



CORAL  
TRIANGLE  
CENTER

Inspiring People Saving Oceans

# THIRD QUARTER 2021 REPORT

CORAL TRIANGLE CENTER



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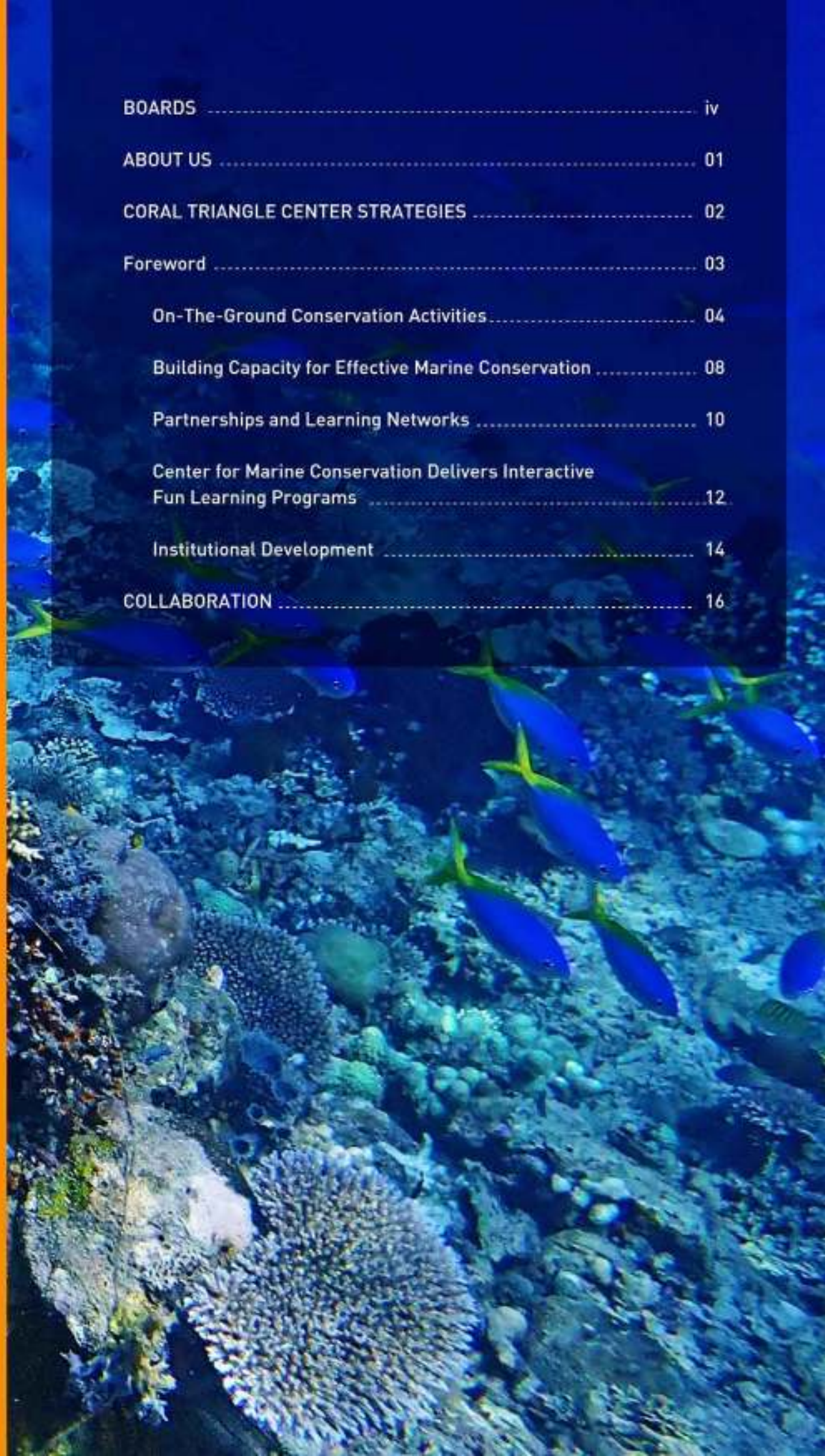


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# ABOUT US

## CORAL TRIANGLE CENTER

A center of excellence in tropical marine resource management:  
Building local leadership for long-term conservation in the Coral Triangle



Inspiring People Saving Oceans

## VISION

Healthy seas that enrich people and nature.

## MISSION

To inspire and train generations to care for coastal and marine ecosystems.

## VALUES

### Excellence

In the quality of our teaching. In the performance and integrity of our staff.  
In our commitment to being a world-class center of tropical resources management.

### Local Stewardship

Based in the heart of the Coral Triangle, we maintain strong roots in the field and close ties to stakeholders at all levels. We value traditional knowledge and practices, and promote local ownership of our projects.

