U.S. ALL ISLANDS CORAL REEF COMMITTEE

CHAIR'S REPORT

TO THE U.S. CORAL REEF TASK FORCE

MAY 2024

U.S. ALL ISLANDS CORAL REEF COMMITTEE (AIC)
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May 21, 2024

AIC vision: Thriving coral reef ecosystems, effectively managed to protect their ecological, social, and economic value for present and 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.

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LETTER FROM THE CHAIR

Hafa Adai, Tirow, Talofa, Aloha, Hola, and Hello,

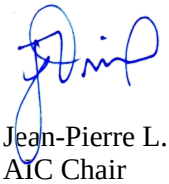
On behalf of the U.S. All Islands Coral Reef Committee, it is my pleasure to present this **final biannual report** on the AIC's priorities, accomplishments, and emerging issues from November 2023 to April 2024. This report was provided as a draft version to the U.S. Coral Reef Task Force in advance of the 48th U.S. Coral Reef Task Force Meeting in Silver Spring, MD last month.

The AIC continues to work toward reducing local stressors to increase the resilience of coral reef ecosystems to global climate change while safeguarding the human communities that depend upon the vital ecosystem services provided by coral reefs. The U.S. states and territories across both ocean basins face escalating threats to coral reef health, with the spread of stony coral tissue loss disease throughout the Atlantic-Caribbean and coral bleaching increasing in frequency and severity worldwide. Despite these daunting challenges, the U.S. coral reef jurisdictions and Freely Associated States (FAS) are striving toward stronger policies and regulations, broader partnerships, enhanced research efforts, and increased capacity for implementation of conservation and restoration measures.

The AIC welcomes the changes taking place under the recently reauthorized Coral Reef Conservation Act (CRCA); we are truly grateful for the many partners who collaborated on this vital piece of legislation and continue to focus on implementing its mandates. Under the reauthorized CRCA, we look forward to stronger jurisdictional-federal cooperation; increased funding for coral reef conservation, protection, and restoration activities; and the growth of innovative, management-driven scientific research via the Atlantic and Pacific research coordination institutes.

In this report, we are pleased to share highlights of coral reef management efforts that have been undertaken in the U.S. coral reef jurisdictions between November 2023 and April 2024 (six months). We also describe the AIC's priorities for enhancing coral reef management and conservation activities across the states and territories in partnership with our federal family and other allies.

Sincerely,



Jean-Pierre L. Oriol
AIC Chair

ACRONYMS

AIC: U.S. All Islands Coral Reef Committee
CNMI: Commonwealth of the Northern Mariana Islands
CR4: Coral Reef Restoration for Risk Reduction
CRAG: American Samoa Coral Reef Advisory Group
CRCA: Coral Reef Conservation Act
CRCP: NOAA Coral Reef Conservation Program
DAR: Hawai'i Division of Aquatic Resources
DARPA: Defense Advanced Research Projects Agency
DCRM: CNMI Division of Coastal Resources Management
DEP: Florida Department of Environmental Protection
DMWR: American Samoa Department of Marine and Wildlife Resources
DNER: Puerto Rico Department of Natural and Environmental Resources
DOAG: Guam Department of Agriculture
DOI: U.S. Department of the Interior
DPNR: USVI Department of Planning and Natural Resources
EPA: U.S. Environmental Protection Agency
FAS: Freely Associated States
FEMA: Federal Emergency Management Agency
FSM: Federated States of Micronesia
GCRI: Guam Coral Reef Initiative
LBSP: Land-based sources of pollution
LMMA: Locally Managed Marine Area
MIMRA: Marshall Islands Marine Resources Authority
MPA: Marine Protected Area
NASA: National Aeronautics and Space Administration
NMSAS: National Marine Sanctuary of American Samoa
NOAA: National Oceanic and Atmospheric Administration
OIA: DOI Office of Insular Affairs
PAN: Protected Areas Network
PI-CASC: Pacific Islands Climate Adaptation Science Center
PICRC: Palau International Coral Reef Center
PIMPAC: Pacific Islands Marine Protected Areas Community
PIRO: NOAA Pacific Islands Regional Office
POC: Point of contact
RBM: Resilience-based management
RMI: Republic of the Marshall Islands
RRN: The Nature Conservancy's Reef Resilience Network
SCTLD: Stony coral tissue loss disease
TNC: The Nature Conservancy
USCRTF: U.S. Coral Reef Task Force
USFWS: U.S. Fish and Wildlife Service
USGS: U.S. Geological Survey
USVI: U.S. Virgin Islands

AIC PRIORITIES

The overarching priorities of the U.S. All Islands Coral Reef Committee as of May 2024 are to:

1. Strengthen AIC-federal partnerships and increase responsiveness to jurisdictional needs under the newly reauthorized U.S. Coral Reef Conservation Act
2. Improve integration of jurisdictional priorities into efforts of the USCRTF Working Groups
3. Secure sustainable financing for the Susan L. Williams National Coral Reef Management Fellowship
4. Support establishment and enforcement of water quality standards that promote coral reef health
5. Advance resilience-based management practices in the U.S. and Freely Associated States to help reefs resist and recover from climate change impacts
6. Scale up coral reef restoration efforts and streamline permitting for restoration
7. Enhance efficiency and effectiveness of disturbance response activities related to coral diseases (e.g., SCTLD), bleaching events, vessel groundings, and hurricanes/typhoons
8. Build capacity for effective and sustainable management of coral reef fisheries

AIC Principals, Points of Contact, jurisdictional support staff, and Secretariat members at the 47th U.S. Coral Reef Task Force Meeting in St. Thomas, USVI in October 2023 *(Photo: Caroline Donovan, NOAA CRCP)*

1) Strengthen AIC-federal partnerships and increase responsiveness to jurisdictional needs under the newly reauthorized U.S. Coral Reef Conservation Act

The AIC is thrilled with the 2022 reauthorization of the Coral Reef Conservation Act (CRCA), the first major coral reef conservation legislation in the United States in two decades. When the original CRCA passed in 2000, it was a landmark law that spurred innovative coral reef research and created national momentum toward better management of tropical marine resources. However, it wasn't sufficient to thwart the decline of coral reefs that has continued into the 21st century. Under the reauthorized CRCA, we seek strengthened partnerships and increased responsiveness to jurisdictional needs among USCRTF agencies.

