PROCEEDINGS OF THE BELIZE MARINE FUND 1ST BIENNIAL CONFERENCE







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Belize Biltmore Plaza

Belize City

October 7th, 2019

ACRONYMS

BAS Belize Audubon Society

BFD Belize Fisheries Department

BMF Belize Marine Fund

BTIA Belize Tourism Industry Association

BV Blue Ventures

CZMAI Coastal Zone Management Authority and Institute

EPI Ecology Projects International

FoH Fragments of Hope

FUNDAECO Foundation for Eco-development and Conservation

GCFI Gulf and Caribbean Fisheries Institute

HRI Healthy Reefs Initiative

MAR Mesoamerican Reef

MARFUND Mesoamerican Reef Fund

MPA Marine Protected Area

NCRMN National Coral Reef Monitoring Network

PACT Protected Areas Conservation Trust

SACD Sarteneja Alliance for Conservation and Development

SCTLD Stony Coral Tissue Loss Disease

SEA Southern Environment Association

SPTOA San Pedro Tour Operators Association

TASA Turneffe Atoll Sustainability Association

TNC The Nature Conservancy

TIDE Toledo institute for Development and Environment

UB-ERI University of Belize - Environmental Research Institute

WCS Wildlife Conservation Society

WWF World Wildlife Fund

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Acknowledgments go to:

The marine conservation organizations and people who participated in the 1st Belize Marine Fund Biennial Conference, both as presenters and as the audience, to discuss key topics of marine conservation and marine protected area management - and to share knowledge and expertise in these areas.

Thanks also go to the OAK Foundation and the MAR Fund, for their support of the Conference.





EXECUTIVE SUMMARY

The primary objective of the Belize Marine Fund (BMF) is to provide long-term financial sustainability for addressing high-priority marine resources management and conservation issues in Belize for greater impact throughout the Mesoamerican Reef Eco-region. Over the last two years the BMF has been supporting key initiatives through investments in collaboration with its marine conservation partners in Belize, in four key thematic areas:

Theme 1: Effective Marine Protected Areas Contributing Towards a Functional National Protected Areas System

Theme 2: Reduced Pressures on Marine Resources

Theme 3: Effective Marketing of Belize's Reef at National and International Levels

Theme 4: Innovation in Financial Sustainability

The Belize Marine Fund 1st Biennial Conference was held on October 7th, 2019, to share the successes of the BMF's partners through its investments in these thematic areas, as well as the experiences and lessons learned. It brought together fifty participants from twenty-four key organizations, funding agencies, civil society, and government representative's active in the marine conservation field in Belize. The Conference focused on a format that mixed presentations with encouraging discussions and feedback, with fifteen presentations divided by the three thematic areas of the BMF Strategic Plan, and a fourth topic focusing on financial sustainability.

This document provides an overview of conference proceedings, providing summaries of the presentations and capturing the discussions on pressing issues affecting marine resources management in Belize and across the Mesoamerican Reef (MAR) eco-region. The report also highlights key areas of intervention, synergies and learning, as well as identifying strategic priorities and potential for new partnerships / investments.

BACKGROUND

The Belize Marine Fund (BMF) 1st Biennial Conference, held on the 7th October, 2019 at the Biltmore Plaza in Belize City, was designed to share the successes of the BMF's investment and that of its implementing partners in the thematic areas outlined in the BMF Strategic Plan (2019 – 2021). These thematic areas include investment in fisheries management, coral reef conservation and restoration, enhanced MPA management, the protection of keystone species, and youth stewardship in conservation management. It also provided an opportunity to discuss options for financial sustainability – a challenge for the majority of protected area managers in Belize.

The Conference brought together fifty participants from twenty-four key organizations, funding agencies, civil society, and government representatives, providing a platform for raising the profile of the BMF and its partners, as well as a forum for sharing experiences and lessons learned, and showcasing outputs and outcomes that have been achieved to date.

The BMF has also been following emerging topics and environmental issues with implications for the entire Mesoamerican Reef (MAR) system to identify other critical investments required for marine resource management in Belize and the MAR.

The Belize Marine Fund (BMF) was established with the support of the Oak Foundation, through a US\$10 Million endowment challenge grant to MAR Fund. Though the US\$10 Million gift is contingent on the MAR Fund raising an additional US\$15 Million, US\$500,000 is being made available annually by Oak Foundation for marine conservation for the five-year challenge period (2016-2021)—whilst the MAR Fund raises the matching funds.



BELIZE MARINE FUND 1ST BIENNIAL CONFERENCE

Biltmore Hotel, Belize City

7th October, 2019

AGENDA

- 8:45 Welcome and Opening Remarks
- 9:00 Theme 1: Effective Marine Protected Areas Contributing Towards a Functional National Protected Areas System

Strategic Area: Improved Management Effectiveness of Marine Protected Areas across the National Seascape

- Wildtracks: Overview of Management Effectiveness of the Marine Protected Areas in Belize
- Southern Environmental Association: Increasing Effectiveness of Sustainable Marine Resource Use and Management
- MarAlliance: Monitoring Marine Mega-Fauna for Enhanced Management Effectiveness

9:30 Panel Discussion

10:00 Theme 2: Reduced Pressures on Marine Resources

Strategic Area: Increased Climate Change Resilience

- Fragments of Hope: Reef Restoration in Southern Belize
- World Wildlife Fund: Resilience Analysis of Belize Protected Areas System to Climate Change

10:30 Panel Discussion

10:45 Coffee Break

11:00 Strategic Areas: Effective Implementation of Managed Access and Sustainable Income Diversification Opportunities for Fishers/Fishing Communities

- Belize Audubon Society: Promoting Sustainable Fishing Practices
 Within Lighthouse Reef Atoll—Implementing Managed Access
- Wildlife Conservation Society: Prescribing Biologically Meaningful Control Measures to Benefit Small-Scale Fisheries in Belize
- The Nature Conservancy: Sustainable Seaweed Production in Belize
- 11:30 Panel Discussion
- 12:00 Lunch
- 1:00 Introduction to the Afternoon Session
- 1:15 Theme 3: Effective Marketing of Belize's Reef at National and International Levels

