

## Request for Information: Coral Reef Response and Restoration

The [Caribbean Biodiversity Fund](#) (CBF), in partnership with the [National Conservation Trust Fund of Jamaica](#) (NCTFJ), [Saint Lucia National Conservation Fund](#) (SLUNCF), and [St. Vincent and the Grenadines Conservation Fund](#) (SVGCF), is requesting information from partners who already have, or wish to develop capacity to undertake activities that will contribute to rapid restoration of the health of coral reef ecosystems in the immediate aftermath of hurricane events.

CBF and partners are currently in the scoping phase of the development of a new financial mechanism, which will provide a predictable and timely source of funds for communities and organisations to execute pre-planned rapid response to hurricane-induced reef damage in the region. Therefore, organisations with plans and capabilities to undertake reef response will be considered as potential recipients of funding via this mechanism.

Hurricanes are a key driver of live coral damage and loss in the Caribbean, as high winds on land generate debris which ends up on reefs, and hurricanes generate heavy seas; both directly damage coral reef ecosystems, causing impacts such as breakage of coral colony tips and branches, sand and debris burial, and dislodgement of large colonies. While reefs in the region have faced, and survived, the impacts of hurricanes for eons, the effects of climate change and other stressors exert increasing pressure; the risk of a hurricane impact leading to irreversible coral degradation and mortality is growing ever more rapidly as the ocean warms and acidifies.

However, research shows that communities can significantly reduce the negative impacts of hurricanes on coral reefs by implementing rapid response activities immediately after the storm passes. Early action to clean up the reef and jump-start regeneration and recovery is critical to reducing the overall impact of lost ecosystem services—in both social and economic terms. Since reefs are often not a priority for response funding in the immediate aftermath of hurricanes, the CBF, NCTFJ, SLUNCF, and SVGCF are supporting the implementation of the project, *Reef Resilience and Risk Financing in the Greater Caribbean*, which seeks to build the capacity of local communities, governments, the private sector, and environmental funds to increase coastal resilience using innovative financing mechanisms (see Annex 1 for a Project Brief).

This project builds on the success of reef response and risk financing in the Mesoamerican Reef (MAR) region, where the [Mesoamerican Reef Fund's Reef Rescue Initiative](#) (RRI) utilises innovative financing mechanisms to sustainably fund emergency reef response activities. The [reef insurance policy currently in place](#) for pilot reef sites in Mexico and Belize directly protects more than 4,500 hectares of live coral cover, providing up to USD 2.5 million for reef response when it is needed. Importantly, Emergency Response Groups (“brigades”) are formed, trained, and equipped so they are ready to receive the rapidly disbursed, pre-arranged funding to implement pre-formulated response protocols immediately after a storm.<sup>1</sup> For example, following reef damage from Tropical Storm Gamma and Hurricane Delta in 2020, the MAR Fund's Emergency Fund quickly provided financing for brigades to clear and remove debris, as well as gather and re-attach broken coral fragments that were damaged by the storms across three reef sites within the Puerto Morelos National Park, Quintana Roo. A total of 2,152 coral colonies were stabilised, 5,143 fragments were cemented, and 8,428 were propped.

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<sup>1</sup> For details of the response protocols adopted for the MAR, see <https://marfund.org/en/wp-content/uploads/2021/04/Protocol-Early-Warning-and-Rapid-Response-Protocol.pdf>

Reef response preparedness is an essential cornerstone to connect innovative financing to rapid response and enhanced reef resilience. Therefore, the purpose of this call for Expressions of Interest is to hear from experts and practitioners in the region: how would you plan for and implement rapid actions to mitigate hurricane impacts and build the resilience of coral reefs and the communities they protect and support?

Reef response could include a variety of activities, including, but not limited to: post-storm damage surveys; removal of debris; the recovery, stabilisation, and reattachment of damaged coral fragments; and/or the planting-out of cultivated corals. Therefore, we invite organisations involved in marine conservation and coral reef restoration in particular, and coastal resilience more broadly to submit information under this request.

Please send responses to [programofficer\\_cf@caribbeanbiodiversityfund.org](mailto:programofficer_cf@caribbeanbiodiversityfund.org) by **Friday 15 April**. Written ideas / concepts should include, in a maximum of 2 pages:

1. A description of activities, including geographical scope (e.g., national; sub-national area of reefs; local reef), that your organisation would plan to implement immediately after a hurricane to assist coral reef recovery and improve reef ecosystem health; and
2. An estimated budget range for each activity (depending on degree of impact on the reef—e.g., while the cost of activities such as damage surveying may be relatively fixed, other costs may vary with the scale of subsequent response for intermediate vs. severe impacts).

We encourage creative ideas / concepts that utilise your current expertise and experience and key partners to strengthen the resilience of coral reef ecosystems. Additional co-benefits of these activities should also be noted (e.g., driving conservation tourism; building the potential market for nursery-grown corals).

Note that this Request for Information stage is not a competitive call; it is a call for ideas / concepts from experts and practitioners, which will shape the development of the new financial mechanism. Responses will greatly enhance our understanding of the potential benefits of a reef risk financing mechanism, and your proposed activities will inform the Terms of Reference that will be developed for reef response. Once the scoping activities of this project development phase are complete, and dependent on the project proceeding to the implementation phase, a Call for Full Proposals will be launched for formal participation.

Please address any questions to [programofficer\\_cf@caribbeanbiodiversityfund.org](mailto:programofficer_cf@caribbeanbiodiversityfund.org) by **Monday 11 April**.



