

U.S. All Islands Coral Reef Committee

Chair's Report

November 2021



U.S. All Islands
Coral Reef
Committee



AIC CHAIR'S REPORT

NOVEMBER 2021

AIC Vision

Thriving coral reef ecosystems, effectively managed to protect their ecological, social, and economic value for future generations.

AIC Mission

To be a unified voice for the effective management of coral reef ecosystems in the U.S. and Freely Associated States.

CONTENTS

AIC Priorities.....	2
Support for the Restoring Resilient Reefs Act (S.2429/H.R.4160)	2
Innovation and Expansion of Coral Restoration	Error! Bookmark not defined.
Improving Coral Reef Response under FEMA	Error! Bookmark not defined.
Improving Water Quality Standards	Error! Bookmark not defined.
Expanding Coral Disease Intervention, including Ballast Water Management	Error! Bookmark not defined.
Improving USCRTF Support in the FAS.....	Error! Bookmark not defined.
Coral Reef Management Fellowship Program	7
AIC Member Priorities and Accomplishments.....	7
American Samoa	8
Commonwealth of the Northern Mariana Islands.....	9
Florida.....	10
Guam	11
Hawai'i	12
Puerto Rico	13
U.S. Virgin Islands	13
AIC Affiliate Member Priorities & Accomplishments.....	14
Federated States of Micronesia	14
Republic of the Marshall Islands	15
Republic of Palau	16
AIC Points of Contact and Secretariat	17

FROM THE CHAIR

Hafa adai, Talofa, Aloha, Hola, Alii, and Hello,

It is my pleasure, on behalf of the U.S. All Islands Coral Reef Committee (AIC), to present this report on our activities, accomplishments, and emerging issues over the past year. While we miss being able to discuss these issues with you in person, we look forward to continuing to work on these important topics virtually, and hopefully in person one day soon.

Despite the impacts to ongoing operations due to the global pandemic, the AIC jurisdictions have been working to reduce local stressors, despite the mounting global and regional threats. Both basins are facing major coral threats, with the expansion of stony coral tissue loss disease throughout the Caribbean, and coral bleaching becoming more common across the Pacific. Despite these immense challenges, the jurisdictions continue to strive towards improving policies, partnerships and programs to preserve, protect and restore vibrant coral reefs.

The AIC remains committed to reducing impacts to coral reefs within our jurisdictions, while also focusing on national actions. We are elated to see the progress in Congress on the Restoring Resilient Reefs Act (S 46/HR 160), as well as many other bills focusing on ocean health, climate change adaptation, and coral reef restoration.

We continue to be thankful for the many federal agencies and partners who have stepped up to support these efforts to ensure the people, economies, coastlines and coral reefs in the US Jurisdictions can once again thrive.

As always, we look forward to continuing to find innovative solutions by working together, as federal agencies and jurisdictions, to make a positive difference for our coral reefs.

We are excited to share with you all the coral reef-related efforts and endeavors happening across the jurisdictions. Should you have any additional questions or would like more information on anything included in this report, please reach out to me, or the AIC Executive Director, Kristine Bucchianeri.

Sincerely,

Jean-Pierre L. Oriol
AIC Chair



D. Burdick

CHAIR'S REPORT | NOVEMBER 2021

AIC PRIORITIES

Our top priorities in November 2021 are:

- Support for the Restoring Resilient Reefs Act
- Scaling up Coral Reef Restoration
- Climate Action
- Coastal Protection
- Water Quality
- Expanding support of Ongoing Working Group Actions
- Cultivate sustainable Task Force support for the Coral Fellowship Program

Support for the Restoring Resilient Reefs Act (S. 46/H.R. 160)

One of the AIC's top priorities remains the reauthorization of the Coral Reef Conservation Act (CRCA) of 2000, and the Restoring Resilient Reefs Act (S. 46/ H.R. 160) is a strong update to **our nation's main coral reef statute**. **The RRRRA contains critical measures and associated resources to protect and effectively manage and restore coral reef ecosystems** in the U.S and the islands, where the management needs for the nation's coral reefs are greatest.

The CRCA was landmark legislation that made coral reef conservation a national priority. It helped spark a flurry of research about our reefs and got people thinking seriously about how to best manage and ultimately restore them. While we know a lot more than we did 20 years ago, the legislation hasn't been enough to halt the decline of our reefs in the water, where it actually matters. A big reason why is that we need better coordination and clearer lines of responsibility among federal, state, and local agencies involved in coral reef conservation.

The bill also helps realign the federal/state/local collaborations to allow each of our agencies to do what they do best, in order to share the conservation workload and produce better outcomes for our reefs. We hope to have strong support from our federal agency partners to pass the Restoring Resilient Reefs Act.

