

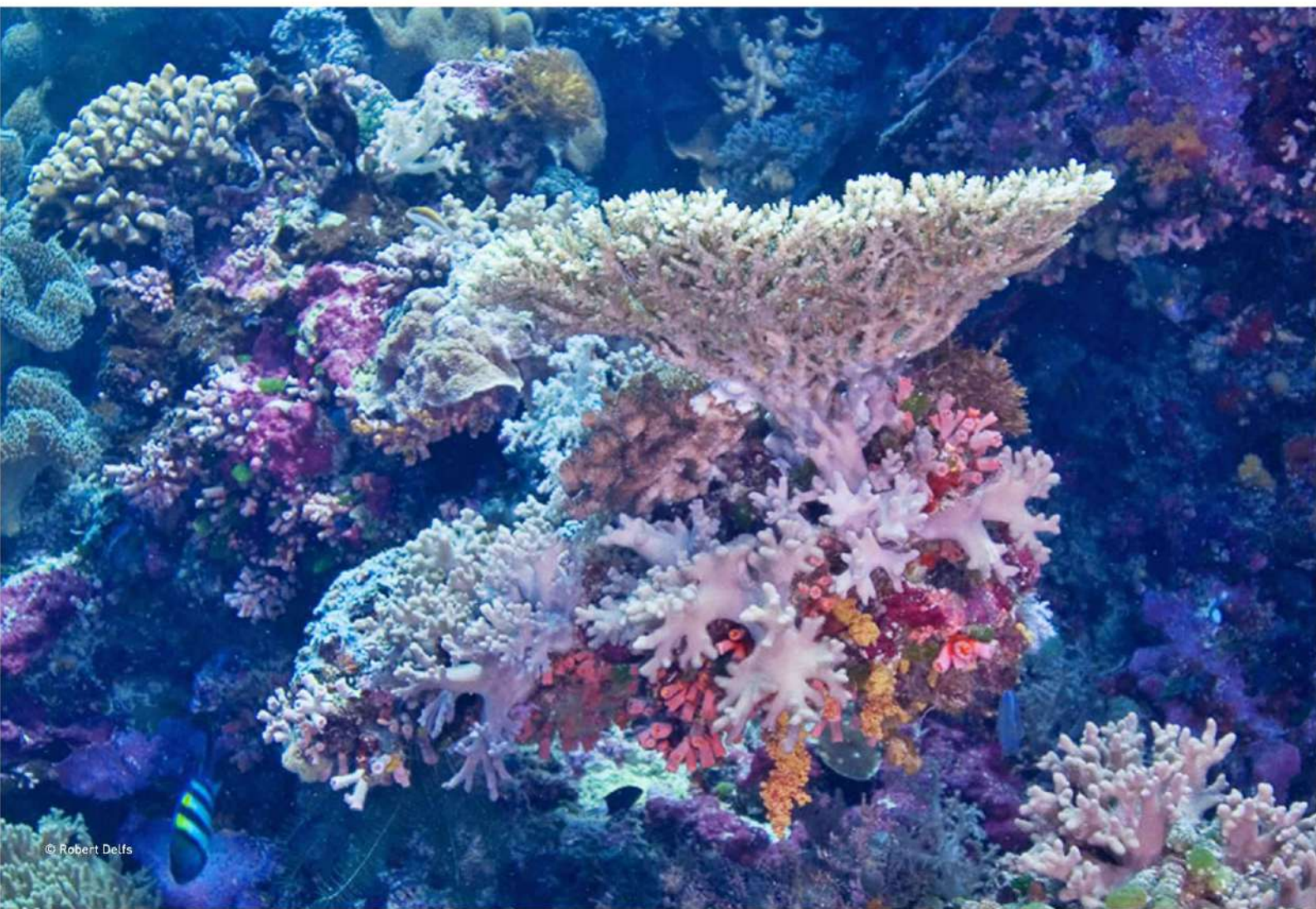


CORAL  
TRIANGLE  
CENTER

Inspiring People Saving Oceans

# FOURTH QUARTER 2022 REPORT

CORAL TRIANGLE CENTER





# TABLE OF CONTENTS

BOARDS .....	iv
ABOUT US .....	01
CORAL TRIANGLE CENTER STRATEGIES .....	02
Foreword .....	03
On-the-ground Conservation Activities .....	04
Building Capacity In Marine Resource Management .....	07
Partnerships and Learning Networks .....	10
Public Education and Outreach .....	12
Center for Marine Conservation .....	13
Institutional Development .....	16
COLLABORATION .....	18



