



NFWF

CORAL REEFS PROGRAM

INVESTMENT STRATEGY • 2020-2040



A PUBLIC-PRIVATE PARTNERSHIP TO SUPPORT RESILIENT CORAL REEFS



Coral landscape

CONTENTS

NFWF CORAL REEFS PROGRAM

Working to build resilient, coral-dominated reefs that are capable of recovering from or withstanding large-scale disturbances 5

NFWF’S APPROACH TO CORAL CONSERVATION

Vision for the next 20 years 6

Working locally to secure priority reefs 7

Build capacity for broader coral conservation 8

COMPREHENSIVE INVESTMENT PORTFOLIO

Coral Reef Conservation Fund. 10

Landscape-specific funds 11

National funds 11

Episodic funds 11

CONTACTS AND MORE INFORMATION

Corporate and federal partners 12

About NFWF and initiative contacts 13

ON THE COVER: NFWF supports conservation efforts in coral reefs in the Northern Mariana Islands



Underwater sun rays on a tropical reef



This investment strategy describes the vision, strategies and monitoring approach that will guide NFWF investments in coral reef conservation for the next 20 years

Coral restoration site in Hawaii enhanced by NFWF grant-making

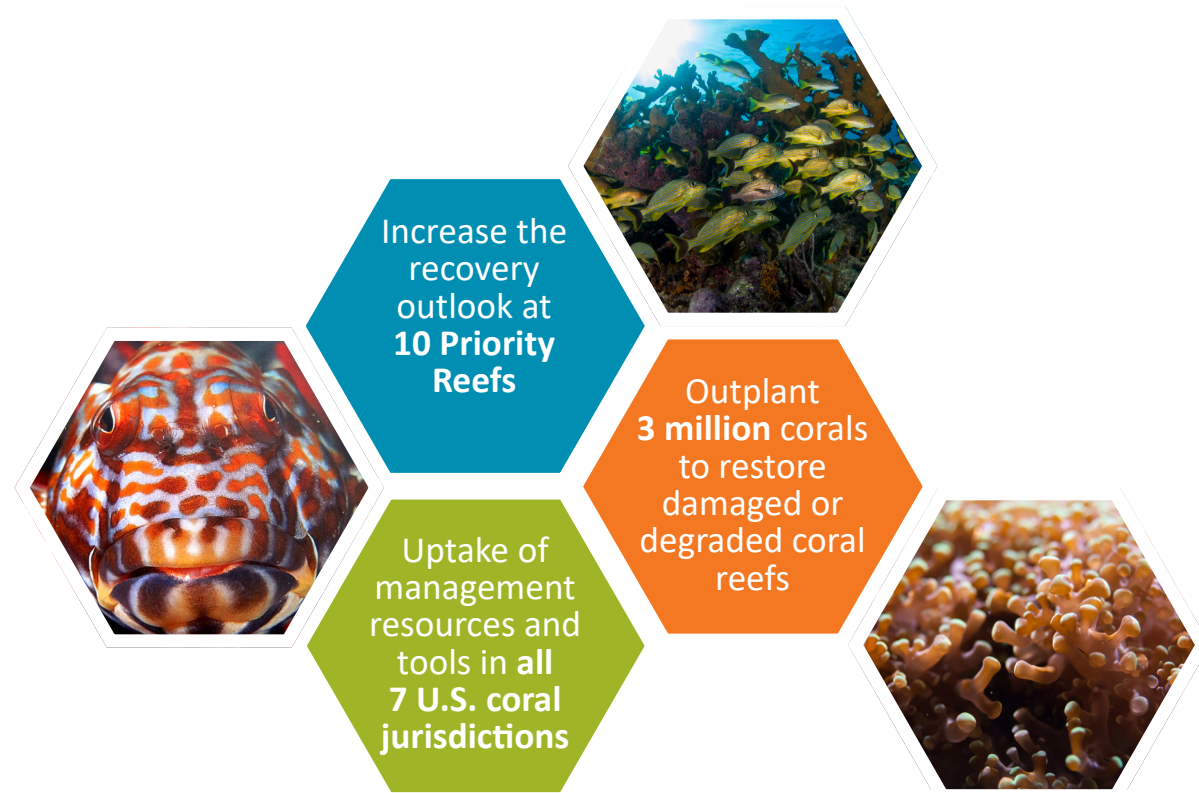


In 2020, NFWF celebrates 20 years of leadership in advancing coral reef conservation in the U.S. in partnership with the National Oceanic and Atmospheric Administration's (NOAA) Coral Reef Conservation Program (CRCP). During this time the partnership has expanded to include other federal and state agencies, private foundations and corporations that contribute to the Coral Reefs program and NFWF has established other programs that have the potential to directly benefit coral reef systems. Capturing the lessons learned to-date, the Coral Reefs Program Investment Strategy creates a roadmap for coral conservation over the next 20 years that will incorporate and standardize this work and guide investment decisions to improve the health and persistence of coral reefs across multiple NFWF funding opportunities and partnerships. This investment strategy seeks to incorporate and standardize this work and guide investment decisions to improve the health and persistence of coral reefs across multiple NFWF funding opportunities and partnerships.

Since 2000, NFWF has invested nearly \$20 million across 379 projects and has built strong relationships with local resource managers and private sector experts who play an essential role in our vision to protect and restore coral reefs and the many benefits they provide. The needs of these practitioners have guided NFWF's investments, resulting in a multitude of planning and management efforts, ranging from projects assessing and monitoring reef health to those developing new fisheries management models. Our partners and grantees have also helped us explore new techniques for addressing chronic, practical challenges faced by coral reef managers – such as sewage treatment, mooring buoy installation and enforcing regulations in marine protected areas. These types of site-based initiatives have led to the development and implementation of watershed management plans, reduced sediment erosion through innovative solutions and landowner engagement, and increased the capacity of management agencies and conservation organizations to sustain conservation outcomes.