The issues of particular importance to the jurisdictions in any coral legislation include:

- **Increasing funding over the next 5 years**, with a designated percentage going directly to jurisdictions for on the ground management and project implementation.
- **Ratification of the US Coral Reef Task Force** including establishment and funding for a USCRTF Secretariat.
- **Formalization of and funding for the USCRTF Coral Reef Management Fellowship** to build long term local capacity.
- **Creating a Coral Reef Conservation Emergency Fund** to ensure emergency financing is available for coral reef injuries, restoration, and interventions.
- **Building capacity in the AIC jurisdictions in partnership with Federal Agencies**. Local and federal government capacity is very limited in ramping efforts up to the level needed to take on

CHAIR'S REPORT | NOVEMBER 2021

the immensity of this situation. Investing in people is a major need if needed policies have any chance of being implemented.

MAIN POINTS: Support is needed to ensure new enabling legislation for coral is passed, which includes ratification of the USCRTF.

Scaling Up Coral Reef Restoration

Restoration is becoming an essential tool in every coral reef manager's tool box, to ensure the persistence of vibrant coral reefs. With the rapid spread of Stony Coral Tissue Loss Disease (SCTLD) throughout the Atlantic/Caribbean, and the increasing frequency of bleaching events in the Pacific, adaptive coral restoration is being implemented in every jurisdiction. The jurisdictions are building capacity to ensure they can utilize this tool as part of a comprehensive coral reef management program, and are eager to utilize new techniques and technologies to help expand restoration efforts.



USVI's EEMP Manager, Caroline Pott, attaches settlement tiles to a demonstration coral nursery table.
Credit: Kelcie Troutman, EEMP Education and Outreach Coordinator

To ensure restoration is moving forward in a thoughtful and locally driven process, the jurisdictions are in the process of developing comprehensive coral restoration plans. The AIC would like to thank the many partners who helped to create and implement *The Coral Reef Manager's Guide to Coral Restoration*, including The Nature Conservancy's Reef Resilience Network, NOAA's Coral Reef Conservation Program, EPA and TetraTech.

Over the past year, the four Pacific Jurisdictions participated in an intensive Restoration planning process, and all four places now have a comprehensive plan for one of their restoration goals. Plans for additional goals will be developed by each jurisdiction in the next few years, to create comprehensive plans for what the local jurisdiction wants restoration to look like in each place. The Atlantic/Caribbean Jurisdictions are in

the beginning stage of this process, and are planning for restoration in environments devastated by Stony Coral Tissue Loss Disease (SCTLD).

As we move forward, the AIC is looking for support to expand pilot programs and resource constrained reef restoration to ecologically relevant and sustainable programs. For example, the DARPA investments are a great start and the AIC wants to ensure Federal investments continue to support expanding coral restoration to the ecosystem scale.

While we are off to a solid start, **there is more work needed to attain our goal of locally managed, active restoration activities in each jurisdiction.** We look forward to expanding these collaborative efforts, along with enhanced stressor reduction activities, to help restore our coral reefs.

MAIN POINTS: Partnerships, innovation, expanded capacity and funding are needed for scaling up small, place-based restoration to coastline and ecosystem scale programs.

CHAIR'S REPORT | NOVEMBER 2021

Climate Action

Over the years, the AIC has worked tirelessly to reduce local stressors on coral reefs, despite the rising global temperatures and the impacts climate change has had on our corals, communities and economies. Despite our efforts, coral reefs continue to decline worldwide. Impacts from warming oceans, changing acidity of our waters, and increasing frequency of storms are impacts that are beyond our control at the local level. We need to take immediate action on reduce the impacts of climate change on our communities.

The US needs to reduce greenhouse gas emissions for the long-term survival of coral reefs. **We request that the US Coral Reef Task Force engage across the US government to support programs, policies and legislation that will reduce worldwide greenhouse gas emissions.**

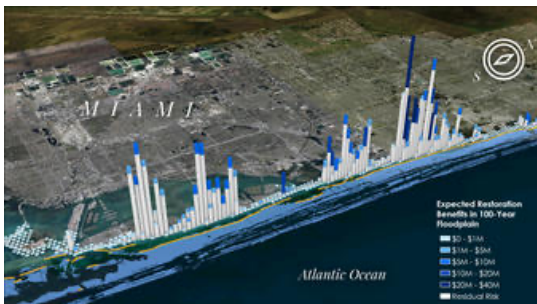
Additionally, the AIC would like the USCRTF to move forward with developing climate action plans for each jurisdiction that would define how Federal Agencies can provide support to priority climate actions identified by the jurisdictions. We request federal support to help identify and describe available tools specific to coral reef management in the AIC jurisdictions.



Shoreline Debris, following Typhoon Yutu in CNMI. Credit: CNMI CZM

MAIN POINTS: We request the USCRTF engages across the government to support a worldwide reduction in green house gasses, and help identify programs that can support climate adaptation in the jurisdictions.