# BOARDS

## FOUNDING MEMBERS

- Mr. George S. Tahija → Commissioner at ANJ-Group
- Mr. Made Subadia → Former Senior Adviser to the Minister of Environment and Forestry in Indonesia

## BOARD OF TRUSTEES

- Mrs. Yuli Ismartono → Managing Editor of AsiaViews
- Prof. Dr. Hasyim Djalal → Former Ambassador at Large for the Law of the Sea and Maritime Affairs
- Mr. Hendrik Sasmito → Owner, PT Panarub Industry

## SUPERVISORY BOARD

- Ms. Susantin Sinarno → Owner of Susantin & Associates
- Mr. Rahmat S.S Soemadipradja → Owner of Soemadipradja & Taher Law Offices
- Dr. Suseno Sukoyono → Senior Principal, Indonesia National Institute of Public Administration
- Dr. Hilmar Farid Setiadi → Director General of Culture, Ministry of Education and Culture, Indonesia
- Mr. Lin Neumann → Managing Director, American Chamber of Commerce (Amcham) Indonesia
- Mr. Jason Tedjasukmana → Head of Corporate Communications, Google Indonesia

## BOARD OF MANAGERS

- Ms. Safira Warili Hawari Djohani → Executive Director, Coral Triangle Center
- Dr. Abdul Ghofar → Senior Fishery Adviser, Marine Stewardship Council and Senior Lecturer, Diponegoro University
- Mr. Marthen Welly → Marine Conservation Advisor, Coral Triangle Center
- Mrs. Hesti Widodo → Senior Program Manager, Coral Triangle Center

## BOARD OF ADVISERS

- Dr. Jamal Jompa → Dean, Faculty of Marine Science, Hasanuddin University, Indonesia
- Dr. Tonny Wagey → Executive Director, Indonesia Climate Change Trust Fund, Ministry of National Development Planning, Indonesia
- Dr. Ir. Luky Adrianto, M.Sc → Center for Coastal and Marine Resources Studies, Bogor Agricultural University, Indonesia
- Prof. Dr. Nor Aieni Binti Haji Mokhtar → Distinguished Research Fellow, University Malaysia Terengganu
- Prof. Dr. Ridzwan Abdul Rahman → University Malaysia Perlis
- Dr. Mundita Lim → Executive Director, ASEAN Center for Biodiversity, Philippines
- Ms. Kay Kumaras Kalim → Department of Environment and Conservation, Papua New Guinea
- Dr. Augustine Mungkaje → Professor, University of Papua New Guinea
- Ms. Agnetha Vave Karamui → Chief Conservation Officer, Ministry of Environment, Climate Change and Disaster Management, Solomon Islands
- Dr. Richard Kenchington → Professorial Fellow, Wollongong University, Australia
- Dr. Anne H. Walton → Marine Protected Area Capacity Building Specialist
- Dr. Kathy MacKinnon → Chair of IUCN World Commission on Protected Areas (WPCA), UK
- Dr. Rod Salm → Senior Adviser Emeritus, The Nature Conservancy, USA



