



Member's report on activities related to ICRI

Reporting period December 2015 – November 2016

NOTE: TO CHECK A BOX, DOUBLE CLICK ON IT AND TICK 'CHECKED' UNDER 'DEFAULT VALUE' IN THE POP UP WINDOW

1. **Contribution to the ICRI Plan of Action and GM.** *Your responses to the following questions will assist the Secretariat in assessing contributions towards the major themes of the current ICRI Plan of Action (<http://www.icriforum.org/icri-secretariat/current>) and objectives of the general meeting.*

a. Bleaching event

Were you affected by the Third Global Coral Reef event? Did you do some monitoring, if yes what are the results and could you explain what method did you use? Would you like to report during the ICRI Meeting?

Several of our sites experienced bleaching during the Third Global Coral Reef bleaching event. We worked closely with Reef Check Indonesia to collect data from Bali, and they have results of these surveys. In addition, we supported implementation of AGGRA surveys in the Mesoamerican Reef region in partnership with the Healthy Reefs Initiative. The data from these surveys has been entered into the AGGRA database.

- b. INDCs - Intended Nationally Determined Contributions** – *Did your national contribution mention 'marine ecosystems or coral reefs'? Would you be interested in joining an Ad Hoc committee to develop guidelines to integrate coral reefs in the INDC?*

No; however, the Coral Reef Alliance is interested in learning more about how we can participate in an Ad Hoc committee to develop guidelines to integrate coral reefs in the INDC.

- c. Nature-based Solutions to address Climate Change** - *Do you have some example(s) of Nature-based (coral reef and related ecosystems) Solutions to address climate change? If yes, could you please provide use some details?*

The Coral Reef Alliance uses scientific information to strategically identify, plan, and execute actions that will provide the most benefit to the places in which we work. In general, CORAL's work is aimed at mitigating the effects of climate change. More detailed information for each example below may be found in the Project Descriptions.

- CORAL mitigates problems that compound the impact of climate change, including addressing overfishing and poor water (Project 1) quality through inadequate waste water treatment and management, (Project 2).
- CORAL is developing an improved methodology for managing complex ecosystems in the face of global change through the development of a novel model of coral adaptation potential (Project 5). We are first applying this model to the evaluation of alternate management scenarios in the Mesoamerican Reef.

- d. UN Sustainable Development Goals** – *Do you have example(s) showing how coral reefs and related ecosystems address the SDG (SDG 14 but also other related ones such as SDG 1 – End poverty in all its form; SDG 2 – End hunger, achieve food security and improved nutrition...)*

- **SDG 2: Zero Hunger**—CORAL's work to improve fisheries management and fisheries access in Fiji (Project 4) and Tela, Honduras (Project 1) contributes to food security.
- **SDG 6: Clean Water and Sanitation**—CORAL is focused specifically on improving water quality through wastewater treatment in Honduras (Project 1) and Hawai'i (Project 2).

- **SDG 11: Sustainable Cities and Communities**—In Maui, Hawai'i (Project 2), CORAL has worked with 20 hotel properties to increase their engagement in ridge to reef stewardship, which led to implementation of 19 low-impact development (LID) sustainability initiatives.
- **SDG 13: Climate Action**—The Modelling Adaptive Potential (Project 5) is focused understanding how management actions can be designed to help corals adapt to a changing climate.
- **SDG 14: Live Below Water**—All of CORAL's work addresses the health of coral reef ecosystems. Most directly related is our work in the Mesoamerican Reef Region (Project 1), Indonesia (Project 3), and Fiji (Project 4).

e. Do you have national measure(s) – existing or in development - to ban the sale and manufacture of cosmetics and personal care products containing plastic microbeads? And plastic bags?