Coastal Protection



The full height of the bars indicates current expected flood risk in the 100-year floodplain in Miami, Florida. The blue bar tops indicate the risk that could be reduced with reef restoration; their height and color represent the expected benefit from restoration per 100,000 m2 (hexagon max width = 392 m) Credit: USGS-Quantifying Flood Risk and Reef Risk Reduction Benefits in Florida and Puerto Rico

Healthy coral reefs are one of the most effective ways to protect our coastal communities, infrastructure and economies from the effects of erosion, storm events and inundation. Research continues to show the significant links between healthy coral reefs and coastal protection value. Despite the excellent research being produced by multiple partners, including USGS, there is still much work to be done to ensure that coral protection and restoration is included in hazard mitigation and response planning.

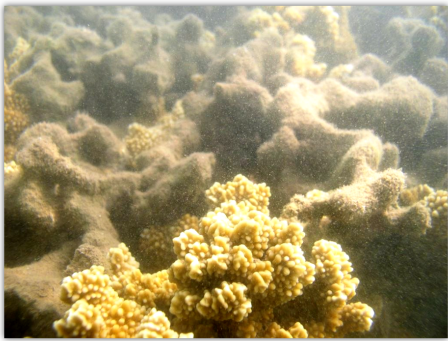
The AIC is committed to providing the necessary local information to advance this essential body of knowledge, including identifying key sites, partnerships and local commitments to advancing planning and implementation

programs.

CHAIR'S REPORT | NOVEMBER 2021

MAIN POINTS: Additional support is needed to link coastal infrastructure and coral reef health to hazard mitigation and response programs.

Water Quality



Sedimentation impacts on corals *Credit: NOAA, K. Chaston.*

We would like to thank the EPA for taking a leadership role on the AIC request for support to our understanding of coastal water quality and how that impacts coral health. We recognize that there is a lot of information to be considered when implementing changes in this arena, especially considering the unique differences of each jurisdiction. We appreciate the continuing federal support to learn more about how nutrients, sediment/turbidity, salinity, pharmaceuticals, personal care products and toxicants are impacting local reefs.

The AIC knows that improving water quality is one of the most impactful ways to support coral reef health and resilience on the ground in our jurisdictions, and **we look forward to working with the relevant USCRTF agencies to identify the metrics, key targets/ranges and implementation strategies for addressing this critical element of coral reef protection.** Additionally, we look forward to improving cooperation between local and federal agencies through the implementation of existing mandates to strengthen efforts to increase coral reef resilience.

MAIN POINTS: Expanded support for science and capacity to advise water quality standards at the local and national levels to ensure they are protective of coral reefs.

Expanding Support for the USCRTF Working Group Goals and Actions

CHAIR'S REPORT | NOVEMBER 2021

Over the past year, the AIC has made a concerted effort to ensure that our jurisdictions are represented across the working groups of the USCRTF. We value the work that these groups are doing, and are working hard to ensure that the jurisdictions are playing an active role in USCRTF actions and activities. To further support this, the AIC has committed POC or jurisdictional staff leadership to almost every active working group of the USCRTF.

We challenge the Federal agencies of the USCRTF to conduct strategic outreach into your organizations to find additional staff who could be assets to the working groups of the USCRTF.

There is a lot of work to be done, and we need additional people and technical skills to reach our collective goals.

Specifically, we are looking for additional support for:

- Fisheries Working Group:
 - Support for implementation of Jurisdictional Fisheries Action Plans, which include science, enforcement and capacity needs.
- Coral Disease/SCTLD:
 - Additional staff with technical knowledge to help prevent the spread of SCTLD, including Ballast Water and other novel means of transmission.
 - Support for Pacific Response Planning.
 - Support for active Response actions in the Atlantic Caribbean.
 - Continuing communication with Jurisdictions on the impacts of rulemaking under the Vessel Incidental Discharge Act (VIDA)
- Watershed:
 - Federal Agency leads for the 3 potential Watershed Partnership Initiative (WPI) Sites
 - Technical staff to support technical needs across 7 jurisdictions in watershed management.
- Climate Change:
 - Representatives who are aware of the Administration's Climate Priorities and mandates, who can help ensure the Jurisdictions are matched to the appropriate opportunities, technical support and programs.
- Restoration:
 - Representatives who can speak to federal programmatic permits for Restoration across the seven jurisdictions.
 - Technical experts in scaling up restoration and hazard risk reduction.

MAIN POINTS: Identify additional Federal staff and capacity to help implement priority actions of the Working Groups of the USCRTF.