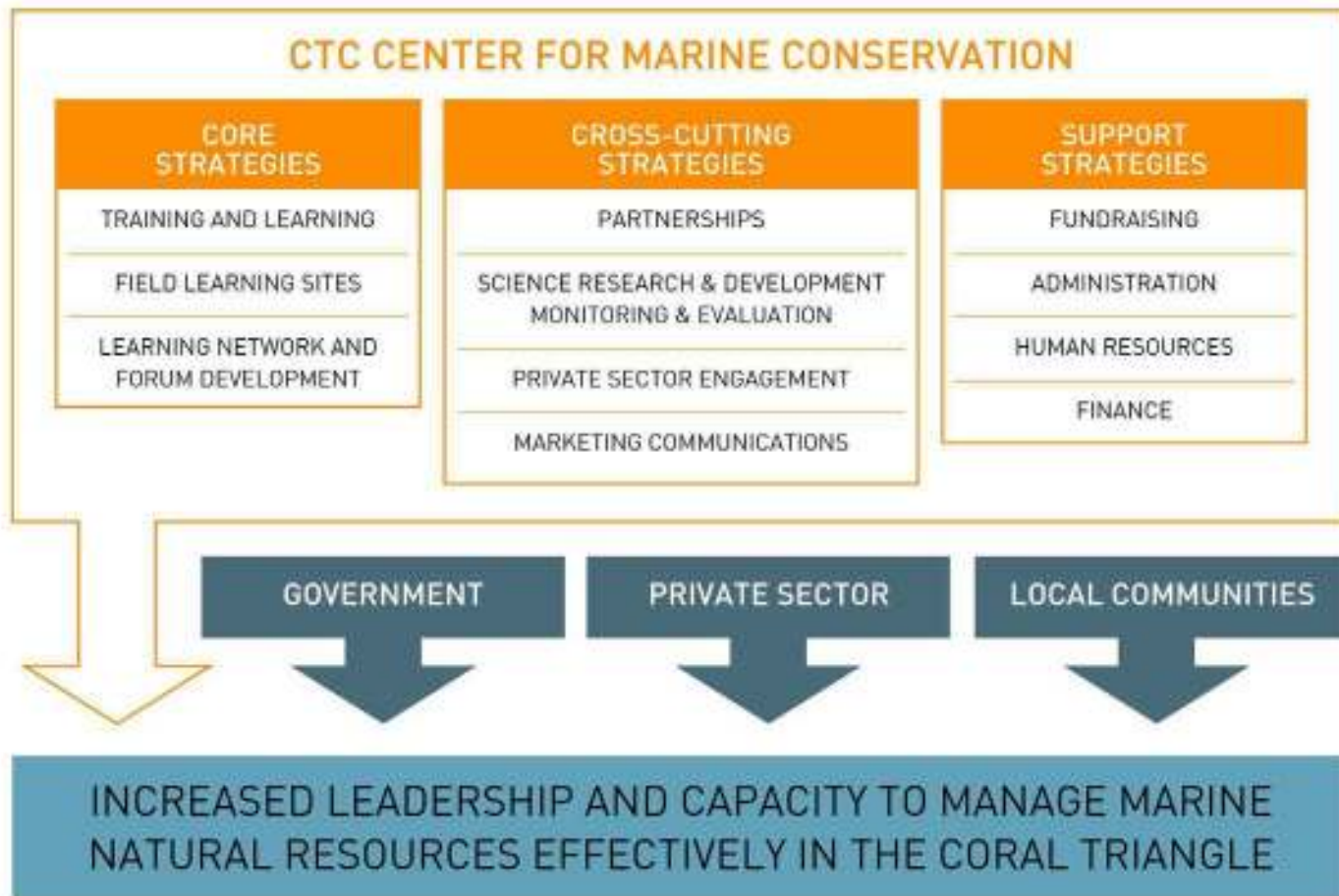
### Collaboration

We build partnerships among leaders in government, communities, NGOs, education, and the private sector because only by engaging all constituencies can solutions be effective.

### Result

We provide trusted information, are transparent in our actions, and hold ourselves accountable for the quality of our programs, changing our strategies as necessary and measuring our impact over time.

# CORAL TRIANGLE CENTER STRATEGIES



CTC is an official development partner of the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF) - a government-led initiative of the six countries of the Coral Triangle region namely Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands and Timor-Leste. CTC supports the CTI-CFF in cross-cutting activities such as capacity building, women empowerment, local government leadership, sustainable tourism and private sector engagement. CTC is also a member of the International World Conservation Union (IUCN) and the International Coral Reef Initiative (ICRI)

# FOREWORD

The sober assessment of our planet's future has been delivered by the UN's Intergovernmental Panel on Climate Change (IPCC), a group of scientists whose findings are endorsed by the world's governments.

This warming is already affecting many weather and climate extremes in every region across the globe. "It is unequivocal that human influence has warmed the atmosphere, oceans and land". The oceans will continue to warm and become more acidic; a sea level rise of around 2m by the end of this century cannot be ruled out. This is a defining decade to address climate change leading up to 2030. What does this mean for CTC? What can we do?

Climate change is the overarching threat to our planet exacerbating all the other threats we address including unsustainable fishing and pollution. There is a huge opportunity for CTC to raise the awareness on the impact of climate change and make it relevant to policy and decision makers but also to the public. People are not aware, skeptical, overwhelmed and there is a need to make the scientific information accessible and relevant.

We will do this via our dedicated climate change exhibition planned in our new expo hall providing different future scenarios for different levels of carbon emission, and highlighting what people can do to reduce their carbon footprint. We are about to complete a Blue Carbon training module for government officials in the Coral Triangle region, and developing new partnerships related to climate change adaptation programs in our MPAs providing practical guidance to persistent challenges.

When I visited Nusa Laut which is part of the Lease Islands in Maluku recently in April this year, the community continues to build higher walls to protect their island and keep up with the sea level rise. Their island is slowly getting underwater due to the negative effects of climate change. Planting more mangroves around the island could help the communities to better adapt to this problem.

Almost every nation on Earth signed up to the goals of the Paris climate agreement in 2015. This pact aims to keep the rise in global temperatures well below 2C this century and to pursue efforts to keep it under 1.5C. It is not mission impossible. Scientists say a catastrophe can be avoided if the world acts fast. There is hope that deep cuts in emissions of greenhouse gases could stabilise rising temperatures, but we have to work together and make this urgent problem relevant for all to take action. We are committed to further continue to make climate change an integral priority in CTC's mission and programs.

This quarter, it is an honour to welcome our new board members to CTC, Dr. Suseno Sukoyono, Dr. Hilman Farid, Mr. Lin Neumann, Mr. Jason Tedjasukmana and Dr. Rodney Salm. They bring a wealth of experience and expertise from different sectors including government, private sector and academia. With their engagement and support, CTC will take on the new opportunities ahead of us.

**Rili Djohani**  
Executive Director



# ON-THE-GROUND CONSERVATION ACTIVITIES

## Coral Reefs in Banda Remain Resilient



Amidst climate change threats which have warmed and acidified our oceans globally, a recent reef health monitoring (RHM) survey carried out by CTC's learning sites team around the Banda and Ay-Rhun Islands marine protected areas (MPAs) showed positive results. All corals observed at 14 sites were found to be in healthy condition with no indication of coral bleaching or being damaged by any destructive fishing practices.

According to Purwanto, CTC MPA Learning Site Manager, healthy coral reefs were observed at the depth of 3 and 10 meters of the waters around Ay, Rhun, Hatta and Gunung Api Islands in Banda. The Point Intercept Transect (PIT) was used as the main methodology to assess the percentage of living corals. Healthy coral colonies in Banda, dominated by Staghorn (*Acropora cervicornis*) and Branching (*Acropora florida*) species, all appeared in shades of olive green and brown, and none of them were affected by diseases or bleaching.

On the other hand, the CTC also found an abundant and healthy population of indicator fish species signaling a healthy ecosystem. These indicator fish species include grouper, snapper and barracuda that were often seen swimming along with surgeon fish and bump-head parrot fish. Finally, the team also observed some spawning activities of Napoleon Wrasse (*Cheilinus undulatus*) fish near the Nailaka and Tanjung Noret, Rhun Island, indicating the overall robust and dynamic ecosystems.



"So far, we are happy with the survey result. Once the report is completed, we will deliver a training about RHM survey for local teams in Ay-Rhun and Banda Islands MPAs, also for DKP Maluku teams. Therefore, they can conduct the same survey on their own in the future," said Purwanto.



CTC conducted the RHM survey from November 12 to 17, 2021. In doing underwater observation, our team was also supported by personnel from the Marine Affairs and Fisheries Agency (DKP) Maluku Province, Marine Recreation Park (TWP) of Banda Sea and the office of Marine and Fisheries Resources Surveillance (PSDKP) of Banda Islands. Additional support came from private sector partners such as Blue Motion Dive Center, which had facilitated the survey's transportation.



CTC has been supporting the government, local partners and communities in the Ay and Rhun Islands since 2012 to design and develop a resilient MPA. In 2016, the Maluku Province Government issued a decree for the establishment of the Ay-Rhun Islands MPA which was then followed by an official declaration by the Indonesian Ministry of Marine Affairs in June 2021.

## "Mameng" Boat Ready to Sail in Banda



After months of hard work and meticulous preparation, the "Mameng" long-boat that CTC facilitated for the Nailaka community surveillance group (Pokmaswas) of Rhun Island in Banda, is finally set to start patrolling the seas. CTC officially handed the long boat to the Pokmaswas representatives through a simple ceremony held on November 13, 2021. The symbolic transfer was witnessed by representatives from the Maluku Provincial Government's Marine Affairs and Fisheries Agency (DKP), Marine Recreation Park (TWP) of Banda Sea and the office of Marine and Fisheries Resources Surveillance (PSDKP) of the Banda Islands, as well as the customary leader of Rhun Village, together with local religious leaders and other community members from the Ay-Rhun Islands marine protected area (MPA).