Strategic Area: Improved Stewardship and Support at Local and National Levels

- Belize Audubon Society: Building Capacity of Fishing Community Youths in Northern Belize through the Reef Protector's Program
- **Ecology Project International:** Engaging Belizean Youth as the Next Generation of Conservation Leaders
- Sea to Shore Alliance: Manatees in Belize—An Endangered Species
- Oceana: Raising National Awareness of and Support for the Belize Reef
- 1:45 Panel Discussion
- 2:15 Coffee Break
- 2:30 Theme 4: Innovation in Financial Sustainability
 - **FUNDAECO:** Innovations in the Region
 - Turneffe Atoll Sustainability Association: Exploring Blue Carbon at Turneffe

- The Nature Conservancy: Innovations through Impact Investment
- 3:15 Panel Discussion
- 4:00 Conference Wrap Up and Next Steps
- 5:00 Closing Remarks
- 5:15 Meeting Ends

PROCEEDINGS OF THE

BELIZE MARINE FUND 1ST BIENNIAL CONFERENCE

7th October, 2019

WELCOME ADDRESS



Nayari Diaz- Perez Executive Director Protected Area Conservation Trust Belize

Today is a momentous occasion for the Mesoamerican Reef Fund as we host the first ever Belize Marine Fund Biennial Conference.

As most of you may know, the Belize Marine Fund (BMF) is a MAR Fund Program established in 2016 with the support of Oak Foundation. The Program's objective is to support long term financial sustainability for

addressing high priority marine resource management and conservation issues in Belize; with the larger purpose of creating greater impact through the Mesoamerican Reef Eco-region.

With donor support and the commitment of our implementing partners, the BMF is providing funding support for strategic conservation, restoration, and sustainable use initiatives in Belize through targeted and small grants. A small grant request for proposals is currently open and the specifics may be found on the MAR Fund website. The deadline for this year's Request for Proposals is October 11th. We anticipate that this grant cycle will see a set of new projects that will build on the outcomes of our previous projects as well as on the successes of other programs financed by our donor partners.

This Conference provides a platform for broader discussions among conservation partners and practitioners, mostly grantees of the BMF, on how we can continue to move ahead in addressing marine resource management issues in Belize. It is also envisioned that from these discussions we may identify areas of synergies among partners and collaborators for shared interventions and possible shared financial support in moving key actions forward.

We are very pleased with the 3-year, \$1.15 million Targeted Investments recently committed by PACT for targeted actions in five marine protected areas within the Belize Barrier Reef System, in addition to on-going investment commitments the Trust already has in place for other marine protected areas.

These are inputs that support the BMF's contribution and collectively have the potential to leverage additional support from other partners who share the goal of sustainable management of marine resources.

Hence, today's forum is important for setting the framework for how the BMF and partners – donors and grantees alike – can strategically align efforts for collective impact. The recently developed BMF strategic plan identified three key strategic thematic areas:

- 1) Improved management effectiveness of marine protected areas across the national seascape
- 2) Reduced pressures on the marine resources
- 3) Effective marketing of Belize's reef at national and international levels.

These overarching themes will frame today's panels and conversations, as we learn of the results and advanced achieved to date in the program.

I invite your full participation in today's proceedings and on behalf of the MAR Fund and PACT as Belize's member fund, I welcome you all to the BMF's 1st Biennial Conference!

Nayari Diaz- Perez Executive Director Protected Area Conservation Trust Belize

PRESENTATIONS



THEME 1: EFFECTIVE MARINE PROTECTED AREAS CONTRIBUTING TOWARDS A FUNCTIONAL NATIONAL PROTECTED AREAS SYSTEM

Strategic Area: Improved Management Effectiveness of Marine Protected Areas across the National Seascape

- ASSESSING PROTECTED AREA MANAGEMENT EFFECTIVENESS
- INCREASING THE EFFECTIVENESS OF SUSTAINABLE MARINE RESOURCE USE AND MANAGEMENT IN SEA'S CO-MANAGED PROTECTED AREAS
- MONITORING MEGAFAUNA FOR ENHANCED MANAGEMENT EFFECTIVENESS AT TURNEFFE ATOLL, BELIZE

ASSESSING PROTECTED AREA MANAGEMENT EFFECTIVENESS

Zoe Walker

Wildtracks

ASSESSING PROTECTED AREA MANAGEMENT EFFECTIVENESS

The Belize Marine Fund has, as its vision "Improved status of marine resources in Belize, contributing towards increased health and resilience of the Mesoamerican Reef, strengthening ecosystem services for the benefit of all stakeholders". One of the key tools for achieving this is ensuring that Belize has effective marine protected areas that contribute towards a functional National Protected Areas System — a system that maintains ecosystem services, biodiversity viability and provides socio-economic benefits. The evaluation of management effectiveness at national level is critical for identifying management areas that are in need of strengthening, guiding investments

to ensure that funding is going where it is needed. It highlights management strengths and weaknesses, capacity-building requirements across the system, and identifies exactly where investments will be most effective. In 2019, Belize is conducting the first national assessment in 10 years, to provide an in-depth look at how the National Protected Areas System is performing, using a revised management effectiveness tool that aligns indicators to both national and international targets.

Question: In management plans, conservation targets always seem to be species focused – how can ecosystem services be better integrated into assessments?

Response: Conservation targets are focused on those species or ecosystems that represent the values of the protected area. Where these are ecosystem services, for example water security, the targets would be focused on the tropical forest and riverine systems within the protected area. Where there are key users, such as fishers, a target would focus on commercial fish species, to ensure that socio-economic benefits and support of livelihoods are taken into consideration.

Question: Has the attitude towards management effectiveness assessment changed over the 10 years?

Response: Protected area managers are taking management effectiveness much more seriously, and seeing it as a tool for identifying areas that require increased investment of time, human resources and funding in an environment challenged by climate change, unsustainable fishing and other pressures, to improve outcomes.

Question: Where is the funding coming from for implementing the management effectiveness assessment?

Response: The management effectiveness assessment has been identified as a national priority, with funding allocation from three sources – the Protected Areas Conservation Trust, Selva Maya / KfW and the Belize Marine Fund.

Question: How many protected areas are on the IUCN Green List?

