

**PROCEEDINGS OF THE
REEF RESTORATION NETWORK
2nd BIENNIAL MEETING**



**Second Biennial Meeting
Reef Restoration Network of the MAR Region
9th and 10th October, 2019
Belize City**



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ACRONYMS

BFD	Belize Fisheries Department
BMF	Belize Marine Fund
CEA	Centro Ecológico Akumal
CCAD	Central American Commission for Environment and Development
CONANP	Comisión Nacional de Áreas Naturales Protegidas
FKNMS	Florida Keys National Marine Sanctuary
FoH	Fragments of Hope
FUNDAECO	Fundación para el Ecodesarrollo y la Conservación
GCFI	Gulf and Caribbean Fisheries Institute
HRI	Healthy Reefs Initiative
ICF	Instituto Nacional de Conservación y Desarrollo Forestal, Áreas Protegidas y Vida Silvestre
INAPESCA	Instituto Nacional de Pesca
MAR	Mesoamerican Reef
MAR2R	Mesoamerican Reef Transboundary Integrated Management Project
MARN	Ministerio de Medio Ambiente y Recursos Naturales
MAR FUND	Mesoamerican Reef Fund
MPA	Marine Protected Area
NCRMN	National Coral Reef Monitoring Network
NOAA	National Oceanic and Atmospheric Administration
RRI	Reef Restoration initiative
RRN	Reef Restoration Network
SCTLD	Stony Coral Tissue Loss Disease
SI	Smithsonian Institute
SICA	El Sistema de la Integración Centroamericana
UB-ERI	University of Belize - Environmental Research Institute
UNAM	Universidad Nacional Autónoma de México

WCS	Wildlife Conservation Society
WWF	World Wildlife Fund
ZOLITUR	Comisión Administradora Zona Libre Turística de Islas de la Bahía

Acknowledgments go to:

The outgoing and incoming RRN Executive Committees and members who participated in the 2nd RRN Biennial Meeting, both as presenters and as members, to move the RRN forward over the next two years. Fragments of Hope for the logistical support and in-country organization for the meeting, and the Mesoamerican Reef Fund for supporting the event through the Reef Rescue Initiative (MAR Fund / RRI). Acknowledgment also goes to Wildtracks for facilitation of the meeting and reporting.



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EXECUTIVE SUMMARY

The Reef Restoration Network (RRN) is a community of civil society organizations, government and academic institutions committed to the restoration and rehabilitation of reefs in each of the four countries of the MAR region, Mexico, Belize, Guatemala and Honduras. The Network vision is one of providing a platform for access to and sharing of updated information and innovation on the subject of restoration. It is also envisioned as a mechanism for coordinating and developing the scientific and technical capacity of the organizations in the region that carry out science-based restoration, rehabilitation and re-population of coral reefs.

The Second RRN Biennial Meeting was held on the 9th and 10th October, 2019 in Belize City, Belize. The meeting objectives were as follows:

1. To exchange information about advances and challenges in current restoration projects within the four MAR countries.
2. To present the Network's Bylaws
3. To present the MAR Restoration Network's Strategic Plan, developed by the Executive Committee in 2018.
4. To develop a MAR Regional Plan to promote reef restoration, encourage complementary efforts and discuss the resources needed for its implementation.
5. To advance the election process for the 2019-2021 Executive Committee.

In recognition of the number of new members at the 2nd Biennial Meeting who were not present during the drafting of the Strategic Plan in 2017, or the Joint Session on the Stony Coral Tissue Loss Disease on 8th October, 2019, the introductory presentations on each of the two days of the Biennial Meeting provided information on the supporting MAR Fund Reef Rescue Initiative, the background to the establishment of the Reef Restoration Network, a summary of the MAR Regional Reef Restoration Plan and the results of the SCLTD joint session, as well as a summary of the results and agreements of the 1st Biennial Meeting in 2017. RRN members presented on reef restoration experiences in the four countries of the MAR region (Mexico, Belize, Guatemala and Honduras), sharing successes, challenges and lessons learned.

The network bylaws were presented and discussed for review, with key amendments in the following areas:

- Criteria for membership was amended to be inclusive of individuals as well as organizations
- Criteria for the post of President was amended to include the need for the nominee to be a proactive reef restoration professional with the capacity to lead the Executive Committee
- The points for a functional Network structure were amended to provide an appropriate framework for the election of the Executive Committee, with each member having a clear understanding of their roles and responsibilities as part of the RRN
- Expansion of the section on the rights and obligations of Network members to include the formation of technical committees and working groups

The Bylaws were adopted by the members, with the recognition that they can be revised at subsequent biennial meetings if necessary, as the Network evolves.

An update was provided by the RRN President on Reef Restoration Network outputs. The draft RRN Strategic Plan (2019 -2020) was presented to the participants, followed by an activity designed to socialize the Plan, and to identify the current and planned activities in each country of the region that have or will contribute towards the implementation of the draft strategic plan, and the barriers and challenges faced. The outputs will be used to complement and strengthen the Plan. The Strategic Plan was then adopted by the members, with recognition that it is a living document, and should be reviewed every 6 months by the Executive Committee. Revisions can then be presented at subsequent biennial meetings for approval, if required. Members were requested to submit any final recommendations for amendments or additions to the Plan by the 18th October, 2019. A short term Action Plan is to be developed by the Executive Committee that includes priority strategies and allocates responsibility for implementation to relevant members.

Elections were held for the Executive Committee, based on national representation, voted on by the members present from those countries, as laid out in the bylaws. The donor position was also filled, by nomination and acceptance by the assembly. The incoming committee accepted their positions, and identified the need to develop financial, social and institutional sustainability to support the collaborative implementation of the Strategic Plan by the Network members. As a first action it was proposed that the Committee develop an Action Plan for the initial months towards implementing the Strategic Plan, and towards arranging a meeting with the CCAD as a priority action.

An overview of funding opportunities was presented, followed by open discussion, with a number of potential funding options identified. This was followed by a presentation on the Communication Strategy for the network, focusing on the restructuring and population of the Network website, and its role as an information sharing platform for Network members.

The meeting closed with a final presentation on larger scale restoration options being developed and tested outside the MAR region, and lessons learned, to encourage members to think outside the box when planning for future coral reef restoration. A summary of the recommendations arising from the 2nd Biennial Meeting was presented, followed by closing remarks from Mr. Adriel Castaneda, of the Belize Fisheries Department.

In-coming Executive Committee (2019 – 2020)

President: Ana Giro (Guatemala)

Vice President: Lisa Carne (Belize)

Committee Members

Gabriella Ochoa (Honduras)

Anastazia Banaszak (Mexico)

Cooperation Position

Carlos Rodriguez Olivet (MAR2R)

KEY OUTPUTS AND AGREEMENTS

KEY OUTPUTS OF THE 2ND RRN BIENNIAL MEETING:

- Review, revision, approval and acceptance of the RRN Bylaws
- Improved definition and acceptance of the election process for the Executive Committee
- Election of a new Executive Committee (2019 – 2021), and of Executive posts
- Socialization of the RRN Strategic Plan
- Approval and acceptance of the RRN Strategic Plan (2019 – 2020)
- Summary of the status of reef restoration across the MAR Region, and identification of areas requiring strengthening, both per country and at the regional level
- Recommendations towards a MAR Regional Reef Restoration Management Plan
- 3rd RRN Biennial Meeting scheduled for 2021 in Flores, Guatemala

KEY RECOMMENDATIONS

A series of key priority recommendations were identified during the group working sessions and discussions, forming the foundation for the development of the MAR Regional Reef Restoration Strategic Plan.

IMPROVED REGIONAL COMMITMENT, COMMUNICATION, COORDINATION

- Strengthen the Reef Restoration Network - register the RRN as a legal entity and improve the visibility and branding of the RRN, to facilitate applications for grant funding
- Develop a short term Action Plan to quick start prioritized implementation of the Strategic Plan
- Assign members to take on responsibility for ensuring coordination and implementation of specific objectives of the RRN Strategic Plan
- Develop an Advocacy Plan to position the RRN before CCAD
- Presentation of the Regional Reef Restoration Strategic Plan to the Committee of Seas and Biodiversity and Ministers / CCAD (MAR2R) for adoption and high level commitment across the region
- Presentation of the Regional Reef Restoration Strategic Plan to the CCAD Network of Communicators
- Schedule a meeting with the CCAD to socialize the regional importance of reef protection and restoration, and engage government leaders across the MAR in supporting national restoration initiatives
- Develop the Regional Communication Strategy, targeting improved communication and engagement across all governments and sectors
- Elevate the regional dialogue on reef restoration and SCTLTD through the CE-CCAD, Committee of Seas and Biodiversity and Council of Ministers
- Engage the SG-SICA in the integration of reef restoration as part of the sustainable regional agenda of SICA

- Develop / strengthen financial, social and institutional sustainability to support the collaborative implementation of the Strategic Plan by the Network members
- Consider forming a MAR regional group, with improved integration with the Coral Restoration Consortium, positioning the Network as an associated regional group

STANDARDIZED REGIONAL RESTORATION PROTOCOLS

- Develop the Regional Reef Restoration Strategic Plan and the SCTL D Action Plan
- Standardize restoration language, protocols, indicators and monitoring across the region
- Develop and implement regional protocols for reporting of diseases
- Regional and in-country trainings and exchanges to build capacity and transfer across the regions
- Improve communication and coordination in the regional research community, and standardizing restoration vocabulary and terminology
- Develop an information-sharing platform for Coral Bleach and Disease Watches across the region
- Use of larval dispersal models and recruitment levels to identify future restoration sites

IMPROVED REGIONAL FUNDING AND HUMAN RESOURCES

- Identify funding mechanisms and opportunities at the regional level and engage donors towards investment in reef restoration strategies and actions
- Engage private sector (particularly hotels, dive shops and divers) for scaling up successful restoration projects, and provide training for reef restoration and monitoring

IMPROVED INTEGRATION OF REEF RESTORATION INTO NATIONAL POLICIES AND PLANS

- Development and operationalization of national policies, regulations and plans
- Establish legal frameworks for restoration
- Integrate reef restoration into MPA management and monitoring plans

REDUCING THREATS

NOTE: *Whilst the identified recommendations are required for improving the long term viability of the reef, many of these recommendations are beyond the scope of the RRN, and would be implemented most effectively through collaboration with organizations active in these areas*

- Regional collaboration for reducing plastic waste and addressing watershed impacts
- Regional protection of marine herbivores
- Regional collaboration towards reducing unsustainable fishing pressure
- Restoration of other ecosystems – mangroves, littoral forests, riparian forests
- Improve understanding and appreciation of the reef, and encourage good reef stewardship across all levels and sectors of society
- Inclusion of reefs and reef restoration in national and local environmental education programmes

BACKGROUND

The Reef Restoration Network (RRN) is a community of civil society organizations, government institutions, academic institutions and individuals committed to the restoration and rehabilitation of reefs in each of the four countries of the Mesoamerican Reef region - Mexico, Belize, Guatemala and Honduras. The Network provides the regional platform for coordinating and developing the scientific and technical capacity of the organizations that carry out science-based restoration, rehabilitation and re-population of coral reefs in the region aims to be the main source of updated information and innovation on the subject of restoration;

The Network's Bylaws were drafted during the first Biennial meeting, held in September 2017 in Akumal, Mexico, to provide the organizational framework for Network membership and decision making.

The RRN Strategic Plan, covering a 2-year time period (2019-2020), was also drafted during the meeting, providing an overview of the common vision, mission and goals for the network, and outlining the overall goals, objectives and strategies, to ensure the ongoing development of the RRN as a leading network for coral and reef restoration. Both the Bylaws and the Strategic Plan were then finalized /strengthened at a meeting of the RRN Executive Committee Meeting in Belize City, in 2018. The meeting also provided the forum for planning the 2nd Biennial Meeting. One further meeting was held in Puerto Morales, Mexico, in 2018 to validate outputs from studies associated with parametric insurance.

The 2nd Biennial Meeting was held in Belize City, Belize on the 9th and 10th October, 2019, and focused on review and acceptance of the bylaws and strategic plan by the members. It also provided an opportunity for socialization of the Strategic Plan, and a mechanism for members to identify how their work contributes to achieving the four overarching goals. The 2nd Biennial Meeting also provided the forum for the RRN biennial elections for the Executive Committee

VISION

The MAR RRN is the main source of information on the subject of marine ecosystem restoration and is the regional platform for coordinating and developing innovative scientific and technical capacity of its member organizations.