In addition, both representatives of CTC and Nailaka Pokmaswas also signed an official hand-over agreement which provides guidance on the use of the Mameng long-boat. Some points highlighted in the agreement include the boat's utilization to support surveillance, marine resource monitoring and plastic waste clean-up activities in Rhun Island.

However, the Pokmaswas also can use the boat for emergency and/or formal situations such as evacuation and governmental events.

The construction of the Mameng boat, whose name comes from a local name for Napoleon wrasse (*Cheilinus undulatus*), a threatened reef fish species that inhabits the surrounding water of the Ay-Rhun MPA, has been ongoing since May 2021. The shipbuilders meticulously assembled the boat using high-quality wooden materials brought from Ambon at a traditional shipyard in Banda Naira Island, about a two-hour motorboat ride from Rhun Island. With good maintenance, this 40 Horse Power engine long-boat can be estimated to serve all activities for decades to come.

Rhun Island is part of the Ay-Rhun Islands MPA, which was officially declared by the Ministry of Marine Affairs and Fisheries through a ministerial decree in June 2021. The Ay-Rhun Islands MPA, which covers a total area 47,968.74 hectares, is equipped with zoning plans to conserve and manage the marine environment and fisheries whilst respecting traditional fishing grounds and the local wisdom practice of Sasi that regulates the use of marine resources in sustainable manners.



## Improving Local Capacity for MPA Surveillance in Nusa Penida



Knowing what happens at sea is essential for marine resource protection from any potential threats. Therefore, a solid coordination to develop awareness among community members who devote themselves to safeguard the ocean should be a priority. Recently, CTC visited Suana Village in Nusa Penida to train members of the Buana Jaya surveillance group (Pokmaswas) to enhance their knowledge and skills in marine conservation.

The intensive training took place on November 24-27, 2021 with three days of in-class activities and a full-day field trip. Enthusiastic participants, which also included officers from the Bali MPA Management Unit, learned about the introduction to marine and coastal ecosystems, principles of MPA, marine surveillance, and methodologies on data collection and resource use monitoring.

"I really enjoy the training and appreciated the way CTC delivered it. We have received basic skills about monitoring activities from local governments in the past, but this training is giving more information and skills to us. For example, I now know how to speak to fishers about the MPA zoning system while doing the area monitoring," said I Ketut Mudra Asmara, the head of Buana Jaya Pokmaswas in Suana.

In delivering the training, CTC received support from UPT KKP Bali and the Benoa Marine and Fisheries Resources Monitoring Base (PSDKP Benoa), especially during the field exercise. CTC ensures that the knowledge transfer happened accordingly so that the Buana Jaya Pokmaswas will be able to conduct their own resource use monitoring activity in the future.



## Reef Health, Resource Use Monitoring, and Post-Pandemic Livelihood Recovery in Nusa Penida MPA

CTC's marine protected area (MPA) learning sites team was back in Nusa Penida's pristine waters in August 2021 to lead the annual multi-stakeholder reef health monitoring survey. This time, the team did not encounter many people underwater. Instead, they found themselves face to face with many of the islands' charismatic marine animals and healthy coral reefs. Apart from looking at the status of the coral reefs and fish populations in the Nusa Penida MPA, this year's survey and monitoring activities also aimed to assess the impact of the pandemic to the MPA's marine ecosystem.

The reef health monitoring survey covered 14 spots at the depth of 3 and 10 meters. Some of the team's key observations include an overall increase in live coral coverage by 9% compared to the previous year. The team also observed new coral growth in sites that were previously damaged by marine tourism activities, as well as an increased number of manta rays in popular dive sites such as Manta Point and Manta Bay. However, the team found that there was a decline in the number of key fish populations in the MPA.



These observations can be attributed to the sharp decline in the number of tourists and visitors to the Nusa Penida MPA from 2020-2021 as a result of the Covid-19 pandemic, which impacted the tourism industry and prompted tourism workers to shift to other livelihood sources such as seaweed farming and fishing. The shift in economic activity resulted in an increased number of fishermen fishing in the Nusa Penida MPA, and led to a corresponding increase in fishing pressure in the MPA's fisheries zones.

The CTC team is currently analyzing the data from the reef health and resource use monitoring surveys and will report back its final analysis to the various stakeholders including Marine Affairs and Fisheries Department of Bali Province, Bali MPA Management Unit, and BPSPL Denpasar, amongst others. This year's annual surveys were carried out by representatives from CTC, Ministry of Marine Affairs and Fisheries (MMAF) Center for Coastal and Marine Resources Management (BPSPL) Denpasar, ADB Coremap-CTI Nusa Penida Project, as well as volunteer divers.

Meanwhile, to help facilitate an inclusive post-pandemic blue recovery in the Nusa Penida MPA, CTC is aiming to support local community groups in nature-based livelihood programs such as coral reef and mangrove rehabilitation, community-based eco-tourism, and improving post-harvest marketing for seaweed farmers. These projects will be implemented under the ADB-ICCTF COREMAP-CTI Nusa Penida Project.



To start the process, CTC conducted baseline surveys across the Nusa Penida MPA to assess possible sites for mangrove and coral rehabilitation, as well as to identify community groups who will collaborate in its implementation. Following the assessment, CTC also led a public consultation on August 30-31, 2021 to share the project activities to the local government and community leaders and gather their input and feedback on the project implementation going forward.

The COREMAP-CTI Grant Package 4 project in the Nusa Penida MPA is implemented by CTC and funded by the Asian Development Bank (ADB) and the Indonesia Climate Change Trust Fund (ICCTF) and managed by the Ministry of National Development Planning of the Republic of Indonesia/National Development Planning Agency (Bappenas). This project started in April 2021 and will end in September 2022. The main objective is to help the Nusa Penida MPA management increase the MPA's effectiveness, as well as the development of ecosystem-based resource management and promotion of more sustainable marine livelihoods.

There are a suite of core activities under the Nusa Penida MPA project. The first is the Coral Reef and Mangrove Rehabilitation initiative (CRMRR), which will restore and rehabilitate at least 20% of the damaged mangrove forests and 5% of the damaged coral reefs. Secondly, the project will support capacity-building for key community groups, such as the Pokmaswas, to improve compliance with zoning regulations in the MPA, and seaweed farmer groups to improve harvesting and marketing of small-scale productions. Additionally, the project will also implement an ecotourism scheme and build supporting facilities for mangrove tourism. Finally, the project will raise public awareness through various campaign activities on law enforcement, Marine Protected Areas (MPA), and the endangered, threatened and protected marine species in the Nusa Penida MPA.



## Monitoring CTC's Adopt-a-Coral Site in Nusa Penida: Baby Corals Show Healthy Growth



We are happy to share that baby corals in our Adopt-a-Coral site in Ped Village, Nusa Penida have exhibited healthy growth rates. In the 5 months since we started the program in December 2020, we've seen rapid growth of the baby corals. The growth can be attributed to good water quality in our nursery and the absence of sediments and nutrient deposits that cause algae to grow. Additionally, our community partners Nuansa Pulau Community Group are taking good care of them by conducting weekly cleaning and monitoring on the site.