NO

f. **Upcoming events** - Do you plan to attend:

- November 2016 - Marrakech Climate Change Conference / The twenty-second session of the Conference of the Parties (COP 22)-NO
- December 4, 2016 to December 17, 2016 - Convention on Biological Diversity COP13-NO
- June 2017 - Oceans & Seas Global Conference, Fiji-YES
- Other(s):
 - Bioneers

2. **Updates on your activities.** The following table is a summary of ICRI's *Framework for Action* (FFA) and its four cornerstones. (The full text of the FFA is available in English, French, and Spanish at <http://icriforum.org/icri-documents/icri-key-documents/continuing-call-action-2013>).

Integrated Management	Objective	Manage coral reefs and related ecosystems using an ecosystem approach, recognizing place based activity; connectivity within and among ecological, social, economic, and institutional systems; as well as with attention to scale; resilience of ecological and social systems; and long-term provision of ecosystem services.
	General Approach	Integrated management, using a strategic, risk-based, informed approach, provides a framework for effective coral reef and related ecosystem management which supports natural resilience, ecosystem service provision, and enhances the ability to withstand the impacts of climate change and ocean acidification.
	Desired outcome	There is a demonstrable reduction in the threats to coral reefs and related ecosystems through management action.
Capacity Building	Objective	To build capacity in all facets of management of coral reefs and related ecosystems and support dissemination and application of best practices to achieve the widest possible engagement of all stakeholders in planning and management activities.
	General Approach	Continued collaboration, partnerships, outreach, information sharing and education to ensure the uptake of best practices and encourage behavioural change. This can only be successful if the diversity of cultures, traditions and governance among nations and regions are taken into account.
	Desired outcome	Persons who have influence in the management of coral reef and related ecosystems have the knowledge, tools and capital necessary to apply best practices, adapted to the cultural and socio-economic context.
Science & Monitoring	Objective	To support research and citizen science approaches to enable countries and communities assess and report on the status of and threats to their coral reefs and related ecosystems in a coordinated, comparable and accessible manner.
	General Approach	Research and monitoring programs are essential to ensure that management of coral reefs and related ecosystems is based on best available (scientific) information.
	Desired outcome	Knowledge of the status and trends in coral reefs and related ecosystems health is enhanced and used to inform planning and management, improving management

		outcomes.
Periodic Assessment (Review)	Objective	To engage in periodic review of the impact and effectiveness of all elements of management to enable evaluation and refinement of management measures in an adaptive framework.
	General Approach	Periodic assessments of management effectiveness and evaluation of projects and activities to ensure the efficacy of management tools and systems in tackling the range of pressures affecting coral reefs and related ecosystems and protecting the values associated with them.
	Desired outcome	Management processes and activities are regularly reviewed and improved using a structured approach, to enhance their ability to effectively reduce pressures and threats.

Using the table on the previous page, as well as the detailed descriptors of approaches and strategies available in the full text of the FFA as a reference, please give us an update on an activity/project/program(s) which has been particularly successful in your country/organization during this reporting period.

Project 1

Cornerstone(s) implemented through the project	Check all that apply: <input checked="" type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input checked="" type="checkbox"/> Science & Monitoring <input type="checkbox"/> Periodic Assessment (Review)
Project Title	Achieving a Regional Conservation Network Through Local Action
Location	Bay Islands, Honduras
Dates	2011-present
Main Organizer(s)	The Coral Reef Alliance
Main Stakeholder(s)	Fishermen, marine tourism sector, government ministries (tourism, fisheries, environment), local municipalities, coastal communities, local NGOs, and multilateral partners
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>CORAL works in several sites within Honduras—Tela Bay, Utila, and Roatan. Tela Bay's location gives it a vital role in connecting reefs in Honduras' Bay Islands to reefs in Belize. In early 2014, it was upgraded from a municipal designation to a federally designated Site of Wildlife Importance, allowing for the development of management plan and zoning plans. In the past year, CORAL has worked with local and national leaders to again upgrade Tela Bay's designation to Wildlife Refuge. In addition, we have encouraged local fishers' compliance with fishing regulations, which has led to increased willingness to change to more sustainable fishing gear types. Across the Bay Islands and mainland Honduras we worked with three communities to create no-take zones (Cordelia Banks—completed; Tela Bay and French Key, Roatan—in process).</p> <p>CORAL has also worked to identify regional management priorities and increase management capacity among the Bay Island protected areas by establishing a management and governance network. To support this, CORAL continues to work with partners to formalize the Bay Islands Conservation Fund that will finance these efforts and augment the capacity of key local organizations.</p> <p>CORAL also continues to address water quality. First, following years of CORAL coordination, the Cartagena Convention and the Land-Based Sources of Marine Pollution (LBS) Protocol is finally in Congress for debate and ratification. If ratified, the Convention will empower the government to enact stricter water quality standards and gain access to funds for wastewater infrastructure. In addition, to enhance the effectiveness of management actions, we work towards improved coastal water quality in Roatan. In West End, waste was discharged directly into the marine environment resulting in poor coastal water quality. CORAL is working with the local government and</p>