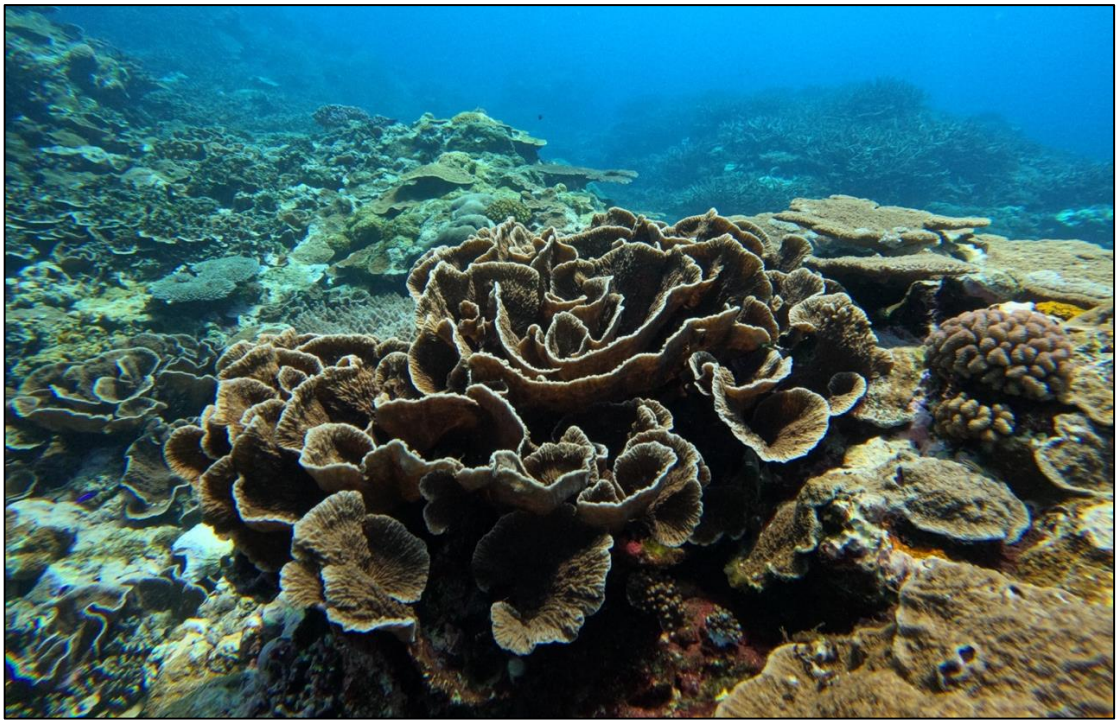
For this to be realized, it's vital that the actions that occur under the reauthorized CRCA are based on the needs and priorities of AIC states and territories.

At the national level, the USCRTF has been a fierce longtime advocate for coordinating coral reef management efforts across federal and jurisdictional governments. Given the major challenges that coral reefs are facing due to both global climate change and localized stressors, the limited capacity for effective resource management at the local level, and the pressing need to better conserve and restore coral reefs to preserve their highly valuable ecosystem services, the reauthorization of the CRCA is a crucial opportunity to advance coral reef management efforts across the United States through AIC-federal partnerships. The AIC hopes for full appropriations of the reauthorized CRCA in the near future to ensure that we are taking advantage of this important opportunity.

Issues of particular importance to the AIC under the reauthorized CRCA include:

- Increasing funding for state and territorial coral reef management efforts through both new and existing federal funding mechanisms (e.g., block grants and cooperative agreements)
- Supporting local response to disturbances via the Coral Reef Emergency Fund
- Ensuring that the Atlantic and Pacific Coral Reef Research Coordination Institutes are guided by jurisdictional priorities and have adequate capacity and funding to conduct meaningful, management-driven research, with jurisdictional input highly weighted in both selection of and governance of the coordination institutes
- Establishing and financing essential public-private partnerships through the Coral Reef Stewardship Partnerships and Fund
- Incorporating state and territorial needs, priorities, and preferences into the development of the National Coral Reef Resilience Strategy and jurisdictional Coral Reef Action Plans

MAIN POINT: *Planning, implementation, and funding under the Coral Reef Conservation Act must be guided by jurisdictional needs and priorities to effectively enhance U.S. coral reef management efforts.*



Flower corals on a reef in the Fagatele Bay National Marine Sanctuary, American Samoa *(Photo: Tilali Scanlan, CRAG)*

2) Improve integration of jurisdictional priorities into efforts of the USCRTF Working Groups

The AIC greatly appreciates the important efforts undertaken by the USCRTF Working Groups. We are grateful for the requests for jurisdictional input into working group products, such as the permitting guidance document prepared by the Restoration Working Group, the fisheries management plans developed by the Fisheries Sustainability and Ecosystem Management Working Group, and the Social Media Toolkit produced by the Communications Working Group. The best way to make sure that working group products are useful and meaningful for coral reef management is to include jurisdictional input and feedback throughout the development of new working group products.

The AIC commits to increasing its involvement in and co-leadership of these various groups, while working with USCRTF federal agencies to explore innovative, collaborative strategies for working group efforts. We commend the recent cooperative efforts between the Climate Change Working Group and the Coral Disease Working Group; since the threats facing our coral reefs are interactive, the groups working on these issues should also intersect when appropriate to avoid duplication of efforts, share data and information, and ensure consistency across activities. Broad issues such as water quality are important not only to the Watershed Working Group, but across all working groups. We look forward to the second joint meeting of the USCRTF working group leads after we meet in person in Silver Spring in May 2024 as an opportunity to enhance such collaborations and improve working group efficiency and effectiveness. During this meeting, and in subsequent conversations, we should not shy away from restructures and new approaches to working group functioning.

MAIN POINT: *Activities and products of the USCRTF Working Groups must be driven by jurisdictional needs and based on meaningful input from the AIC.*

Yellow tang on a reef in Kealakekua, Hawaii Island *(Photo: Bert Weeks)*

3) Secure sustainable financing for the Susan L. Williams National Coral Reef Management Fellowship

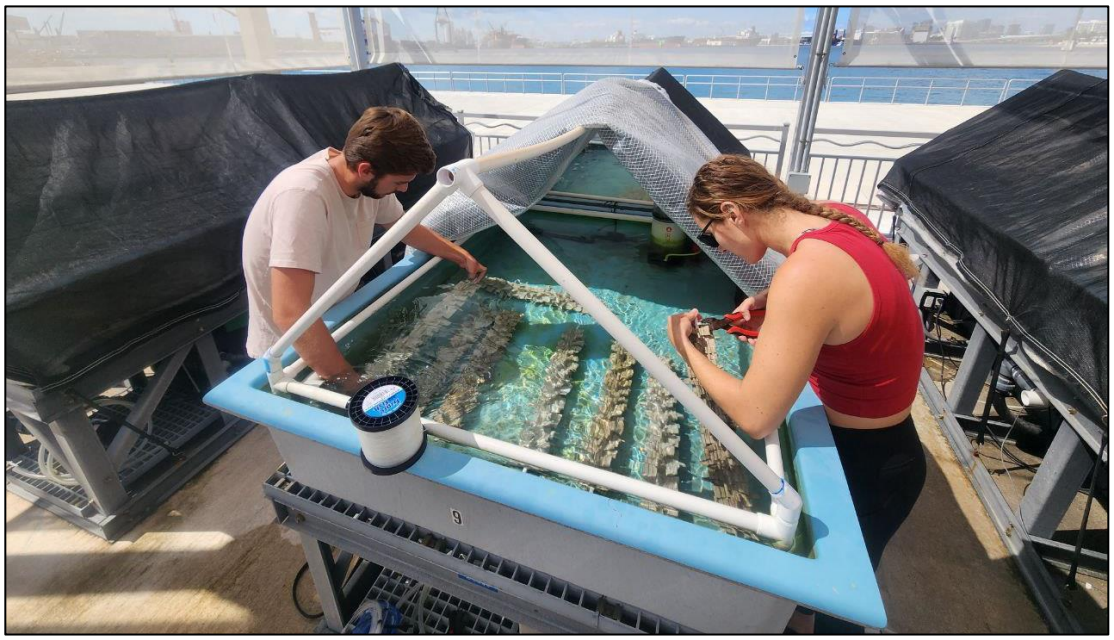
The AIC thanks the NOAA Coral Reef Conservation Program (CRCP), the U.S. Department of the Interior's Office of Insular Affairs (DOI OIA), Nova Southeastern University, and our own jurisdictional leadership for their continued financial, technical, and programmatic support of the Susan L. Williams National Coral Reef Management Fellowship. The Fellowship was first established in 2003 to increase local capacity for coral reef management and conservation in the seven AIC jurisdictions. Since 2016, Nova Southeastern University has administered the program, supporting 29 Fellows in four cohorts.