Response: Belize currently has no protected areas recognized under the IUCN Green list. However, a number of protected areas have been identified as potentially Green List-ready. As part of the assessment, protected area managers were asked to indicate whether they were considering applying for recognition, and an assessment of readiness is being included in the outputs for these protected areas. Funding partners such as KfW will be using the Green List as an indicator as to where to invest to ensure they are supporting protected areas that have been shown to be effective. Certification is an incountry process led by the Forest Department.

Question: What was identified as the most critical investment needs for Belize's protected areas?

Response: Two areas stand out – the need for protected areas to be able to establish financial sustainability mechanisms, and the need to have an active presence in the protected areas – feet on the ground (or in the water).

INCREASING THE EFFECTIVENESS OF SUSTAINABLE MARINE RESOURCE USE AND MANAGEMENT IN SEA'S CO-MANAGED PROTECTED AREAS

Deidra Mahler

Southern Environmental Association (SEA)

Improved stakeholder relationships are critical for improving compliance towards effective protected area management. The Southern Environmental Association received funding from the Belize Marine Fund for improvement of boundary recognition and awareness enhancement of protected area regulations and legislation. This resulted in 612 patrols, 67 encounters with fishermen through boat to boat engagements, and 12 arrests. The improved stakeholder communication and engagement led to a 15% improvement in compliance, and with 25% of reports coming from the marine users. Improved communication with fishers does result in information that can improve strategic decision making for effective surveillance and enforcement, though the information received from resource users needs to be filtered to ensure the correct information is used in decision making.

Question: How do you measure compliance?

Response: The Southern Environmental Association looks at the figures and trends over the past years, including the number of arrests, before and after implementing boat to boat engagement and outreach. There has been a reduction in the number of arrests since the implementation of boat to boat as a strategy.

MONITORING MEGAFAUNA FOR ENHANCED MANAGEMENT EFFECTIVENESS AT TURNEFFE ATOLL, BELIZE

Estela Requena

MarAlliance

Megafauna – the sharks, rays, turtles and finfish – are charismatic flagship species that are important to the region's economy. The presence of large charismatic predators with long generation times is indicative of healthy ecosystems. They reflect the same threats as other indicator



Increasing the effectiveness of sustainable marine resource use and

Protected Areas

management in SEA's co-managed

species. Identifying mega-faunal species that are particularly vulnerable to pressures can provide important information on the health of the ecosystems on which they rely, supporting evidence based decision-making. MarAlliance is investigating how consistent monitoring can provide data for informing management decisions, based on species abundance and size change over time, using size at maturity as a benchmark. The organization has been studying megafauna at Turneffe Atoll, establishing a baseline and implementing standardized monitoring every three years to provide information on if and how populations of megafauna are recovering following the establishment and protection of Turneffe as a

marine protected area. Sampling station and deep sea reference points have been established, developing information on use of the Atoll by different species. Initial data points to sharks predominantly using the east side of the Atoll, with low populations composed of largely immature individuals. Groupers and snappers are more often found near popular dive sites on the south west of the Atoll.

THEME 2: REDUCED PRESSURES ON MARINE RESOURCES

Strategic Area: Increased Climate Change Resilience

- FRAGMENTS OF HOPE: REEF RESTORATION IN SOUTHERN BELIZE
- CLIMATE-SMARTING MARINE PROTECTED AREAS AND COASTAL MANAGEMENT IN THE MESOAMERICAN REEF

FRAGMENTS OF HOPE: REEF RESTORATION IN SOUTHERN BELIZE

Lisa Carne

Fragment of Hope (FoH) Placencia

It has been estimated that the Belize barrier reef prevents damages estimated at more than US\$9 million a year, in its protection of coastal waters, livelihoods and communities,



through reduced wave action — particularly during storm events. Fragments of Hope has been successfully restoring reefs at Laughing Bird Caye National Park, returning live coral cover from 6% to 50% in restoration areas. FoH maps potentially resilient acroporids that demonstrate thermal tolerance surviving in shallow water sites during the hottest months. These provide host and symbiont starter stocks, with multiple genets out-planted in close proximity at restoration sites. Long term monitoring of out-planted sites provides data on growth, survival, spawning activity and changes in % live coral cover. Traditional reef monitoring protocols do not provide all the information necessary for measuring success, so FoH is turning to innovative photomosaic technology to measure coral cover change over time, and autonomous reef monitoring structures biodiversity in reef restoration areas and non-restoration areas to compare biodiversity. The continued, largely unmitigated flow of pollutants from the watersheds is a major impactor on the health of the reef. The forging of collaborations between the agencies involved in reef restoration to strengthen action in the region has also been challenging, and is critical if restoration is going to be successful.

Question: How is the new disease – Stony Coral Tissue Loss Disease (SCTLD) - impacting Belize?

Response: It has the potential to have a huge negative impact on the reefs in Belize. It affects the large structural corals and has a high mortality rate...and currently there are no treatments or ways of stopping it from spreading through Belize.

Question: How are you able to prevent people from destroying patches of corals you have taken years to restore?

Response: Reefs are a key attraction for Belize tourism, and important to the economy. Tour guides are very well aware of visitor impacts and their need to minimize these and many reef guides are involved in reef restoration activities. Tourism impacts are not the biggest issue. Even focusing on restoration of more resilient corals, reef restoration is not able to address the impacts of climate change. It is just a 'Band-Aid' that buys us time in the hope that the global community will implement change. However, if you look at tourism in the region, people are going to places without coral and fish, just to lie on the beach. There is immense value to Belize's intact natural resources, and marketing to attract smaller numbers of people willing to pay a little more should be considered – those who appreciate the values of the reef - rather than trying to engage the masses. It may reduce the number of visitors, but will increase long term benefits.

CLIMATE-SMARTING MARINE PROTECTED AREAS AND **COASTAL MANAGEMENT IN THE MESOAMERICAN REEF**

Roberto Pott

World Wildlife Fund (WWF)

Climate change is impacting Belize in many ways, with

hurricanes, coral bleaching from increasing water temperatures, increasing coastal erosion. It is a global issue that can seem over whelming, but what can we do about climate change locally? Belize needs more effective adaptation solutions - communities, businesses and governments are looking for ways to increase resilience--recognizing the value of ecosystem-based solutions. The MPA Resilience Analysis can help to identify marine protected areas system (MPAS) that can cope with climate change through a 10 step resilience process that focuses on fisheries and tourism. The assessment identifies indicators for ecological and physical parameters, and an assessment of ecosystem services. The key target group is coastal communities – those that will benefit most from increased adaptive capacity, but also engages marine protected areas, local, national and regional authorities, and the private sector. The outputs provide information and knowledge, providing support for decision making, as well as strengthening capacities and coordination in the national seascape.