CTC has been working with the Bali MPA Management Unit and the Nuansa Pulau Community Group to set up the coral rehabilitation site near Ped Village, with the aim to help rehabilitate damaged reefs in the Nusa Penida MPA.

This site is also where baby corals in our Adopt-a-Coral Program are transplanted. To ensure that this new site is effective and sustainable, CTC is following coral transplantation best-practice guidelines and methods under the Mars Assisted Reef Restoration System (MARRS). This method uses a star or spider web-like structure as an artificial substrate which makes the coral stable and well connected. It has been effective in increasing the number of natural coral recruits in Bali and Indonesia, enabling corals to grow faster and allowing reef-building species to live and form new habitats for other marine animals.

Through the Adopt-a-Coral program, anyone can adopt their own coral, and we will help take care of it on people's behalf to make sure they grow healthy. Coral adopters can also write their name or message on a special tag made of lontar leaves that are then attached to the baby corals or coral fragments!

## Stronger Reef Health Monitoring Protocol for an Integrated Atauro Island Marine Protected Area

To support the effective management of the integrated Atauro Island MPA in Timor-Leste, CTC has proposed a comprehensive Reef Health Monitoring (RHM) protocol that will provide guidelines for the monitoring team, as well as government partners and other working partners who are examining the health of coral reefs and fish population.



The proposed protocols were presented to representatives of local and national authorities, as well as key stakeholders during a recent hybrid workshop held on September 14, 2021, hosted by CTC in collaboration with the Ministry of Agriculture and Fisheries of Timor-Leste and the Fisheries Department of Dili Municipality. A thorough RHM protocol is also crucial to ensure that monitoring processes are consistent in their methodologies. Effective methodologies include Line Intercept Transect (LIT), Point Intercept Transect (PIT), Quadrant Transect (QIT) and Underwater Photo Transect (UPT).

The integrated Atauro Island MPA consists of five zones: the core zone, marine tourism zone, temporary protected zone, aquaculture zone and sustainable fisheries zone. Regulations are applied in each zone, restricting certain activities to protect the island's unique marine biodiversity, ecosystems and ensuring sustainable management of the MPA.



Mr. Acácio Guterres, the Directorate General of Fisheries, Aquaculture and Marine Resources of the Ministry of Agriculture and Fisheries of Timor-Leste, in his opening remarks, expressed his appreciation for the cooperation between all governmental institutions and non-governmental organizations, including CTC, involved in ensuring the integrated Atauro Island MPA network can be managed effectively. He also expressed that he expects that the RHM protocol and results from the monitoring surveys will be effective and well-disseminated amongst stakeholders.



# BUILDING CAPACITY FOR EFFECTIVE MARINE CONSERVATION

## Promoting the Importance of Blue Carbon Ecosystems to People and Planet



Despite being coined more than a decade ago by scientists, many people are still unfamiliar with the term blue carbon, and with blue carbon's pivotal role and benefits to people and planet. Blue carbon ecosystems, such as mangroves and seagrasses found in coastal areas, have been scientifically recognized as one of the best solutions in mitigating global climate change for their ability to sequester and store significant amounts of carbon gas emissions. In line with this, CTC is helping spread the importance of blue carbon to policy makers in the Coral Triangle through an online training curriculum on blue carbon aimed at mid-level policy makers. The training curriculum is being developed in partnership with the Australian Department of Industry, Science, Energy and Resources (DISER).



To increase public awareness about the importance of blue carbon ecosystems, CTC participated in a webinar entitled "Blue Carbon for All", organized by the Ministry of Environment and Forestry of Indonesia on August 18, 2021. CTC was represented by its Senior Program Manager Hesti Widodo. During the talk, CTC acknowledged that many policy makers in Indonesia are not familiar with blue carbon, even though the country has the highest distribution of mangroves in the world, accounting for 3.11 million hectares, or 23% of the world's total mangrove area.

Indonesia's seagrass meadows are also vast, covering a total area of about 300,000 square kilometers. Together, Indonesia's seagrasses and mangroves account for approximately 17% of the world's blue carbon reservoir.



In the Indonesian context, the blue carbon ecosystem has a significant impact on the nation's resilience, since 65% of Indonesia's population lives along the coastlines. If this ecosystem is not properly looked after, it is estimated that more than 5.9 million Indonesians will be affected by increasing coastal flooding, intensifying tropical cyclones and accelerating sea-level rise. Unfortunately, Indonesia has lost about 50% of its mangrove forest during the last 2-3 decades due to illegal logging, making the degradation rate among the fastest in the world.

## CTC Leads Blue Swimming Crab Training for Fisheries Managers and Media in Lampung



CTC successfully conducted an online capacity-building training for managers of the blue swimming crab (BSC) fishery and members of the Sustainable BSC Fisheries Management Committee (KPPRB) in Lampung from September 13 to 16 2021. The activity covered various topics about leadership, particularly organizational management and communication. The training was attended by 20 participants. Participants represented the KPPRB Lampung Secretariat and its divisions, including working groups I, II, III, IV and V. The overall objective of the training was to deepen participants' knowledge and understanding of the management and communication procedures in multi-stakeholder organizations like the KPPRB Lampung. This knowledge will hopefully lead to a comprehensive organizational vision and mission, and allow teams to build good communication and develop constructive relationships with each other.

The following week, CTC in collaboration with the KPPRB in Lampung Province and other partners, conducted a media short course for local journalists in Lampung titled "Media Contribution in Sustaining BSC Fisheries in Indonesia." This activity is part of the Rajungan untuk Masyarakat Sejahtera (JUARA) media campaign, which aims to spread awareness of and appreciation for the sustainable BSC capture fishery and other general capture fishery issues within the media at local and national levels.

The hybrid online and in-person activity took place on September 18, 2021, in Lampung City. Fourteen local print and media journalists attended this half-day event, from publications including

News Lampung Terkini, Radar Lampung, Media Lampung, MNC Group/Sindonews, Tribun Lampung, LKBN Antara, Kupas Tuntas, Fajar Sumatera, Lampung Post, Warta Lampung, Teras Lampung, Saibumi, Suara Lampung and Lingkar Utama.

The event brought sustainability experts before the media, including the Directorate General of Capture Fisheries and the Ministry of Marine Affairs, as well as experts from the Fisheries of the Republic of Indonesia, the Marine Affairs and Fisheries Agency of Lampung Province, NGOs, the Indonesian BSC Association (APRI) and the BSC Fishers Communication Forum of Lampung Province. Through each presentation, participants were exposed to the importance of communicating the BSC fishery narratives and key messages to the public.

Towards the end of the training, journalists drafted a comprehensive media coverage proposal by incorporating narratives and key messages that came up throughout the day. These proposals included a theme, title, background, type of news, and news angle, as well as resource persons, questions, and a timeline. The top 5 proposals were then given a small stipend to further pursue in-depth stories and visit stakeholders in the field if needed.

CTC plans to hold the second round of the media short course in Jakarta, targeting national media. It is hoped that by maintaining the news beat at all levels, the issue of BSC fisheries will gain better attention from the wider public.