MISSION

The MAR RRN facilitates collaboration and capacity building to restore the structure and function of coral reefs and associated ecosystems in the region.

RRN STRATEGIC PLAN (2019 – 2020)

GOAL 1: Strengthen Reef Restoration in the Mar Region Utilizing a Collaborative, Interdisciplinary Approach

GOAL 2: Position the Network as the Regional, Advisory Entity for Marine Ecosystem Restoration

GOAL 3: Develop a Model for Network Self Sufficiency Within Two Years

GOAL 4: Maintain a Bilingual Platform That Communicates Restoration Efforts in the MAR with Partners and Other Interested Entities

INTRODUCTION

A series of four presentations provided an introduction to the proceedings of the 2nd Biennial Reef Restoration network.

THE MESOAMERICAN REEF INITIATIVE

Claudia Ruiz,
Reef Rescue Initiative Coordinator, MAR Fund

The Mesoamerican Reef Rescue Initiative, a MAR Fund project, has the overall objective of contributing to the conservation of the MAR by increasing the resilience and recovery ability of the Mesoamerican Reef and, through this, the environmental and culture services it provides. This is achieved through capacity building, regulations, economic incentives and financial sustainability, to ensure coral reef restoration activities can be implemented to address degraded health and respond to emergency impacts. The RRI four key strategies focus on ensuring sustainable long-term funding for continuous and emergency restoration, providing support for reef restoration and rehabilitation, promoting government commitments towards supportive and effective policies and regulations, and developing alternative sources of income. As a component of its work, it supports the Reef Restoration Network and provides financial support to reef restoration pilot projects through its Small Grants Programme.

THE REEF RESTORATION NETWORK

Gaby Nava
Oceanus, Mexico

The Reef Restoration Network (RRN) was established in 2012 in Chetumal, Mexico, as an output of the first workshop held to bring together multidisciplinary organizations dedicated to reef restoration, conservation and protection from across the MAR region. As well as a formal agreement on the establishment of the Network, the workshop outputs also included the identification of six thematic areas and associated strategies for the strengthening and growth of the Network, based on common problems faced across the region, and the identification of primary needs in each country, and solutions.

SUMMARY RESULTS AND AGREEMENTS OF THE 2017 1st BIENNIAL MEETING

Hector Lizarraga
Centro Ecológico Akumal, Mexico

The 1st Biennial Meeting of the RRN was held in Akumal, Mexico, in 2017. The presentation outlined the process for selecting and engaging the 64 participants from academia, government authorities and NGOs for participation in the meeting. It also covered the information-gathering process for

population of a database and mapping of the number and type of existing nurseries and restoration projects in the MAR region.

A key part of the meeting included a review of the bylaws and governance structure, with agreement to elect a representative per country to form an Executive Committee, with a maximum of seven members, and with the President elected from the representatives. Elections for the Executive Committee would be held at each Biennial meeting. The membership was defined, starting with those people at the meeting, and with the addition of further members based on their relevant expertise and on the decision of the Executive Committee. It was agreed that elections for the Executive Committee would be held at each Biennial meeting.

A key priority action was the development of an RRN workplan, integrating priority needs from each country, and taking into account existing emergency and restoration response protocols and plans, as well as the legislative framework of each country.

It was also suggested that the RRN should approach the Coral Restoration Consortium (CRC) to look at the potential for the RRN to be integrated into the Consortium, once the Network has become more established.

The RRN website was discussed, with the decision to ensure it is bilingual, and integrates a listserv to improve communication and information exchange between the Executive Committee and the members. It was also decided integrate a section on maps, and a members-only space for sharing tools and discussions, and members deciding what they wish to share on the public and member only spaces.

EXECUTIVE COMMITTEE REPORT 2017 – 2019: REEF RESTORATION NETWORK ACHIEVEMENTS

Anastazia Banaszak

President, RRN Executive Committee

The President's report covered the period from 2017 to 2019. The draft design for the logo was presented as a work in progress, to develop brand recognition, and symbolize the networking across four countries. A rundown was provided of the meetings held by the Executive Committee

- **Executive Committee meeting (Belize City, Sep. 2018)**
 - Planning for 2nd Biennial meeting (Oct. 2019)
 - Bylaws
 - Strategic Plan
- **Videoconferences and calls of the Executive Committee**
 - Follow ups to Belize City meeting
 - ToR for Technical Coordinator (x2)
- **Other**
 - Validation of Parametric Insurance Studies (Puerto Morelos, Nov. 2018)

The report also covered a review of the contents and key points of the Bylaws, to be reviewed for adoption by the members at this 2nd Biennial Meeting of the RRN, and a number of points for discussion. These included 1) defining what constitutes an active member, with a comment that this

is seen as someone who collaborates and fulfils their obligations to the Network; 2) defining how to run the elections, bearing in mind that not all members can be there, with the recommendation that voting should be by a simple majority of those present.

REVIEW AND ADOPTION OF THE BYLAWS

The RRN Bylaws provide the framework and define the membership, the terms of reference for members, and operation of the Network. The Bylaws were presented by Claudia Ruiz, of Mar Fund Reef Rescue Initiative, and discussed for review on the 9th October. It was noted that not all those who participated in the development of the bylaws were present, and that there a many members at the meeting who were not part of the process. However, it was considered important that the bylaws be reviewed and adopted during the 2nd Biennial Meeting, with agreement that they should be forwarded to members for final revision. The goals and objectives were read out in English and Spanish. A number of recommendations were made for strengthening the Bylaws:

- Clearer definition of:
 - The number of seats on the Executive Committee (EC)
 - when EC terms start and finish
 - criteria for eligibility to stand for election as a committee member
- Clear process for who stands in if the President is not available (it is assumed that this would be the Vice-President, but it is not stated in the bylaws)
- The process for replacing a committee member who stands down / can no longer continue
- Clearer definition of the roles and functions of the President

These were then adopted by all members present, following a number of amendments, and with the recognition that they should be reviewed by the Executive Committee every 6 months, with recommendations for amendments forwarded to the members, and presented at subsequent biennial meetings if necessary, as the Network evolves. It was agreed that the Bylaws should be reviewed by a lawyer.

There was discussion on the decision making process, particularly for the election of the Executive Committee, as the bylaws define the decision-making body as the Assembly, but not all members of the Assembly can be present at the Biennial meetings. There is currently no clearly defined mechanism for an inclusive participation mechanism for representatives who are not able to attend - it was proposed that non-attending members would be notified by e-mail for their input. Amendments identified in the 2nd Biennial Meeting are shown below in red, with a summary of the discussion comments prefacing each section:

DEFINITIONS

Summary of Comments: Definitions 1 and 4 were amended in recognition of the fact that it is the people in the Network who have the passion and motivation for maintaining the Network and achieving its goals, and may move between organizations. The amendments therefore ensure that the definition of the membership is inclusive of individuals as well as organizations.

1. The Network: The set of **persons and** entities (government agencies, non-governmental organizations, academicians, cooperation and financing, private sector and individuals) from Mexico, Belize, Guatemala and Honduras who have signed this document.

4. Members: government agencies, academia, non-governmental organizations, cooperation and financing agencies, private sector and individuals from Mexico, Belize, Guatemala and Honduras, as well as international agencies, experts and **professionals in restoration and coral reef conservation.**

Comments: Definition 6 was amended to ensure that the President fulfils the criteria required to ensure an active, motivated and successful Executive Committee that has the capacity to lead implementation of the RRN Strategic Plan.

6. **Executive Committee:** Is the governance mechanism of the Network. It is the body that will make decisions based on Assembly meeting recommendations and will seek financial and technical mechanisms to execute them, taking into account limitations for their execution. The Executive Committee will be formed by:

6.1. **President of the Committee:** May be any active member of the Network. Will be elected by the Assembly Meeting, shall be a **professional in restoration and coral reef conservation, proactive, and** have technical and scientific leadership. Will be in charge of effective coordination among the members of the Committee and will propose actions to fulfil the agreements of the Assembly Meeting.

6.2. **National Representative to the Committee:** May be any active member of the Network with residence in one of the countries. Will be in charge of creating and monitoring the National Restoration Plan that will be based on the Regional Restoration Plan. Will be elected by the Assembly Meeting and will be a **professional on restoration and coral reef conservation, proactive,** with technical and scientific leadership in his/her country.

FUNCTIONS OF THE NETWORK'S STRUCTURE

Summary of Comments: The responsibilities of the RRN members during an Assembly Meeting were reviewed and revised as follows, to ensure that the appropriate framework was in place for the election of the Executive Committee, with each member having a clear understanding of their roles and responsibilities as part of the RRN:

The responsibilities of the members, during an Assembly Meeting, are to:

1. Elect the members of the Executive Committee
2. Elect the President of the Network from the members of the Assembly
3. Meet and elect new Network members
4. **Decide on the additional charges deemed necessary to strengthen the Network, and elect the representatives of these charges**
5. Determine the date and place of Assembly meetings
6. **Raise issues that are considered relevant for discussion at the Assembly meeting.**
7. **Decide the number of active members to participate in the Network**
8. **Decide the mechanism for accession to the Network**
9. **For government agencies, decide on the mechanism for appointing their representatives to the Network**

10. Strengthen the Committees and working groups derived from the Network

RIGHTS AND OBLIGATIONS OF NETWORK MEMBERS

Summary of Comments: *The section outlining the formation of Working Groups was expanded to also include the formation of technical committees and working groups, both of which can be established by the Executive Committee as and when needed.*

Technical Committees and Working groups:

Technical Committees and working groups will be created as their need arises. The Executive Committee will have full power to create working groups without need for ratification from the Assembly meeting. The Assembly meeting has the power to suggest the creation of **national and regional technical committees and** working groups.

ELECTION OF THE 2019 - 2021 EXECUTIVE COMMITTEE

Elections are to be held every two years, at the RNN Biennial Meeting. The first Executive Committee was elected for the period 2017 – 2019 during the 1st RNN Biennial meeting, held in September 2017 in Akumal, Mexico. The second election was held during the 2nd meeting, on the 10th October, 2019, in Belize City, Belize. It was agreed that there needed to be a more formal, clear structure to the election process for the election of committee, resulting in the following agreements:

- The Executive Committee elections will take place every two years, at the Biennial Meeting
- Each of the four countries will have a national representative on the Committee, nominated by members of that country at the Biennial meeting
- Members of each country will nominate two candidates
- Nominees should be reef restoration professionals who are active in sharing information on coral restoration and conservation issues
- Nominees who are on the current Executive Committee can only be re-elected if they have been proactive in fulfilling their roles in meeting the obligations of the previous Committee.
- The nominated candidates can accept or decline
- Once two candidates have been nominated, members present at the Biennial meeting and from that country will vote – the candidate with the higher number of votes is elected to the Committee
- It was proposed that the committee also have a Funder member
- The President is elected by all members present at the Biennial Meeting, from those Executive Committee members willing to take on this post - the candidate with the higher number of votes is elected to the post
- The President must be a proactive reef restoration and conservation professional
- Ideally, one member of the Executive Committee will be retained on the Committee to ensure continuity

Outgoing 2017 – 2019 Executive Committee

President: Anastazia Banaszak (Mexico)

Vice President: Lisa Carne (Belize)

Committee Members

Ana Giro (Guatemala)

Ian Drysdale (Honduras)

Cooperation Position

Claudio Gonzalez (MAR Fund)



Incoming 2019 – 2021 Executive Committee

President: Ana Giro (Guatemala)

Vice President: Lisa Carne (Belize)

Committee Members

Gabriella Ochoa (Honduras)

Anastazia Banaszak (Mexico)

Cooperation Position

Carlos Rodriguez Olivet (MAR2R)



THE RRN STRATEGIC PLAN

An activity was conducted to fully socialize the RRN Strategic Plan, providing a scan of current actions in the MAR Region that contribute to implementation of the Strategic Plan and achievement of the Strategic Plan goals and objectives. This was conducted on the 9th October, 2019 in a work group format, with five breakout groups composed of mixed participants (mixed by expertise and country), each group being allocated one of the strategic plan goals. Groups were asked to identify current actions in the region that contribute towards achieving the specific goal and objectives, as well as proposed actions, challenges, opportunities, and highlighting immediate priority actions. The planning exercise identified a number of key recommendations for strengthening the Network:

KEY PRIORITY RECOMMENDATIONS FOR STRENGTHENING THE RRN

- Register the RRN as a legal entity and improve the visibility and branding of the RRN, to facilitate applications for grant funding
- Develop a short term Action Plan to quick start prioritized implementation of the Strategic Plan
- Assign members to take on responsibility for ensuring coordination and implementation of specific objectives of the RRN Strategic Plan
- Develop an Advocacy Plan to position the RRN before CCAD.
- Schedule a meeting with the CCAD to socialize the regional importance of reef protection and restoration, and engage government leaders across the MAR in supporting national restoration initiatives
- Develop and implement a Regional Reef Restoration Management Plan
- Develop and implement a Regional Action plan / protocols on reporting of diseases
- Develop / strengthen financial, social and institutional sustainability to support the collaborative implementation of the Strategic Plan by the Network members

A summary of the current and proposed actions, and the identified priorities is presented in Table 1. The full outputs for each of the five groups are presented in Annex 3

TABLE 1: STATUS OF IMPLEMENTATION OF RRN STRATEGIC PLAN, OCTOBER, 2019

GOAL 1: STRENGTHEN REEF RESTORATION IN THE MAR REGION UTILIZING A COLLABORATIVE, INTERDISCIPLINARY APPROACH			
OBJECTIVES	CURRENT	PROPOSED	PRIORITIES
<p>1.1 Expand the HRI diagnosis on the state of the MAR to include additional elements</p>	<ul style="list-style-type: none"> ▪ Current monitoring efforts cover macroalgae, herbivores, commercial fish, coral cover, with partners collecting data and reports issued on an annual / biennial basis ▪ Monitoring of coral bleaching ▪ HRI continues to conduct monitoring across the region on coral reef health, with local partners. ▪ Individual restoration groups are also collecting data on coral reef health on their restoration sites. ▪ Data on water quality being collected sporadically by organizations in each country. 	<ul style="list-style-type: none"> ▪ Additional strategic sites within the HRI monitoring that are doing restoration efforts. ▪ Expand to include: <ul style="list-style-type: none"> ▪ coral specific data needs for other (non-AGGRA) methodologies. ▪ connectivity measurements across restoration sites, countries and the region. ▪ socio-economic factors ▪ tourism impacts ▪ Improved monitoring of water quality 	<ul style="list-style-type: none"> ▪ Develop a Regional Action plan and disease reporting platform on the RRN website that feeds into georeferenced global coral disease monitoring ▪ Replicate Mexican carrying capacity indicators to help reduce negative tourism impacts
<p>1.2 Develop a Regional Restoration Plan, including defining criteria for success, follow-up and training</p>	<ul style="list-style-type: none"> ▪ Site specific and national restoration strategies exist, but there is no regional strategy / plan ▪ The RRN includes the majority of experts in the region with the knowledge and experience to contribute towards a Regional Restoration Plan ▪ Reef restoration strategies are being included in some MPA management plans in the region ▪ Map and gather information on restoration sites in the region 	<ul style="list-style-type: none"> ▪ Develop a Regional Reef Restoration Strategy that can be adapted and adopted by each country to create national strategies ▪ Establish Technical Committees within the Network: <ul style="list-style-type: none"> ▪ Scientific Committee ▪ Communication, Financial Sustainability and Research Committees ▪ Develop an Advocacy Plan to position the RRN before CCAD. 	<ul style="list-style-type: none"> ▪ Develop a Regional Reef Restoration Strategy ▪ Assign people to ensure coordination and implementation of specific Strategy objectives ▪ Improve regional communication through use of CCAD, RRN, HRI and MAR Fund meetings ▪ Standardize terminology and protocols developed by the Scientific Committee ▪ Use the RRN website to actively share information

GOAL 1: STRENGTHEN REEF RESTORATION IN THE MAR REGION UTILIZING A COLLABORATIVE, INTERDISCIPLINARY APPROACH			
OBJECTIVES	CURRENT	PROPOSED	PRIORITIES
1.3 Promote innovative restoration techniques	<ul style="list-style-type: none"> Share and promote innovative restoration techniques at regional meetings Organizations are implementing on-site training and exchange programmes Training for sexual and asexual coral reproduction Pilot projects have been established in each country Work is being conducted on the genetics of coral restoration Organizations are producing manuals to share protocols, as are agencies in Florida 	<ul style="list-style-type: none"> Implement training opportunities through RRN members Increase number of exchanges for improved knowledge on coral restoration Establish a centralized database of information on restoration techniques, accessed through the RRN website Involve a wider range of people – fishers, tour guides, and integrate their information into database Integrate coral restoration into wider seascape ecosystem restoration initiatives 	<ul style="list-style-type: none"> Regional capacity building in successful innovative restoration techniques Seek collaborative private sector partnerships with those that have expertise in water management (e.g. aquaria / shrimp farms) Ensure supporting national policies are in place
1.4 Adopt emergency protocol for natural disasters by member countries.	<ul style="list-style-type: none"> All four countries have agreed to adopt an emergency protocol Belize has signed an agreement for the adoption of the emergency response protocol for natural disasters Mexico has adopted and is implementing the protocol, with trained brigades of volunteers ready to implement emergency response actions as part of its climate change programme Mexico is establishing parametric reef insurance for Puerto Morales to address emergency response to natural disasters 	<ul style="list-style-type: none"> Improved sharing / dissemination of emergency response protocols for natural disasters Expand reef insurance to other countries in the region the region 	<ul style="list-style-type: none"> All four countries to adopt and implement emergency protocols for natural disasters National RRN representatives to lobby for the adoption of emergency response protocols for natural disasters in their country, with the support from national members Advocate / Ensure supporting national policies are in place

GOAL 1: STRENGTHEN REEF RESTORATION IN THE MAR REGION UTILIZING A COLLABORATIVE, INTERDISCIPLINARY APPROACH			
OBJECTIVES	CURRENT	PROPOSED	PRIORITIES
<p>1.5 Create and standardize indicators for long-term monitoring of successful restoration</p>	<ul style="list-style-type: none"> ▪ Monitoring efforts are not standardized – each programme, project and country may have different monitoring protocols and indicators ▪ Belize is currently working on integrating photomosaics as a reef monitoring tool ▪ An initial database has been constructed but it's difficult to keep up to date because of the number of new restoration efforts being implemented 	<ul style="list-style-type: none"> ▪ Establish a Scientific Committee to establish clear definitions / terminology and regional protocols and indicators for reef restoration ▪ Develop an RCGI (Restored Coral Growth Index) of standardized restoration indicators across the region ▪ Include out-plant data, nursery health data, and use of photomosaics ▪ Potential to adapt the international standards for the practice of ecological restoration for marine environments (INAPESCA is currently working on this tool). ▪ Continue to gather information on current restoration efforts and disease control ▪ Develop standards for site selection ▪ Standardize reporting 	<ul style="list-style-type: none"> ▪ Continued support of regional meetings to bring experts together to work on standardizing regional indicators ▪ Prioritise development of an RCGI (Restored Coral Growth Index) of standardized restoration indicators across the region, with key, standardized indicators that can be used in every country and applied evenly, that are accepted and adopted by RRN members – and implemented ▪ Adapt the international standards for the practice of ecological restoration for marine environments ▪ Ratification of the Cartagena agreement by all countries in the MAR to more easily compare restoration outputs towards specific regional targets

GOAL 2: POSITION THE NETWORK AS THE REGIONAL, ADVISORY ENTITY FOR MARINE ECOSYSTEM RESTORATION			
OBJECTIVES	CURRENT	PROPOSED	PRIORITIES
2.1 Promote the strengthening of public policies in favour of the conservation or restoration of reef ecosystems, i.e. create an enabling environment	<ul style="list-style-type: none"> MAR Fund has conducted an analysis of policies across the region The RRN has not managed to reach governments in the region in the way the RRI has been 	<ul style="list-style-type: none"> Sensitization of government institutions Enable and strengthen local governments to establish and enact relevant policies Lobby for improved processing of permitting policies to enable rapid response actions Identify countries that have policies (Belize) and share through the MAR RRN in order to translate and push for adoption of similar policies in each country 	<ul style="list-style-type: none"> Identify countries that have policies (Belize) and share through the MAR RRN in order to translate and push for adoption of similar policies in each country Engage decision makers to push for the creation and adoption of these policies Support governments to identify and implement mechanisms to fill identified policy gaps
2.2 Promote the communication and exchange of information within the Network	<ul style="list-style-type: none"> The RRN website has been created and is being updated, with the engagement of a Network Coordinator The ListServ has not yet been established but will fall under the webpage / Network Coordinator. Exchanges have been conducted within and between countries for improving exchange on restoration activities 	<ul style="list-style-type: none"> An Executive Committee and members who are committed to ensuring timely communication Constant and open communication between RRN members by email Develop an RRN Communication Plan Hire a Communications Coordinator for coordinating implementation of the Communication Plan 	<ul style="list-style-type: none"> Develop and effectively implement an RRN Communication Plan Update information on the new Executive Committee on the RRN website Maintain an active, updated RRN website Linking the RRN website to other restoration relevant websites

GOAL 2: POSITION THE NETWORK AS THE REGIONAL, ADVISORY ENTITY FOR MARINE ECOSYSTEM RESTORATION			
OBJECTIVES	CURRENT	PROPOSED	PRIORITIES
2.3 Raise awareness on restoration activities, promoting an innovative and sustainable multidisciplinary approach	<ul style="list-style-type: none"> ▪ HRI report card presents information on reef health and monitoring outputs in an accessible format ▪ MAR Fund has developed communication materials for the network ▪ Mexico has State events for coral restoration ▪ Belize celebrates Reef Week ▪ Restoration communication / awareness models available in Florida 	<ul style="list-style-type: none"> ▪ Improved use of social media to reach younger audiences ▪ Take a multi-disciplinary approach, talking with people who are not necessarily associated with marine environment or reef restoration ▪ Ensure there is monitoring and evaluation of effectiveness of outreach strategies and activities 	<ul style="list-style-type: none"> ▪ Prioritize participation of new, up and coming organizations in exchanges and workshops ▪ Increase national education and awareness outreach at local, national and regional levels ▪ Improve the visibility and branding of the RRN – logo and overall appearance of the website
2.4 Consolidate the functioning of the Network through the conformation/standardization of the structure, statutes, etc.	<ul style="list-style-type: none"> ▪ The draft bylaws are under review and still to be adopted ▪ The RRN structure still needs to be endorsed by the members (now endorsed) ▪ The Biennial meetings are being implemented 	<ul style="list-style-type: none"> ▪ RNN members approve and adopt the bylaws (now adopted) ▪ Continue to hold biennial meetings ▪ Ensure constant and open communication between members 	<ul style="list-style-type: none"> ▪ Approved bylaws
2.5 Develop and implement a two-year Regional Action Plan for the Network	<ul style="list-style-type: none"> ▪ A 2-year Regional Strategic Plan has been developed and is under review 	<ul style="list-style-type: none"> ▪ RRN members approve and adopt the Regional Strategic Plan ▪ The Executive Committee leads implementation of the plan and monitors and evaluates progress 	<ul style="list-style-type: none"> ▪ Implement the approved Strategic Plan ▪ Assign people to ensure coordination and implementation of specific objectives and monitoring programmes

GOAL 3: DEVELOP A MODEL FOR NETWORK SELF SUFFICIENCY WITHIN TWO YEARS

OBJECTIVES	CURRENT	PROPOSED	PRIORITIES
<p>3.1 Develop and implement a fundraising/financing plan and strategies for leveraging additional resources to fund day-to-day operation of the Network as well as its work in reef restoration.</p>	<ul style="list-style-type: none"> ▪ The RRN currently has funding – but relies on one funder (MAR Fund) ▪ There is no in-house capacity / time availability in RRN for developing a financial sustainability plan 	<ul style="list-style-type: none"> ▪ Register the RRN as a legal entity to be able to apply for and receive funding ▪ Develop a Financial Sustainability Strategy for the RRN, identifying a series of financial sustainability options ▪ Develop mechanisms for financial resource management and mobilization ▪ Establish an endowment fund for the region, to build funds available for RRN members ▪ Include a regularly updated ‘funding opportunities’ section within the RRN website ▪ Link members to grant writer or people with grant writing experience to help with proposal development 	<ul style="list-style-type: none"> ▪ Register the RRN as a legal entity to be able to apply for and receive funding ▪ Develop and implement a financial sustainability Strategy for the RRN ▪ Seek funds as a Network for implementation of the Strategic Plan ▪ Engage new funding partners for a more diversified funding base ▪ Use of the Plan in leveraging funding for implementation

GOAL 4: MAINTAIN A BILINGUAL PLATFORM THAT COMMUNICATES RESTORATION EFFORTS IN THE MAR WITH PARTNERS AND OTHER INTERESTED ENTITIES			
OBJECTIVES	CURRENT	PROPOSED	PRIORITIES
4.1 Maintain and update bilingual website	<ul style="list-style-type: none"> ▪ The RRN website has been created and is being updated, with the engagement of a Network Coordinator. 	<ul style="list-style-type: none"> ▪ Continue to engage the Network Coordinator for maintenance of the RRN website ▪ Locate funding to maintain the website ▪ Create a members-only section specifically for members-only content ▪ Remind members each month to send updated content 	<ul style="list-style-type: none"> ▪ Maintenance of the website ▪ Linking the website to other restoration relevant websites, such as the reef resiliency network ▪ Improve the visibility and branding of the RRN – logo and overall appearance of the website ▪ Ensure the MAR RRN website is sufficiently attractive and active that it will be used by the RRN members and attract new members

REGIONAL PLANNING

ANALYSIS OF NATIONAL STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS FOR REEF RESTORATION INITIATIVES

Information on the status of reef restoration was collected and assessed for each of the four MAR countries through an activity implemented on the 10th October, 2019, as part of the Biennial meeting. RRN members worked in country groups, answering four specific questions, to guide initial group discussions (Annex 3). The groups were then asked to conduct a SWOT analysis to identify the strengths and weaknesses of reef restoration initiatives in their individual countries, as well as opportunities and threats to the work (Annex 4).