Current Coral Fellows are working on some of the most pressing coral reef management concerns across the AIC states and territories, including implementing coral reef restoration plans, integrating water quality data into management approaches, and enhancing community outreach and education efforts. The Fellowship continues to be the most important capacity building program for cultivating the next generation of coral reef managers in the U.S. Many past Coral Fellows now work within the jurisdictions and under USCRTF agencies in positions vital to coral reef management. This program provides essential training to young managers and provides them with skills to create effective programs that address the most significant threats facing coral reef ecosystems and reef-associated ecosystem services.

The 2024-2026 National Coral Reef Management Fellowship cohort began their work in the jurisdictions in January following recruitment in 2023. For many of the AIC jurisdictions, attracting local candidates to these positions is a top priority; we continue to advertise locally while also reaching out to USCRTF agencies and fellowship program staff for assistance with distributing fellowship announcements and encouraging strong candidates to apply.

The USCRTF has long recognized capacity building as a priority issue and one of the biggest coral reef management needs in the jurisdictions. The Coral Reef Management Fellowship Program is a vital avenue for enhancing local capacity and yields benefits not only for the USCRTF and its members, but most importantly, for the health and longevity of U.S. coral reefs and reef-based ecosystem services. Now that the Fellowship is officially recognized and formalized under the reauthorized CRCA, we look forward to working with USCRTF agencies to secure sustainable, long-term financing for the Coral Fellowship.

MAIN POINT: *The AIC requests that federal USCRTF agencies provide and/or seek sustainable, long-term financing for the National Coral Reef Management Fellowship. With increased funding under the CRCA, the AIC requests that more funds be used to support the Coral Fellowship.*



Nova Southeastern University students prepare tiles, which are seeded with settled coral larvae, to be transplanted onto the reefs of Broward County *(Photo: FL DEP CPR)*

4) Support establishment and enforcement of water quality standards that promote coral reef health and coral reproduction

The AIC jurisdictions identify the improvement of coastal water quality as one of the most impactful and immediate strategies to safeguard coral reef health, resilience, recovery, and persistence in each state and territory. However, we lack the technical capacity and resources to develop and implement new standards and policies that will lead to positive changes for coral reefs. The establishment of water and bottom quality standards that are based on coral health parameters will also be extremely useful for informing the design of restoration programs, specifically site selection.

While the jurisdictions own the codification of our water quality standards, we request continuing support from U.S. EPA to assist the AIC member states and territories in reviewing and defining modifications needed to maintain and protect water quality conditions to sustain coral reef habitats. We don't need to know the water quality thresholds at which corals die, because at this point it's too late for interventions. Instead, we need access to the best available science to develop sub-lethal standards based on when water and bottom quality negatively impact coral reef ecosystem health and coral reproduction.

Coral reef ecosystems are naturally oligotrophic, meaning they thrive in low nutrient environments. An overabundance of nutrients allows harmful algae to proliferate and outcompete adult and larval corals. In addition, common pollutants can interfere with lipid production in corals, diminishing the quality and quantity of eggs produced. Specific water quality criteria and associated thresholds must be considered during the restoration site selection process; however, there is no consistent guidance for determining protective standards to ensure reproductive success.

Applied research is needed to determine the appropriate biological thresholds/benchmarks for nutrients and pollutants focused on the predominant coral species used in restoration. Standards based on nutrient and pollutant levels that result in coral mortality will not be sufficient to support the persistence of coral reef communities and the success of restoration efforts because by the time these thresholds are crossed, the entire reef ecosystem may already be in jeopardy due to inhibited coral reproduction. This research should collectively inform the development of national guidance on how jurisdictions can establish appropriate local water quality standards for coral reefs. The AIC implores EPA, NOAA, and other federal agencies to ensure that the implementation of these standards contributes meaningfully to improved coral reef health by providing funding and technical guidance for long-term jurisdictional water quality monitoring programs that assess these new metrics.

The AIC requests:

1. Technical support from appropriate federal agencies (e.g., EPA, NOAA, DOI) in identifying key water and bottom quality characteristics and threshold values at which coral health and/or reproduction are impacted, which will be used to inform managers as they develop their place-based coral restoration plans and activities.
2. Funding and technical guidance for long-term jurisdictional water quality monitoring programs that assess new metrics.
3. Technical support to develop and implement research and modeling related to genetic connectivity and suitable habitat for coral settlement.
4. Commitment from the federal family that when distributing funds, where applicable; recipients will be required to implement surface water management that will restore and improve discharge water quality while meeting drinking water needs and still achieving flood protection targets.

We ask that the USCRTF take an interagency approach to this critical need to support efforts in each jurisdiction, enhance funding for scientific inquiry in this area, and build capacity to ensure that

jurisdictional water quality standards are adequate to sustain coral reefs in the face of global climate change and localized threats to reef health.

MAIN POINT: *U.S. EPA, in partnership with other federal USCRTF agencies, should provide technical support to the AIC by developing a list of the key water quality and bottom quality metrics that impact coral reef health and reproduction. The AIC requests that federal partners determine minimum numerical thresholds for these metrics based on the point at which coral health and/or reproduction will be negatively impacted. The AIC jurisdictions will use these threshold values to establish state and territorial water quality standards that better protect coral reef health.*

5) Advance resilience-based management practices in the U.S. and Freely Associated States to help reefs resist and recover from climate change impacts

In addition to the AIC's ongoing push for climate action at the national level, we recognize that the individual AIC states, territories, and Freely Associated States are not able, on their own, to have a significant impact on the threat of global climate change. Although climate action is still a major priority, in the meantime we must pursue resilience-based management activities by reducing local stressors to increase the ability of our reefs to resist and recover from climate change. While the USCRTF continues to pursue climate change adaptation and mitigation efforts at the national level, the AIC requests support to enhance local capacity for effective, science-driven RBM across the jurisdictions.