Question: How aware are developers of the need for climate change adaptation?

Response: Some are demonstrating awareness, but it is hard to measure. The project has only conducted small social surveys, and developers will always balance actions against cost.

Strategic Area: Effective Implementation of Managed Access and Sustainable Income Diversification Opportunities for Fishers/Fishing Communities

- PROMOTING SUSTAINABLE FISHING PRACTICES WITHIN LIGHTHOUSE REEF ATOLL— IMPLEMENTING MANAGED ACCESS
- PRESCRIBING BIOLOGICALLY MEANINGFUL CONTROL MEASURES TO BENEFIT SMALL-SCALE FISHERIES IN BELIZE
- SUSTAINABLE SEAWEED PRODUCTION IN BELIZE

PROMOTING SUSTAINABLE FISHING PRACTICES WITHIN LIGHTHOUSE REEF ATOLL—IMPLEMENTING MANAGED ACCESS

Shane Young

Belize Audubon Society (BAS)



Belize Audubon Society has been working at Lighthouse Reef Atoll towards creating a community of stakeholders who comply and advocate for policies that protect their livelihoods. It has become more responsive to, and encourages, stakeholder reporting, strengthening enforcement that targets the small number of fishers that continue illegal fishing practices, and giving confidence and support to those fishers who are engaged and believe in Managed Access, building increased compliance. BAS also works to improve the quality of fisheries dependent data to complement fisheries independent data, to better understand changes in stock abundance of commercially important species within the Atoll, with management decisions informed by science. Managed Access is succeeding, but has its challenges – a need for a cap on the number of licenses for the Atoll, for enforcement of catch log book compliance, for Compliance Officers to be fully trained in case file and court procedures, and for the process to be backed by the passing of the revised Fisheries Bill. The boat-to-boat strategy employed by BAS has been successful in engaging fishers and improving compliance, but the dialogue with stakeholders needs to be continuous, and part of a working partnership towards a sustainable fishery of the Atoll.

Question: Is Managed Access succeeding at Lighthouse Reef Atoll?

Response: BAS measures success by looking at sustainability – the density of conch, looking at whether fishers are getting value for their product. BAS strategies are geared towards developing stewardship, and the boat-to-boat has proved an excellent mechanism for this. BAS separates engagement from enforcement - enforcement personnel do not do the boat to boat discussion, BAS uses a neutral person for this, so that fishers know whether they are being approached for surveillance or communication purposes.

PRESCRIBING BIOLOGICALLY MEANINGFUL CONTROL MEASURES TO BENEFIT SMALL-SCALE FISHERIES IN BELIZE

Nicole Auil

Wildlife Conservation Society (WCS)

WCS has been strengthening data collection towards support of a sustainable fishery in Belize through three interventions – collection of landing data, fisher catch data, and through the Fish Right Eat Right initiative. Trained citizen scientists





Stakeholder Participation in Sustainable Fisheries Management

using spatial monitoring and reporting tool (SMART) technology from six coastal communities have collected community-landing data for finfish, lobster, and conch. Fisher catch data has been collected during a pilot project focused on SMART data collection by forty fishers from the three Atolls and South Water Caye Marine Reserve. Challenges have included technical difficulties with the SMART technology, the labour intensive data management process and issues with personnel turnover. Further work is planned to provide a better understanding of local seafood demand and consumption by region, and to work with the Fisheries Department to transition from the written log books to an electronic catch log system. The third focus, Fish Right, Eat Right encourages restaurants and food outlets to purchase from compliant fishermen participating in the programme, ensuring sustainable fish products. The initiative is promoted through high level advertising, and is gaining ground, with 22 restaurants already participating and a further 54 restaurants in the discussion / engagement process.

The data provides an increased understanding of local seafood demand and consumption in these restaurants. High management and staff turnover is a challenge in the restaurant industry, requiring reengagement and training of new personnel. Identifying an appropriate rewards system for participants to ensure take-up has also been a challenge, and work continues with the Fish Right, Eat Right Steering Committee to improve visibility and monitoring of the programme.

Question: Marine protected area managers have focused largely on engaging fishers, but are now also looking at the need to engage the private sector (such as resorts and tour operators). What lessons can be shared from the Fish Right, Eat Right initiative?

Response: It isn't easy. Reaching out to the private sector has to be tailored to the individual. An appointment will be made to discuss the initiative with the owner / manager. The best target audience is the owner - talking to the food and beverage manager is not always successful, particularly with the high staff turnover in the restaurant industry. The Fish Right Eat Right engages leaders and influencers in the target areas (people and restaurants that are well known in the community and online) to promote the programme and encourage other restaurants to sign up.

Question: To Osmany Salas: As a restaurant owner who has joined Fish Right, Eat Right, how have you found the programme to be working?

Response: There are challenges - if the owner is not always around, the staff has to be engaged and trained in how to use the tool. However, it is a good initiative, and it would be great to see more restaurants involved. Another challenge how to bring small places on board?

Question: How good is the traceability? How can people be prevented from 'gaming' the system? How do you know data is accurate and reliable?

Response: By using tools of best practices within the framework that is already in place. Fishers are required to keep logbooks, but while the data system is transparent, the process of data collection does still have loop holes. Monitoring and evaluation is still a work in progress. However, building relationships and community access is key.

SUSTAINABLE SEAWEED PRODUCTION IN BELIZE

Wilber Dubon

The Nature Conservancy

The Nature Conservancy and partners are working in collaboration with fishers across Belize, promoting



sustainable seaweed mariculture as a supplementary livelihood activity. This is done in part through the National Seaweed Working Group (virtual Centre of Excellence), comprised of experts in seaweed cultivation, funding, marketing and networking, Government of Belize, fishers and other stakeholders. This ensures proper alignment with existing policies and regulations and with international standards.