# 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.

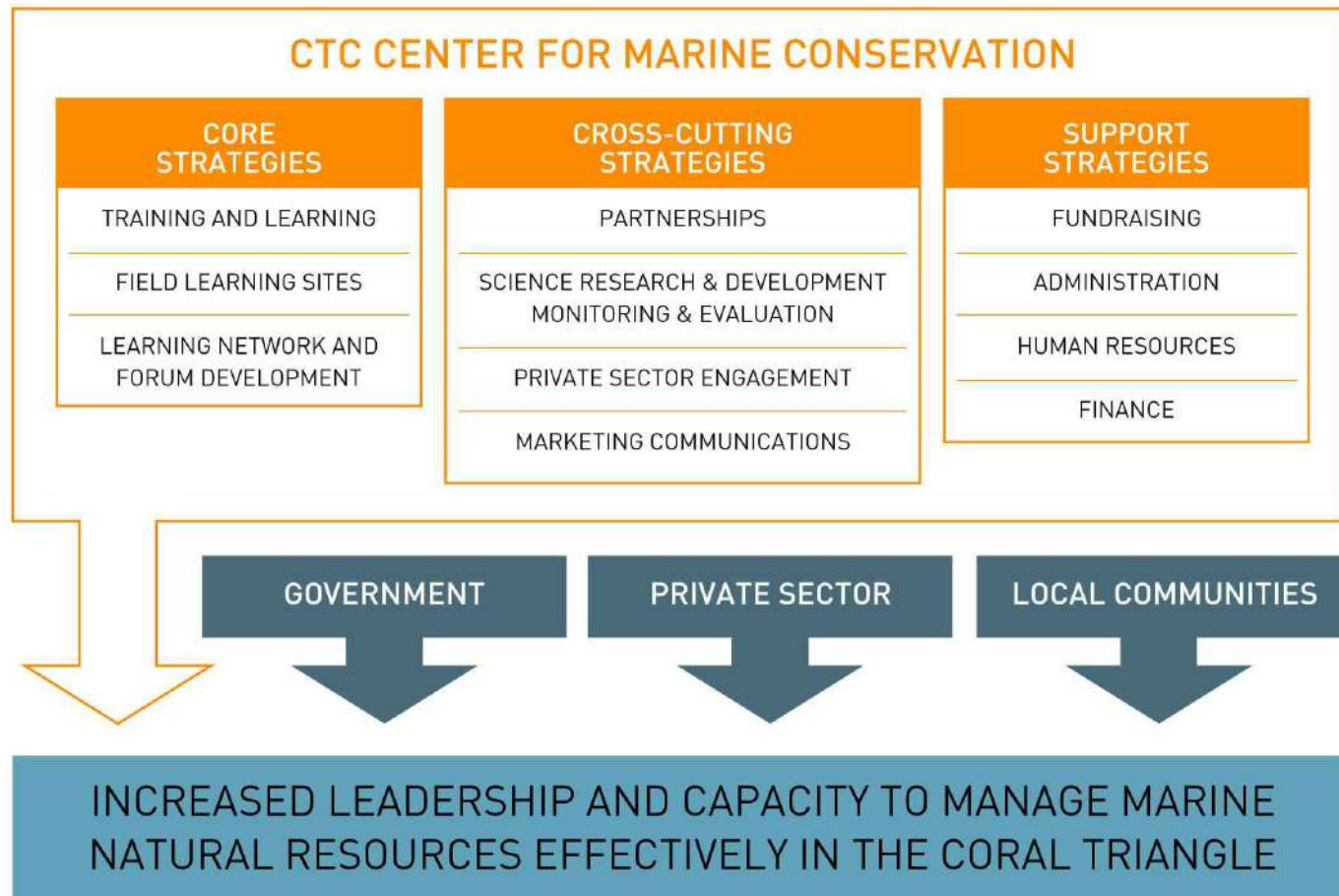
### Collaboration

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

Oceans play a pivotal role in absorbing carbon emissions. Millions of people depend on the blue economy which is based on **natural capital (ocean)** and assets (coastal and marine ecosystems).

Yet, **investment** in ocean conservation, restoration, and sustainability - **SDG 14 Life Below Water** - is less than 1%! How to achieve a just, affordable transition to a blue economy based on nature-based principles?

The paradigm of a **sustainable ocean economy** is endorsed by the High-Level Panel for a Sustainable Ocean Economy (Ocean Panel) through an alliance of 15 heads of state and government representing people from across all ocean basins, nearly 40 percent of the world's coastlines and 30 percent of the world's exclusive economic zones. President of Indonesia is a member of this High-Level Panel.