CHAIR'S REPORT | NOVEMBER 2021

Coral Reef Management Fellowship Program



The 2020-2021 Coral Reef Management Fellows, with their supervisors at Fellowship Orientation in February 2020. Credit: K. Bucchianeri

The AIC would like to thank the NOAA Coral Reef Conservation Program, U.S. Department of the Interior's Office of Insular Affairs, Nova Southeastern University, and our own agencies' leadership for their continued financial, technical and programmatic support of this capacity building program. **We are happy to report that 7 fellows were hired in 2020, and are all working hard on projects identified by their jurisdiction, despite the impacts of COVID-19.**

Our 2018-2019 class of fellows completed their fellowships, and excelled at the projects they led and contributed to. We are thrilled that multiple fellows continue to work in their jurisdiction, to support coral reef management priorities, while others plan to continue their education in relevant fields.

The Coral Reef Management Fellowship continues to be the most important capacity building program available to cultivate the next generation of coral reef managers. This program provides essential training to young managers and provides them with skills to create effective programs to combat the major impacts to coral reef ecosystems.

While we have a strong record of retaining coral fellows in the jurisdictions once the program is complete, we continually strive to find ways to improve this program. Right now, we are specifically looking at how to better target local young professionals for these positions. We are looking to develop a new set of recommendations for the hiring process to better incorporate local knowledge and skills.

The Task Force has long identified capacity building as a target issue and one of the biggest coral reef management needs in the jurisdictions. **The Coral Reef Management Fellowship Program is one of the most valuable elements of support for enhanced local capacity and yields benefits not only for the Task Force and its members, but more importantly, to our coral reef resources.**

MAIN POINTS We continue to look for new resources to sustainably support this important program for the long term. We look forward to working with the Task Force in building local capacity through a formalized and sustained Fellowship Program.

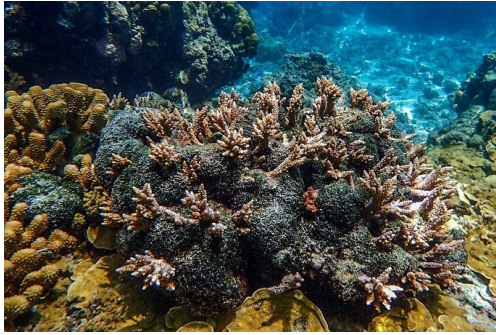
AIC MEMBER PRIORITIES AND ACCOMPLISHMENTS

This and the following section contains information and updates from each of the U.S. coral reef jurisdictions and Freely Associated States, including:

- Top 1-3 coral reef management-related priorities;
- Top 1-3 most notable coral-related accomplishments or successes; and
- Notable challenges, issues, or needs that Task Force members should know about.

CHAIR'S REPORT | NOVEMBER 2021

American Samoa



Valonia algae overtaking coral in Ofu, Manu'a.
Credit: Alexa Elliot, South Florida PBS

Priorities

- 1) CORAL RESTORATION: Implementation of Goal 1 of the Territorial Restoration Plan continues with piloting methodologies under local conditions in the village of Aua.
- 2) HOLISTIC RESILIENCE PLANNING: CRAG agencies worked to comprehensively plan for village-based resilience, starting with the Faga'alu Priority Watershed.
- 3) ENVIRONMENTAL LEGISLATION UPDATES: CRAG agencies began working on improving legislation regarding biosecurity, fishing regulations, coral protection, and banning polystyrene.

Accomplishments & Successes

- 1) DOCUMENTING MASSIVE CORALS: CRAG agencies documented the largest known described coral (*Porites* sp.) in the world near Ta'u in the Manu'a Islands and measured over 25 large colonies over 10 m in circumference.
- 2) MANAGING INVASIVE ALGAE: NPS and CRAG staff investigated *Valonia* algae hot spots in the Manu'a Islands to gain a better understanding of the algae's characteristics and its potential drivers
- 3) CORAL RESTORATION PILOT PROJECT: CRAG agencies initiated a coral restoration trial in the village of Aua, successfully trialing direct transplantation using fragments of opportunity and identifying successful methods for coral attachment.

Notable Challenges, Issues, & Needs

American Samoa has seen a swift increase in federal funds for development leading to rapid development without proper planning. There is a need for more accessible nature-based and climate-smart designs for various infrastructure.

AS has experienced inconsistency in travel within and outside of the Territory. This includes shipping and has affected our ability to ship samples and acquire materials. More significantly, it has strained on-island staff due to: 1) the impact on the ability of staff to arrive or return to the island to work or leave to see family, and 2) the inability of off-island researchers to implement projects, straining on-island staff as they (still appreciatively) assist those researchers.