The seaweed cultivation expansion work is guided through the Centre of Excellence and utilizes the Sustainable Seaweed Mariculture – Best Management Practices guidelines, Sustainable Seaweed Cultivation Training Curriculum, Sustainable Seaweed Training Manual and Video. These are informed through sound scientific research, (socio-economic and ecological factors), conducted at multiple sites across Belize. Ecological monitoring focuses on the restorative capacities of the farms, and assesses detrimental impacts of farming activities on the benthic habitat, primarily seagrass beds. Growth rate monitoring identifies the months and environmental conditions that support fastest growth, as well as

the most suitable cultivation techniques. Key principles are then communicated to stakeholders, with trainers and fishers sharing cultivation experiences, and functional farm systems are deployed.

To ensure the long-term financial sustainability of the industry, various a financial sustainability framework has been developed that includes market analysis and forecasting, business plan development, and research and development in value-added products. On-going work also includes the development of a financial platform for seaweed cultivation (loan system), in collaboration with a local development bank. Future work will include the identification and adoption of a climate-risk insurance program to protect farmers in case of severe weather.

The final area of focus is the governance framework, including the national seaweed mariculture policy, regulations, permitting guidelines and standards that permit Belize's seaweed to be labelled as sustainable on international markets. Whilst seaweed cultivation is currently a male dominated industry, there are also women involved in all aspects of the seaweed industry. The Belize Women's Seaweed Farmers Association is also the primary group engaged in the development of value-added products.

Question: What is significant about this initiative, and how will it help Belize?

Response: The project is supported by global experts who can help Belize capitalize on niche market opportunities. Belize has the potential to export seaweed to the USA in 2020 but must be able to prove sustainability in production. This will require a governance framework to be in place, and safeguards for sustainability, including nursery stocks to prevent the need for harvesting from the wild. Without regulation, there would be the potential for environmental destruction.

Question: Is TNC looking at further diversification options?

Response: Expanding options for diversification is recognized as important, not only through value-added products, but also through agro-tourism. Tourists continually inquire about seaweed farm tours and some farmers are looking at developing these tours. Such tours would showcase both the seaweed cultivation and the recruitment benefits of the farms.

Question: What business structure has been developed for the seaweed nurseries?

Response: TNC is actively working with private entities for production of seaweed in nurseries as a business. These entities would then distribute seaweed seedlings to interested and certified farmers across Belize for a fee. They would also be allowed to harvest, dry and sell seaweed on the local and/or international market at a level that does not compromise the function of the seed-bank.

THEME 3: EFFECTIVE MARKETING OF BELIZE'S REEF AT NATIONAL AND INTERNATIONAL LEVELS

Strategic Area: Improved Stewardship and Support at Local and National Levels

- BUILDING CAPACITY OF FISHING COMMUNITY YOUTHS IN NORTHERN BELIZE THROUGH THE REEF PROTECTOR'S PROGRAM
- ENGAGING YOUTH AS THE NEXT GENERATION OF CONSERVATION LEADERS
- SAFEGUARDING MANATEES AND COMMUNITY LIVELIHOODS IN PLACENCIA AND BELIZE CITY THROUGH RESEARCH AND EDUCATION
- THE BELIZEAN VOICE

BUILDING CAPACITY OF FISHING COMMUNITY YOUTHS IN NORTHERN BELIZE THROUGH THE REEF PROTECTOR'S PROGRAM

Dareece Chuc

Belize Audubon Society (BAS)



BAS has been running the Reef Protectors Programme in the northern fishing communities for seven years, with the goal of 'Raising awareness on marine protected areas through the implementation of a conservation-based, out-of-school educational program for youths'. The programme focuses on the role of protected area in natural resource management and sustainable livelihoods, as well as building leadership skills and fostering stewardship, and providing youths with practical experience in marine research ad monitoring methodologies. Reef Protectors runs on an 18-month model that includes monthly meetings, field trips and internships, with an estimated investment of BZ\$205,876 over 5 years. The outcomes show that youths who participated in the program are now more conscious of their role in protecting marine resources and of careers they can pursue in the marine science field. This is now being developed and shared as a model for other organizations, with a best practices manual that includes safety policies and parental involvement. It is recognized that it is also important to develop engagement beyond the life of the programme to ensure youths remain actively engaged where possible, and play an active role as conservation leaders in their communities.

Question: How does the Reef Protectors Program align with the school curriculum?

Response: BAS compliments science lessons during school time in class, providing supporting information - but does not look to influence the curriculum.

Response: Lisa Carne: Fragments of Hope have found that organizations have to work around the curriculum, not try to change it.

Question: How often does BAS collaborate to achieve its youth engagement objectives?

Response: There are more organization than just BAS working in the northern fishing communities, with the same objectives and target audiences. Belize Audubon Society and Sarteneja Alliance for Conservation and Development are collaborating in the development of a strategy to provide greater presence in the schools, reducing overlap of effort and increasing cost-effectiveness.

Response: EPI: There is a huge gap in conservation messaging, and keeping people informed about conservation efforts. There needs to be consistent, well targeted conservation messaging for Belizeans.

ENGAGING YOUTH AS THE NEXT GENERATION OF CONSERVATION LEADERS

Jerry Enriquez

Ecology Project International (EPI)

The Ecology Project International's (EPI's) mission is 'To empower youths to take an active role in conservation while increasing ecological literacy'. It has involved over 1,000



youths in field-based learning focusing on marine conservation and climate change. The organization takes youths to isolated areas for a 5-day, expenses-paid field base learning experience, building their capacity in scientific techniques, marine conservation, and understanding climate change. EPI has partnered with TIDE for youth / community empowerment, towards developing conservation youth leaders, going beyond the 5-day program. As part of its financial sustainability, EPI also brings in US students for similar learning experiences on a paid basis.

Question: Under the National Biodiversity Strategy and Action Plan, one identified gap was engagement of inner-city youths at risk. How are we reaching inner city communities in Belize?

Response: EPI has taken inner city at risk youths to the reef. Trips like this can be life-changing, but there needs to be a lot more management in place, with instructors able to work with traumatized youths. EPI has a strong child protection policy, with screening for people working with the students.

Response: BAS has a Belize City-based programme that works with middle division students for 3 years, exposing them to terrestrial protected areas. It has found that it needs a strong social partner when targeting city youth.