Leading up to the G20 summit, the Government of Indonesia organized a series of **Ocean 20** meetings and launched an ambitious new partnership for Indonesia called **the National Blue Agenda Partnership**, supported by several bi-lateral donors and global forums such as the World Economic Forum. MMAF Minister, Mr. Sakti Wahyu Trenggoro, emphasized the need for an inclusive approach, community engagement, and equitable distribution of benefits in this partnership and program.

**Ocean 20** was officially launched by GOI in collaboration with the World Economic Forum (WEF), multi- and bi-lateral agencies, and the private sector, such as investor and explorer Ray Dalio, Founder Bridgewater Associates, and Ocean X. The launch sets the stage for the **Ocean20 to become an integral part of the G20 agenda** moving forward to drive concerted action to build a sustainable ocean economy.

The G20 declaration stated that the countries will scale up efforts to combat biodiversity loss and support the global initiative to ensure that **at least 30% of global land and at least 30% of the global ocean and seas are conserved or protected by 2030.**

I came away inspired and hopeful that the oceans will receive in the investment and partnerships needed to become healthy again and support prosperity for all.

**But we need speed!** As mentioned during a round table discussion at the Economist World Ocean Summit recently in Singapore, we do not need more frameworks and negotiations. **We need collaboration, transparency, accountability, capacity and speed** to turn commitment and funding into action now and at scale to address climate change, bio-diversity loss, pollution and over-fishing in an integrated and inclusive way.

Only then, we have a chance to save our planet which involves all of us.

**Rili Djohani**

*Executive Director*



# ON-THE-GROUND CONSERVATION ACTIVITIES

## Trialing Image-based Approaches with Artificial Intelligence for Benthic Reef Health Monitoring at Nusa Penida



The Coral Triangle Center (CTC) conducts an annual reef health monitoring (RHM) at the Nusa Penida Marine Protected Area Learning Site using an underwater visual census (UVC) and benthic monitoring protocols. The UVC records the abundance and biomass of important fish species to assess reef resilience, while the benthic monitoring method involves recording benthic reef conditions by categories such as live hard coral and soft corals, using the Point Intercept Transect (PIT) method.



However, the PIT method has limitations such as the required skills of divers, time constraints, and a lack of statistical power. To overcome these limitations, CTC trialed a novel approach using an image-based underwater photo transect (UPT) method and automated image analysis through machine learning algorithms known as Deep Learning Neural Networks.

The team took approximately 3,900 photographic images for recording benthic conditions or photoquadrats, which are annotated through the Reef Cloud image repository developed by the Australian Institute of Marine Science (AIMS). Reef Cloud uses AI features that automatically annotate points on an image, providing benthic category estimates and allowing users to quickly visualize their data.

The preliminary results of the trial suggest that the percentage estimates of benthic categories through the UPT method are very similar to those of the PIT method, even though only 5% of the images have been annotated by expert users to train the AI used for Reef Cloud. This method allows CTC and other marine conservation practitioners to efficiently monitor coral reefs and respond quickly to disturbances like mass coral bleaching events or crown-of-thorns starfish.



CTC plans to use this method in other MPA learning sites such as the Banda and Lease Islands and to incorporate other methods to help monitor and protect tropical marine ecosystems in the Coral Triangle. The use of machine learning algorithms has transformed the game for annotating coral reef images and is an exciting development for marine conservation organizations that typically lack resources to monitor their images efficiently."



## Manufahi Marine Protected Area Takes Next Step Towards Establishment



CTC has presented a draft Ministerial Decree for the proposed establishment of a marine protected area (MPA) in Manufahi Municipality in Timor-Leste. This marks a significant milestone in our support for on-the-ground marine conservation in the country. The draft document identifies the Manufahi MPA as a total area of 20,900 hectares with an outer boundary of two nautical miles. It also sets out the legal framework for the Manufahi MPA, including conservation targets, management objectives, zoning systems and regulations, management plan and unit structure, and sustainable financing plan. The draft also identifies key stakeholders involved in the MPA management, such as local coastal communities, traditional and village leaders, national and local governments, and non-governmental organizations.