	community to connect homes and business to the existing sewage systems and have now connected 137 of a possible 370 homes. We are collaborating with the Inter-American Development Bank (IDB), Honduras Tourism Authority (IHT) and a South Korean aid organization to coordinate and fund wastewater treatment infrastructure for six municipalities that span coastal Honduras.
Outcome (Expected outcome)	A network of effectively managed areas along the north coast of Honduras and the Bay Islands that is codified by legal designations, and supported by local communities who are actively implementing long-term conservation solutions.
Lessons learned	Even though both the Cartagena Convention and the proposed Declaration of Tela Bay have been officially submitted to Congress, we have had to conduct considerable follow up in order for the proposals to move along the proper channels.
Related websites (English preferred)	http://www.roatanmarinepark.com ; http://www.bicarootan.com

Project 2

Cornerstone(s) implemented through the project	Check all that apply: <input checked="" type="checkbox"/> Integrated Management <input type="checkbox"/> Capacity Building <input checked="" type="checkbox"/> Science & Monitoring <input type="checkbox"/> Periodic Assessment (Review)
Project Title	Clean Water for Reefs
Location	Maui and Hawai'i Island, USA
Dates	2012-present
Main Organizer(s)	The Coral Reef Alliance
Main Stakeholder(s)	County and state government agencies, universities, marine recreation providers, hoteliers and the tourism accommodation sector, tourists, natural resource managers, land owners and local communities.
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>To protect coral reefs in Hawai'i, we are working to improve water quality by reducing wastewater and storm water pollution. To achieve, we partner with shoreline properties including hotels and residential communities. Over the past year on Maui, CORAL worked with 20 properties to increase their engagement in ridge to reef stewardship. This led to the implementation of 30 sustainability initiatives, including 19 low-impact development (LID) projects; 21 of these initiatives are now complete. These and other activities pursued by shoreline properties have led to a substantial reduction in the volume of storm water and wastewater reaching the ocean. As a result of this work over the last five years, 277 acres of land on 19 properties are under improved management, which results in 35,464,812 gallons of storm water filtered annually.</p> <p>We also partnered with University of Hawai'i Sustainable Living Institute of Maui to deliver LID training to County Department of Public Works employees. We are working with the County to identify ways to integrate LID into County ordinances and permitting process.</p> <p>On Hawai'i Island, CORAL continues to implement the Clean Water for Reefs Puakō program in South Kohala and has organized the Clean Water for Reefs Puakō Advisory Committee to guide and inform the project. In late 2015, CORAL—along with the Clean Water for Reefs Puakō Advisory Committee, AQUA Engineering, and other partners—completed a feasibility study and preliminarily engineering report to replace cesspools and septic tanks in Puakō. The report recommended an onsite treatment plant as the best alternative. We are actively investigating the implementation pathway, which includes permitting, ownership, operation, and maintenance options, and identifying sources of capital to finance the construction of the facility. We are also working with a cadre of experts to build the technical capacity of the community to drive this transition. After the community transitions to improved wastewater treatment, CORAL and other experts expect to see</p>