New challenges facing coral reefs will not only require collective action by partners, but also additional resources. Severe tropical storms, vessel groundings, damage from marine debris, disease, and coral bleaching are among the emerging threats NFWF is working to address. Within this Investment Strategy, NFWF has incorporated the latest research around coral ecosystem health and site-based management, while adapting our strategies and monitoring to meet these emerging threats. We will continue to promote a holistic approach that addresses threats to coral reefs by investing in local project coordination and capacity. In addition, we will expand support for proactive restoration where appropriate, build new rapid-response capability following catastrophic events, and incorporate monitoring strategies to help us understand and communicate the impact of investments in coral reef conservation.





Initial targets of the Coral Reefs Investment Strategy

VISION

Supporting Healthy and Persistent Coral Reef Systems

Healthy coral reef ecosystems provide structurally complex habitat characterized by high fish biomass, low macroalgal cover, high coral recruitment, and the provision of key ecosystem services. To help achieve this vision, NFWF will invest in coral conservation across multiple programs, tracking progress towards three primary milestones for U.S. coral reefs.

1. NFWF will invest in threat reduction at 10 priority reefs, beginning in HI, FL and PR, that are important seed reefs to broader reef complexes to alleviate local stressors and promote healthy, coral-dominated reefs. By reducing local threats and/or increasing coral abundance through restoration, NFWF aims to support reefs that are capable of recovering from or withstanding large-scale disturbances and serving as both case studies for management and coral refugia into the future.
2. NFWF will promote active coral restoration in which nursery-grown corals are outplanted to natural reefs, by building capacity for propagation and direct planting of over 3 million coral outplants to restore an estimated 1000 acres of damaged or degraded reefs.
3. NFWF will advance coral science and restoration by supporting testing and refinement of best management practices, documentation of case studies, and dissemination of information to benefit the coral conservation and management communities across all U.S. coral jurisdictions.