CHAIR'S REPORT | NOVEMBER 2021

Commonwealth of the Northern Mariana Islands

Priorities

- 1) LAND-BASED SOURCES OF POLLUTION: Terrestrial-sourced pollutants continue to be a stressor on nearshore ecosystems. Watershed management is ongoing to mitigate effects and address the causes at their source, such as reforestation and improved infrastructure.
- 2) CROWN OF THORNS SEASTAR OUTBREAK: The Marine Monitoring team continues to do assessments around the islands. Of concerning note, members have noticed the presence of COTs within the back reefs of the Saipan Lagoon.

Accomplishments & Successes

- 1) REEF HEALTH ASSESSMENT-PAGAN: Members of the Marine Monitoring Team were fortunate to travel to the island of Pagan to conduct coral surveys. The last time surveys were conducted in Pagan was in 2014.
- 2) BEST MANAGEMENT PRACTICES: Partnering with local schools, the Watershed Coordinator continues development of stormwater projects to improve landscape drainage and provide visible examples for public education. Examples include raingardens and rainwater catchment.
- 3) EXPANDING OUTREACH EFFORTS: The Lead Biologist gave presentations to middle school students to support the efforts of Project Healthy Oceans & People Empowerment (HOPE), while other members led Eyes of the Reef activities.

Notable Challenges, Issues, & Needs

During this reporting period, the marine monitoring team (MMT) experienced turnover of key personnel which resulted in a loss of technical capacity within the team. Another challenge worth noting were delays to critical capacity building opportunities. Members of the team have identified a need for fish taxonomy training, which will enhance their efforts with monitoring activities. But due to conflicting projects at the national level, the MMT were unable to gain approval to complete this training.

Restoration efforts in the CNMI have been ramping up which signifies a shift in CNMI's coral reef management priorities. The MMT have dealt with numerous challenges on balancing restoration efforts with long-term marine monitoring. Additional restoration staff have been hired and trained in marine monitoring activities for the short-term to help build capacity, however, sustainable sources of funding are needed to continue the CNMI's efforts in coral reef management activities that includes restoration.



Staff from the Bureau of Environmental and Coastal Quality restore a raingarden at Tanapag Middle School on the island of Saipan. *Credit: Zachary Williams, CNMI Division of Coastal Resources Management.*

CHAIR'S REPORT | NOVEMBER 2021

Florida

Priorities

- 1) **RESTORATION STRATEGY UNDER DEVELOPMENT:** Managers began developing a Restoration Strategy for Florida's Coral Reef, including site selection criteria for a network of genetically connected sites. Anticipated completion Spring 2022.
- 2) **NEW MANAGED AREA AND PLAN:** Recently designated Kristin Jacobs Coral Reef Ecosystem Conservation Area protects the northern third of Florida's Coral Reef, from Miami-Dade to Martin counties. Local Action Strategy results will inform management plan and public review process in 2023.
- 3) **BISCAYNE BAY WATER QUALITY PRIORITIES:** Governor Ron DeSantis invested \$30 million for water quality projects in Biscayne Bay aimed at protecting Florida's Coral Reef. This includes septic-to-sewer conversions, stormwater innovative technology, and water quality characterization projects.



New coral reef management designation:
Kristin Jacobs Coral Reef Ecosystem
Conservation Area. Credit: Florida Department
of Environmental Protection

Accomplishments & Successes

- 1) **REEF RESILIENCE ACTION PLAN RELEASED:** Florida's Reef Resilience Program developed management and policy priorities needed over the next five years to protect and restore the resilience of Florida's Coral Reef.
- 2) **COORDINATED CORAL OUTPLANT STUDY UNDERWAY:** Over 6,000 corals were strategically outplanted by partners across Florida's Coral Reef to study what, when, and where it is safe to restore given the ongoing coral disease.
- 3) **CORAL RESTORATION PRIORITIES DEVELOPED:** Florida's state agencies collaborated to produce five-year restoration priorities, including gene banking, propagation and rearing, restoration planning, outplanting, and data management.

Notable Challenges, Issues, & Needs

To re-establish the resilience of Florida's Coral Reef, large-scale ecosystem restoration is essential. Restoration must be considered in the context of ongoing disease and paired with aggressive efforts to improve the enabling conditions for coral survival by addressing the large-scale drivers of reef decline. Recurring funding is needed to jump start a new "Coral Restoration Economy". Phase 1 includes creating a blueprint for establishing a network of restoration sites across Florida's Coral Reef, while Phase 2 includes incubation and acceleration of a skilled workforce to create, expand, and operate in water and land-based coral nurseries. Phase 3 includes transplanting the corals to the reef, monitoring, and maintaining the sites over the years to come. As the industry grows, voluntourism opportunities will be developed to ensure residents and visitors to Florida can be a direct part of restoring these ecologically, culturally, and economically important ecosystems. Sustainable financing mechanisms like mitigation banks and reef insurance should be explored.