Question: How do organizations deal with the liability issues of student field trips?

Response: Oceana: Student field trips are expensive and complex. Oceana has looked at marine insurance, and takes into account child protection when conducting field trips.

Response: BAS: It is critical to evaluate risks in educational field trips. BAS runs the Reef Protector field trips at weekends, outside of the school structure. In the initial introduction to the project, parents are

invited to a meeting where the risks are presented, as well as BAS' risk mitigation measures. They are then asked to sign a consent form for their children's participation in the activities.

Question: Does EPI do follow-up tracking of participants post-programme to measure success?

Response: EPI keeps records of past participants, but needs to expand this to a more formal monitoring and evaluation system, to measure the level of outcome success.

SAFEGUARDING MANATEES AND COMMUNITY LIVELIHOODS IN PLACENCIA AND BELIZE CITY THROUGH RESEARCH AND EDUCATION

Jamal Galves

Sea to Shore Alliance



In Belize, Sea to Shore Alliance (S2S) works through research, education and awareness, combined with conservation action, focusing on the conservation of flagship species such as the Antillean Manatees towards greater protection for the species themselves and for the sensitive habitats these animals rely on. S2S conducts research in key manatee areas with tracking of tagged manatees and using drone technology. It works closely with key stakeholders and the Southern Environmental Association, participating in night patrols to address the illegal use of gill-nets in Placencia Lagoon, installing signs in no-wake zones and manatee use areas to alert boaters. Key findings demonstrate that the Placencia area provides a critical habitat for manatees, which use the whole lagoon system for eating and resting, as well as for raising calves. However, this is being affected by increased boat traffic, mass destruction of coastal habitats, unsustainable fishing practices and other pressures. It is essential to engage stakeholders – starting with young children. S2S has conducted over 20+ classroom visits, engaging 300+ students, reaching out to 4 communities in the Placencia area. It has also certified over 200 tour guides and boat captains across Belize in best practices around manatees. These strategies are focused on moulding stewards of the marine environment, ensuring that manatees will be protected in Belize for a long time.

Question: What is the best way to engage at-risk youths in conservation?

Response: This question resonates very well with my personal journey to and in conservation, as an atrisk youth. The general perception is often that conservation is for doctors, scientist, and researchers, but conservation is everybody's business as we all impact the world in one way or another. It's critical that we, as conservationists, engage all youths whether at risk or not, and find the best ways to do so. Each community, school, classroom and even each youth is different and we must be creative in finding ways to appeal to them even if it means reaching them on a more personal level. The key is finding what it is they like (eg. sports) and using creativity to incorporate the take-away message you want them to get. Youths like to be cool and love things that are cool, so making conservation cool is a really good approach.

THE BELIZEAN VOICE

Janelle Chanona

Oceana

How do we reach people and encourage them to care about the environment? Oceana Belize, as an advocacy



organization, has created successful campaigns using videos and stunning photography, and engaging advocates in the community that the general public can relate to. It selects a simple message and works in collaboration with other organizations in Belize to ensure the message reaches the wider population, and provides them with a voice. Simple activities that get people engaged and involved, like Hands Across the Sand, encouraging adoption of national campaigns by citizens, such as the Fish Right, Eat Right campaign, with one group using lionfish as the theme for their costumes in the Independence Day parade, spreading the message further. Encouraging people to get out and explore Belize's marine environment, and provide them with opportunities to see these rich ecosystems for themselves. Linking campaigns to livelihoods, to the critical support marine resources provide to coastal fishing communities, and the link between impacts on these ecosystems and the ways these are affecting people. All these strategies are important in engaging support for Belize/marine environment.

Question: What do you consider as the most important advocacy message at the moment?

Response: Belizeans ask questions; they embrace their natural role as advocates for the ecosystems that make our very lives possible. One question is, "Why we are still talking about gillnets 20 years after fishermen asked for them to be banned?" Another question is, "Why hasn't the Fisheries Bill been introduced in the House of Representatives. Perhaps most importantly, I want Belizeans to ask, "What are these delays costing us economically, environmentally and culturally every day?"

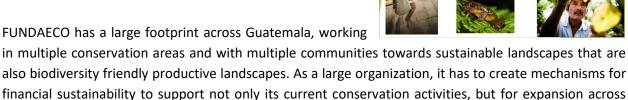
THEME 4: INNOVATION IN FINANCIAL SUSTAINABILITY

LOOKING INTO THE FUTURE: CREATING CONSERVATION **BUSINESSES**

Ingrid Arias Salas

FUNDAECO

FUNDAECO has a large footprint across Guatemala, working



Looking into the Future:

Creating Conservation

Businesses!

Ingrid Arias Salas

the landscape to address ever-increasing threats. FUNDAECO has developed a business model that presents multiple options for income, ranging from traditional grants, trust fund income, to forestry and ecotourism initiatives, marketing carbon credits under REDD+, selling lands not related to the Institutional Mission, for community access, selling craft and promotional products at FUNDAECO's Nature Stores in the protected areas, and equipment / building rental. Products are marketed under a single brand name 'La Costa de la Conservacion'.

Under REDD+, FUNDAECO has developed, validated and verified a REDD+ Project for Caribbean Guatemala, with a VC5-CCB Gold level of certification that has been taken up by Delta airlines to offset their carbon footprint. Over the next five years, FUNDAECO will seek to establish a system for the sale of carbon credits to its institutional donors, as well as to small and medium sized companies in Guatemala, large international companies and through bilateral and multilateral carbon programmes.

To achieve greater financial sustainability, FUNDAECO has made organizational changes, creating a new vision. An important step was hiring an experienced Commercial Director to help the organization become more business savvy, with the development of a 15-year business model, changes to the accounting system, and the creation of Business Units within the system to be able to manage and monitor each business initiative as an autonomous business. This included identification of income generating activities, each with an associated business plans, and capacity building for improving risk management. Future initiatives to ensure generation of cash flows to be reinvested in conservation include identification of Green and Blue Economy impact investment opportunities and innovative investment models. FUNDAECO is looking at other innovations in the region and globally that can be replicated for improving investment in conservation, such as the Coalition for Private Investment in Conservation, the Blue Action Fund and Sustainable Oceans Fund.