CONSERVATION APPROACH

Work Locally, Support Innovation, Test at Scale and Disseminate Broadly

Working Locally to Secure Priority Reefs - In the wake of a three-year global bleaching event, the U.S. needs to restore and maintain healthy and resilient coral reefs more than ever before. Healthy, resilient coral reef ecosystems are critical to maintain biodiversity and reproductive potential to help replenish and recover nearby reefs after episodic events. NFWF will prioritize reef locations that seed others starting with specific sites in Hawaii, Florida, and Puerto Rico to secure these coral reef refugia.

To ensure the persistence of priority reefs that contribute to coastal protection, recreation, and livelihoods, NFWF will take an ecosystem approach to mitigating threats focusing investments on biotic and abiotic characteristics:

1. **Water Quality** - Within priority watersheds, improve water quality through the reduction of land-based sources of pollution (LBSP) such as agricultural run-off, sewage outfall, and erosion from bare soils.
2. **Herbivore Fisheries Management** - Improve fisheries management to maintain high biomass among key functional groups (e.g., scrapers, grazers, and browsers).

The dissemination and adoption of successful coral reef conservation strategies is key to the health of coral reefs worldwide. Demonstrably successful examples of threat mitigation are valuable to reef managers, and can be incubators for developing tools to identify and address threats to coral reefs, particularly in island settings. Strategic investments over the next 20 years will work to increase these measurable case studies and to disseminate workable examples that can be translated more broadly. For example, lessons learned in Hawaii will assist with coral management in other Pacific islands such as Guam and CNMI.

NFWF and our partners at the NOAA Coral Program have identified several research gaps and needs for management. These include identifying sediment and nutrient thresholds and tipping points that support coral spawning, settlement and growth, advancements in coral restoration; as well as tools for effective management of agriculture, stormwater runoff, and fisheries. While research and development for many of these efforts takes place in the lab—supported by science funding organizations—NFWF’s objective is to get practical, field-tested tools into the hands of reef managers working on the ground.

Additional Resources
[NFWF Site-Assessment Tool](#)



It is extremely important to keep the water clean from where it all begins up in the mountains all the way to the ocean. NFWF has helped us to work with the land owners to take this comprehensive approach.”

Roberto Viqueira Ríos,
Guanica Watershed Coordinator

This initial site-based case study is featured in the video “Connexiones.” To watch the video, please [click here](#) or navigate to the Coral Reefs program page at [nfwf.org](#).

PROJECT HIGHLIGHT

Site-Based Approach in Guanica, Puerto Rico

From 2009-2019, NFWF, in collaboration with the NOAA CRCP and members of the US Coral Reef Task Force, developed and tested an investment approach for coral reef conservation to target specific reef tracks for comprehensive place-based threat reduction. Using this approach NFWF’s 2009 Business Plan for Coral Reefs identified key goals and strategies for coastal shallow reefs along the south coast of Puerto Rico in Guánica Bay. This area had suffered from a mass coral bleaching event in the northern Caribbean in 2005 resulting in a significant decline in coral.

The 2009 business plan marked a change for NFWF, from investments focused on particular stressors across multiple geographic areas, to one in which we would focus on reducing multiple stressors in one particular area over a 10-year period. NFWF made this change based on the hypothesis that reducing local threats would promote natural recovery in the wake of environmental stressors. During the period of the business plan, NFWF saw a greater than 30% increase in coral cover at the site—a return to pre-bleaching levels. NFWF also learned that a comprehensive site-based approach has value that extends beyond a specific location, research question or management tool as lessons learned in Guánica, Puerto Rico had direct relevance to other coral reef practitioners.



Island of Culebra, Puerto Rico

A Comprehensive Investment Portfolio

The Coral Reefs Program Investment Strategy allows NFWF to maximize the fiscal and technical resources of our various programs and partnerships to contribute to common coral reef conservation targets. The Coral Reef Conservation Act of 2000 established the primary funding mechanism for NFWF's coral reef investments, the Coral Reef Stewardship Fund (CRSF). Through this flagship program and the public-private leveraging model, investments for the first two decades were more than doubled for a total conservation impact of \$45.4 million.