MAIN POINT: *The AIC requests that climate change issues, coral reef resilience considerations, and resilience-based management approaches should be incorporated into all USCRTF plans, products, and activities.*

The STX Coral Strike Team conducts SCTLD surveys in St. Croix, USVI *(Photo: Joe Snyder)*

6) Scale up coral reef restoration efforts and streamline permitting for restoration

Restoration is an essential tool to ensure the persistence of coral reef ecosystems. With the steep declines in coral cover and diversity on U.S. reefs due to a variety of threats, adaptive coral restoration is now being implemented in every jurisdiction. The AIC states and territories are building capacity to ensure they can utilize this tool as part of their comprehensive coral reef management programs and apply novel techniques and new technologies to expand restoration efforts beyond pilot projects to the ecosystem scale. The Freely Associated States are also interested in restoration planning and implementation and are seeking technical capacity and support for this process.

As we move forward, the AIC seeks additional support to expand pilot programs and find streamlined processes for permitting for restoration activities, which often significantly hamper restoration efforts. DARPA research and investments are a great start toward meaningful upscaling and the AIC wants to ensure that federal funds continue to support the growth of coral restoration projects to the ecosystem level. Additionally, innovative techniques are needed to ensure that restoration projects are resilient to threats, including SCTLD and ocean warming. The jurisdictions are successfully completing their restoration action plans but require additional support from the USCRTF for the implementation of these strategy documents.

MAIN POINT: *To continue scaling up jurisdictional coral reef restoration efforts and rehabilitating U.S. coral reef habitats across both ocean basins, the AIC jurisdictions require streamlined permitting processes for restoration activities, access to innovative restoration techniques, increased funding, strengthened partnerships, and enhanced local capacity for restoration at ecosystem scales.*

7) Enhance efficiency and effectiveness of disturbance response activities related to coral diseases (e.g., SCTLD), bleaching events, vessel groundings, and hurricanes/typhoons

To improve coral reef resilience to the impacts of global climate change, the AIC jurisdictions must be able effectively respond to both localized and regional disturbances, including stony coral tissue loss disease (SCTLD), bleaching events, vessel groundings and oil/chemical spills, and physical damage to coral reefs caused by severe storms and other events in both ocean basins. The reauthorized Coral Reef Conservation Act presents new, exciting opportunities to build capacity in these areas through the definition of exigent circumstances that facilitate the provision of emergency assistance when disasters occur and establishment of the Coral Reef Disaster Fund through the National Fish and Wildlife Foundation. The AIC seeks USCRTF assistance to leverage available funding opportunities, including FEMA hazard mitigation grants.

The spread of SCTLD across the Atlantic/Caribbean over the last decade has completely devastated coral reefs throughout the region, necessitating increased research into this fatal coral disease, potential vectors, and approaches for mitigation and coral rescue. Pacific jurisdictions are increasingly concerned about the transmission of SCTLD to the Pacific and seek immediate, urgent support from the USCRTF to prevent this from occurring. While the Pacific jurisdictions greatly appreciate all efforts to plan for potential disease mitigation activities, the paramount goal is to prevent the transmission of SCTLD to the Pacific basin in the first place. Given that ballast water and/or biofouling appear to be the most likely vectors of SCTLD, the AIC calls upon all relevant federal agencies involved in maritime shipping, defense, etc. to assist with the urgent need to establish regulations and mechanisms to avoid the spread of SCTLD to the Pacific.

Our reefs are now facing the fourth global coral bleaching event, thus increasing our capacity to respond to coral bleaching remains an urgent concern. This includes approaches such as coral rescue for rare and/or ecologically important coral species, in addition to testing and implementation of novel techniques, such as those described in the National Academy of Sciences study (2019), "A Research Review of Interventions to Increase the Persistence and Resilience of Coral Reefs."

Emerging threats, such as the spread of the invasive soft coral *Unomia stolonifera* across the reefs of both Hawai'i and Puerto Rico, are also an important component of disturbance response and preparedness. These more novel impacts require partnerships to build detection and surveillance capacity, development of best practices for removal and/or eradication, and research into vectors that spread these species.

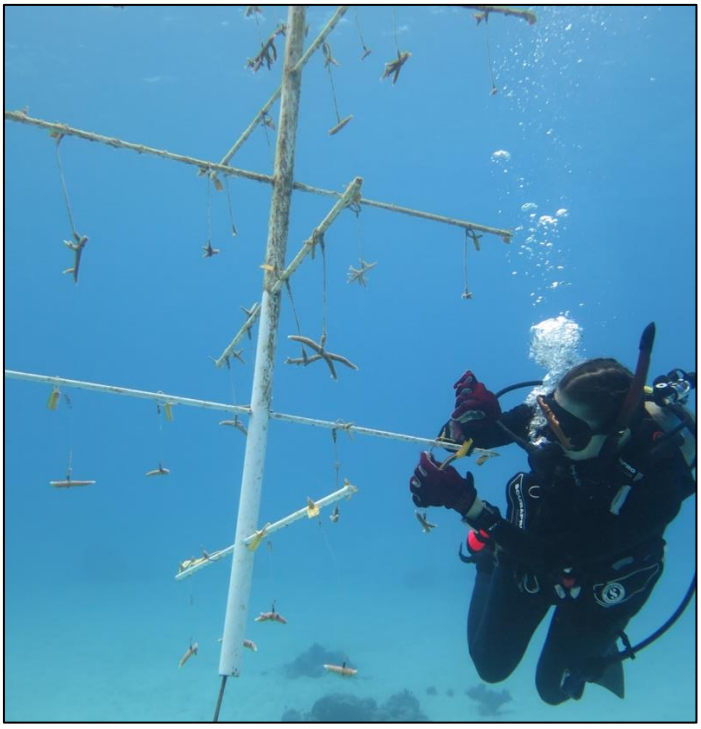
MAIN POINT: *The AIC requests continued USCRTF support for SCTLD rescue efforts in the Caribbean and transmission prevention for the Pacific. Jurisdictions also request resources and technical assistance for response to ongoing and upcoming coral bleaching impacts in the AIC states and territories, in addition to support for response to emerging threats such as the spread of Unomia sp., an invasive soft coral.*

8) Build capacity for effective and sustainable management of coral reef fisheries

Effective, sustainable management of coral reef fisheries has been a top priority of the USCRTF from the beginning, but this area of marine resource management has proved especially challenging in the jurisdictions due to the highly-valued community usage of these resource, the cultural significance of coral reef fisheries, and the many competing mandates and opinions that manage such resources.

Recently, the USCRTF Fisheries and Ecosystem Management Working Group has been highly successful in supporting the development of jurisdiction-led Fisheries Management Action Plans. The USCRTF now has the opportunity, through the approach undertaken by this working group, to specifically identify areas where federal agencies can support sustainable coral reef fisheries. We encourage the federal task force members to engage in this approach and find ways to support the technical, fiscal and capacity elements to improve sustainable coral reef fisheries management in the jurisdictions.

MAIN POINT: *To better manage U.S. coral reef fisheries, the AIC needs USCRTF support to implement the Fisheries Management Action Plans developed through the Fisheries and Ecosystem Management Working Group.*



Dr. Denise Perez, former Scientific and Technical Advisor for DCRM, cleans coral trees in the CNMI coral nursery *(Photo: Kylie Hasegawa, DCRM)*

AIC MEMBER PRIORITIES AND ACCOMPLISHMENTS

This section contains updates from the seven AIC member states and territories from November 2023 to April 2024, including **coral reef management accomplishments, ongoing activities, and challenges and needs.** When applicable, each update is followed by a number(s) that corresponds with the AIC priority(ies) under which it falls.