KEY QUESTIONS (ANNEX 3)

DO RESTORATION MANAGEMENT PLANS ALREADY EXIST IN EACH COUNTRY?

Summary: The four countries have no specific National Coral Restoration Strategies, plans or policies, but most have integrated restoration strategies into national planning documents and protected area management plans.

SHOULD WE MODIFY AND ADOPT THE ACROPORA RECOVERY PLAN (USA) TO THE MAR?

Summary: The general recommendation is that whilst the USA Acropora Recovery Plan is a good starting point, it would need to be adapted to the regional context and national capacities, budgets and technology. It would also need to be adapted to be relevant to different species and diseases.

WHO HAS DONE OR IS DOING RESTORATION PER COUNTRY, WHERE AND HOW?

Summary: All four countries have ongoing restoration projects – thirteen sites in Belize, several sites in Mexico, two pilot sites in Guatemala and two sites in Honduras.

IS THERE COORDINATION WITHIN COUNTRY TO DO RESTORATION? IF YES, WHO COORDINATES? IF NOT, SHOULD THERE BE SOMEONE WHO COORDINATES?

Summary: Two of the four countries (Belize and Guatemala), have coordination mechanisms within country, linked to the Government and bringing together NGOs and academia. The other two countries currently have no coordinating structures in place.

KEY RECOMMENDATIONS

The key recommendations have then been extracted from the SWOT assessment tables (Annex 4) for integration into the development of the MAR Regional Reef Restoration Plan, for the promotion of reef restoration, encouragement of complementary efforts and discussion of the resources needed for its implementation. The recommendations fall under a framework of five themes:

IMPROVED REGIONAL COMMITMENT, COMMUNICATION, COORDINATION

- Strengthen the Reef Restoration Network
- Develop the Regional Reef Restoration Strategic Plan and the SCTL D Action Plan
- Presentation of Regional Reef Restoration Strategic Plan and Action Plan to the Committee of Seas and Biodiversity and Ministers / CCAD (MAR2R) for adoption, high level commitment and replication across the region
- Present the Regional Reef Restoration Strategic Plan to the CCAD Network of Communicators
- Develop Regional Communication Strategy targeting improved communication and engagement across all governments and sectors
- Elevate the regional dialogue on reef restoration and SCTL D through the CE-CCAD, Committee of Seas and Biodiversity and Council of Ministers
- Engage the SG-SICA in the integration of reef restoration as part of the sustainable regional agenda of SICA
- Improve communication and coordination in the regional research community
- Develop an information-sharing platform for Coral Bleach and Disease Watches across the region

STANDARDIZED REGIONAL RESTORATION PROTOCOLS

- Standardized restoration language, indicators and monitoring across the region, disseminated across the region
- Use of larval dispersal models and recruitment levels to identify future restoration sites
- Regional and in-country trainings and exchanges to build capacity and transfer across the regions

IMPROVED REGIONAL FUNDING AND HUMAN RESOURCES

- Identify funding mechanisms and opportunities at the regional level and engage donors towards investment in reef restoration strategies and actions
- Engage private sector (particularly hotels, dive shops and divers) for scaling up successful restoration projects, and provide training for reef restoration and monitoring

IMPROVED INTEGRATION OF REEF RESTORATION INTO NATIONAL POLICIES AND PLANS

- Development and operationalization of national policies, regulations and plans
- Establish legal frameworks for restoration
- Integrate reef restoration into MPA management and monitoring plans

REDUCING THREATS

***NOTE:** Whilst these identified recommendations are required for improving the long term viability of the reef, it was recognized by the participants that many of these recommendations are beyond the scope of the RRN, and would be implemented most effectively through collaboration with organizations active in these areas*

- Regional collaboration for reducing plastic waste and addressing watershed impacts
- Regional protection of marine herbivores
- Regional collaboration towards reducing unsustainable fishing pressure
- Restoration of other ecosystems – mangroves, riparian forests
- Improve understanding and appreciation of the reef, and encourage good reef stewardship across all levels and sectors of society
- Inclusion of reefs and reef restoration in environmental education programmes

COMMUNICATION STRATEGY FOR THE NETWORK

The Reef Rescue Initiative has recently supported the Reef Restoration Network through the contracting of a Network Coordinator, Ximena Lizaola, for the revitalization of the Reef Restoration Network website. The website, hosted on Wordpress and currently under re-construction, will provide a bilingual platform for sharing of information on the Reef Restoration Network – the vision and mission, RRN members and ongoing projects. The structure of the re-designed website was shared, with discussion on a number of points:

- There needs to be input from members on the photographs / species of corals that should be used on the website, to ensure technical accuracy
- All photos used need to have permission from the photographer, with agreement on rights of use, with the inclusion of the photographer's name and date the photograph was taken
- Videos should be short – no more than 1-2 minutes, and should also be used to promote the Network on Facebook
- Potential for using the site to host a diploma course on reef restoration as a financial sustainability mechanism. To support this, the course programmes and structure would need to be attractive and the lecturers engaging
- A members' repository for sharing of relevant resources, manuals, plans, maps, databases
- The website is only as useful as those who use it – it needs active use of the website
- members' forum for exchange of publications, protocols and plans
- Integration of an environmental education area
- Links to other relevant websites, such as the Reef Resilience Network databases, maps,
- Sharing of opportunities for people to learn about and become more involved in reef restoration

A series of recommendations were presented by the Network Coordinator on next steps:

- Finalize the logo for the RRN
- Provide short bios on the Executive Committee
- Showcase the work of RRN members/ organizations
- Build the library of information available through the website
- Create webinars to promote conferences, courses, information, etc.
- Identify and implement financing strategies that can be implemented through the network, including on-line courses, restoration workshops, training in restoration and nursery management, nursery tours,
- Posting volunteer and intern opportunities, and environmental education campaigns
- Listserv tool or Gmail groups to maintain and improve communication between members and the Executive Committee, encouraging exchange of information, experiences, successes and lessons learnt

REEF RESTORATION EXPERIENCES IN THE MAR REGION

MEXICO: REEF RESTORATION EXPERIENCES IN MEXICO: ADVANCES AND CHALLENGES

Anastazia Banaszak

Universidad Nacional Autonoma de Mexico

The Instituto Nacional de Pesca y Acuicultura (INAPESCA) project started in 2009, focusing on two techniques for coral production: Clonal Propagation and Sexual Reproduction. The project has been developing the bio technology for clonal propagation in marine coral nurseries and land-based facilities towards increasing reef biomass in restoration sites. This has been achieved through out-planting of corals and coating coral skeleton and artificial structures with microfragments, increasing the number of healthy and genotypically diverse reef sites. The restoration sites are maintained by removal of algae, and reinforced by herbivory by king crabs, shown to improve restoration results. The next step is successful sexual reproduction of corals in the laboratory.

Between 2017-2019, this was expanded, with the production 71,055 corals of 14 different species, with 27,676 corals out-planted. 34 sites have been restored in 20 different reefs – just over 4 hectares of restored reef. The project goal is to produce and out-plant 265 million corals by 2022.

An alliance of organizations such as Oceanus A.C. and CEA and been working since 2013 towards reef restoration, developing protocols for restoration site-selection, management of nurseries and out-planting. This has been further strengthened by a private sector partnership with Iberostar through their Wave of Change Coral Restoration Programme, focused on Quintana Roo, and through the engagement of local communities, fishers, local hotels and tourism service providers.

Challenges being faced include SCTLD, the seasonal sargassum issues, declining water quality, the difficulty of obtaining permits, and limited funding. There are also issues of corals being stolen from nurseries, leading to a requirement for greater presence at the restoration sites.

For the future, three proposals are currently being prepared / submitted focusing on: 1) the rescue of three emblematic coral species at risk from SCTLD; 2) the establishment of genetic and germplasm banks for species affected by SCTLD; and 3) the establishment of Mexico's first germplasm bank for ex-situ conservation, using cryopreservation techniques for genetic banking.

HONDURAS: REEF RESTORATION EXPERIENCES IN HONDURAS

Tripp Funderburk

Bay Islands Reef Restoration Project

Coral restoration efforts in Honduras were started in 2016 by the Roatan Institute of Marine Science and continue to be managed primarily by NGO / private sector partnerships, with the adoption of restoration nurseries by dive resorts and individual dive shops. Dive guides are trained in nursery establishment and maintenance, and work towards reef restoration in their dive areas, with financial support from the resorts and assistance from their customers. International student groups assist with the restoration

efforts and local fishers are engaged to assist with maintenance of the restoration sites. This private sector participation has led to the creation of a replicable model for reef restoration efforts throughout the region.

BELIZE: STRENGTHENING SCIENCE-BASED REEF RESTORATION EFFORTS IN BELIZE AND MEXICO WITH EXCHANGE SITE VISITS

Lisa Carne

Fragments of Hope

Fragments of Hope has been strengthening science-based reef restoration efforts in Belize and Mexico through exchange site visits in 2018 and 2019, with 22 participants from the four countries of the MAR region sharing experiences, expertise and lessons learned. The two trips included in-water visits to restoration sites in Belize and Mexico, with discussions on genetics, micro-fragging, direct out-planting of elkhorn and pillar corals, coral growth, threats (including coral bleaching and disease), foraging scars by honeycomb cowfish, and the use of photomosaics for improving monitoring of success.

GUATEMALA: A PILOT PROJECT FOR CORAL RESTORATION IN THE GUATEMALAN CARIBBEAN

Ana Giro

Healthy Reefs Initiative

The Healthy Reefs Initiative has been piloting reef restoration in Honduras, focusing on representative key reef-building species important to Guatemala – *Orbicella* sp. and *Agaricia tenuifolia*. The project had two project components – one biological, the other social. 16 nurseries have been built and installed, 8 in Foudara and 8 in Cabo Tres Puntas, and a total of 239 coral fragments have been seeded and distributed across the two sites. The restoration work has engaged fishers and educational institutions for active participation in installation of the nurseries and in the reef restoration activities, with the development of training modules and manuals.

The results of the project showed a low fragment survival rate – less than 20%, as a result of damage to the nurseries, theft of the fragments and the high algal growth at the site. Lessons learnt included that while the equipment used was simple and economic, the site locations were far from the coast, increasing logistical costs, especially with the need for frequent maintenance to prevent overgrowth by algae. Sites selection needs to take into account a range of factors such as turbidity, human activity, algal cover etc. and the importance of knowledge of the species selected for restoration, to ensure they are suitable for the site and restoration focus. Data from the Healthy Reefs Initiative and its MAR Data Explorer platform can assist in finding resilient reef sites and source populations. Also identified was the critical importance of engaging and empowering communities in the conservation and management of the restoration sites, for the sustainability of any project that requires installation of materials in the field. The monitoring outputs can be used to ensure improvement of future restoration activities, and to answer questions at the regional level, to improve reef management and understand which reefs are resilient, improving the potential appeal for investment in reef restoration.