## New Online Training Resources for Marine Protected Area Practitioners

CTC released four learning modules to enhance knowledge about the many facets of MPA development, including resource use monitoring, development of sustainable marine tourism in MPAs, biophysical monitoring, and perception monitoring in MPAs.

These four modules were developed by CTC in collaboration with the Ministry of Marine Affairs and Fisheries Indonesia and are available in Bahasa Indonesia. Each module spotlights the knowledge, management, skills and work ethic on several aspects of Marine Protected Area development. Everyone can access and download the modules for free in the CTC Academy E-Learning platform via the CTC website.

# PARTNERSHIPS AND LEARNING NETWORKS

## Finding the Nexus Between Business and Environmental Conservation



CTC Executive Director Rili Djohani joined international experts in an online forum hosted by The Economist World Ocean Summit Insight Hour, entitled *How Businesses Can Help Restore the Ocean Ecosystems*.

The forum explored innovative partnerships between companies, scientists and conservationists. The experts, which included Prof. David Smith, Chief Marine Scientist, Mars Petcare, Jennifer Morris, Chief Executive, The Nature Conservancy, and Torsten Thiele from the London School of Economics, discussed how businesses that are dependent on marine resources - such as industrial fisheries or holiday beach resorts - have contributed to the destruction of biodiversity in oceans. This Insight Hour identified how business can be key drivers in restoring the regenerative capacity of critical ecosystems. For example, speakers shared a science-based approach to coral restoration and outlined how industry can help to create a market for sustainable seafood.

## Spreading Awareness About the 30 x 30 Global Initiative

CTC joined conservation experts in a virtual roundtable to spread awareness about the 30 x 30 global initiative to protect 30% of the planet's terrestrial and marine habitats by 2030. The roundtable was entitled "Better Understanding of the 30 x 30 Target (Protected and Conserved Area Management) and was jointly organized by the Embassy of France to the Philippines and Micronesia, the British Embassy in Manila, and the ASEAN Centre for Biodiversity. Speakers from the various governments and non-government organizations from the Asia Pacific region highlighted the urgent need to protect land and marine areas in order to prevent the loss of habitats. Habitat loss threatens the existence of at least 1 million plant and animal species all over the world. "The science-based 30 x 30 target is an ambitious but achievable goal. While each country is encouraged to set and work towards their own targets, the success of this initiative lies in reaching the common objective of 30 percent of protected lands and oceans by 2030 at the global level, where each country makes a contribution to the best of their resources and capacities," French Ambassador to the Philippines Michèle Boccoz said during the virtual event.



CTC Executive Director Rili Djohani noted that the 30 x 30 initiative will have a critical impact in addressing threats to the ocean, specifically in the ASEAN and Coral Triangle countries, and the ecosystem services that oceans provide for fisheries, tourism and coastal protection. She added that in order for the initiative to succeed, there is a need to communicate what the global initiative means for those who will be implementing it on the ground. "It is important to support governments in making the case for the 30x30 initiative in terms of economic and social benefits," she added.

She also noted that social inclusiveness and social equity have to be central in moving the 30 x 30 campaign forward. She said: "Critical in the process is the engagement of local communities in the planning and management of MPAs from the start and ensure they benefit from the MPAs and can continue sustainable livelihood activities in and around the MPA. Examples on how we engage communities in Indonesia include engaging women in post harvesting techniques and seaweed culture, supporting community surveillance groups to help monitor the coastal and marine ecosystems, supporting and building local champions to become marine conservation leaders in their areas, amongst others."

Meanwhile, CTC is proud to support Brigitta Maria Andrea Gunawan, a student of the Australian Independent School in Bali, Indonesia as the youth ambassador for the "30x30" Global Initiative in the upcoming UN Convention on Biological Diversity. CTC champions her awareness campaign, which uses underwater photographs to showcase the efforts of young conservationists in the Nusa Penida MPA who are helping to restore damaged coral reef ecosystems. In her project, 17 year-old Brigitta collected 400 pictures from youths and students in Indonesia and Southeast Asia, to show their commitment and support in protecting at least 30% of the world's ocean, including 32.5 million hectares of Indonesian seas, before 2030. These pictures will then be compiled into a short video that will raise public awareness of the importance of marine conservation.

## CTC Partners with Murdoch University to Deliver Online Conservation and Facilitator Training

Restrictions on travel and emphasis on social distancing due to COVID-19 have limited the opportunities for face-to-face engagement. However, CTC has remained flexible and creative in our delivery of training and workshops. This quarter, we held a three-day training in collaboration with Murdoch University, as part of the Murdoch Sustainable Practicum Program. The program was attended by 10 participants, composed of students from Murdoch University, Udayana University and a Bali-based NGO called Les Sea Communities.

During the three-day program, CTC facilitated critical conversations and the development of projects designed to implement environmental education for coastal community schools in Les Village in Buleleng, Bali. Participants were provided with knowledge about creating facilitation guidelines and material delivery techniques. The training focused on producing engaging and interactive learning activities concerning the importance of the marine ecosystem, the threats to the health of these ecosystems, and potential solutions to environmental problems. These topics were translated into learning programs relevant to a range of school levels. The program equipped the students with an awareness of marine conservation and facilitation skills.

"The training has been really interesting, fun, and super engaging! I feel more confident in speaking to people. My knowledge of marine ecosystems has improved hugely" said Ashlin Duffy from Murdoch University.

The training also emphasized some practical tips to deliver knowledge to early learners. These included creating interactive learning experiences, engaging students in problem-solving activities, and providing learning sessions with simple, fun, and engaging games. At CTC, we believe in the power of merging art, games, and science as an impactful tool for learning. Through interactive learning, we will be able to inspire others to care for our reefs and oceans.



## Sharing Lessons Learned in Reef Rehabilitation



In an effort to share lessons learned and best practices in reef rehabilitation amongst practitioners, the Bali Reef Rehabilitation Network (BRRN) came together on August 20, 2021 to give an update on member-initiated rehabilitation projects around Bali. The Bali Reef Rehabilitation Network: Restoration Practices Webinar was attended by 121 participants from various organizations across Indonesia, including environmental organizations, universities, tourism operators, diving professionals, community groups, and government agencies.

The webinar speakers included CTC Executive Director Rili Djohani, Bloomberg Philanthropies Vibrant Oceans Initiative's Environmental Advocacy Manager Pauline Vaskou, Ministry of Marine Affairs and Fisheries (MMAF) Center for Coastal and Marine Resources Management (BPSPL) Denpasar Head Permana Yudianto and Marine Affairs and Fisheries Department of Bali Province Head Made Sudarsana.

The two keynote speakers, Dr. Rahmadi Prasetya from Dhyana Pura University and Dr. Beginer Subhan from Institut Pertanian Bogor (IPB) University, highlighted critical points about coral restoration practices in Indonesia.

The discussion involved the definition of 'success' in a restoration project and several approaches that have led to successful restorations, as well as social and environmental challenges one might encounter during the process. The recent Indonesian Coral Reef Garden (ICRG) project in Bali was also discussed as a case study.