1 Jurisdictional needs met under CRCA	**5** Advancement of RBM practices
2 Jurisdictional priorities included in WG efforts	**6** Scaled-up coral reef restoration efforts
3 National Coral Reef Management Fellowship	**7** Efficient and effective disturbance response
4 Water quality standards for coral health	**8** Sustainable coral reef fisheries management

ATLANTIC/CARIBBEAN JURISDICTIONS

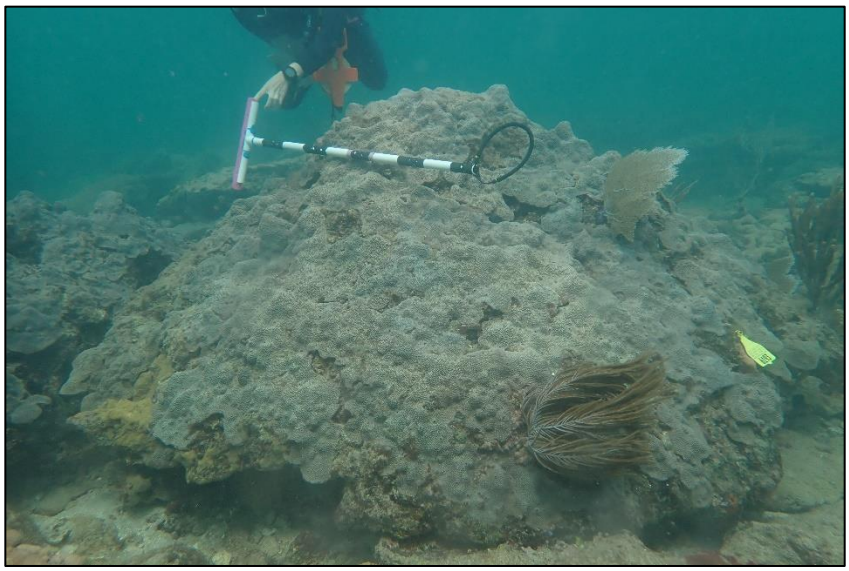
Florida

Accomplishments:

1. GOVERNOR'S CORAL INITIATIVE ISSUES FIRST GRANTS: As part of the Florida's Coral Reef Restoration and Recovery (FCR3) Initiative, seven grants totaling $9.5 million were awarded to Florida-based institutions to scale up land-based and in-water coral propagation and capacity. (6)
2. CORAL BLEACHING RESPONSE PLANNING: Building off the previous bleaching response plan, Florida's Coral Reef Resilience Program developed lessons learned from last year's bleaching event including preferred intervention actions to be taken in preparation for and response to future events. (7)
3. FRAMEWORK DEVELOPED: Florida's Coral Reef Coordination Team finalized a framework of actions to align water quality and benthic monitoring programs from the Everglades through the estuaries and across Florida's Coral Reef. (4, 5, 6)

Ongoing activities:

1. GUIDANCE FOR LOCAL CR4 PROJECTS: Florida initiated a Silver Jackets project to develop jurisdiction-level guidance for planning and implementing Coral Reef Restoration for Risk Reduction (CR4) projects. (5, 6)
2. DEVELOPING REQUIREMENTS FOR CORAL CARE: State and federal managers are developing protocols for transport and in-water care of corals prior to outplanting. (6)
3. TIRE REMOVAL AND RESTORATION PLANNING: As tire removal efforts continue for the 1,000,000+ tires deployed at Osborne Reef in the 1970's, the state is developing a Restoration Plan for the coral reef restoration that will be needed once tire removal is complete. (6)
4. RESTORATION PLANNING: Florida is working with The Nature Conservancy and NOAA to develop a reef-wide coral restoration strategy. The strategy combines coral connectivity modeling and in-water coral population data to narrow down priority sites for restoration. (6)



New corals added to the large coral monitoring database: During NSU's disease intervention striketeam dives, reconnaissance is performed to look for additional corals. In March 2024, we removed seven medium-sized colonies from priority status and added eight large colonies and one medium sized colony. A total of 108 colonies are now monitored monthly. Some of these new colonies are nearly 4 m across. *(Photo: Nova Southeastern University)*

Challenges and needs:

1. Access to appropriately scaled and readily available emergency response funding is imperative. Managers need assistance to better evaluate and pilot both proactive and reactive actions that can be taken when severe bleaching and disease events occur. Interventions, such as those in the NAS Interventions to Increase the Resilience of Coral Reefs, should be further developed and regulatory processes streamlined. (1, 7)
2. Scaling up propagation and restoration of more resilient coral populations is essential, or we risk losing the significant environmental economic and cultural benefits this critical ecosystem provides communities in southeast Florida including hundreds of millions of dollars in flood risk reduction each year. (1, 6)
3. Effective water quality management is impacted by lack of research and standards that are based on coral reef health and reproductive success; a national approach must be taken to research and provide jurisdictional guidance for appropriate water quality standards. (1, 4)

Puerto Rico

Accomplishments:

1. CORAL RESTORATION PLANNING: Puerto Rico's Coral Restoration Planning commenced through partnership with The Nature Conservancy and the NOAA Coral Reef Conservation Program. (6)
2. WATER QUALITY: An intra-and inter-agency meeting was with DNER's Coral Program and Water Quality Division, EPA Region 2 and Caribbean Coral Reef Institute regarding water quality and biological condition gradients in Puerto Rico. (2, 4)
3. CITIZEN SCIENCE: DNER's Coral Program Citizen Science efforts were officially launched to the public with over 435 citizens being impacted through open webinars, presentations, and virtual/practical training sessions. (3, 5, 7)

Citizen Science efforts led by 2022-2024 Susan L. Williams National Coral Reef Management Fellow, Ashley Perez at Tres Palmas Marine Reserve in Rincón, Puerto Rico. *(Photo: Miguel G. Figuerola-Hernández, PR DNER)*

Ongoing activities:

1. DASHBOARD: Puerto Rico's Stony Coral Tissue Loss Disease Dashboard was expanded to include ecological disturbances such as coral paling bleaching observations as well as to include the citizen science data. (7)
2. EMERGENCY PLANNING: Stony Coral Tissue Loss Disease intervention efforts continue as well as coral bleaching and emergency response planning efforts are ongoing as we approach the 2024 summer and hurricane season. (2, 5, 7)
3. CORAL MONITORING: PR's 2024 Long-term Coral Reef Monitoring efforts are underway. Updated coral surveys will provide information regarding changes impacts of percent cover after the 2023 coral bleaching events. (5)

Challenges and needs:

1. The 2023 coral bleaching and mortality events were faced with limited resources and funding opportunities which led to limited mitigation efforts. Current reef monitoring efforts will inform on the impacts of these events on overall coral cover and the scale for restoration efforts in Puerto Rico. Increased resources are needed. (1, 4, 6, 7)
2. Increased regional collaborations and coordination for coral rescue, restoration and disturbance efforts continues to be a high priority. We support the establishment of a Regional Rescue/Disturbance Response Coordinator that could facilitate communication and coordination among the US Caribbean jurisdictions. Support from the USCRTF is appreciated. (1, 7)

3. We are currently facing the invasion of an Indo-Pacific octocoral from the *Xeniidae sp.* which (for the Caribbean) was first observed in Venezuela. Information on the best eradication and management practices or protocols that could be applicable to the Caribbean is much needed. (7)

U.S. Virgin Islands

Accomplishments:

1. ANNUAL JURISDICTIONAL USCRTF MEETING: DPNR CZM successfully hosted the 47th USCRTF Meeting on St. Thomas, USVI which included over 12 working groups and meetings, 8 site visits, and 3 receptions to address jurisdictional needs. (1)
2. SELECTION OF PRIORITY WATERSHED: The Salt River Bay National Historical Site and Ecological Preserve became a priority watershed for the Watershed Partnership Initiative at the last USCRTF meeting; onboarding activities are ongoing. (2)
3. US REGIONAL SCTLD WORKSHOP: DPNR-CZM successfully assisted in hosting the 2024 annual US Caribbean SCTLD Workshop on St. Croix, USVI focusing on coral rescue and coral disturbance management with Florida, Puerto Rico, and USVI participants. (7)

UVI researchers with Governor Albert Bryan Jr. of the Virgin Islands and Governor Lemanu Peleti Mauga of American Samoa during the Buck Island Site Visit at the 47th USCRTF Meeting in St. Thomas, USVI. *(Photo: Sarah Van Hoene)*

Ongoing activities:

1. EXPANDING FROM DISEASE TO DISTURBANCE: The Coral Disease Response and Restoration Coordinator is transitioning the VI-Coral Disease Advisory Committee towards the VI-Coral Disturbance Response Committee. (7)

Challenges and needs:

1. The USVI continues to identify and acquire funding sources for capacity building such as, but not limited to, staffing a Coral Rescue Coordinator to further the territory's ability to plan for genetic management and future restoration. (7)

PACIFIC JURISDICTIONS

American Samoa

Accomplishments:

1. BLEACHING RESPONSE PLAN: American Samoa finalized its territory-wide Coral Bleaching Response Plan in February after holding five CRAG Technical Committee and Executive Council meetings. (7)
2. DESIGNATED CORAL REEFS AS NATURAL INFRASTRUCTURE: The CRAG Agencies worked together to develop a bill to designate corals as natural critical infrastructure. Governor Lemanu signed this bill into law last on March 22, 2024. (5)
3. AUA WATERSHED MANAGEMENT PLAN: Finalized the Aua Watershed Management Plan with the Aua village council, NOAA CRCP, Horsley Witten Group, and CRAG. (4)

Ongoing activities:

1. AMERICAN SAMOA CORAL REEF MONITORING PROGRAM: Continue bleaching assessments and surveys for the annual report. (5)
2. RESTORATION TRAINING: The Coral Restoration Foundation received NFWF funds for coral restoration learning exchanges. CRAG agency participants will take part in learning exchange workshops to equip them with the technical expertise, multidisciplinary skills, and ongoing support necessary to initiate and expand coral restoration initiatives. The program comprises four key components: virtual learning, immersive training at CRF's facility, in-situ application in American Samoa, and ongoing support and knowledge sharing through a collaborative platform. There will also be support for attending Reef Futures 2024 and greater coordination with resource managers and restoration practitioners in the Pacific Islands. (6)
3. CORAL REEF EMERGENCY RESPONSE: The territory is working on emergency response efforts focused on bleaching events, storm damage, and vessel groundings. (7)

Challenges and needs:

1. ENFORCEMENT: Despite existing regulatory frameworks, the absence of robust enforcement mechanisms allows unauthorized projects to proceed unchecked, resulting in after-the-fact mitigation efforts. In parallel, implementing size catch limits is essential for the sustainable management of fisheries in American Samoa. Currently, there aren't any limitations. We need more regulations and enforcement to prevent overfishing, replenishment of fish stocks, and protect herbivorous fish. To accomplish this, local and federal agencies will need to work closely with village managers, stakeholders, and the fishing community to develop science-based size limits that reflect the unique ecological context of American Samoa's marine and cultural environment. (8)
2. DELAYS: Delays in receiving equipment and dispersing contract funds remain a systemic issue for local government agencies. The limited availability of scuba and snorkeling supplies on the island necessitates reliance on off-island vendors, exacerbating delays in project implementation and payment to contractors. The implementation of restoration projects is hindered by lengthy permitting procedures and numerous compliance requirements without much guidance. (8)

Corals impacted by low tide exposure and ocean warming. *(Photo: Sana Lynch)*

Commonwealth of the Northern Mariana Islands (CNMI)

Accomplishments:

1. BLEACHING RESPONSE PLAN: Elly Perez, NOAA Coral Management Fellow, completed her task of developing a CNMI Bleaching Response Plan. This plan will become very useful for the CNMI as we will most likely be expecting bleaching to occur in the Saipan Lagoon. (3, 7)
2. RESTORATION TRAINING: Restoration Coordinator along with CRI Team coordinated a two-day Restoration Skills Training in November 2023 with The Nature Conservancy-Micronesia for CNMI government employees (BECQ, DFW) and local NGOs (the Mariana Island Nature Alliance (MINA) Tasi Watch Rangers and Johnston Applied Marine Sciences (JAMS)) to enhance technical capacity for restoration and reaching a total of 25 participants. (6, 8)
3. RESTORATION PLANNING: Restoration Coordinator along with the NOAA Liaison convened members of the local Coral Reef Restoration Working Group for the first all-day Restoration Action Planning Meeting in March, convening a total of 33 participants in order to move the CNMI closer to finalizing the Draft Restoration Action Plan, assess accomplishments, milestones, and challenges, and to gain input from practitioners on appropriate metrics. (6)

Ongoing activities:

1. MARINE MONITORING: The Long-term Marine Monitoring Program has started using CoralNet to analyze benthic photos. They are using a source developed by Dr. Peter Houk from the University of Guam that is being used throughout Micronesia. (7)

2. MANGROVE RESTORATION: Operations at the CNMI mangrove nursery continue, with the addition of 1,000 *Rhizophora mucronata* propagules and 1,000 *Lumnitzera littorea* seeds collected on Guam in February 2024. This project aims to restore and reforest mangroves on Saipan, through reintroduction of extirpated *R. mucronata* and *apiculata*, and *L. littorea* to facilitate natural succession of mangrove stands within their native range. The nursery was assembled and is being maintained in partnership with DCRM, the National Park Service and Kupu interns. Currently, the nursery houses four species of mangroves, ranging from seeds to saplings. These trees will be outplanted within the Achugao and Garapan watersheds in the near future. (5)
3. REEFS AS NATURAL INFRASTRUCTURE: Restoration Coordinator, along with DLNR Secretary and DCRM Director, are continuing to work on a draft resolution to designate coral reefs as natural national infrastructure to recognize their importance in the jurisdiction and integrate response to coral reef disturbance into hazard mitigation and public assistance plans, which we will present to the CNMI Legislature this FY. (5, 6)