PLENARY DISCUSSION

The national presentations were wrapped up with a discussion plenary, with a number of comments and recommendations being made in response to the information being shared.

- It's important to know who's doing what and where. The HRI / AGRR database has been developed to identify where restoration is happening, but the information needs to be constantly updated to keep it current if it is to track in mapping form who is doing what and where. The 2017 database of restoration practitioners developed by CEA during the preparation for the 1st Biennial Meeting has some of this information, which can be updated.
- It would be useful to develop guiding criteria for the region on what makes a good out-planting site, from successes, failures and lessons learned across the region.
 - Whilst methods for growing and out-planting corals may be different for different sites, the selection criteria should be standardized
 - Training (both one on one and face to face), and exchange trips and workshops / meetings that bring all those with experience and knowledge together is critically important for developing and disseminating the basic criteria
 - Site selection criteria are on the Fragments of Hope website – it is important to do out-plant site selection before preparing the nursery. It has been possible to eliminate the nursery stage and out-plant directly with some species.
- Does the network have a standard coral restoration monitoring plan?
 - Mexico is developing a monitoring tool that will look at the measurable structure and external factors of out-planting sites such as water quality, coral cover and species, and looks at how reefs change with human intervention, want to include 3D photo and monitoring for faster ID
 - There are language barriers in the region and globally – not just Spanish / English, but also in the need for clear definitions as to what terms mean – for example, how big is a 'site'. There will continue to be issues and challenges with restoration and measuring success if there is no standardized language
 - This can also be an issue with applying for permits, if terms such as 'fragments' are not well defined

SPECIAL PRESENTATIONS

MAR2R PROJECT: SCOPE AND ADVANCES

Carlos Rodriguez Olivet

MAR2R

An overview was provided of the Integrated Transboundary Ridges-to-Reef Management of the Mesoamerican Reef (MAR2R) project, being overseen by the CCAD, in collaboration with the MAR Ministerial Council and the WWF-GEF Agency, and many regional partners (including SICA, CARICOM, CCAD, OSPESCA, SITCA, COSEFIN, CEPREDENAC, CECC, OEA, CRRH, SEMARNAT, and CLME+).

The MAR2R / CCAD project seeks to “contribute to the conservation and sustainable use of shared freshwater, coastal and marine resources of the transboundary MAR ecoregion by implementing the ridge to reef approach and hence securing sustainable economic benefits and livelihoods for the countries and their communities”. It seeks to “consolidate regional coordination and capacities for a harmonized approach to the management of the ecoregion through the strengthening of CCAD to lead and bring together the environmental authorities of the four MAR countries towards a common goal.”

The project is designed to support the national priorities of the four countries. It has four components: 1) Strengthen resource governance and regional collaboration for integrated ridge to reef management in the MAR; 2) Integrated ridge to reef management of watersheds and freshwater resources; 3) Integrated ridge to reef management of coastal and marine resources; 4) Project monitoring and evaluation, and knowledge sharing. Priority sites have been identified based on key transboundary watersheds, divided into three tiers, with Priority 1 sites identified as the Río Chamelecón (Honduras), Río Hondo (Belize, Guatemala and Mexico), and Río Motagua (Guatemala and Honduras).

REEF NETWORK DOMINICAN REPUBLIC

Someira Zambrano

Red Arrecifal Dominiqua

The Dominican Reef Network (Red Arrecifal Dominicana; RAD) is a coral reef conservation alliance of organizations and individuals in the Dominican Republic, established to promote and share scientific data and information on reef restoration. It started as a scientific initiative to pilot coral reef restoration in 1994, and by 2015 was monitoring reef health, with the production of its first annual report on the state of coral reefs. In 2016, the RAD was established, six founding members and 18 active members, with a decision-making Board of Directors, and a collaborative agreement with the Ministry of Environment and Natural Resources. It also encourages ‘allies’ willing to contribute through volunteer support from dive centres, schools and communities

Members are committed to: 1) Identify research, conservation and regulatory priorities; 2) Facilitate communication; 3) Improve financing mechanisms; 4) Institutional strengthening; 5) Defining the RAD strategic agenda, programmes, projects and identifying cooperative initiatives; and 6) Providing technical, logistical and informative support.

Financial sustainability of the organization is a key challenge. It has support for coordination from The Nature Conservancy (TNC), but operating costs such as the annual meeting, working groups and educational projects are not covered. RAD applies for funds with its members, and is also about to embark on the development of a Financial Plan, with the establishment of mechanisms such as an optional membership fee and fundraising events as potential revenue generation options.

The RAD Strategic Plan identifies priorities towards maintaining the functions, services and values of the reef ecosystems, under four thematic areas: 1) Conservation and Monitoring (National Reef Health Programme; Tools for parrotfish protection; SCTLD Commission); 2) Education and Communications (National and regional exchanges; Education Program; National Reef Day; Communication Strategies; Art); 3) Management (protection of key species, National Fishing Strategy, certifications; strengthening technical capabilities, co-management of Arrecifes del Sureste Marine Sanctuary) 4) Restoration (Guidelines for coral nursery management; Improvement of lab-based coral sexual and asexual reproduction; Coral transplant event). This Strategic Plan guides the development of the Annual Operating Plan and budget.

In 2019, RAD activities include the installation of 205 structures over 23 sites, and a survivorship of 92%. The three labs work with 6 species and 45 genotypes. There is National Evaluation Tool (Lirman et al., 2018) and a Nursery Evaluation Manual (Cortés-Useche et al., 2019) to improve monitoring of success.

POST-STORM EMERGENCY RESPONSE ACTIONS FOR REEFS IN THE MAR REGION

Claudia Ruiz and Calina Zepeda

MAR Fund

The 2019 TNC-supported Early Warning and Rapid Response Protocol was presented, identifying actions to mitigate the impacts of tropical cyclones on the reef, with recommended primary and secondary response actions and an organizational structure including a Coordinating Committee and First Responders for implementation. Primary Response actions were summarised, with the training of First Responders in implementing the different stages of the protocol, from Assessment to Clean up, and Reef First Aid. Secondary Responses were also covered for fragment rescue and ongoing assistance to marine protected area managers in the maintenance and monitoring of nurseries and reef rehabilitation areas. In Mexico, First Responders were drawn from volunteers active in the tourism industry, researchers, reef managers and fishermen.

ANALYZING FUNDING OPPORTUNITIES FOR THE NETWORK AND A REGIONAL RESTORATION PLAN

Claudio González

MAR Fund

The presentation focused on the need for financial sustainability of the RRN and the implementation of the RRN Reef Restoration Plan, and the various mechanisms available and potential funding partners that may be accessible for supporting the Network. It identified how this fits within the larger MAR Fund strategy and programmatic activities, identifying MAR Fund's Reef Rescue Initiative as the overarching

programme currently providing support for the RRN through its Reef Rescue grants, and the criteria for projects. Other potential reef restoration funders were also highlighted, including the International Coral Reef Initiative (ICRI), the NOAA Coral Reef Conservation Program and the Integrated Management “From the Basin to the Reef” of the Mesoamerican Reef Ecoregion (MAR2R). Relevant international foundations and multilateral organizations and programmes were also identified. However, RRN needs a proactive Network coordinator who can connect with these funding organizations and work with the Network members to develop proposals if it is to move forward successfully with implementation of the Regional Restoration Plan.

ANNEX ONE: PARTICIPANTS

9th October, 2019

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ANNEX TWO: AGENDA

Second Biennial Meeting Reef Restoration Network of the MAR Region 9th and 10th October, 2019

Belize City

Meeting Objectives:

1. To exchange information about advances and challenges in current restoration projects within the four MAR countries.
2. To present the Network's Bylaws.
3. To present the MAR Restoration Network's Strategic Plan, developed by the Executive Committee in 2018.
4. To develop a MAR Regional Plan to promote reef restoration, encourage complementary efforts and discuss the resources needed for its implementation.
5. To advance the election process for the 2019-2021 Executive Committee.

October 9th

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|---------------|--|
| 08:15 – 08:45 | Registration |
| 08:45 - 09:15 | Welcome, meeting objectives and agenda (Facilitator) <ul style="list-style-type: none">▪ Beverly Wade. Fisheries Department▪ Anastazia Banaszak, President, Network Executive Committee |
| 09:15 - 09:30 | Presentation of participants (Facilitator) |
| 09:30 – 10:00 | Introduction <ul style="list-style-type: none">▪ The Reef Rescue Initiative. Claudia Ruiz/MAR Fund▪ The Reef Restoration Network. Gaby Nava/Oceanus▪ Summary results and agreements of the 2017 Biennial Meeting. Hector Lizarraga/CEA |

Coffee Break (10:00 -10:15)

- | | |
|---------------|--|
| 10:15 - 11:30 | Reef Restoration experiences in the MAR Region <ul style="list-style-type: none">▪ México: Anastazia Banaszak▪ Honduras: Tripp Funderburk▪ Belize: Lisa Carne▪ Guatemala: Ana Giro▪ 10 min for Q&A (Facilitator) |
| 11:30-12:00 | Advances of the Network 2017-2019. <ul style="list-style-type: none">▪ Presentation of the Network Bylaws. Anastazia Banaszak. President EC Network |

Lunch (12:00-13:30)

13:30-14:00 Presentation of the MAR Restoration Network's Strategic Plan. Ian Drysdale.

14:00-15:00 Group work: Identification of synergies that contribute to implementation of the Network Strategic Plan and next steps.

Coffee Break (15:00 -15:15)

15:15-16:00 Group presentations on discussion outputs.

16:00-16:45 **Special presentations:**

- MAR2R Project: scope and advances. Carlos Rodriguez
- Reef Network Dominican Republic
- Post-Storm Emergency Response actions for reefs in the MAR region. Claudia Ruiz MAR Fund. Calina Zepeda

16:45-17:00 Conclusions of the day & logistical announcements. Facilitators: Zoe Walker and Lisa Carne.

October 10th

08:30 - 09:00 Summary Day 1. Ian Drysdale
Expected results for Day 2. Zoe Walker

09:00 – 09:20 Recap of the results of the STCLD joint session (tbd)

09:20 – 10:00 Presentation on MAR Regional Restoration Plan. Anastazia Banaszak/UNAM

Coffee Break (10:00 -10:15)

10:15 - 11:30 Group work and discussion: MAR Regional Plan to promote reef restoration, encourage complementary efforts and discuss the resources needed for implementation.

11:30 – 12:00 Group presentations and discussion of outputs. (Facilitator)

Lunch (12:00 - 13:30)

13:30 - 14:00 Analyzing funding opportunities for the Network and a Regional Restoration Plan. Claudio González/MAR Fund

14:00 - 14:30 Communication strategy for the Network. Ximena Lizaola. Network Coordinator

14:30 - 14:45 Achievements of Outgoing Committee

14:45 – 15:00 Election of Executive Committee 2019-2021. Facilitator: Claudia Ruiz, MAR Fund

Coffee Break (15:00 -15:15)

- 15:15 – 16:00 Election of Executive Committee 2019-2021. Facilitator: Claudia Ruiz-MAR Fund
- 16:00 – 16:30 Main conclusion and agreements of the meeting.
Facilitator: Zoe Walker
- 16:30 Closing words Adriel Castañeda Fisheries Department.
- 17:00 Group photo: Jezyka González & Carlos Gereda

ANNEX 3: KEY QUESTION OUTPUT, SWOT ANALYSIS

DO RESTORATION MANAGEMENT PLANS ALREADY EXIST IN EACH COUNTRY?

Summary: *The four countries have no specific National Coral Restoration Strategies, plans or policies, but most have integrated restoration strategies into national planning documents and protected area management plans.*

Belize: A National Coral Reef Restoration Policy exists, but is not a legal document

Mexico: There is currently no national restoration management plan for Mexico.