Today, CRSF is one of several mechanisms by which NFWF invests in coral conservation. NFWF's Coral Reefs Program Investment Strategy can be divided into four primary funding mechanisms: 1) the Coral Reef Stewardship Fund, 2) landscape-specific funds, 3) national funding opportunities, and 4) episodic funding opportunities. Together, these different funding mechanisms provide a comprehensive portfolio for NFWF's investments in coral reef conservation. The Coral Reefs Program Investment Strategy will guide project site prioritization, conservation approach, and minimum standards in progress tracking under these different funding mechanisms to achieve the objectives of this broad-ranging program.

Coral Reef Stewardship Fund – A Framework for Coral Conservation

The CRSF is NFWF's principal conservation program that exclusively funds coral reefs across all U.S. Jurisdictions. Through this program NFWF develops, tests, implements, and evaluates coral conservation strategies. The CRSF serves as an incubator of management tools and threat reduction strategies at demonstration sites that help NFWF and our partners continuously learn and adapt to achieve the greatest conservation impact. CRSF supports a comprehensive, site-based approach that focuses on reducing threats and improving coral health at priority reefs. Priority reefs include locations that have potential to persist into the future as determined by assessments of connectivity, vulnerability, and resilience. The CRSF also focuses on priority locations with threats that are common in other areas so that advancements and lessons learned can be transferrable.

Landscape-Specific Funds – Targeted Focus for Measuring System Change

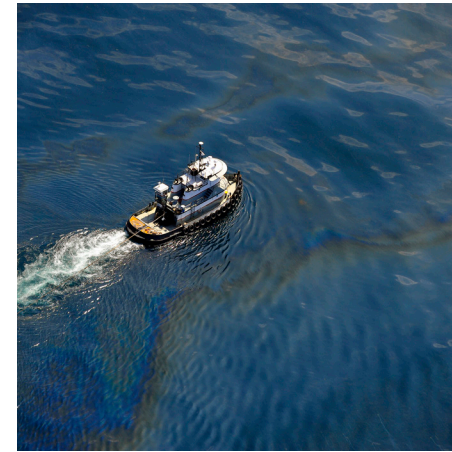
NFWF has many priority landscapes that include coral reef ecosystems. Through the Coral Reefs Program Investment Strategy, NFWF can coordinate conservation strategies in locations where CRSF's priority reefs overlap with priority landscapes. Landscape-specific funds focus on multiple species or populations - those which are iconic, endemic, and/or which may serve as indicators of overall ecosystem health and integrity. These locally based efforts are often guided by business plans, which include detailed monitoring and evaluation components. By utilizing multiple implementation and monitoring scales to contribute to common goals, NFWF is able to maximize the impact and evaluation of our conservation investments.

National Funding Opportunities – Large Impact at a Broad Scale

NFWF manages several national programs that have the potential to benefit coral reefs. These programs fund activities that range from working on farmlands to reduce soil loss, in cities to improve water quality and across state coastlines to reduce derelict fishing gear – all threats to coral reefs. Of particular interest, the National Coastal Resilience Fund (NCRF) has a strong nexus with the Coral Reefs Program Investment Strategy due to the overlapping habitat restoration focus and the importance of maintaining healthy reef structure for protection of many of U.S. coastal communities.