	immediate improvements to water quality. Over time, we also expect to see improved coral reef health and we are working with experts to develop a monitoring plan that will demonstrate these benefits.
Outcome (Expected outcome)	Improvements in wastewater and storm water management and increased use of reclaimed water benefit Hawai'i's coral reefs by reducing land-based source of pollutants
Lessons learned	Many solutions to wastewater and storm water pollution already exist, but they are often costly and time consuming to implement. The key challenge therefore is to identify how to apply these solutions. Investing in stakeholder engagement across community, researchers, government and industry has helped CORAL to identify issues and barriers to implementation of solutions, and ultimately to find a successful path forwards.
Related websites (English preferred)	www.coral.org , www.coral.org/Puakō

Project 3

Cornerstone(s) implemented through the project	Check all that apply: <input checked="" type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input type="checkbox"/> Science & Monitoring <input type="checkbox"/> Periodic Assessment (Review)
Project Title	Building a Network of Locally Managed Marine Areas in Bali
Location	Bali, Indonesia
Dates	2013-present
Main Organizer(s)	Coral Reef Alliance, Conservation International, Reef Check Foundation Indonesia
Main Stakeholder(s)	Marine tourism sector, government ministries (fisheries, environment), local municipalities, coastal communities (including fishermen), local and international NGOs
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>Together with our partners, CORAL is creating an ecologically connected and socioeconomically sustainable network of locally managed marine areas (LMMAs) for two regencies in northern Bali—Karangasem and Buleleng. Once established, this network will protect and promote healthy reef ecosystems and fisheries, benefiting human and coral reef communities. The foundation of this network is a community-based co-management structure where local communities and businesses provide management capacity and generate their own revenue to sustain management actions. With our partners and local communities, CORAL is laying the groundwork to support regional scale management efforts.</p> <p>During this past year, we have developed the first detailed management plan for Buleleng by working closely with Reef Check Foundation Indonesia (RCFI) to help four communities identify local issues and management needs. This serves as a blueprint for other LMMAs in the network. In Karangasem, we implemented a participatory issue mapping process called PhotoVoices in collaboration with Lensa Masyarakat Nusantara (LMN) and RCFI. The approach helped the communities in Karangasem identify and develop consensus around key conservation priorities. LMN, CORAL, and RCFI gave villagers in Amed-Jemeluk and Tulamben cameras and encouraged them to take photographs of issues they felt were important and related to coral reef conservation. Trained facilitators gathered the stories behind the pictures and created a visual and narrative compilation of the identified issues. The facilitators encouraged and ensured broad participation across the communities. Through this process, the communities identified the impacts associated with weak or absent regulations for marine tourism as a key challenge. The PhotoVoices project set the stage for the communities to engage in conservation and established priorities for local management.</p> <p>With our partners Conservation International and the Coral Triangle Center,</p>

	<p>we also hosted a workshop to train local government officials, village representatives, and business owners on coral reef management. This training helped stakeholders identify management issues and the different roles each stakeholder group could play in reducing impacts to corals.</p> <p>With RCFI and another partner, Hands for Nation, we helped the community of Tulamben launch a voluntary dive tag program and a souvenir shop, which are raising funds to support local conservation efforts.</p>
Outcome (including expected outcome)	Northeast Bali's marine ecosystems are better protected because an effective network of locally managed marine areas (LMMAs) is implemented that has buy-in from local communities and provides new economic incentives.
Lessons learned	Reef-side communities in Bali are passionate and resourceful. After providing access to training and education in coral reef management and local business development, local champions have rallied support for local conservation initiatives.
Related websites (English preferred)	www.coral.org