Challenges and needs:

1. As in many other AIC jurisdictions, the CNMI is often faced with challenges related to capacity and staff retention. Lack of funding for enforcement of marine protected areas, loss of key personnel in restoration and marine enforcement, and unequal coordination and communication between and within government agencies and non-governmental organizations are challenges. These lead to reduced community outreach opportunities, decreased efficiency of restoration efforts, and poor awareness among the general public of marine protected area regulations and boundaries, as well as lack of public awareness on the state of their reefs and value of and need for restoration in general. A lack of access to capital and sustained funding has forced the current Marine Monitoring Team to balance long term marine monitoring efforts with restoration efforts, which at their reduced capacity makes accomplishing restoration goals difficult. (5, 6, 8)

Natural resource management and NGO participants pose for a photo after the second Reef Restoration Skills Training with TNC concluded, November 2023. L-R: DFW Fisheries Staff, Farron Taijeron (TNC), Wayne Dawe (MINA), Kalani Reyes (DLNR), Jordan Suel, Julius Reyes (DCRM), JAMS Restoration Staff, MINA Tasi Watch Rangers *(Photo: Kalani Reyes, CNMI DLNR)*

Guam

Accomplishments:

1. DISTURBANCE REPONSE: Guam Department of Agriculture hired a Reef Response & Restoration Coordinator to plan and coordinate disturbance response. (7)
2. PILOT CORAL NURSERY: Guam Department of Agriculture hired two Reef Restoration Biologists to implement a pilot coral nursery project. (6)
3. RESTORATION TRAINING: The University of Guam Marine Laboratory's Raymundo Coral Lab went to Hawaii for a coral restoration learning exchange and workshop with the Coral Resilience Lab at the Hawaii Institute of Marine Biology, the Hawaii Division of Aquatic Resources, the Hawaii Aquarium, and Kuleana Coral Restoration. (6)

GCRI staff conducted outreach to over 1,000 children between November 2023 and March 2024 at events including at a 4H event at the University of Guam, school group tours at Guam National Wildlife Refuge, and career days at eight elementary and middle schools. *(Photo: Olivia Banez, GCRI)*

Ongoing activities:

1. WATER QUALITY: Guam Department of Agriculture is working with PacIOOS to develop a framework for marine water quality monitoring and data management/analysis. (4)
2. RESTORATION WORKING GROUP: A new working group dedicated to coral reef restoration is being formed, including members from the University of Guam Marine Laboratory, Guam Department of Agriculture, National Park Service, and U.S. Navy. (1, 6)

Challenges and needs:

1. Conflicts between the Government of Guam and the Guam Attorney General, have resulted in agreement funds not being transferred to subawardees since mid-2023. As a result of available

funds not being transferred in a timely manner, the Guam Long-Term Coral Reef Monitoring Program (GLTMP) ran out of funding in February 2024. The program staff were furloughed and have had to find other work to support themselves and maintain insurance coverage. As of April 2024, funds have not been transferred, and the future of the program is uncertain. (5)

2. Effective water quality monitoring and management on coral reefs is challenging due to the large quantities of data generated, the lack of a centralized and accessible database for storage, difficulties with integrating calibrations and corrections of drift/error, and the wide array of options for data collection without clear guidelines for comparison between them. DOAG is working with PacIOOS to develop a marine water quality monitoring protocol for coral reefs to assist with solving these challenges. (4)
3. Procurement challenges continue to hinder operations within the Government of Guam, particularly for the Guam Coral Reef Initiative, whose program remains remote after their office was destroyed in May 2023 during Typhoon Mawar; procurement delays of more than 6-8 months are anticipated for other items, such as a truck rental, computers, and field supplies. (1)

Hawai'i

Accomplishments:

1. UPDATED HERBIVORE RULES: The Department of Land and Natural Resources – Division of Aquatic Resources (DLNR-DAR) recently passed updated herbivore rules on select species of herbivorous fish, including minimum harvest size adjustments for manini and kole and bag limits for uhu and kala after a two-year public scoping process. (8)
2. RESTORATION SYMPOSIUM: In November, DAR co-hosted the 3rd Hawai'i Coral Reef Restoration Symposium along with Federal and non-governmental partners. This symposium hosted over 100 people representing more than two dozen organizations from local to international scales and covered topics specific to coral reef restoration innovations and challenges in Hawai'i. (5, 6)
3. KIPAHULU COMMUNITY BASED SUBSISTENCE FISHING AREA: The Kīpahulu area in Southeast Maui became the third CBFSA in Hawai'i, honoring customary and traditional fishing practices for Hawaiian subsistence, culture, and religion through rulemaking. (8)

Ongoing activities:

1. RESTORATION PLANNING: DAR is engaging in makai coral reef restoration action planning efforts for shoreline protection and fishery enhancement. The Shoreline protection action plan based on guidance from a technical advisory group is pivoting to a guidance document format, outlining past case studies and current research needs. The fishery enhancement action plan is currently working with an internal group to develop messaging to engage with fishers. (1)
2. WATER QUALITY ACTION PLAN: The 2024-2025 National Coral Reef Management Fellow, Ellie Jones, will focus her project on improving water quality for nearshore resources. Her project will help coordinate water quality efforts in the State, determine priority areas and parameters with which to address water quality, and provide DAR an action plan for incorporating water quality in nearshore management strategies moving forward. (4)
3. STEWARDSHIP FEE PROGRAM: As of January 1st, DAR launched the Aloha i ke Kai Hawaii Ocean Stewardship Fee Program. This program collects $1 from every customer or passenger participating in a commercial ocean activity. This will generate millions of dollars annually for marine stewardship projects such as day-use mooring buoys, coral reef restoration, and community stewardship grants. (3, 5, 6, 7)

Participants in the 3rd Coral Reef Restoration Symposium. *(Photo: Paulo Maurin, NOAA)*

Challenges and needs:

1. LAHAINA: The August 8th Lahaina wildfire caused widespread devastation and continues to pose significant management challenges to the nearshore waters. As the response effort transitions to recovery efforts, the DLNR DAR is seeking support from FEMA to support long-term LBSP mitigation, reef fish contamination testing, and water quality monitoring. (4, 5, 7)
2. UNOMIA: Two species of non-native octocoral (*Unomia stolonifera* & *Capnella spicata*) have been introduced to the Pearl Harbor watershed on O'ahu by an aquarium release. *U. stolonifera* has spread to a surveyed 82 acres in Pearl Harbor and may spread further into State waters. The U.S. Navy has been testing removal methods. DAR is seeking funding to support further survey efforts throughout the State to monitor for new signs of invasion. (7)
3. STAKEHOLDER ENGAGEMENT: Coral reef restoration projects require long-term partnership building and stakeholder outreach, which is a consistent challenge in urban and densely-populated areas, such as Waikīkī. (6)

AIC AFFILIATE MEMBER PRIORITIES AND ACCOMPLISHMENTS

Republic of the Marshall Islands (RMI)

We look forward to including updates from the Republic of the Marshall Islands in the next biannual AIC Chair's Report to the U.S. Coral Reef Task Force.