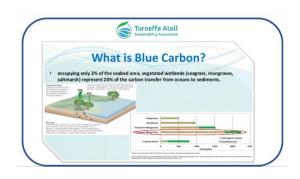
FUNDAECO identified a number of key points. They are as follows:

- Many small revenue streams are easier to reach and provide more sustainability and autonomy.
- The transition towards an "income generation mentality" is hard, and requires a "cultural shift" in institutions.
- It takes money to make money. You have to raise funds (Loans, Impact Investment) to invest in income-generating activities.
- Strong partnerships with private companies are vital to successfully link to specialized "supply chains" and markets.
- Conservation organizations are the owners of the "Conservation Story": This has real marketing value for companies.

EXPLORING BLUE CARBON AT TURNEFFE

Valdemar Andrade

Turneffe Atoll Sustainability Association



The Turneffe Atoll Sustainability Association (TASA) is collaborating with The Nature Conservancy (TNC) to explore Blue Carbon as a predictable source of funding for Turneffe Atoll Marine Reserve. The annual storm protection value of coral reefs, mangroves, and seagrasses on Turneffe has been estimated at \$191 million USD (BZ\$382 million) per year. TASA and TNC have been looking at how to translate this into money, with the recent drafting of a Blue Carbon feasibility study for the Atoll, based on mangrove carbon offsets. A framework was developed identifying steps to be taken, including approval by Government as part of the certification process, donations of offsets to TNC by private landowners on the Atoll, retirement and monetization of these offsets by TNC to capitalize and endowment fund for Turneffe, composed of the offsets and matching funds from BMF and TNC donors. This is still a work in progress, based on a 500-acre pilot, with TASA developing a Mangrove Monitoring Plan to support the initiative, to demonstrating the results of protection. TASA sees Blue Carbon as a perfect fit for a Debt for Nature swap, and also as a mechanism towards achieving the OAK Foundation Challenge through the Belize Marine Foundation, contributing towards the US\$15 million matching funds required for reaching the US\$25 million target. There is a shared responsibility to encourage the Government to make commitments towards the required policy framework to support Blue Carbon in Belize.

Question: When land owners donate credits to TNC, what does that actually mean in real terms?

Response: This is a pilot, so not everything is fully defined yet. For carbon offsets, working with private lands is less difficult than public lands - public lands generally have communal rights, and currently there is mechanism to divide these rights.

Response: FUNDAECO: Contracts with the private landowners give the right to sell carbon credits – but not rights to the land.

Question: Does the landowner get any financial benefit and how?

Response: The private landowners recognize the intrinsic value of mangroves and their contribution to tourism through support of the fly fishing industry.

INNOVATION THROUGH IMPACT INVESTMENT

Wilbur Dubon

The Nature Conservancy

Impact investment is Investment aimed at generating specific beneficial social or environmental impacts in addition to



financial gains. For impact investments to work, there needs to be a financial, social and ecological track record of due diligence, complete stakeholder buy-in, donors who are willing to front funding for implementation, and performance-based outcomes. Success is determined by the achievement of these outcomes.

The TNC-facilitated Seychelles Debt for Nature Swap is an example. This initiative was originally focused on Belize, but failed to materialize without the required support from the Belize Government). The Seychelles, however, demonstrated full government and stakeholder support and buy in for the initiative, resulting in the redirection of debt servicing payment to achieve national conservation outcomes. These included marine spatial planning for Seychelles' entire Economic Exclusion Zone, protection of 30% (400,000 km²) of ocean, 15% No-Take Zones, and the establishment of the Seychelles Conservation and Climate Adaptation Trust.

IN CONCLUSION

The Belize Marine Fund (BMF) Investment Strategy guides BMF investments in Belize, but it is the BMF partners - the people and organizations on the ground - that are bringing the strategy to life. The Belize Marine Fund's 1st Biennial Conference has provided a platform for sharing successes, engaging in discussions towards continued and new collaborations, and identifying steps that can be taken to replicate successes in addressing issues faced by MPA managers across Belize. Below we provide key takeaways from each theme and strategic area discussed.

THEME 1: EFFECTIVE MARINE PROTECTED AREAS CONTRIBUTING TOWARDS A FUNCTIONAL NATIONAL PROTECTED AREAS SYSTEM

Strategic Area: Improved Management Effectiveness of Marine Protected Areas across the National Seascape

The importance of effective management across the marine protected areas of the national seascape was emphasized, as well as two critical areas requiring continued investment – the need to have an active presence in the protected areas, and for the establishment of innovative financial sustainability mechanisms. The importance of measuring outputs and outcomes of management was also discussed, with presenters showcasing the outputs achieved by investing in targeted, information-based patrols, complimented by improved engagement of fishers through boat-to-boat strategies, towards increasing compliance and collaboration between MPA managers and their marine resource users. This is supported by the figures and trends over the past years, including the number of arrests before and after implementing boat-to-boat engagement and outreach.

Measuring the success of outcomes is also shown to be critical in informing management actions, as highlighted by MAR Alliance in their work on marine mega-fauna. Identifying mega-faunal species that are particularly vulnerable to pressures can provide important information on the health of the ecosystems on which they rely, supporting evidence based decision-making and providing an indication as to whether management is achieving the outcomes required. This was also highlighted in a later

presentation, with measuring of outcome success through sustainability indicators – the density of conch and whether fishers are getting value for their product.

Recommendations:

- Identification of those marine protected areas that have high management effectiveness ratings and investment in preparing them for recognition under the International Union for Conservation of Nature (IUCN) Green List. This will help improve Belize's recognition in meeting global indicators, improving the investment environment by guiding potential bilateral and multilateral funding partners seeking to invest in effectively managed protected areas that meet global protected areas (PA) management standards.
- Improve the capacity of marine protected area managers to understand measure and demonstrate their management outputs and outcomes.