CTC prepared the draft Ministerial decree in partnership with the MAF of Timor-Leste and Manufahi Municipality, under the UNDP Timor-Leste ATSEA-2 project. The conservation targets in Manufahi MPA include coral reefs, mangroves, seagrass, sea turtle, dugong and cetacean. The main goals of the MPA are to protect and restore the ecosystem and critical species by controlling fishing activities, preventing pollution, and developing measures for sustainable use. The new MPA also seeks to increase public awareness about marine conservation and promote responsible tourism practices in the area.

CTC has been heavily involved in establishing Manufahi MPA since early 2022. In collaboration with Timor-Leste's Ministry of Agriculture and Fisheries (MAF), Manufahi Municipality government and local community, CTC facilitated multiple surveys of coral reefs, as well as biophysical and socio-economic indicators as scientific input to the new MPA design. In addition, stakeholder consultation, works to determine conservation targets and the positioning of the outer boundary of the MPA, the development of zoning systems, management unit structure and management plan document, as well as the development of a sustainable financing plan for new MPA in Manufahi.



Apart from Manufahi, CTC also made advances in the preparation of the Nino Konis Santana Protected Area management plan. The document provides guidance on monitoring activities for evaluating management effectiveness in the area. It also contains recommendations for further research and development to ensure long-term sustainability and resilience in managing the marine ecosystem within the boundaries of this protected area. As of November 2022, the plan is ready for submission to the MAF of Timor-Leste. Situated at the easternmost point of the Timor Island, the Nino Konis Santana Protected Area covers 68,000 hectares of terrestrial and 63,500 hectares of marine areas.

With the establishment of these two new MPAs in Timor-Leste, CTC helps local and national governments to meet the global campaign of "30x30" which aims to protect 30% of the world's oceans by 2030.



## Dugong Sighting Recorded in the Lease Islands MPA

Good news from Maluku. Our team spotted a dugong swimming in the waters near Booi Village on Saparua Island. At the same time, they also discovered dugong's feeding trails in the seagrass meadows around the islands, indicating that the charismatic animal may have a good chance of surviving and reproducing in the Lease Islands MPA.

The encounter with this marine mammal happened when the team conducted a biophysical survey to assess dugong habitat in four villages: Porto, Booi, Mahu, and Ihamahu, on Saparua Island, one of the three main islands in the Lease Islands MPA. The team monitored the appearance of dugongs for four consecutive days, from November 28 to December 3, 2022, using visual observation, manta tow, and aerial survey methods. The survey was part of a new project called "Kalesang Dugong" that aims to increase local awareness and capacities in the protection of dugongs and their habitat.



The reported dugong sighting is a major breakthrough for the Lease Islands MPA, as dugongs are an indicator species of healthy marine ecosystems. The presence of dugongs in the area indicates that its waters are supporting a thriving ecosystem with ample food sources to sustain them. Encounters with dugongs are becoming increasingly rare for local coastal communities in Saparua due to plastic waste, marine transportation, and fishing practices. The CTC team also noted several dugong feeding trails among seagrass beds in the villages of Porto and Ihamahu. Some of the trails appeared to be quite new, raising hopes that there are still dugongs living in the waters of Saparua. This was also confirmed by a report from Porto Village staff, who claimed three dugongs were seen swimming in shallow coastal areas by local fishermen.



The population of dugongs in Lease remains unquantified, as the last study in 1992 only recorded 22 to 37 individuals being found alive in the islands. Funded by the Critical Ecosystem Partnership Fund (CEPF), the "Kalesang Dugong" project, run collaboratively by CTC and the Baileo Foundation, will update data and information about the population, distribution, and observation of dugongs, as well as the seagrass ecosystem, through advanced biophysics surveys and regular resource use monitoring (RUM) surveys. It will also result in the development of a citizen science mechanism to support the existing marine conservation database systems at local, regional, and national levels.