- It is important to make a start in identifying the sites and current / proposed projects, to be able to focus the support where it is needed.
- There is a climate change adaptation program which mentions restoration actions
- There is an SCTL D Action Plan that mentions restoration actions
- The Cancun reef management program has a climate change component that includes restoration actions.
- The relevant actions identified in these individual plans should be extracted for integration into a national restoration management plan.
- There is a need to identify who has permits and for what, for which species, for inclusion in the management plan
- *Acropora* restoration is short term, other species require much longer
- There is a need to increase protection of those species vulnerable to SCTL D

Guatemala: There are relevant plan in place, though these are not specifically for restoration:

- National Climate Change Action Plan
- Protected Area management plans
- National Determined Contributions
- Mangrove Restoration Plan
- National Strategy for the Reduction of Emissions from Destruction and Degradation of Forests (REDD)
- Fisheries Legislation
- National Coastal Marine Policy (an opportunity)
- National Strategy for Disaster Reduction
- National Climate Change Adaptation Plan
- National Plan for Biological Diversity (2011-2020)
- Decree 68-86 Environmental Protection and Improvement

Honduras: There are no management plans specifically for coral reef restoration, but restoration is being included in the new management plan for the PINMB as part of the research component

- National Strategic Plan for Coral Restoration in Honduras – this needs to be adopted by the ICF, with the addition of a strategic restoration plan for each protected area with a management plan.

SHOULD WE MODIFY AND ADOPT THE ACROPORA RECOVERY PLAN (USA) TO THE MAR?

Summary: *The general recommendation is that whilst the USA Acropora Recovery Plan is a good starting point, it would need to be adapted to the regional context and national capacities, budgets and technology. It would also need to be adapted to be relevant to different species and diseases.*

Belize: The existing USA Acropora Recovery Plan can be used as a guide to develop Belize's multi species restoration and recovery plan

Mexico: Both the existing USA Acropora Recovery Plan and the Hawaii Plan can be reviewed and adapted for Mexico, and the MAR region as a whole

Guatemala: The existing USA Acropora Recovery Plan is not considered functional for the region (different budget, technology, species, and diseases). It would need to be adapted to reflect the context of the region

Honduras: The USA Acropora Recovery Plan could be adopted, but would need to be adapted based on the needs in Honduras, and the different requirements of other, non-USA coral species.

WHO HAS DONE OR IS DOING RESTORATION PER COUNTRY, WHERE AND HOW?

Belize: LBC, GSSCMR, TAMR, SWCMR, Moho Caye, False Caye, Tarpon Caye, Coral Caye, Tobacco Caye, Blackbird Caye, Calabash Caye, Gladden. Whipray caye. Nurseries and outplants in the same locations

Mexico: Restoration sites are mapped

Guatemala: HRI y FUNDAECO implemented a pilot project on Cabo Tres Puntas (RVSPM) and Foudara using coral fragments of *Agaricia* and *Porites*.

Honduras -There are restoration projects being implemented in Cayos Cochincos (ACER), Roatan (APAL, ACER, AGAR PAST) and Utila (ACER and APAL).

IS THERE COORDINATION WITHIN COUNTRY TO DO RESTORATION? IF YES, WHO COORDINATES? IF NOT, SHOULD THERE BE SOMEONE WHO COORDINATES?

Belize: Yes through the restoration network and the Belize Fisheries Department.

National Coral Reef Monitoring Network

Mexico: Not...it is proposed that the coordinator should be the Mexican representative on the MAR network

Guatemala: The authority is MARN which works through CONAP in collaboration with the NGOs and academia

Honduras: No one coordinates, establish a committee in country with co-managements.

REVIEW OF CONTRIBUTING ACTIONS TOWARDS THE IMPLEMENTATION OF THE RRN STRATEGIC PLAN				
GOAL 1: STRENGTHEN REEF RESTORATION IN THE MAR REGION, UTILIZING A COLLABORATIVE, INTERDISCIPLINARY APPROACH				
1.1 EXPAND THE HRI DIAGNOSIS ON THE STATE OF THE MAR TO INCLUDE ADDITIONAL ELEMENTS				
CURRENT ACTIONS	PROPOSED ACTIONS	CHALLENGES	OPPORTUNITIES	PRIORITIES
<ul style="list-style-type: none"> ▪ HRI continues to conduct monitoring across the region on coral reef health, with local partners. ▪ Individual restoration groups are also collecting data on coral reef health on their restoration sites. ▪ AGRRA does collect coral specific information. ▪ Data on water quality are being collected sporadically by organizations on each country. ▪ Current monitoring efforts cover macroalgae, herbivores, commercial fish, coral cover, with partners collecting data and reports issued on an annual / biennial basis ▪ Monitoring of coral bleaching 	<ul style="list-style-type: none"> ▪ Add strategic sites within the HRI monitoring that are doing restoration efforts. ▪ Add coral specific data needs that need to be monitored for other (non-AGGRA) methodologies. ▪ Add connectivity measurements within restoration sites, countries and as a region. ▪ Add socio-economic factors, mangroves and seagrass monitoring ▪ Improved monitoring of water quality ▪ Add monitoring of tourism impacts ▪ Develop standards for monitoring site selection ▪ Standardize reporting ▪ Establish a Scientific Committee to establish clear definitions / terminology and regional indicators for reef restoration 	<ul style="list-style-type: none"> ▪ Funding gaps ▪ Information gaps. ▪ Number and availability of experts and trained monitoring teams in the region ▪ No regionally standardized methodologies/protocols ▪ Need for improved coordination of effort ▪ Difficulties in identifying and differentiating coral diseases ▪ Need to be able to quantify bleaching ▪ Requirement for improved sharing of (and willingness to share) information, research within each country and across the MAR ▪ No clear mechanisms for defining carrying capacity for management of reef sites 	<ul style="list-style-type: none"> ▪ HRI could be a platform for inclusion of identified additional monitoring protocols, if equipment, logistical support and manpower is available. ▪ Mangrove and seagrass networks already have monitoring protocols that could be adopted ▪ Identification of local partners that can be responsible for monitoring of individual indicators ▪ Monitoring of marine megafauna (MAR Alliance) ▪ Identify indicators that can be used to define carrying capacities ▪ Learn from experiences in Florida, but test in the region ▪ In-region expertise for conducting a regional workshop for monitoring using photomosaics 	<ul style="list-style-type: none"> ▪ Develop a Regional Action plan on how to report diseases ▪ Develop a regional disease reporting platform on the RRN website that feeds into georeferenced global coral disease monitoring ▪ Replicate Mexican carrying capacity indicators to help reduce negative tourism impacts

GOAL 1: STRENGTHEN REEF RESTORATION IN THE MAR REGION, UTILIZING A COLLABORATIVE, INTERDISCIPLINARY APPROACH

1.2 DEVELOP A REGIONAL RESTORATION PLAN, INCLUDING DEFINING CRITERIA FOR SUCCESS, FOLLOW-UP AND TRAINING

CURRENT ACTIONS	PROPOSED ACTIONS	CHALLENGES	OPPORTUNITIES	PRIORITIES
<ul style="list-style-type: none"> ▪ Site specific and national restoration strategies exist, but there is no regional strategy / plan ▪ The RRN includes the majority of experts in the region with the knowledge and experience to contribute towards a Regional Restoration Plan ▪ Reef restoration strategies are being included in some MPA management plans in the region 	<ul style="list-style-type: none"> ▪ Develop a Regional Reef Restoration Strategy or recommended strategies that can be adapted and adopted by each country to create national strategies ▪ Establish Technical Committees within the Network: <ul style="list-style-type: none"> ▪ Scientific Committee ▪ Communication, Financial Sustainability and Research Committees ▪ Develop an Advocacy Plan to position the RRN before CCAD. ▪ Map and gather information on restoration sites in the region ▪ Use the RRN website (members only portal) to share techniques, provide regular updates, share newsletters 	<ul style="list-style-type: none"> ▪ A regional strategy needs to be flexible / adaptable as each country has its own challenges, ▪ Limited availability of funding for meetings to develop the Regional Reef Restoration Strategy and associated national strategies ▪ Rapidly changing context of climate change and disease impacts 	<ul style="list-style-type: none"> ▪ The Regional Strategy and National Strategies can be used to support funding applications ▪ Ensure integration of strategies into site level management plans for MPAs ▪ Willingness of RRN members to share experiences ▪ Success stories in the region ▪ Include Reef Restoration in national climate change policies ▪ Willingness of (some) Government agencies to be involved in national strategy development ▪ Using climate change as the platform to leverage funding and expedite work ▪ Development of agreements for collaboration 	<ul style="list-style-type: none"> ▪ Develop a Regional Reef Restoration Strategy ▪ Assign people to ensure coordination and implementation of specific objectives and monitoring programmes ▪ Improve regional communication through use of CCAD, RRN, HRI and MAR Fund meetings and virtual meetings ▪ Ensure that the terminology and protocols developed by the Scientific Committee ▪ Engage Governments for increased participation in development and implementation of national reef restoration strategies ▪ Capacity building at all levels

GOAL 1: STRENGTHEN REEF RESTORATION IN THE MAR REGION, UTILIZING A COLLABORATIVE, INTERDISCIPLINARY APPROACH

1.3 PROMOTE INNOVATIVE RESTORATION TECHNIQUES

CURRENT ACTIONS	PROPOSED ACTIONS	CHALLENGES	OPPORTUNITIES	PRIORITIES
<ul style="list-style-type: none"> ▪ Use regional meetings as opportunities to share and promote innovative restoration techniques ▪ Organizations are implementing on-site training and exchange programmes ▪ Training for sexual and asexual coral reproduction ▪ Pilot projects have been established in each country ▪ Work is being conducted on the genetics of coral restoration ▪ Organizations are producing manuals to share protocols, as are agencies in Florida 	<ul style="list-style-type: none"> ▪ Implement training opportunities through RRN members ▪ Increase number of exchanges for improved knowledge sharing coral restoration ▪ Establish a centralized database of information on restoration techniques, accessed through the RRN website ▪ Involve a wider range of people – fishers, tour guides, and integrate their information into database ▪ Integrate coral restoration into wider seascape ecosystem restoration initiatives 	<ul style="list-style-type: none"> ▪ Funding for publications, meetings and workshops for sharing information on innovative techniques ▪ Replicating protocols in different environmental conditions ▪ Rapidly changing context of climate change and disease impacts ▪ Dealing with species susceptible to diseases such as SCTLD ▪ Regulation and enforcement of restoration sites – issues of people taking nursery and newly out-planted corals ▪ Work tends to be opportunistic dependent on funding availability and need ▪ Upscaling - need to be able to move from coral restoration to ecosystem restoration 	<ul style="list-style-type: none"> ▪ Potential for the RRN website to act as an information portal ▪ Take a multidisciplinary and inclusive approach to restoration - widen communication network to include people involved in restoration of seagrass and mangrove ecosystems 	<ul style="list-style-type: none"> ▪ Capacity building in the region in successful innovative restoration techniques ▪ Seek collaborative partnerships with aquaria / shrimp farms that have expertise in water management ▪ Flexibility to adjust approaches ▪ Ensure supporting national policies are in place

GOAL 1: STRENGTHEN REEF RESTORATION IN THE MAR REGION, UTILIZING A COLLABORATIVE, INTERDISCIPLINARY APPROACH

1.4 ADOPT EMERGENCY PROTOCOLS FOR NATURAL DISASTERS BY MEMBER COUNTRIES

CURRENT ACTIONS	PROPOSED ACTIONS	CHALLENGES	OPPORTUNITIES	PRIORITIES
<ul style="list-style-type: none"> ▪ All four countries have agreed to adopt an emergency protocol ▪ Belize has signed an agreement for the adoption of the emergency response protocol for natural disasters ▪ Mexico has adopted and is implementing the protocol, with trained brigades of volunteers ready to implement emergency response actions as part of its climate change programme ▪ Mexico is establishing parametric reef insurance for Puerto Morales to address emergency response to natural disasters 	<ul style="list-style-type: none"> ▪ Improved sharing / dissemination of emergency response protocols for natural disasters ▪ Expand reef insurance to other countries in the region the region 	<ul style="list-style-type: none"> ▪ Some countries are still to adopt emergency response protocols for natural disasters ▪ Limited trained personnel in some countries for emergency response ▪ Limited available funding for emergency response actions ▪ Extensive studies are required of reefs to understand their value for insurance purposes 	<ul style="list-style-type: none"> ▪ Information sharing through MAR Fund and other regional meetings, and the RRN website ▪ Interest in potential for establishing a reef insurance framework in other countries 	<ul style="list-style-type: none"> ▪ All four countries to adopt and implement emergency protocols for natural disasters ▪ National RRN representatives to lobby for the adoption of emergency response protocols for natural disasters in their country, with the support from national members ▪ Ensure supporting national policies are in place