Project 4

Cornerstone(s) implemented through the project	Check all that apply: <input checked="" type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input type="checkbox"/> Science & Monitoring <input type="checkbox"/> Periodic Assessment (Review)
Project Title	Catalyzing Lasting Change through a Kubulau Conservation Model
Location	Kubulau, Fiji
Dates	2006-present
Main Organizer(s)	Coral Reef Alliance, Wildlife Conservation Society
Main Stakeholder(s)	Local community/villages, marine recreation providers
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>Over the years, CORAL has partnered with the Wildlife Conservation Society (WCS) to build local capacity to effectively manage the Namena Marine Reserve within a larger ecosystem based management plan. The Namena Marine Reserve continues to be an exemplary program for how local management can benefit both communities and coral reefs.</p> <p>The Kubulau Resource Management Committee (KRMC) oversees and coordinates the voluntary user-fee system including the production of annual dive tags. In the past year, with support from CORAL, KRMC hired a Coordinator. In addition, the KRMC continues to assess the best options for formalizing the organization and becoming a not for profit. CORAL continues to work with KRMC and the Kubulau Business Development Committee (KBDC) to seek funds to support KRMC's work, provide technical assistance, and to help KRMC's strengthen its relationships with stakeholders around enforcing marine regulations and implementing the dive tag program.</p>
Outcome (Expected outcome)	The Namena Marine Reserve functions to protect one of Fiji's most intact coral reef ecosystem through community support and autonomous local management
Lessons learned	The KRMC/KBDC structure has shown how building the capacity of resource managers can also build the resilience of communities in the face of disaster. In February 2016, Tropical Cyclone Winston, a Category 5 storm, ravaged much of Fiji, including the Namena Marine Reserve and Kubulau region. Because of the existing KRMC/KBDC structure, the organizations were able to facilitate relief efforts on behalf of the community within 24 hours of the disaster and continue to engage donors, relief agencies, and the government on behalf of the community.
Related websites (English preferred)	www.coral.org , www.wcsfiji.com , www.namena.org

Project 5

Cornerstone(s) implemented through the project	Check all that apply: <input checked="" type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input checked="" type="checkbox"/> Science & Monitoring <input type="checkbox"/> Periodic Assessment (Review)
Project Title	Modelling Adaptation Potential
Location	Mesoamerican Reef Region
Dates	September 2015-Present
Main Organizer(s)	Coral Reef Alliance, University of Washington, Rutgers University
Main Stakeholder(s)	Conservation organizations, scientists, funders, governments
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>To save coral reefs in the face of a changing climate, CORAL is advancing a science-based strategy to help corals adapt to changing conditions. In partnership with university-based scientists, we have launched a project to describe how variation in the diversity and connectivity of reef-building corals affects their potential to successfully adapt to environmental change. With this information in hand, we will be able to provide guidance to managers and conservation professionals about actions they can take to promote adaptation via natural selection.</p> <p>As part of this project we are building a generalizable model of coral adaptation, which can be applied to reefs anywhere in the world. During the past year, we worked in partnership with university-based researchers to identify the model functionality that will allow us to provide concrete and actionable guidance to the conservation community. Using this functionality as a guide, we developed an initial model that can assess how diversity will respond to different management actions.</p> <p>To get to this stage of model development, we completed a review and synthesis of the ecological and evolutionary literature, and we are preparing a manuscript to share our findings to date.</p> <p>We look forward to making this work applicable to a real-world conservation scenario during the second stage of this project as we parameterize our models and apply our approach to the Mesoamerican Region. Our success will establish a new branch of scientific theory, while providing practical advice for coral reef conservation in the Mesoamerican Reef, and serving as a blueprint for coral reef regions around the world.</p>
Outcome (Expected outcome)	An improved methodology for managing complex ecosystems in the face of global change is launched through the development of a novel model of coral adaptation potential and its subsequent application to the evaluation of alternate management scenarios in the Mesoamerican Reef, providing a basis for introducing similar approaches to other ecosystems and regions.
Lessons learned	Ecosystems are incredibly complex, and determining the critical biotic and abiotic components necessary to make the model both widely applicable and detailed enough to generate realistic dynamics has been one of our key challenges.
Related websites (English preferred)	N/A