CTC also delivered a short training on the management of stranded dugongs and marine mammals to local community members in Saparua on December 2, 2022, in addition to the biophysical survey for dugongs and seagrass ecosystems. The one-day training was attended by 23 participants, 16 men and 7 women, from various elements of the community, including village leaders, customary leaders, youth, women, and local community surveillance groups (Pokmaswas).



# BUILDING CAPACITY IN MARINE RESOURCE MANAGEMENT

## Online Training Course in Coral Restoration Launched

In December 2022, we launched a new online course for reef restoration practitioners, community members, reef managers and students who are interested in learning more about the principles and approaches of resilience-based management, especially in coral reef restoration programs. The course is presented in Bahasa Indonesia and can be accessed via the CTC Academy - CTC's online training portal.

The first module entitled Coral Reef Restoration Indonesia was developed in an effort to strengthen the capabilities of Indonesian coral reef restoration experts.

**Peluncuran Kursus Online Gratis**  
**Pengelolaan Berbasis Resiliensi dalam Program Restorasi Terumbu Karang**

- Pelajari pengetahuan baru mengenai prinsip resiliensi dan restorasi terumbu karang serta pengelolannya di CTC Academy E-learning
- Dapatkan *e-certificate* gratis setelah menyelesaikan kursus
- Pembelajaran mandiri (*self-paced learning*)

**Akses kursus melalui tautan:**  
[bit.ly/kursuspengelolaanrestorasi2022](https://bit.ly/kursuspengelolaanrestorasi2022)

The Mars Assisted Reef Restoration System (MARRS) approach was the main source of information for this training module, and various elements were derived from in-depth instruction on the MARRS system. The goals of this program are to: (1) impart knowledge on the fundamentals of coral biology and coral reef resilience; (2) disseminate information on tactics, approaches, and planning for coral reef restoration; and (3) comprehend pre- and post-restoration activities.

CTC and Mars Sustainable Solutions (MSS) worked together to develop this module with funding from Bloomberg Philanthropies' Vibrant Ocean Initiatives. MSS is a division of Mars Incorporated, that has been working since 2007 to create sustainable social, economic, and environmental solutions that have a positive effect on the community where raw materials for Mars' products are produced. Participants who complete the online training will receive a digital certificate and eventually earn certification for using the MARRS technique itself if they successfully complete both the first stage of online training and the second step of practical training with MSS.

**Peluncuran Kursus Online Gratis**  
**Restorasi Terumbu Karang Indonesia**

- Pelajari pengetahuan baru mengenai berbagai strategi pendekatan, teknik, perencanaan, dan pengelolaan restorasi terumbu karang di CTC Academy E-learning
- Dapatkan *e-certificate* gratis setelah menyelesaikan kursus
- Pembelajaran mandiri (*self-paced learning*)

**Akses kursus melalui tautan:**  
[bit.ly/kursusrestorasikarang2022](https://bit.ly/kursusrestorasikarang2022)

The second module entitled Resilience-Based Management in Coral Reef Restoration Programs, was created as an effort to increase the capacity of coral reef restoration practitioners in Indonesia. The training materials were adapted from the Reef Resilience Network using several case studies of coral restoration programs in Indonesia. The goals of this module are to: (1) impart knowledge about marine ecosystems, particularly coral reefs; (2) impart knowledge about the fundamentals of coral reef resilience; (3) impart knowledge about the fundamentals of coral reef restoration; and (4) impart knowledge about resilience-based coral reef management.

Both training modules are accessible online via these links:

**Coral Restoration Course in Indonesia**  
[bit.ly/kursusrestorasikarang2022](https://bit.ly/kursusrestorasikarang2022)

**Resilience-Based Management Course in Coral Reef Restoration Program**  
[bit.ly/kursuspengelolaanrestorasi2022](https://bit.ly/kursuspengelolaanrestorasi2022)



## Building Capacity for Sustainable Fisheries in Banda Islands

We conducted a training to increase knowledge about the importance of marine protected areas (MPAs) to sustainable fishing practices in the Banda Islands, Maluku. Throughout the three-day session held October 6-8, 2022, a total of 23 fisheries and government staff learned about marine ecology and fisheries management in order to support the ongoing Banda Island Snapper Fisheries program in the area.