CHAIR'S REPORT | NOVEMBER 2021

Guam

Priorities

- 1) **FISHERIES MANAGEMENT PLAN:** The Guam Department of Agriculture is leading development of a stakeholder-driven interagency fisheries management plan, which will build capacity for effective management of Guam's fisheries resources.
- 2) **MARINE TOUR GUIDE CERTIFICATION:** The Bureau of Statistics and Plans and the Guam Visitors Bureau have launched an online certification course for marine tour operators to increase the sustainability of reef-based tourism.
- 3) **RESTORATION ACTION PLAN:** With guidance from TNC's Reef Resilience Network, a local interagency team developed the Guam Coral Reef Restoration Action Plan to steer restoration efforts on Guam for the next 5-10 years.



BSP Director Tyrone Taitano, Governor Lou Leon Guerrero, and Lt. Governor Josh Tenorio unveil the first of eight new coastal educational signs at Ypao Beach Park on September 3, 2021.

Credit: Sonia Siliang/BSP

Accomplishments & Successes

- 1) **IMPROVED ENFORCEMENT CAPACITY:** With funding from NOAA CRCP, the Guam Department of Agriculture has significantly increased local enforcement capacity for environmental violations through implementation of the Civilian Volunteer Conservation Officer Reserve Program.
- 2) **SCALING UP RESTORATION:** UOG's Raymundo Coral Lab is rapidly upscaling restoration: all eight staghorn coral species known from Guam are now in nurseries and have been sampled for genotyping; six of these species have been outplanted (1,100+ colonies).
- 3) **MARINE DEBRIS REMOVAL:** With a grant from the NOAA Marine Debris Program, Guam EPA successfully removed over 1,800 tires and transplanted more than 50 coral colonies to suitable substrate from the Cocos Lagoon Tire Reef.

Notable Challenges, Issues, & Needs

The COVID-19 pandemic has created unprecedented challenges for Guam, including the collapse of the local tourism industry. In 2019, Guam welcomed over 1.5 million tourists, a record number; the full impacts of the loss of tourism dollars on Guam's economy is still unknown. While the lack of tourists has likely reduced some of the stress on Guam's coral reef resources from recreational use, the industry's scramble to rebuild has shifted its focus away from improving sustainability, which has made collaborating with tourism partners more difficult. The pandemic also caused new challenges for enforcement of environmental regulations, as Conservation Officers were detailed to enforce COVID-19 restrictions. Local coral reef managers continue to be concerned about the impacts of bleaching; Guam lost approximately 1/3 of all live coral cover due to island-wide bleaching events in 2013, 2014, 2016, and 2017. However, despite dire annual Coral Watch projections, Guam has not seen extensive bleaching in the last four years.

CHAIR'S REPORT | NOVEMBER 2021

Hawai'i



Mauka-Makai Watch has been critical in stakeholder engagement related coral reef management. *Credit: Mauka-Makai Watch*

Priorities

- 1) COMPLIANCE OF RULES AND REGULATIONS: The Development of a Fishing Rules App for Hawaii project works to gain better rule compliance by providing an alternative source that stakeholders can use to reference rules. The fishing rules app was recently released for beta testing and is accepting comments to make improvements.
- 2) SPATIAL MANAGEMENT: The Division of Aquatic Resources Legal Fellow provides legal guidance related to issues and concerns of spatial management. The Legal Fellow has also initiated the development of language for spatial management rules.

Accomplishments & Successes

- 1) DATA INFORMS MANAGEMENT ACTIONS: West Hawaii Fish and Habitat Monitoring and Assessment has collected continuous comprehensive data for the past 22 years. Recently this data set has been instrumental to Hawaii's herbivorous fish management initiative, and a comprehensive analysis of Hawaii's aquarium fishery
- 2) 30x30 INITIATIVE MOVES FORWARD: Mauka-Makai Watch and the Enforcement Legal Fellow's participation in the Holomua (30x30) initiative has become critical during stakeholder interactions. Makai Watch and the Enforcement Legal Fellow often addresses concerns related to enforcement, that is often expressed by communities and fishermen that participate in the rule making process.

Notable Challenges, Issues, & Needs

The State of Hawaii encourages unified support for the Restoring Resilient Reefs Act. Although coral restoration has been identified as a priority, currently there is insufficient funds allocated for this effort. The passing of the Restoring Resilient Reefs Act is likely to provide funds for active coral restoration and other key coral reef management actions.