# Reef Resilience and Risk Financing in the Greater Caribbean

## Project Brief

The [Caribbean Biodiversity Fund](#) (CBF), the [Mesoamerican Reef Fund](#), and [WTW](#) are collaborating to develop a practical solution to address climate risk to Caribbean coral reefs and the communities they support: the development of innovative financing mechanisms, such as parametric insurance tools, which will provide predictable and timely funds to restore and conserve this critical natural infrastructure.

### The Context

Coral reefs are incredibly valuable ecosystems, providing billions of dollars to the Caribbean economy every year. From fisherfolk dependent on a reliable catch, through coastal communities made more resilient by the protective capacity of the reef, to tourism and recreational businesses generating GDP, Caribbean coral reefs provide food security, livelihoods, and safety for millions of people.

Caribbean reefs, along with all of the warm-water coral reef systems of the world, are in existential crisis. While reefs have faced, and survived, the impacts of hurricanes for eons, the effects of climate change and other stressors exert increasing pressure; the risk of a hurricane impact leading to irreversible coral degradation and mortality is growing ever more rapidly as the ocean warms and acidifies.

### The Challenge

Increasing risk to coral reefs threatens the abundant ecosystem services these natural assets provide, potentially impacting blue economy investments and livelihoods. Fortunately, the science of reef repair and recovery provides an opportunity to actively reduce the negative impacts of hurricanes on coral reefs. This, in turn, can increase the resilience of the reef to chronic anthropogenic pressures. Early action to clean up the reef and jump-start regeneration and recovery is, therefore, critical to reducing the overall impact of lost ecosystem services - in both social and economic terms. However, the restoration of natural ecosystems is often not a priority in the aftermath of extreme events, as resources are focused mainly on grey infrastructure and property. This risk to coastal communities is currently unassessed, unaddressed, and unfinanced.

### The Solution

The goal of the project, *Reef Resilience and Risk Financing in the Greater Caribbean*, is to build regional, national, and local capacity to increase coastal resilience using innovative financing mechanisms for post-storm reef restoration, such as parametric reef insurance. These mechanisms provide predictable and timely funds for rapid response activities to build the resilience of coastal communities and restore critical ecosystem services in the wake of damaging hurricanes.

With the financial support of the [Ocean Risk and Resilience Action Alliance](#), thanks to the contribution of the Blue Planet Fund through the UK Department for Environment, Food & Rural Affairs and building on work funded by the German and Canadian governments, this project will develop a reef risk financing strategy to support the Caribbean Sustainable Finance Architecture, working through the CBF and its partner National Conservation Trust Funds. At this pilot development stage, the National Conservation Trust Fund of Jamaica, the Saint Lucia National Conservation Fund, and the St. Vincent and the Grenadines Conservation Fund will receive assistance to build the frameworks and access the instruments to connect local reef-response capacity to funding when it is needed.

## Introduction to Reef Risk Financing

### Reef Risk and Resilience Landscape

Like roads, ports, and other grey infrastructure, coral reefs can be thought of as public infrastructure, and revenue streams depend on their presence and continued health. However, this natural infrastructure does not feature explicitly on public or private asset lists or balance sheets, making the responsibility for its maintenance relatively implicit, spread across many reef users and beneficiaries. This results in a relatively vague understanding of reef risk ownership and diffuse efforts at risk management. Risks associated with reef degradation primarily end up as undeclared and unquantified contingent liabilities to the public sector, which, when left unaddressed, are often passed on to vulnerable communities who are heavily dependent on healthy ecosystems and businesses that rely on reefs as value-adding assets.

It is across this backdrop that innovative financing mechanisms can play a catalytic role to build the financial and ecosystem resilience of coastal communities. Research shows that countries and local communities can significantly reduce the negative impacts of hurricanes on coral reefs by implementing rapid response activities immediately after the storm passes. And innovative reef risk financing provides the predictable and timely funding required to carry out these activities.

### Reef Insurance

Insurance is a tool to finance risk and build resilience to shock events, mitigating the impacts by arranging finance in advance, which is generally more cost-efficient than other, *ex post*, financial mechanisms. Pay-outs provide funding for recovery quickly after an event, and this predictability of funding allows for the development and implementation of contingency plans, which can further minimise negative impacts. Marine ecosystems such as coral reefs may be 'free' public goods, but their maintenance is critical to sustaining their value. Therefore, even though reefs do not often feature explicitly on asset lists or balance sheets, their value can be protected by insurance, which covers the costs of post-hurricane reef response activities.

**Insurance coverage of reefs can significantly increase the resilience of coastal populations by:**

- Addressing a post-event funding gap by providing a framework and financing mechanism to clarify risk ownership and facilitate the collaboration of multiple stakeholders;
- Providing a predictable source of funds, allowing local communities and government to incorporate natural capital into post-event response contingency planning;
- Providing a timely flow of funds to carry out immediate, post-event reef response and clean-up, speeding the recovery of reefs; and
- Ultimately, restoring valuable ecosystem services provided by this natural infrastructure, thus generating economic value by reducing the cost of impairment of such services.

### Caribbean Reef Insurance Concept

While the concept remains under development, the following provides a demonstration case to illustrate how a Caribbean reef insurance mechanism could work. An insurance instrument, purchased by the CBF, would be designed to "trigger" pay-outs related to the cost of reef response in participating countries. When a pay-out is made, it is rapidly disbursed to communities at affected sites to undertake pre-planned reef response activities.