GOAL 1: STRENGTHEN REEF RESTORATION IN THE MAR REGION, UTILIZING A COLLABORATIVE, INTERDISCIPLINARY APPROACH

1.5 CREATE AND STANDARDIZE INDICATORS FOR LONG-TERM MONITORING OF SUCCESSFUL RESTORATION

CURRENT ACTIONS	PROPOSED ACTIONS	CHALLENGES	OPPORTUNITIES	PRIORITIES
<ul style="list-style-type: none"> ▪ Monitoring efforts are not standardized – each programme, project and country may have different monitoring protocols and indicators ▪ Belize is currently working on integrating photomosaics as a monitoring tool ▪ An initial database has been constructed but it's difficult to keep up to date because of the new restoration efforts being implemented 	<ul style="list-style-type: none"> ▪ Establish a Scientific Committee to establish clear definitions / terminology and regional protocols and indicators for reef restoration ▪ Develop an RCGI (Restored Coral Growth Index) of standardized restoration indicators across the region ▪ Include out-plant data, nursery health data, and use of photomosaics ▪ Potential to adapt the international standards for the practice of ecological restoration for marine environments (INAPESCA is currently working on this tool). ▪ Continue to gather information on current restoration efforts and disease control 	<ul style="list-style-type: none"> ▪ Egos, turf protectionism, funds, agreements between Governments all result in difficulty in reaching consensus ▪ Narrowing down to specific indicators that are effective at providing a measure of restoration success ▪ Adding additional indicators to current monitoring programmes, or scaling up the scope of monitoring will be challenged by human and financial resource availability ▪ Overload of monitoring information that is not being communicated effectively to the database manager ▪ Need for improved communication between the Executive Committee and members ▪ Need for long term funding across the region to ensure continuity 	<ul style="list-style-type: none"> ▪ Many restoration projects / practitioners in the region ▪ The RRN can bring members together for acceptance and adoption of standardized regional indicators ▪ Use of new technology – photomosaics, drones and image analysis programmes – to capture and analyse reef images 	<ul style="list-style-type: none"> ▪ Continued support of regional meetings to bring experts together to work on standardizing regional indicators ▪ Prioritise development of an RCGI (Restored Coral Growth Index) of standardized restoration indicators across the region, with key, standardized indicators that can be used in every country and applied evenly, that are accepted and adopted by RRN members – and implemented ▪ Adapt the international standards for the practice of ecological restoration for marine environments ▪ Ratify Cartagena, regional to more easily compare restoration outputs towards specific regional targets

GOAL 2: POSITION THE NETWORK AS THE REGIONAL, ADVISORY ENTITY FOR MARINE ECOSYSTEM RESTORATION

2.1 PROMOTE THE STRENGTHENING OF PUBLIC POLICIES IN FAVOR OF THE CONSERVATION OR RESTORATION OF REEF ECOSYSTEMS

CURRENT ACTIONS	PROPOSED ACTIONS	CHALLENGES	OPPORTUNITIES	PRIORITIES
<ul style="list-style-type: none"> ▪ An analysis of policies across the region has been conducted by MAR Fund ▪ The RRN has not managed to reach governments in the region in the way the RRI has been able to 	<ul style="list-style-type: none"> ▪ Sensitization of government institutions ▪ Enable and strengthen local governments to establish and enact relevant policies ▪ Lobby for improved processing of permitting policies to enable rapid response actions ▪ Identify countries that have policies (Belize) and share it through the MAR RRN in order to translate and push for adoption of these in each country 	<ul style="list-style-type: none"> ▪ Government permitting systems are different in each country ▪ Many gaps in public policies and differences between countries ▪ Limited government funding, ▪ Limited / lack of interest of governments ▪ Egos, ▪ Limited / no mechanism in place to advocate for the creation of these policies ▪ Few / no RRN members are experienced at lobbying at government level 	<ul style="list-style-type: none"> ▪ The MAR Fund analysis has identified important gaps and next steps towards strengthening the policy environment ▪ There is government representation as part of the RNN 	<ul style="list-style-type: none"> ▪ Identify countries that have policies (Belize) and share it through the MAR RRN in order to translate and push for adoption of these in each country ▪ Engage decision makers in a position to push for the creation and adoption of these policies ▪ Support for the governments to identify and implement mechanisms to fill in the identified policy gaps

GOAL 2: POSITION THE NETWORK AS THE REGIONAL, ADVISORY ENTITY FOR MARINE ECOSYSTEM RESTORATION

2.2 PROMOTE THE COMMUNICATION AND EXCHANGE OF INFORMATION WITHIN THE NETWORK

CURRENT ACTIONS	PROPOSED ACTIONS	CHALLENGES	OPPORTUNITIES	PRIORITIES
<ul style="list-style-type: none"> ▪ The RRN website has been created and is being updated, with the engagement of a Network Coordinator. ▪ The ListServ has not yet been established but will fall under the webpage. ▪ Exchanges have been conducted within and between countries for improving exchange on restoration activities 	<ul style="list-style-type: none"> ▪ The Executive Committee and members should be committed to ensuring timely communication ▪ There should be constant and open communication between RRN members by email ▪ Develop an RRN Communication Plan ▪ Hire a Communications Coordinator for coordinating implementation of the Communication Plan ▪ Ensure continuation of the RRN 	<ul style="list-style-type: none"> ▪ Bilingual region ▪ Time commitments of individual members 	<ul style="list-style-type: none"> ▪ Use of social media ▪ RRN website as a platform for communication and exchange of information ▪ Fragments of Hope currently has an extensive collection of presentations and information from experts but there needs to be a mechanism in place for sharing them ▪ Engagement of new RRN Network coordinator 	<ul style="list-style-type: none"> ▪ Develop and effectively implement a Communication Plan ▪ Update information on the new Executive Committee on the RRN website ▪ Maintaining an active, updated RRN website ▪ Linking the RRN website to other restoration relevant websites

GOAL 2: POSITION THE NETWORK AS THE REGIONAL, ADVISORY ENTITY FOR MARINE ECOSYSTEM RESTORATION				
2.3 RAISE AWARENESS OF RESTORATION ACTIVITIES, PROMOTING AN INNOVATIVE AND SUSTAINABLE MULTIDISCIPLINARY APPROACH				
CURRENT ACTIONS	PROPOSED ACTIONS	CHALLENGES	OPPORTUNITIES	PRIORITIES
<ul style="list-style-type: none"> ▪ HRI report card presents information on reef health and monitoring outputs in an accessible format ▪ MAR Fund has developed communication materials for the network ▪ Mexico has State events for coral restoration ▪ Belize celebrates Reef Week ▪ Restoration communication / awareness models available in Florida 	<ul style="list-style-type: none"> ▪ Improved use of social media to reach younger audience ▪ Take a multi-disciplinary approach, talking with people who are not necessarily associated with marine environment or reef restoration ▪ Ensure there is monitoring and evaluation of effectiveness of outreach strategies and activities 	<ul style="list-style-type: none"> ▪ Ensuring small organizations have opportunities to participate ▪ The selection process of participants in restoration activities should be more inclusive ▪ Limited public engagement - local communities should be more engaged and participatory in restoration efforts. ▪ Knowing how to communicate effectively with different groups 	<ul style="list-style-type: none"> ▪ Social media is free 	<ul style="list-style-type: none"> ▪ Prioritize participation of new, up and coming organizations in exchanges and workshops ▪ Increase national education and awareness outreach at local, national and regional levels ▪ Improve the visibility and branding of the RRN – logo and overall appearance of the website
2.4 CONSOLIDATE THE FUNCTIONING OF THE NETWORK THROUGH THE CONFORMATION/STANDARDIZATION OF THE STRUCTURE, STATUTES, etc.				
CURRENT ACTIONS	PROPOSED ACTIONS	CHALLENGES	OPPORTUNITIES	PRIORITIES
<ul style="list-style-type: none"> ▪ The draft bylaws are under review and still to be adopted ▪ The RRN structure still needs to be endorsed by the members ▪ The Biennial meetings are being implemented 	<ul style="list-style-type: none"> ▪ RNN members approve and adopt the bylaws ▪ Continue to hold biennial meetings ▪ Ensure constant and open communication between members 	<ul style="list-style-type: none"> ▪ Members are not always prepared for meetings, and haven't read meeting notes or literature (including the bylaws) 	<ul style="list-style-type: none"> ▪ The current biennial meeting 	<ul style="list-style-type: none"> ▪ Approved bylaws

GOAL 2: POSITION THE NETWORK AS THE REGIONAL, ADVISORY ENTITY FOR MARINE ECOSYSTEM RESTORATION

2.5 DEVELOP AND IMPLEMENT A TWO-YEAR REGIONAL ACTION PLAN FOR THE NETWORK

CURRENT ACTIONS	PROPOSED ACTIONS	CHALLENGES	OPPORTUNITIES	PRIORITIES
<ul style="list-style-type: none"> ▪ A 2-year Regional Strategic Plan has been developed and is under review 	<ul style="list-style-type: none"> ▪ RRN member approve and adopt the Regional Strategic Plan ▪ The Executive Committee leads implementation of the plan and monitors and evaluates progress 	<ul style="list-style-type: none"> ▪ Members are not always prepared for meetings, and haven't read meeting notes or literature (including the Strategic Plan) ▪ The Executive Committee members are already fully committed with their own activities, and need to be able to find time to lead implementation of the Strategic Plan 	<ul style="list-style-type: none"> ▪ The draft Strategic Plan is ready for review and approval ▪ Socialization of the Strategic Plan through this activity 	<ul style="list-style-type: none"> ▪ Approved Strategic Plan ▪ Implementation of the Strategic Plan ▪ Assign people to ensure coordination and implementation of specific objectives and monitoring programmes ▪ Use of the Plan in leveraging funding for implementation

GOAL 3: DEVELOP A MODEL FOR NETWORK SELF-SUFFICIENCY WITHIN TWO YEARS

3.1 DEVELOP AND IMPLEMENT A FUNDRAISING/FINANCING PLAN AND STRATEGIES FOR LEVERAGING ADDITIONAL RESOURCES TO FUND DAY-TO-DAY OPERATION OF THE NETWORK AS WELL AS ITS WORK IN REEF RESTORATION

CURRENT ACTIONS	PROPOSED ACTIONS	CHALLENGES	OPPORTUNITIES	PRIORITIES
<ul style="list-style-type: none"> ▪ The RRN currently has funding – but relies on one funder (MAR Fund) ▪ There is no in-house capacity / time availability in RRN for developing a financial sustainability plan 	<ul style="list-style-type: none"> ▪ Register the RRN as a legal entity to be able to apply for and receive funding ▪ Develop a Financial Sustainability Strategy for the RRN, identifying a series of financial sustainability options ▪ Develop mechanisms for financial resource management and mobilization ▪ Establish an endowment fund for the region, to build funds available for RRN members ▪ Include a regularly updated ‘funding opportunities’ section within the RRN website ▪ Link members to grant writer or people with grant writing experience to help with proposal development 	<ul style="list-style-type: none"> ▪ The RRN relies on a single funder ▪ There are no diversified financial sustainability mechanisms in place ▪ RRN needs a substantial model and knowledge to develop a savvy and complete financial plan for self-sustaining ▪ Engaging long term funding partners ▪ Finding a member who is willing to lead this – or the funds to hire someone with the capacity to lead this on behalf of the Network 	<ul style="list-style-type: none"> ▪ MAR2R is a new regional funding initiative ▪ Organizations can provide matching funds ▪ Highlight RNN members’ activities and successes to improve access to funding opportunities and recognition by governments 	<ul style="list-style-type: none"> ▪ Register the RRN as a legal entity to be able to apply for and receive funding ▪ Develop a financial sustainability Strategy for the RRN ▪ Seek funds as a Network for implementation of the Strategic Plan ▪ Engage new funding partners for a more diversified funding base