CHAIR'S REPORT | NOVEMBER 2021

Puerto Rico

Priorities

- 1) SCTLD RESPONSE, DATA COLLECTION & MANAGEMENT: We are strategically coordinating response to the Stony Coral Tissue Loss Disease. This includes identifying spatio-temporal trends in disease hotspots and using that to strategically manage disease intervention and treatment.
- 2) CORAL EMERGENCIES RESPONSE EDUCATION & OUTREACH: Organizing coral emergency response volunteers and training. We continue to promote communication with other jurisdictions and local stakeholders and identify funding for the response.
- 3) ADOPTION OF PROTOCOLS FOR RESPONSES to SCTLD AND HIGH WAVE ENERGY EVENTS: Finalizing and adopting the implementation of the Rapid Response Protocols for Coral Reef Emergencies due to high wave energy events and the Stony Coral Tissue Loss Disease.



The PR DRNA Coral Reef Program's presentation to the Department Secretary, Hon. Rafael Machargo Maldonado was held on June 11, 2021. This presentation led to the official publication of the PR DRNA Administrative Order executed in June 2021.
Credit: PR DRNA

Accomplishments & Successes

- 1) PR DNER ADMINISTRATIVE ORDER (#2021 - 10) - In June 2021, the PR DNER Secretary, Lic. Rafael Machargo Maldonado signed an administrative order recognizing a State of Emergency due to SCTLD on Puerto Rico's Coral Reefs.
- 2) PUERTO RICO GOVERNOR EXECUTIVE ORDER (# OE 2021 -066) - In August 2021, the Governor of Puerto Rico, Lic. Pedro Pierluisi declared State of Emergency of our Coral Reefs due to SCTLD and requested a strategic plan that outlines disease intervention, treatment and Education & Outreach efforts.
- 3) NEW PR DNER CORAL PROGRAM MANAGER - Dr. Maria Vega-Rodriguez, coral reef ecologist with expertise in remote sensing, water quality and management, was onboarded to serve as the new DNER Coral Reef Conservation & Management Program Manager.

Notable Challenges, Issues, & Needs

Puerto Rico island-wide surveys that identify spatio-temporal trends in disease outbreaks are needed to identify major reef areas under imminent risk of the SCTLD or that could have been impacted by high-wave energy extreme events. Continual support from the USFCRTF is desired.

U.S. Virgin Islands

Priorities

CHAIR'S REPORT | NOVEMBER 2021

1) **CORAL RESTORATION PLANNING:** The Virgin Islands Restoration of Coral Squad (ViRoCS) was established to develop the territory's first coral restoration plan with hopes of publishing their final recommendations in 2022.

2) **CORAL DISEASE OUTBREAK MITIGATION:** With the outbreak now encompassing the entire territory, response efforts have increased, and this fall, updated priorities and management actions will be published by the VI Coral Disease Advisory Committee.

3) **CORAL REEF INCIDENT RESPONSE:** In the face of increased threats to reefs in St. Croix, a multi-divisional team within DPNR is partnering to increase marine patrols and respond to coral reef injuries within territorial MPAs.



USVI Governor, Albert Bryan Jr, attends the grand opening of the East End Marine Park Visitors Center in March 2021. *Credit: Kelcie Troutman, EEMP Education and Outreach Coordinator*

Accomplishments & Successes

1) **INCREASING CAPACITY FOR USVI CORAL REEF INITIATIVE:** The Department of Planning a Natural Resources hired a Coral Reef Initiative Coordinator to lead the strategic implementation of coral reef conservation and management programs in the territory.

2) **GRAND OPENING OF THE EEMP VISITOR CENTER:** The new St. Croix East End Marine Park visitors center has welcomed over 1,100 visitors since December 2020, leading to a significant increase in outreach activities and programs.

3) **DEMONSTRATION CORAL NURSERY TOURS:** In early 2021, the EEMP began a series of public nursery tours at its existing demonstration coral nursery site and to date, 22 volunteers have participated.

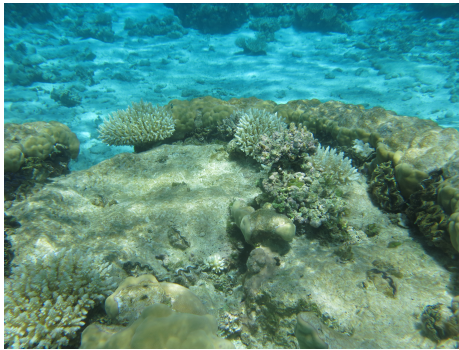
Notable Challenges, Issues, & Needs

Stony Coral Tissue Loss Disease remains the main challenge to the USVI reef system. Since October 2020, the disease has spread from St. Thomas and St. John to St. Croix. Trained strike teams have been established for each island, but sustained funding has been increasingly difficult to acquire due to the high costs of treatment and the large spatial extent of the outbreak. The advent of this disease outbreak has also demonstrated the need for continued capacity building and funding to hire additional coral reef management positions in the territory.

AIC AFFILIATE MEMBER PRIORITIES & ACCOMPLISHMENTS

Federated States of Micronesia

CHAIR'S REPORT | NOVEMBER 2021



Coral recovery in Ahnd atoll in Pohnpei.