Coral reef in Hawaii

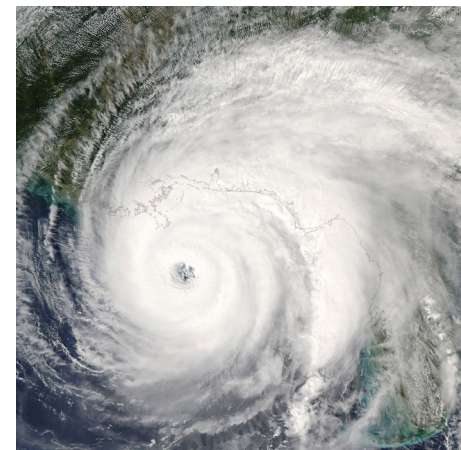


Episodic Funding Opportunities – Response to Address Injury

From time to time, episodic funding opportunities—those that do not have an annual funding cycle—can significantly contribute to coral reef conservation. While the timing and purpose of these opportunities may not be predictable, they are an important component of the Coral Reefs program. These include:

Coral Reef Emergency Response Fund (CERF) – The CERF reserves funding to allow for rapid response to large, episodic events that cause direct coral damage. These first-response funds will support needs nominated by regional leads within the NOAA Coral Program. The funding seeks to prevent permanent coral loss due to vessel groundings, hurricanes, disease outbreaks and localized bleaching events, until larger and more comprehensive response efforts can be mobilized.

IDEA, DARRP, or Congressionally Directed – NFWF also receives funds that are tied to a specific event or injury. NOAA's DARRP (Damage Assessment, Remediation, and Restoration Program) and NFWF's IDEA (Impact Directed Environmental Accounts) funds are court or settlement-directed non-federal sources. In contrast, congressionally directed funding (i.e., emergency supplemental funding) directs federal funding to coral restoration.



Photos clockwise from top left: coral reef in Hawaii, oil spill, coral bleaching, fish and coral, coral, hurricane on the gulf coast



Wrasse on Coral Colony



New coral colonies on Florida reef restoration project

Tracking Progress

The broader reach and success of the Coral Reefs program 20-year investment strategy will be evaluated based on NFWF's ability to leverage investments for coral reef conservation and deliver on the three primary investment targets- including an annual manager's survey of the impact of investments, tools and dissemination on their decision-making.

A suite of progress indicators for activities that contribute to specific objectives under each of the three investment targets will be employed across all applicable funding mechanisms; however, the level of impact monitoring beyond these minimum indicators will vary by site and funding mechanism. Where impact monitoring is employed at a specific reef over time for a specific population target, the Coral Reefs program monitoring strategy will utilize multiple lines of evidence across water quality, fisheries management, and coral health parameters that are specific to that reef/watershed complex. Similar evidence-based indicators will also be used to inform the success of threat reduction and a standardized restoration monitoring protocol will be used for all restoration projects at scale.

Additional Resources
[Investment Targets and Objectives Outline](#)



A school of surgeonfish

PUBLIC-PRIVATE PARTNERSHIP

The public and private-sector partners of the Coral Reefs program invest in efforts to foster coral health and persistence along an increasingly developed U.S. coastline. U.S. coral reefs are unique and extraordinary resources that provide economic support and direct protection well beyond their borders, and the growing group of corporate sponsors, along with state and federal agencies, are partnering with NFWF to ensure that these ecosystems persist well into the future to continue to provide these social and ecosystem services for local communities in the region.

FUNDING PARTNERS



Coral reef in Hawaii

ABOUT NFWF

The **National Fish and Wildlife Foundation** (NFWF) works with partners to foster sustainable and impactful conservation solutions so that people and nature thrive together. Chartered by Congress in 1984, NFWF has grown to become the nation's largest conservation foundation. NFWF works with the public and private sectors to sustain, restore and enhance the nation's fish, wildlife, plants and habitats for current and future generations.

Since its founding, NFWF has supported more than 6,800 grantee organizations and funded more than 22,100 projects that have generated a total conservation impact of more than \$10 billion.

Learn more at nfwf.org.



Mangrove roots

PROGRAM CONTACTS

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TO LEARN MORE

The Coral Reefs program page at nfwf.org offers detailed information on all grants awarded, grant application information, and a video highlighting some of the initiative's on-the-ground conservation work.



NFWF

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Green sea turtle depend on coral reefs supported by NFWF grants