GOAL 4: MAINTAIN A BILINGUAL PLATFORM THAT COMMUNICATES RESTORATION EFFORTS IN THE MAR WITH PARTNERS AND OTHER INTERESTED ENTITIES				
4.1 MAINTAIN AND UPDATE BILINGUAL WEBSITE				
CURRENT ACTIONS	PROPOSED ACTIONS	CHALLENGES	OPPORTUNITIES	PRIORITIES
<ul style="list-style-type: none"> ▪ The RRN website has been created and is being updated, with the engagement of a Network Coordinator. 	<ul style="list-style-type: none"> ▪ Continue to engage the Network Coordinator for maintenance of the RRN website ▪ Locate funding to maintain the website ▪ Create a members-only section specifically for members-only content ▪ Remind members each month to send updated content 	<ul style="list-style-type: none"> ▪ Bilingual region ▪ Obtaining member updates ▪ Funding for content creation 	<ul style="list-style-type: none"> ▪ The RRN has a Network Coordinator contracted for 6 months ▪ Social media ▪ Use the reef resiliency group’s experience to update and translate the info 	<ul style="list-style-type: none"> ▪ Maintenance of the website ▪ Linking the website to other restoration relevant websites, such as the reef resiliency network ▪ Improve the visibility and branding of the RRN – logo and overall appearance of the website ▪ Ensure the MAR RRN website is sufficiently attractive and active that it will be used by the RRN members and attract new members

ANNEX 4: SWOT ANALYSIS OUTPUT TABLES

REGIONAL STRENGTHS			
COUNTRY	STRENGTHS	NATIONAL PRIORITIES TO BUILD ON STRENGTHENS	POTENTIAL OPTIONS FOR SCALING UP TO THE REGION
BELIZE	<ul style="list-style-type: none"> ▪ Restoration experience and success (quantity, increased coral cover, spawning) ▪ National Coral Reef Monitoring Network ▪ Collaborators/network with restoration practitioners ▪ In-country capacity building ▪ Community capacity ▪ Good environmental conditions ▪ Low population ▪ Media access ▪ Government support 	<ul style="list-style-type: none"> ▪ Building sustainable financing ▪ Increasing training opportunities ▪ Developing and adopting a Restoration Policy and Plan 	<ul style="list-style-type: none"> ▪ Standardized monitoring ▪ Standardized restoration language ▪ Standardized restoration indicators ▪ Use larval dispersal models and recruitment levels to identify future restoration sites
MEXICO	<ul style="list-style-type: none"> ▪ Restoration Experience ▪ Management using different techniques ▪ Students are engaged and participating at all levels ▪ There is engagement of participants from multiple sectors 	<ul style="list-style-type: none"> ▪ Developing and adopting a Reef Restoration Management Plan ▪ Integrating the presence of SCTL D into management and monitoring activities and protocols ▪ Improved coordination 	<ul style="list-style-type: none"> ▪ Capacity building training in countries / with organizations elsewhere in the region with less experience
GUATEMALA	<ul style="list-style-type: none"> ▪ Master plans will include the theme of restoration ▪ Guatemala has existing models for restoration plans (mangroves) ▪ National / global commitments related to the environment – SDGs ▪ Ban on parrotfish extraction ▪ Multi-organization collaboration and effort ▪ Intersectoral Alliance for the Conservation of Coastal Marine Resources in Guatemala 	<ul style="list-style-type: none"> ▪ SDGs have identified priorities for each issue related to SDG 14 A 1, Commitment 1512 ▪ The protected area master plans must be updated to integrate reef restoration strategies, approved and implemented 	<ul style="list-style-type: none"> ▪ Regional Restoration Network ▪ MAR2R will present the regional action plan to the Committee of Seas and Biodiversity and Ministers / CCAD ▪ Factsheet to explain the main guidelines of restoration work for site selection, monitoring, permits

REGIONAL STRENGTHS			
COUNTRY	STRENGTHS	NATIONAL PRIORITIES TO BUILD ON STRENGTHENS	POTENTIAL OPTIONS FOR SCALING UP TO THE REGION
HONDURAS	<ul style="list-style-type: none"> ▪ Management plans in the PINMB ▪ Have 14 co-managers with good transfer of information ▪ Knowledgeable and experienced people managing the restoration projects ▪ Highest coral coverage in the region (HRI) ▪ Existence of network ▪ Good relations with dive shops, with many of them engaged and participating ▪ NO SCTLTD yet ▪ Existence of Zolitur for restoration ▪ Effective management of the MPAs 	<ul style="list-style-type: none"> ▪ Legal framework for coral restoration ▪ Standardize the monitoring process for restoration 	<ul style="list-style-type: none"> ▪ Existence of the CCAD as a mechanism through which activities can be replicated across the regional ▪ Funding mechanisms through MPA or a model

IDENTIFIED AREAS IN NEED OF STRENGTHENING			
COUNTRY	WEAKER AREAS	NATIONAL PRIORITIES TO STRENGTHEN THESE AREAS	SCALING UP TO THE REGION
BELIZE	<ul style="list-style-type: none"> ▪ Prioritization of restoration ▪ Coordination across Belize ▪ Primarily focused on acroporids – there is a need to expand to other species 	<ul style="list-style-type: none"> ▪ Incorporate reef restoration into management and monitoring plans for MPAs, ▪ Communication strategy (target improved government coordination across sectors), ▪ Secure funding, mechanism through the network to encourage government/private sector communication, under the plan ▪ Implement more trials on different species 	<ul style="list-style-type: none"> ▪ Communication strategy that engages government and private sector ▪ Integrating restoration into management plans.
MEXICO	<ul style="list-style-type: none"> ▪ Presence of SCTL ▪ Difficulty of obtaining permits ▪ Theft of coral fragments ▪ Lack of public policies ▪ Poor tourism practices ▪ Limited funding – the Government has cut national budgets for science and research 	<ul style="list-style-type: none"> ▪ Training ▪ Environmental education ▪ Funding ▪ Engagement of all sectors 	<ul style="list-style-type: none"> ▪ Exchange of experiences across the region ▪ Capacity building across the region ▪ Seeking funds at the regional level
GUATEMALA	<ul style="list-style-type: none"> ▪ Guatemala has no Action Plan for addressing SCTL ▪ There is dispersed effort with duplication and limited coordination 	<ul style="list-style-type: none"> ▪ Development and operationalization of national policies, regulations and plans 	<ul style="list-style-type: none"> ▪ Development of a Regional Action Plan to address SCTL

IDENTIFIED AREAS IN NEED OF STRENGTHENING			
COUNTRY	WEAKER AREAS	NATIONAL PRIORITIES TO STRENGTHEN THESE AREAS	SCALING UP TO THE REGION
HONDURAS	<ul style="list-style-type: none"> ▪ Currently there is no federal funding and no sustainable financing ▪ No National Plan ▪ Not enough in-country capacity (science and marine biology) ▪ No research or partners ▪ Lack of infrastructure ▪ There are no restoration efforts focused on identifying where to outplant ▪ All the data is based on HRI ▪ There is no baseline data, and minimal monitoring of outplants ▪ Honduras does not recognize the importance of reefs to the country ▪ Lack of community involvement 	<ul style="list-style-type: none"> ▪ More linkages among partners within the Network in terms of research 	<ul style="list-style-type: none"> ▪ More linkages among partners within the Network in terms of research

REGIONAL OPPORTUNITIES			
COUNTRY	OPPORTUNITIES	NATIONAL PRIORITIES TO ACCESS THESE OPPORTUNITIES	SCALING UP TO THE REGION
BELIZE	<ul style="list-style-type: none"> ▪ Ecosystem restoration (crabs, diadema, sponges, fish biomass), ▪ Sites for in water rescue nurseries, ▪ Build on regional collaborations, ▪ Expand reef rescue, capitalize on F ▪ Funding opportunities for restoration, targeting youth 	<ul style="list-style-type: none"> ▪ Ecosystem level restoration – herbivores ▪ Expanding reef rescue sites ▪ Strengthening collaborations 	<ul style="list-style-type: none"> ▪ More regional exchanges
MEXICO	<ul style="list-style-type: none"> ▪ Mexico’s commitment to implement coral restoration strategies, through its commitments made during the New York climate change summit 	<ul style="list-style-type: none"> ▪ Improved organization and coordination 	
GUATEMALA	<ul style="list-style-type: none"> ▪ Adapt the experiences of Mexico, Belize and USA (MPA Connect) to develop the National Action Plan ▪ Potential for a regional demonstration project for addressing SCTL D through the MAR2R project ▪ Development of the National Action Plan supported by MAR2R ▪ Development of a Communication plan (SCTL D and Restoration) ▪ Creation of an Institutional / Integral Training Program 	<ul style="list-style-type: none"> ▪ Development of the National Action Plan ▪ Demonstration project associated to the National Action Plan 	<ul style="list-style-type: none"> ▪ Elevate the regional dialogue on reef restoration and SCTL D through the CE-CCAD, Committee of Seas and Biodiversity and Council of Ministers ▪ Engage the SG-SICA in the integration of reef restoration as part of the sustainable regional agenda of SICA ▪ Present the Regional Action Plan to the CCAD Network of Communicators

REGIONAL OPPORTUNITIES			
COUNTRY	OPPORTUNITIES	NATIONAL PRIORITIES TO ACCESS THESE OPPORTUNITIES	SCALING UP TO THE REGION
HONDURAS	<ul style="list-style-type: none"> ▪ A legal framework for restoration management in the country ▪ Marketing of the Bay Islands attracts many visitors who might be interested in supporting or participating in restoration activities. ▪ Restoration activities require manpower and these visitor participation programs can generate income for associated communities and fishers ▪ Promotion of restoration opportunities through tourism ▪ Maintain reef health and genetic diversity in country ▪ Social Media!!! ▪ Environmental education ▪ Sexual reproduction of corals and recruitment 	<ul style="list-style-type: none"> ▪ Establishing a local restoration network in Honduras ▪ Inclusion of reefs and reef restoration in environmental education programmes ▪ Establish the legal framework for restoration and include it in the MPA plans ▪ Learn new restoration techniques through the RRN 	<ul style="list-style-type: none"> ▪ Reach out to international partners to see if they want to expand their support / activities to Honduras ▪ Teaching dive shops, train the trainer methods to scaling up and expanding ▪ More exchanges between the MAR countries, but also in country

REGIONAL THREATS AND CHALLENGES			
COUNTRY	THREATS / CHALLENGES	NATIONAL PRIORITIES TO ADDRESS THREATS / CHALLENGES	REGIONAL PRIORITIES - SCALING UP
BELIZE	<ul style="list-style-type: none"> ▪ Climate Change ▪ Hurricanes ▪ Disease ▪ Unsustainable practices ▪ Lack of prioritizing restoration, ▪ Regional impacts - water quality and fishing (both in Belize and transboundary) 	<ul style="list-style-type: none"> ▪ Monitoring and selecting thermally tolerant corals ▪ Implement reef rescue, disease plan for SCTLTD, ▪ Fisherman involvement in restoration and monitoring activities 	<ul style="list-style-type: none"> ▪ Implement more regional initiatives that include restoration ▪ CLiP: Commonwealth Litter Program – will address cruise ship garbage ▪ Belize has a Marine Litter Action Plan through CLiP ▪ National policy addressing litter – includes strategies to address garbage issues, both in Belize and neighbouring countries
MEXICO	<ul style="list-style-type: none"> ▪ Difficulties in coordinating meetings to develop the Reef Restoration Management and Coordination plan 	<ul style="list-style-type: none"> ▪ 1st meeting is scheduled for the 1st November, 2019 	
GUATEMALA	<ul style="list-style-type: none"> ▪ Financing ▪ Institutional weaknesses ▪ Lack of inter-institutional and intersectoral coordination ▪ Lack of protected area governance ▪ Lack of private sector involvement 	<ul style="list-style-type: none"> ▪ Workshops for coastal marine issues ▪ Environmental Justice Forum 	<ul style="list-style-type: none"> ▪ Regional exchanges

REGIONAL THREATS AND CHALLENGES			
COUNTRY	THREATS / CHALLENGES	NATIONAL PRIORITIES TO ADDRESS THREATS / CHALLENGES	REGIONAL PRIORITIES - SCALING UP
HONDURAS	<ul style="list-style-type: none"> ▪ Potential for SCTL ▪ Poor sewage management ▪ Water Quality needs to improve ▪ Limited efforts to restore other associated ecosystems ▪ Overfishing ▪ Uncontrolled growth of the diving industry ▪ No federal funding for MPA management ▪ Lack of manpower and succession ▪ Lack of herbivores such as diademas required for recovery 	<ul style="list-style-type: none"> ▪ Central and local governments need to learn and understand the value of the marine resources ▪ Plan for the recovery of wetlands needs to be drafted 	<ul style="list-style-type: none"> ▪ SCTL ▪ Coral Bleach watch ▪ Regional ratification of LBS ▪ Alternative livelihoods for fishers