



CCMI
CENTRAL CARIBBEAN
MARINE INSTITUTE



ZERO IMPACT

2018 ACTIVITY
2017 SUMMARY



CCMI HAS A CLEAR VISION FOR THE FUTURE

Our vision is a world with vibrant oceans and healthy coral reefs.

HOW CAN WE MAKE OUR VISION A REALITY?

Confronting declines in the ocean's biodiversity requires transformative approaches that include significant scientific and socioeconomic solutions. Our work seeks to conserve coral reefs, focusing on the restoration of key functional groups that are responsible for maintaining the balance. We are looking to unravel the secrets to building resilience and resistance, so we can rehabilitate these precious ecosystems. We are yet to discover the full adaptive potential of marine species to climate stress. Societal level changes will need to focus on reducing human impacts on the entire ocean ecosystem as a matter of urgency, including addressing those practices that are de-habitating the ocean's natural responses to stress, such as over fishing, destructive fishing and polluting the ocean.

As a Caribbean-based marine research institution, CCMI identifies the following responsibilities that we believe are crucial in building a sustainable future:

Firstly, we support innovative researchers, especially early career scientists, seeking solutions to the decline in coral reefs. Through science-based approaches we must offer solutions to building ecological (and thus human) resilience to climate change.

Secondly, recognizing that human impacts are the underlying cause for the loss of 60-80% of coral reefs globally, we must utilize the world stage and the unlimited potential of global communications. CCMI is establishing an underwater livestreaming telepresence called Reefs Go Live and Oceans Go Live, so our scientists can engage and connect with students of all ages directly from the ocean. Improving humanity's understanding of our interconnectivity with the ocean, especially for young impressionable minds, will be key to transforming behaviours that result in the destruction and exploitation of precious ocean resources.



CCMI messaging





SUMMARY of 2017



UNLOCKING THE SECRETS TO RESILIENCY

A message from CCMI's President, Dr. Carrie Manfrino

In 2018, our plan is to revise the research strategy at CCMI to focus on ecological solutions to declining coral reefs.

In 2017, our work on resilience expanded to investigate productivity of key herbivores like chubs, parrotfish, and urchins, the species we believe are largely responsible for improving our prospect of reversing coral reef declines. Critical knowledge gaps exist on how to effectively design practices to protect herbivory and promote regeneration. However, CCMI has the history, infrastructure, and expertise within the Caribbean region to become an important global voice in this research area, and this project will be expanded and progressed in 2018, resulting in a Biodiversity Action Plan when the project concludes.

CCMI plans to bring together international partners who, together, can lead innovations that help rehabilitate reef ecosystems.

In 2012, CCMI established our coral restoration project and we currently manage and maintain the region's largest coral nursery(s). In October 2017, CCMI co-hosted the Caribbean Round Table in Monaco with Drs Emma Camp and Marguerite Koch.

The group of influential scientists and policy makers had the following shared outcomes from the meeting:

“Strategic reef restoration involves both active (e.g. coral outplanting) and passive (e.g. spatial planning) approaches.”



RESTORING RESILIENT SPECIES

CCMI is already incorporating these approaches into our research, including selectively harvesting corals resistant to bleaching and ocean acidification (OA) conditions.

In 2018, we will explore how to scale up our work, so that individual corals that express tolerance to stressful conditions will be identified and used for experiments to improve outplanting success.

The success of coral spawning at our nursery in 2017 provides unique opportunities to examine whether juvenile corals are inheriting these traits. The end game is to promote acclimatization to future environmental stressors including temperature and OA, and to create more environmentally tolerant corals, in both adult corals and the juveniles they produce. Outplanting of corals onto the reef may be supplemented by physical engineering approaches to stabilise reef foundation and improve reef rugosity to enhance settlement and growth of juvenile corals.

Spatial planning will also be incorporated, based on habitat mapping and understanding of local hydrology (e.g. currents), aiming to promote larval connectivity between reefs. Connectivity between habitats will also be promoted, to enhance gene flow from environmentally variable habitats (e.g. inshore reefs and mangroves) where more environmentally tolerant genotypes of coral are found.

CITIZEN SCIENCE

In all of our work, we use substantial science-based methods to assess the effectiveness and to design ways to scale up for a greater global impact. We believe everyone can play a role in conserving and protecting coral reefs by having zero impact. Each individual can make a special pledge to link on to specific activities that reduce their impact to the ocean.

RESTORATION resilience





ZERO IMPACT IYOR 2018



INTERNATIONAL YEAR OF THE REEF 2018 (IYOR)

CCMI will officially begin our celebration of the International Year of the Reef (IYOR) with a public family event at the National Gallery of the Cayman Islands on Saturday, January 27th. The theme is “Zero Impact for Coral Reefs” and will be communicated via outreach activities and marine industry partnerships throughout the Cayman Islands.

We will present results from CCMI’s research programme through a “Reef Lecture Series”, to engage citizen scientists and tourism managers throughout the year and the first lecture is booked for the 8th February on Grand Cayman.

We will also be providing A ‘Zero Impact’ information pack for dive tourism and marine operators to help promote our IYOR 2018 campaign, giving them tools to help tourists reduce their impact on coral reefs.

We are also celebrating IYOR by launching our live, interactive, telepresence education programme, “Reefs Go Live” where students around the world can engage with researchers who will be conducting lessons live while scuba diving.

All IYOR-specific information will be posted on our IYOR page: <https://reefresearch.org/get-involved/iyor2018/> and shared via social media.

CITIZEN SCIENCE

During IYOR 2018 CCMI will be launching a range of volunteer opportunities, specifically to aid our Coral Restoration Programme, improving the knowledge of interested citizen scientists in the region.





2018 events calendar



IYOR & CCMI EVENTS CALENDAR 2018

- ~ International Year of the Reef Launch 27th January 2018
- ~ Reefs Go Live Launch 27th January 2018
- ~ REEF LECTURE SERIES begins at the Cracked Conch 7pm, RSVP@reefresearch.org 8th February 2018
- ~ Festival of Seas May/June 2018 (TBD)
- ~ London Symposium & Royal Dinner July 2018 (TBD)
- ~ Volunteer opportunities from August 2018
- ~ CCMI 20th Anniversary October 2018 (TBD)

For details about all CCMI's activity, please contact: info@reefresearch.org



For details about IYOR with CCMI, please see: www.reefresearch.org/get-involved/iyor2018/





Thank You

We would like to thank our supporters, especially our Navigators and long-term donors, for believing in our mission and helping us on the journey to ensure a world with vibrant oceans and healthy coral reefs.

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