THEME 2: REDUCED PRESSURES ON MARINE RESOURCES

Strategic Area: Increased Climate Change Resilience

Belize has a multi-pronged approach to building climate change resilience in the marine environment, identifying ways to address threats whilst also strengthening ecosystem resilience. This is critical as a way forward in this high climate-risk country such as Belize. Belize also has other organizations looking at a number of innovative climate change adaptation-based strategies for resource protection, that are focused on active marine ecosystem restoration. However, even Fragments of Hope, one of the region's foremost reef restoration organizations, warns that reef restoration is a stop gap, not a solution for reef conservation, as the pressures of climate change continue to increase. It is acknowledged that reef restoration initiatives cannot achieve miracles if other pressures on the environment are not addressed at national and global levels. At national level, this includes the largely unmitigated flow of pollutants from the watersheds, and the pressures from increasing marine-based tourism.

Recommendations:

- Prioritize investment in strategies that address the issues of watershed impacts at local and national levels – plastics, agrochemical pollution, increased sediment load, poor sewage treatment.
- Increase the value of the reef to the tourism sector by marketing to visitors who appreciate the reef and are willing to pay a little more, rather than providing cheap access to a mass markets, both reducing tourism impacts, and increasing long-term benefits.
- Strengthen communication and collaboration between organizations addressing climate change and ecosystem restoration in Belize and in the region.

Strategic Area: Effective Implementation of Managed Access and Sustainable Income Diversification Opportunities for Fishers/Fishing Communities

Belize is moving towards a successful rights-based fishery through information-based decision-making on commercial species, size categories, quotas and seasons. The designation of fisheries management areas, effective income diversification strategies to reduce dependence of fishers on the marine resources, and engagement of fishers in good stewardship of the marine resources are also seen as important steps toward a more sustainable fishery. Successful strategies for engaging fishers have now been replicated in other protected areas, and Belize practitioners are acting as mentors for Gulf and Caribbean Fisheries Institute (GCFI)-supported projects, sharing Belize's work regionally.

These initiatives have been complemented by improved, targeted, information-based surveillance end enforcement, building trust and respect between the MPA managers and the fishers. The move from individual fisher-based income diversification projects to larger scale income diversification industries has focused on seaweed farming, with support for scaling-up of initial efforts and replicating across protected areas towards a successful export industry.

Recommendations:

- Continuity is key in successfully engaging fishers in co-managed areas. Therefore, maintaining multi-year donor support for sustained dialogue with fishers, and investment in improved surveillance and enforcement presence, to build a working partnership between MPA managers and fishers is important.
- The need for improved, targeted engagement of private sector towards an environment that promotes sustainability of marine resources, through initiatives such as *Fish Right*, *Eat Right*.
- Continued investment in larger-scale income diversification initiatives that have the potential to provide long-term, relevant income diversification options for fishers.

THEME 3: EFFECTIVE MARKETING OF BELIZE'S REEF AT NATIONAL AND INTERNATIONAL LEVELS

Strategic Area: Improved Stewardship and Support at Local and National Levels

There is a recognized gap in conservation messaging, with a need for consistent, well targeted conservation information that is accessible to and reaches Belize's general public. This came through in the majority of the presentations in this section, with a particular focus on the importance of engaging youths and inspiring the next generation, with the nurturing of future conservation leaders. Collaboration is important across the conservation community, ensuring consistent messaging and reducing duplication of effort. Also considered important is engagement of the private sector and consumers, improving awareness of the need for greater sustainability in use of the marine environment.

- Capacity building for marine protected area managers in effective marketing of conservation to the general public in Belize.
- Strengthened collaboration and coordination for youth engagement between organizations with the same objectives and target audiences, to provide greater presence in the schools, reducing overlap of effort and increasing cost-effectiveness.
- Greater focus on the engagement of the private sector as partners in conservation and sustainable resource use actions.

THEME 4: INNOVATION IN FINANCIAL SUSTAINABILITY

Financial sustainability is perhaps the biggest challenge facing marine protected area managers across Belize. This session provided an overview of strategies for income generation in both Belize and the region. Sharing of lessons learnt in the region highlighted the need for income diversification, with the development of multiple financial sustainability mechanisms, and a shift to a business mentality. Also discussed was the potential applicability of initiatives such as debt for nature swaps, innovative impact investment, and the acquisition of blue carbon value in looking at how we address the Belize financial sustainably situation for our MPA system. The piloting of a Blue Carbon framework on Turneffe Atoll was highlighted as having the potential to open the door to investments in carbon across the marine protected areas system.

Recommendations:

- A more coordinated approach in addressing the issue of sustainable financing at the system level, with greater focus on securing external funding opportunities through opportunities such as Belize Marine Fund Challenge and TNC Debt for Nature initiative.
- Capacity building for conservation organizations to be able to identify, understand and access impact investment opportunities.
- Support for organizations in developing a business mentality and implementing financial sustainability initiatives at the site level, based on credible business plans.

CLOSING REMARKS



Janet Gibson
Chair
Belize Marine Fund Steering Committee

Closing remarks were given by Ms. Janet Gibson Chair of the Belize Marine Fund Steering Committee.

This 1st Conference has been a great introduction to the work of the Belize Marine Fund. As you have seen, the Fund has been supporting a variety of projects. We strive for our program to be very strategic within the complex backdrop of other marine conservation efforts in Belize. So we aim to help fill critical gaps, elevate or scale up ongoing projects, and spearhead new initiatives where necessary. We are guided by our strategic plan, developed through a very thorough process of consultation and coordination.

I think a high level of coordination and willingness to share information — a common theme running through our discussions today — are key for building synergies and collaborations that help to maximize our achievements and collectively move our programs forward towards that common goal — a healthy, resilient, sustainably managed marine environment.

We know that having a source of sustainable funding is a major concern for most organizations. Tackling this issue is the main thrust of the BMF and is central to our vision: 'to provide long-term financial sustainability'. However, this is a huge task that can only be achieved with the combined help of all our partners and I hope the discussion will continue on ways to raise the necessary capital. The threats are growing and we need all hands on deck.

As we had hoped, the stimulating panel discussions will lead to ideas for potential innovative projects for the future and we look forward to working with you on these new opportunities, as well as possible new collaborations. So, happily, I believe we have fulfilled the objectives we set for ourselves today.

In closing, I thank you all very much for participating so enthusiastically, and a special thanks to our presenters, to MarFund for their support and guidance, and last but not least to Angeline Valentine, BMF's Project Officer, who has worked tirelessly to help launch the Fund's program, making significant progress in a very short time.

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