unconstitutional. If the application to a person or circumstance of any clause, paragraph, subparagraph, sentence, word, letter, article, provision, section, subsection, title, chapter, subchapter,

Article 6.- Validity

This Law will enter into force immediately after its approval. However, the Department of Natural Resources will have a term of 180 days to adopt the necessary regulations.

[1] <https://espanol.epa.gov/espanol/informacion-basica-sobre-los-arrecifes-de-coral#arrecifes>

Hawaii Resolutions

[Senate Concurrent Resolution 41](#) of the year 2023

[Senate Resolution 35](#) of the year 2023

[House Concurrent Resolution 80](#) of the year 2023

U.S. Virgin Islands

[Executive Order No. 533 – 2023](#)