Project 6

Cornerstone(s) implemented through the project	Check all that apply: <input checked="" type="checkbox"/> Integrated Management <input type="checkbox"/> Capacity Building <input checked="" type="checkbox"/> Science & Monitoring <input type="checkbox"/> Periodic Assessment (Review)
Project Title	Reefs Tomorrow Initiative
Location	Palmyra Atoll, USA; Solomon Islands
Dates	August 2012 - December 2016

Main Organizer(s)	American Museum of Natural History, the Coral Reef Alliance, The Nature Conservancy, Scripps Institution of Oceanography, Stanford University, University of California Santa Barbara, University of North Carolina Wilmington, and Victoria University of Wellington
Main Stakeholder(s)	Academic institutions, conservation organizations, and local managers
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>The Reefs Tomorrow Initiative is a collaboration among scientists from academic institutions and conservation organizations who are using computer models and field studies to investigate how healthy reefs respond to multiple and simultaneous threats. Working closely with managers and using our improved understanding of how reefs function, we are building new tools that reef stewards can use to evaluate trade-off decisions and restore reef resiliency.</p> <p>In the past year, RTI has completed all work and met the following objectives: (1) used photomosaic technology to assemble and analyze the largest benthic data set ever collected, which is dramatically increasing our understanding of patterns in coral distribution and abundance; (2) completed three workshops with conservation practitioners, managers, and community members to develop indicators of biocultural resilience; (3) improved our understanding of how fish movement and feeding patterns influence coral reef resilience via coral recruitment; (4) completed a mathematical model of Palmyra's ocean circulation patterns which revealed that healthy reefs dissipate wave energy far more than expected; and (5) developed two video products, one that shares information about best management practices from a Solomon Islander perspective and another that covers basic coral reef ecology using stop motion animation. Our work on this project reached more than 90 people through engagements with local managers from around the world and has led to more than eight publications.</p>
Outcome (Expected outcome)	An improved understanding of how healthy reefs respond to multiple and simultaneous threats using computer models and field.
Lessons learned	Through this project we learned a lot about how to share complex scientific information with local managers. One of our early ideas was to create a video that would convey information about the marine environment to communities in the Solomon Islands. Through some early test cases, we realized that to be successful, the video needed to showcase footage from the Solomon Islands and be narrated by a Solomon Islander. Once we had done this, discovered just how successful videos can be for bringing communities together around marine management.
Related websites (English preferred)	www.reefstomorrowinitiative.org

Note: If you have more activities/projects/programs you would like to report on or share with other members, please duplicate the table above and fill it in for as many projects as you wish.

3. Publications. Please list relevant publications/reports you have released during this reporting period.

Title (incl. author and date)	Website URL if available	Type of publication (Paper, report, etc.)
Stier, A.C., D.E. Schindler, M.L. Pinsky, T. Essington, M.S. Webster, and M.A. Colton. 2016. Can Climate Adaptation Portfolios Mitigate Risk in the Face of Uncertain Impacts of Global Change?		Presentation at International Coral Reef Symposium, Honolulu Hawai'i
Colton, M.A., M.S. Webster, and M.L.		Presentation at

Pinsky. 2016. Evolutionary Adaptation Potential: From Novel Science to Practical Application.		International Coral Reef Symposium, Honolulu Hawai'i
Chaston Radway K., Manley M., Mangubhai S., Sokowaqanilotu E., Lalavanua W., Bogiva A., Caginitoba A., Delai T., Draniatu M., Dulunaqio S., Fox M., Koroiswaqa I., Naisilisili W., Rabukawaqa A., Ravonoloa K., Veibi T. 2016. Impact of Tropical Cyclone Winston on Fisheries-Dependent Communities in Fiji. Report No. 03/16. Wildlife Conservation Society, Suva, Fiji. 103 pp.		Report

4. **General Information.** (Note that this information will be posted on the ICRI website on your member page: <http://www.icriforum.org/about-icri/members-networks>.)

Member type (Country / Organization):	Organization
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Thank you very much for sharing your valuable experiences and information with ICRI.