Seven members of the BRRN (Mars Sustainable Solutions, Nusa Dua Reef Foundation, LINI, Bali Hai Cruise, Blue Corner Dive, Living Seas and Nuansa Pulau a local community group from Penida Island) gave an update on the status of their rehabilitation projects, lessons learned, and the challenges that teams encountered during project implementation. These gave an interesting overview of various methods including the MARRS method, birock, long line and concrete method.

In the discussion, participants talked about the importance of method introduction, monitoring and maintenance plans for coral restoration projects, how to choose the appropriate method based on area characteristics, and the potential of attracting more interest from the general public through visual learning. At the end of the webinar, many participants expressed interest in learning more about coral restoration, including restoration methods that have been used outside of Bali. We hope that this enthusiasm will lead to more collaboration in the future, as a chance to keep learning from one another.



# CENTER FOR MARINE CONSERVATION DELIVERS INTERACTIVE FUN LEARNING PROGRAMS

## Permaculture Garden at CTC Center for Marine Conservation Takes Root



At the CTC Center for Marine Conservation, we are developing a permaculture garden to highlight the connectivity of ridges to reefs and the importance of a zero-waste living to our oceans. The permaculture garden project is designed to support the effectiveness of our new waste management system, which we started in June this year. The waste that we produce will be separated and all of the organic waste will be used to produce the compost for our permaculture garden.



This project marks an important milestone for CTC in our efforts to be sustainable in all we do. The permaculture garden is also ideal for our Center, where we have several plots of land to grow our fruit and vegetables in a sustainable way. The permaculture principles allow us to build a garden that relies on natural processes to promote growth and provide abundant fresh vegetables, fruit, flowers, and herbs.



Through our zero waste and permaculture garden project, we hope to lead by example and inspire visitors to adopt an eco-friendly lifestyle. This project will later be integrated with our fun learning activities at the CTC Center for Marine Conservation which promotes ecosystem balance and love for nature. Stay tuned for updates on our zero-waste management and permaculture garden projects!



## Jump Virtually Into the Ocean with our Coral Dive School's Online Classes & Certification

In August 2021, we rolled out three online specialty and certification courses under the Coral Diving School at CTC's Center for Marine Conservation. The courses include Basic Marine Ecology, Fish Identification, and Coral Identification.

Through these courses, participants are able to discover the wonders of marine ecology, learn how to identify fascinating and beautiful fish of all shapes and sizes and different types of coral reefs. What's even more special is that by taking these courses, participants are directly contributing to marine conservation as all proceeds will be used to support CTC's programs in Indonesia and the Coral Triangle.

The online courses are taught by CTC's Marine Conservation Advisor Marthen Welly and are open to divers and non-divers, provided in collaboration with SSI. Participants can therefore use their certification to qualify for higher level programs under SSI as well.

"I want to help the restoration of coral reefs, given the current conditions. Understanding the general concepts and existing systems can be the first step for me in starting and supporting the journey to protect the marine environment" said Andika Darmawan, one of the course participants.

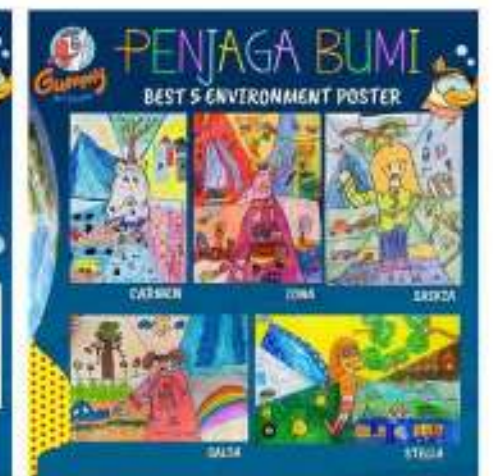


## Storytelling Class with Gummy Art Studio

CTC collaborated with Gummy Art Studio to deliver a series of online fun learning classes on July 12 - 14, 2021, bringing kids along for a virtual tour of life under the sea. Building on the theme of "Penjaga Bumi" or The Earth Guardian, the kids embarked on a mission to protect the ocean and all the living things that depend on it.

The program was attended by 60 participants aged between 4 and 10 years old. Classes introduced the children to the beauty of the coral reefs and some interesting facts about marine animals. The fun learning class, which was delivered through engaging storytelling and virtual tours to the ocean, aimed to introduce students to marine ecosystems, marine animals and ways that we can protect our marine biodiversity. After the virtual tour, the kids were challenged to draw their own submarine which could help to clean up all the trash. The kids also created an environmental poster and a comic strip to inspire others to protect our environment. Out of all the artwork that was submitted by the participants, 8 winners were chosen for each of the categories.

We are looking to further expand our online learning activities for early learners by partnering with schools and learning centers that would like teach marine conservation to their students in a fun and engaging way.



# INSTITUTIONAL DEVELOPMENT

## CTC Welcomes New Board Members

In August, CTC welcomed four new board members from diverse backgrounds, who reflect our growth as a multi-faceted marine conservation organization. The new board members, who are highly-respected individuals from the coastal management, culture, business, and media sectors, will work closely with CTC's Senior Management Team, providing a high degree of counsel and close supervision of CTC's key activities.



### Dr. Suseno Sukoyono

Dr. Suseno Sukoyono is a Senior Principal at the National Institute of Public Administration in Indonesia. Prior to his current role, he was an expert staff member at the Minister of Marine Affairs and Fisheries (MMAF) in the field of Community and Inter-Institutional Relations. He also served as the Director General of Marine and Fisheries Human Resources Development at the MMAF. In partnership with other public, private and non-governmental organizations, he encouraged and supported the establishment of a comprehensive and representative system of marine protected areas in Indonesia, which highlighted the importance of capacity building.

He believes the key to managing marine resources lies in how we manage and improve people. Dr. Sukoyono also served as Chair of the Interim Regional Secretariat of The Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF), Secretary General of GLOBE Indonesia and Chair of the Indonesian Ornamental Fish Council. Dr. Suseno was born in Malang and received his PhD in Marine Technology from the Institut Pertanian Bogor (IPB) in Indonesia.



### Dr. Hilmar Farid Setiadi

Dr. Hilmar Farid Setiadi is the Director General of Culture at the Republic of Indonesia's Ministry of Education and Culture. He is a historian, humanist, researcher and activist. In 1994, together with several artists, researchers, and cultural workers in Jakarta, he led the establishment of the Cultural Work Network. He has also published literature and conducted extensive research on Indonesian culture. In 2002, Dr. Hilmar was involved in the founding of the Indonesian Institute of Social History (ISSI) and was its leader until 2007. Together with ISSI, he collaborated with the Indonesian History Teachers Association to develop history teaching materials for secondary schools.

Currently, he is the chairman of the Praxis association. He is also the first person to occupy the position of Director General from a non-employment ministry level. Dr. Hilmar also teaches at the Jakarta Arts Institute (IKJ) and is active in various cultural forums such as the Asian Regional Exchange for New Alternatives (ARENA) and the Inter Asia Cultural Studies Society. He graduated from the University of Indonesia and the National University of Singapore.