Credit: Dave Mathias, FSM R&D

Priorities

1) REPLANTING MANGROVES TO PROTECT COASTLINES:

Resource managers are working to restore mangroves in Utwe and Lelu. Planning with is ongoing with relevant stakeholders.

2) ONGOING MONITORING OF GROUPER: Grouper population monitoring continues, to assess an annual closure of the fishery from January to May.

Accomplishments & Successes

1) MPA SPATIAL PLANNING BEGUN: Two spatial planning workshops were held, in Walung and UBR, with assistance from TNC, which will lead to management plans that

incorporate traditional knowledge. Additional workshops will be held throughout 2020.

2) NATIONWIDE MONITORING COMPLETE: Monitoring of coral reef throughout the nation has been completed and awaits analysis from the University of Guam.

Republic of the Marshall Islands

Priorities

1) BIKAR AND BOKAK EXPEDITION: MIMRA and partners set out to two of the most remote northern atolls to conduct the country's first ecological assessment for research and conservation purposes.

2) PROCESSING OF LARGE CORAL REEF DATA SETS: MIMRA has finished processing benthic image files from 7 atolls in order to share findings and management recommendations with local communities.

3) REIMAANLOK WORK CONTINUES: CMAC continues to collect and share data with communities to further facilitate the development of resource management plans and protected areas.



MIMRA surveyor, Kalena deBrum, with school of jacks in Bikar Atoll, October 2019. *Credit: Erin Feinblatt, Stills - Motion*

Accomplishments & Successes

1) BIKAR AND BOKAK EXPEDITION: Completion of Bikar and Bokak mission with study to serve as a baseline for future resource management decisions and for future research and comparison with other atolls in the RMI.

2) TRANSLATING SCIENCE FOR A COMMUNITY AUDIENCE: Completed processing of almost 20,000 benthic photos and turned them into readable graphs and tables for communities to better understand the composition of their reefs. This helps MIMRA with explaining the correlation between reef health and fish abundance, and other ecosystem relationships.

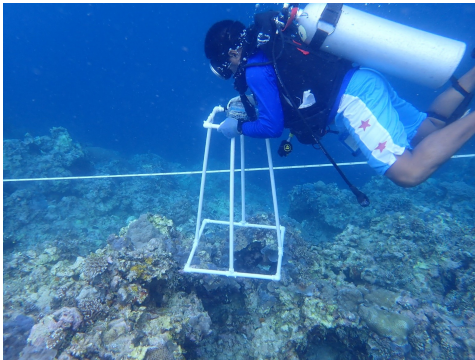
3) CREATING STRUCTURE FOR PAN: Further development of RMI's Protected Areas Network (PAN) including drafting of a strategic plan and PAN regulations with CMAC members.

CHAIR'S REPORT | NOVEMBER 2021

Notable Challenges, Issues, & Needs

MIMRA still faces the same issues that were shared at the last meeting including transportation/logistical constraints; limited financial and technical commitments from partners; and limited capacity in monitoring and enforcement by local governments. Rising climate-induced issues such as disease epidemics like the dengue fever have also impacted our work in the RMI due to recent inter-island travel bans.

Republic of Palau



PICRC Researcher Victor Nestor taking benthic photos using a 0.5 x 0.5 m quadrat to assess benthic cover. *Credit: PICRC*

Priorities

- 1) CORAL BLEACHING ASSESSMENT: PICRC continuously monitors coral conditions in the event of large-scale coral bleaching. PICRC conducted a bleaching assessment to quantify the severity of the bleaching event in 2020.
- 2) LONG-TERM CORAL REEF MONITORING PROJECT: Biennial ecological monitoring is conducted at 23 sites, across 4 different habitats.
- 3) TYPHOON DAMAGE ASSESSMENT: Following any major storms, PICRC conducts ecological surveys to assess any damage as a result of the storm. Palau was hit by Category 5 Typhoon Surigae on April 16, 2021.

Accomplishments & Successes

- 1) INOVATIVE RESEARCH: A Peer-reviewed journal article was accepted titled “Modelled larval supply predicts coral population recovery potential following disturbance” (Gouezo, M. et al. 2021).
- 2) SUSTAINABLE FISHING PUBLICATION: Peer-reviewed journal article was accepted titled “Effects of habitat, fishing, and fisheries management on reef fish population in Palau” (Karanassos, CM. et al. 2021).
- 3) MONITORING PROGRAM SUPPORTS COMMUNITY ENGAGEMENT: PICRC’s long-term coral reef monitoring project and Palau Protected Areas Network Marine Protected Areas (PAN-MPA) surveys continue to help the Palauan community understand their marine environments.

CHAIR'S REPORT | NOVEMBER 2021

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