Federated States of Micronesia (FSM)

We look forward to including updates from the Federated States of Micronesia in the next biannual AIC Chair's Report to the U.S. Coral Reef Task Force.

Republic of Palau

We look forward to including updates from the Republic of Palau in the next biannual AIC Chair's Report to the U.S. Coral Reef Task Force.

A PICRC researcher conducting a fisheries MPA baseline survey in Koror State *(Photo: PICRC)*

AIC CORAL REEF POINTS OF CONTACT AND SECRETARIAT

Points of Contact - AIC Member Jurisdictions

Jean-Pierre Oriol (AIC Chair), Territory of the U.S. Virgin Islands
Chelsa Muña (AIC Vice Chair), Territory of Guam
Taotasi Archie Soliai, Territory of American Samoa
Richard Salas *(Acting)*, Commonwealth of the Northern Mariana Islands
Joanna Walczak, State of Florida
Ryan Okano, PhD, State of Hawai'i
Maria Vega-Rodriguez, PhD, Commonwealth of Puerto Rico

AIC Affiliate Members

Vacant, Republic of the Marshall Islands
Dave Mathias, Federated States of Micronesia
Geraldine Rengiil, Republic of Palau

AIC Secretariat

Gerry Davis, Resource Advisor
Robert Richmond, PhD, Science Advisor
Whitney Hoot, Executive Director (whitney.hoot@noaa.gov)

Members of the AIC and USCRTF during a site visit at the 47th USCRTF meeting in the USVI in October 2023.
(Photo: Caroline Donovan, NOAA CRCP)

AIC Member Jurisdiction POC Biographies

Jean-Pierre "JP" Oriol, the AIC Chair, has served as the Commissioner of the Department of Planning and Natural Resources since being appointed by Governor Albert Bryan Jr. in early 2019. JP previously served as the Director of the Division of Coastal Zone Management within the same department from January 2011 - January 2019. JP has been part of the AIC since 2010 and has served as the Chair since

2017. He is a graduate of the All Saints Cathedral School in St. Thomas and Brandeis University in Boston, graduating the latter with a bachelor's degree in Biology.

Chelsa Muña, the AIC Vice Chair, is Director of the Guam Department of Agriculture, appointed by Governor Lourdes Leon Guerrero in January 2019. She is the Governor's POC for both the US Coral Reef Task Force and Western Pacific Regional Fishery Management Council. Prior to her appointment, Chelsa served Guam's community as a Project Director for the Guam Department of Education (GDOE) for four years, successfully managing a multi-million-dollar curriculum project. In the years before her work with GDOE, Ms. Muña developed and managed a workforce development project for the Guam Community College where she collaborated with the private sector, GDOE, and several government agencies. She also gained policy experience working in the legislature, first as a policy writer then as Chief of Staff for Senator Muña Barnes. An honors graduate from the University of Guam with a degree in psychology and minors in sociology and women and gender studies, Chelsa also holds a teaching certification in education and has received training in project planning and development, grant management, writing, and board development.

Taotasi Archie Soliai currently serves as the Director for the American Samoa Department of Marine & Wildlife Resources. Most of his professional career has been in the private sector, most recently employed as a Manager at Starkist. Prior to that, he was an elected member in the American Samoa House Representative representing the 2nd largest District of Itu'au Malosi. During his tenure in the Legislature, he sponsored the legislation that banned plastic bags in the Territory and received national recognition and a "Zero Waste Advocate" Award from the US Environmental Protection Agency presented by (then) California Governor Arnold Schwarzenegger. Director Soliai is passionate about preservation and sustaining our natural resources for future generations.

Rich Salas currently serves as acting POC for the Commonwealth of the Northern Mariana Islands, pending an official appointment from the Governor of the CNMI. Rich is Director of the BECQ-Division of Coastal Resources Management, having previously served as a Coastal Resources Planner with the division.

Joanna Walczak is the Administrator for the Florida Department of Environmental Protection (DEP) Office of Resilience and Coastal Protection's Coral Protection and Restoration Program designed to focus the state's protection of Florida's Coral Reef and the administration of over $53 million appropriated for these critical efforts since 2017. For almost a decade, she has been the State of Florida's Point of Contact for the US Coral Reef Task Force and US All Islands Coral Reef Committee and she represents DEP in leading Florida's multi-faceted partner response to the ongoing Stony Coral Tissue Loss Disease outbreak. Joanna holds a B.S. from Texas A&M University Galveston, and an M.S. from Nova Southeastern University's Oceanographic Center – both in marine biology. She specializes in coral reef ecology and stakeholder engagement in conservation issues, as well as coral reef injury assessment, mitigation, and enforcement.

Ryan Okano currently serves as the Ecosystem Protection Program Manager for Hawai'i's Division of Aquatic Resources. He holds a PhD from the University of Hawai'i's Botany Department where he studied the influence of groundwater, nutrients, and herbivory on algae in tropical reef settings. Ryan possesses multijurisdictional experience. For nearly seven years he lived in the Commonwealth of the Northern Mariana Islands working for a local natural resource management agency, additionally he has spent several months assisting with research on reefs in the Florida Keys. However, he has spent most of his life on the Hawai'ian Islands of Oahu and Hawai'i.

Alberto Mercado Vargas is the Undersecretary of the Puerto Rico Department of Natural and Environmental Resources. He previously worked as Director of The Nature Conservancy's Puerto Rico program, as an environmental interpreter for Para la Naturaleza, as a consulting biologist for NOAA National Marine Fisheries Service, and as Director of the Bureau of Natural Areas and Forest Service within

DNER. Alberto earned a bachelor's degree in biology from the University of Puerto Rico in Humacao and a master of science degree from Loyola University in New Orleans.

Dr. Maria Vega-Rodriguez obtained her PhD in Marine Science with a specialization in Marine Resources Assessments from the University of South Florida. During her academic research, she used state-of-the art satellite optical instrumentation and field work to study the red mangrove (Rhizophora mangle) productivity in La Parguera Natural Reserve and the influence of water quality variability on stony coral diversity at the Florida Keys. Additionally, Dr. Vega-Rodriguez worked with the Advanced Water Reclamation Facility at Pinellas County Fl. (local government) between 2016 -2021. She has a solid scientific ecological background in Caribbean coastal marine ecosystems as it relates to water quality, watershed management and water resources. Currently, she serves as the Puerto Rico Department of Natural and Environmental Resources (PR-DNER) Coral Reef Conservation and Management Program Manager where she oversees all coral-related projects held between the NOAA Coral Reef Conservation Program and the DNER. Personally, she loves gardening, traveling, and learning new languages. Her favorite quote is "Think globally, act locally".

Participants in a coral disease workshop with Dr. Thierry Work, USGS, pose for a photo after a field activity at Pau Pau Beach, Saipan. *(Photo: Rod Camacho, DCRM)*