### Lin Neumann

Mr. Lin Neumann is the Managing Director of the American Chamber of Commerce in Indonesia (AmCham Indonesia), an association that represents about 300 US companies doing business in Indonesia. Prior to joining AmCham, Mr. Neumann was a journalist and consultant for many years in Southeast Asia and the US. He was the founding editor of the Jakarta Globe newspaper, and hosted Insight Indonesia, a talk show on BeritaSatuTV in Jakarta, from 2008-2012. He headed award-winning newspapers in Hong Kong, South Korea and Indonesia.

He co-founded an NGO in Thailand in 1998, and worked as a journalist in the Philippines in the 1980s. In the 1990s, he ran a radio station in California and headed two alternative weeklies - the Sacramento News & Review and San Francisco Bay Guardian. As a writer and foreign correspondent, he covered the Philippines, Burma in 1988, South Korea in 1987 and elsewhere. He co-founded the Southeast Asian Press Alliance in Bangkok in 1998 when he was working with the Committee to Protect Journalists. He also worked on press development in East Timor (2000-2003). He has consulted for the UN, UNDP, ASEAN, ADB, The Asia Foundation and private firms.



### Jason Tedjasukmana

Mr. Jason Tedjasukmana is the Head of Corporate Communications at Google Indonesia. He was formerly a journalist and started his career at The Jakarta Post and RCTI's English section. He then joined Metro TV to create its first ever English-language news program, and later on became correspondent for Time Magazine. He was the president of the Jakarta Foreign Correspondents Club, an organization for foreign news correspondents based in Jakarta, for many years. In 2014, he became Head of Corporate Communications at Google Indonesia. He graduated from the University of Michigan.

## Scientific Advisory Board:



### Dr. Rod Salm

Dr. Rod Salm was raised in Mozambique and has a Ph.D. from The Johns Hopkins University. He has 50 years' experience in international marine conservation and ecotourism, working in the Indian Ocean, Arabia, the Caribbean, Central and South America, the Arctic and Antarctic. Although retired from full-time employment, Dr. Salm's principal focus remains conserving coral reefs in the face of global change, including warming seas, ocean acidification, and escalating use and threats. He is able to achieve this through his position as Senior Adviser Emeritus for The Nature Conservancy's Pacific Division Marine Program.

Dr. Salm is the author of Marine and Coastal Protected Areas: A Guide for Planners and Managers. Published by IUCN in its third edition in 2000, this book serves as a widely consulted reference for researchers and experts on marine conservation. In 1999, Rod joined The Nature Conservancy to head up marine conservation in Asia Pacific and was instrumental in developing The Nature Conservancy's Global Marine Initiative. His work had resilience to climate change as a principle focus and grew from the need for a field application response to coral bleaching in the western Pacific to a global program on coral reefs and resilience. Based in Honolulu, Hawaii, Rod moved from Director of the Conservancy's Asia Pacific Marine Program, Coral Triangle Program, and Marine Science and Strategies Team, to Senior Adviser of the Pacific Division Marine Program.

In addition to development and stewardship of innovative science and management strategies for tropical marine ecosystems and species, Rod has played a strong role in training and mentoring conservation scientists from many countries. He has done this to assist them in both interpretation and field applications of science to conservation practice and to help guide in their career development.



# COLLABORATION

## National Governments in the Asia Pacific Region

01. Coral Triangle Initiative for Coral Reefs, Fisheries and Food Security (CTI-CFF) Regional Secretariat and National Coordinating Committees
02. Ministry of Agriculture and Fisheries, Timor-Leste
03. Center for South China Studies of Ministry Foreign Affairs
04. Department of Marine Parks, Malaysia
05. Partnerships in Environmental Management for the Seas of East Asia (PEMSEA)

## Ministry of Marine Affairs and Fisheries (MMAF) of the Government of Indonesia

01. MMAF Human Resources & Community Development Agency (BPSDM-KPI)
02. MMAF DG KP3K, Directorate KKJI
03. MMAF Directorate Marine Biodiversity Conservation Area (KKHL)\*
04. MMAF Fisheries Training Center in Banyuwangi
05. MMAF Fisheries Training Center in Tegal
06. MMAF Fisheries Training Center in Ambon
07. MMAF BPSPL Denpasar
08. MMAF Balai Kawasan Konservasi Perairan Nasional (BKPPN) Kupang
09. MMAF Pengawas Sumberdaya Kelautan Pos Banda

## Provincial Governments and Agencies

01. Bali Provincial Government (Dinas Kelautan dan Perikanan)
02. NTT Provincial Government (Dewan Kawasan Konservasi Perairan Nasional - DKKPN)
03. Maluku Provincial Government (Bappeda and Dinas Kelautan dan Perikanan)
04. Klungkung District Government (Bupati, Bappeda, Dinas Peternakan - Perikanan dan Kelautan, Dinas Pariwisata)
05. Klungkung Regency Government (Pemerintah Klungkung)
06. Central Maluku District Government (District Planning and Marine-Fisheries Office)
07. Seram Timur District Government (Dinas Kelautan dan Perikanan)
08. Certification Institute for Marine Core Competencies - LSPK (Lembaga Sertifikasi Profesi Kelautan)
09. Pusat Pelatihan Mandiri Kelautan dan Perikanan (P2MKP)
10. Balai Teknologi Industri Kreatif Keramik (BBPT-BTIKK)
11. Balai Pengelolaan Hutan Mangrove Wilayah I

## Non Government Organizations

01. International Coral Reef Initiative (ICRI)
02. Global Sustainable Tourism Council (GSTC)
03. International Union for Conservation of Nature (IUCN)
04. The Nature Conservancy (TNC)
05. World Wildlife Fund (WWF)
06. Conservation International (CI)
07. RARE Conservation
08. Conservation Strategic Fund (CSF)
09. Pusat Pendidikan Lingkungan Hidup (PPLH) Bali
10. Yayasan Bahtera Nusantara - Bali
11. Yayasan Nusa Wisata, Nusa Penida
12. Friends of National Park Foundation - Nusa Penida
13. Yayasan Warisan Budaya Banda Naira - Kepulauan Banda
14. Aquatic Alliance Foundation
15. Yayasan Masyarakat dan Perikanan Indonesia (MDPI)
16. Mission Blue
17. Plastic Pollution Coalition
18. Reef World Foundation
19. Environmental Defense Fund (EDF)
20. Starling Resources
21. Oceanic Society
22. Lembaga Partisipasi Pembangunan Masyarakat (LPPM)
23. eL SiL Kie Raha
24. Yayasan Baileo
25. Role Foundation
26. Australian Volunteers International (AVI)
27. Studio Gelombang
28. Seattle Aquarium
29. Mars Sustainable Solutions

## Academic Institutions

01. Australian Tropical Marine Alliance (ATMA)
02. Murdoch University - Australia
03. Georgia University - USA
04. Wageningen University - Netherlands
05. Western University of Australia
06. Victoria Shanghai Academy - Hongkong
07. Indonesian Institute for Science - LIPI
08. Institut Pertanian Bogor - IPB
09. Brawijaya University - UNIBRAW
10. Udayana University - UNUD
11. Hasanudin University - UNHAS
12. Diponegoro University - UNDIP
13. Pattimura University - UNPATTI
14. University Warmadewa in Bali
15. Sekolah Tinggi Perikanan - STP
16. Universitas Pendidikan Ganesha Singaraja - UNDIKSA
17. University of Khairun
18. Sekolah Tinggi Perikanan Hatta Syahrir
19. University of Darussalam

## Private/Corporates/Agencies

01. World Ocean Council
02. Young Presidents Organization
03. National Geographic Society
04. Asian Geographic Magazines Pte Ltd
05. The Body Shop Indonesia
06. Jenggala
07. Grand Luley Resort
08. Kummara
09. GummyBox
10. OceanBellz
11. PADI
12. Hotels in Bali (Hard Rock Hotel Bali, Fairmont, Mercure, Sudamala, Prama, Sanur Paradise, Tanjung Sari)
13. Dive Operators Community Komodo (DOCK)
14. GAHAWISRI Bali
15. GAHAWISRI Maluku
16. Smalling Tours
17. Buffalo Tours
18. Tierra Mar
19. Sustainable Solutions
20. Studio Jy9

## Bali and Nusa Penida

01. Lembongan Marine Association
02. Nusa Lembongan World Diving
03. Lembongan Dive Center
04. Lembongan Dive Operator Association
05. Blue Corner Dive Center
06. Big Fish Dive Center
07. Two Fish Dive Center
08. Bali Hai Cruise
09. Crystal Dive Center
10. All4diving
11. Ena Dive Center Marine Adventures
12. LivingSeas
13. Bali Diving Academy
14. Ceningan Divers Resort
15. Reef Seen Resort

## Maluku and North Maluku

01. Blue Motion Dive Center
02. Mahu Lodge
03. Pari Dive

## Community Based Organizations (CBOs)

### Bali & Nusa Penida

01. Satya Posana Nusa
02. Cotalgi Buana Putra
03. Majelis Arit
04. Forum Krama Muda
05. Mangrove Tour Jungut Babu
06. Forum Petani Rumpun Laut
07. Forum Nelayan
08. Karang Taruna Sanur Kajah
09. Yayasan Pembangunan Sanur
10. Kelompok Nuansa Pulau

### Banda

01. Kelompok Konservasi Masyarakat Pulau Ay
02. Kelompok Konservasi Masyarakat Pulau Rhun
03. Kelompok Konservasi Masyarakat Pulau Hatta
04. Kelompok Kreatif Anak Banda (KKAB)

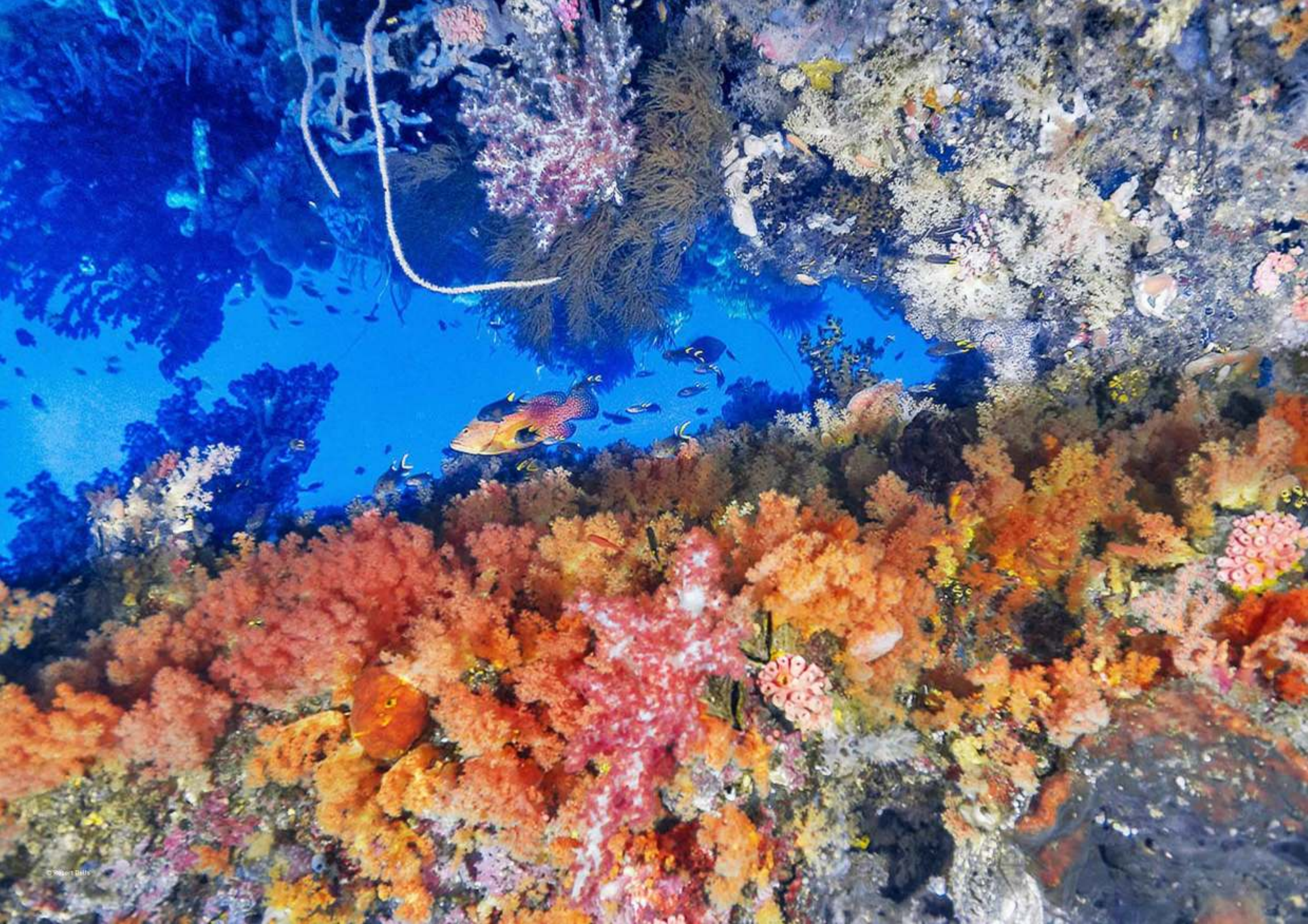
### Lease, Sula and Buano Islands

01. Moluccas Coastal Care (MCC)
02. Happy Green Islands (HGI)
03. Kasis Gereja Protestan Maluku
04. DPD Komite Nasional Pemuda Indonesia (KNPI)

## Donors

01. SymAsia Foundation
02. Rainbow Foundation
03. David and Lucile Packard
04. Margaret A. Cargill Philanthropies
05. Walton Family Foundation
06. Critical Ecosystems Partnership Fund (CEPF)
07. Waterloo Foundation
08. National Geographic
09. Hard Rock Hotel Bali
10. USAID Sustainable Ecosystems Advanced (SEA) Project
11. USDOI (United States Department of Interior)
12. Australian Government (Department of Environment & Energy)
13. AusAid (Australian Consulate-General Bali)
14. UN Environment Programme
15. Arafura and Timor Seas Ecosystem Approach (ATSEA)
16. Bloomberg Philanthropies







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## Coral Triangle Center

Jl. Bet Ngandang II, No.88-89, Sanur  
Bali, 80228 Indonesia

[info@coraltrianglecenter.org](mailto:info@coraltrianglecenter.org)

[www.coraltrianglecenter.org](http://www.coraltrianglecenter.org)