Through the MPA training for sustainable fisheries, participants develop the skills to describe the ecology and ecosystems of the target fish, as well as the role of MPAs to support sustainable fisheries. Additionally, through the fish identification session, participants can better identify a number of deep-sea fish species in the Banda Islands. Finally, participants will be able to sharpen their skills in documenting and recording fish types.

CTC, in collaboration with People and Nature Consulting International (PNCI) and Yayasan Konservasi Alam Nusantara, is carrying out the Banda Islands Snapper Fisheries program. This capacity-building program provides targeted support for snapper fishers and fishery stakeholders in the Banda Islands, develop and initiate a fishery monitoring program, and establish a sound and accurate baseline of the Banda deep-water snapper's status which will improve and ensure the sustainability of local snapper fishing practices.



## Training of Trainers for Inclusive Blue Swimming Crab Fisheries in Central Java



CTC completed an extensive training for 19 trainers who will assist in the implementation of a sustainable blue swimming crab (BSC) fisheries project in Central Java. The six-day course covered a variety of topics, such as ecology, the development of a business model canvas, communications, and teaching techniques. The new pool of trainers, equipped with new skills and knowledge, will train and empower BSC women fishers in Rembang Regency in their efforts to increase their participation and market access.

The capacity-building activities, supported by the Walton Family Foundation (WFF), have supported the management of sustainable BSC fisheries in Lampung, Central Java, and West Java. This training is a critical step towards achieving local and national fishery goals as it provides potential trainers with in-depth knowledge on how to best assist BSC women fishers in improving their livelihoods. It also provides them with the tools they need to effectively communicate key messages about BSC fishing practices while using a business model canvas.

Participants included 10 men and 9 women representatives from the Department of Marine Affairs and Fisheries (DKP) at the provincial and regency levels in Central Java,

as well as fishery extension officers and staff from the Fisheries Training and Extension Center (BPPP) in Tegal, Diponegoro University, and NGO partner Mitra Bentala.

Most of the participants felt that the training was beneficial in terms of increasing their knowledge of BSC and promoting BSC products. Nova Apriandeni, a Fisheries Extension Officer (FEO) in Rembang Regency, stated that he had not previously considered different audience groups when delivering field outreach. "Through the TOT, I have learned that "knowing your audience" is essential. "As FEOs, we will be able to convey information more effectively by considering the target audiences and using appropriate tools," said Nova on Tuesday (6/12), the last day of the training.

These trainers will collaborate with CTC in 2023 to increase the capability of BSC women fishers in Rembang Regency in order to support sustainable BSC fisheries and boost the local economy. The support CTC is providing to BSC women fishers in Central Java is a replication of our successful program in Lampung, where we collaborated with local authorities and other NGO partners to make sure that the position of women is acknowledged in regional legislation and plans for sustainable BSC fisheries.



# PARTNERSHIPS AND LEARNING NETWORKS

## Underwater Biodiversity and Unique Cultural Encounters: CTC Board Members Visit the Banda Islands



In October, CTC organized a liveaboard trip for its board members and distinguished guests to the Banda Islands in Maluku, eastern Indonesia. The group spent six days in the archipelago, exploring the islands' rich marine biodiversity and participating in a "Buka Sasi" (Sasi Opening) ceremony to learn about local customs in Ay Island. The Banda Islands are a remote archipelago situated in the Banda Sea, Maluku Tengah District, eastern Indonesia. It comprises of 11 small islands and one atoll, which only seven of them are inhabited. Since 2012, CTC has been supporting the government, local partners and Banda communities to design and develop a resilient MPA network across the archipelago.

Serving as the departure point for the trip was Ambon City, the capital of Maluku. Our Executive Director Rili Djohani led the group that included the Chair of the CTC Board of Trustees Yuli Ismartono, Co-Chair of the CTC Board of Trustees Hendrik Sasmito, CTC Marine Science Coordinator Dominic Bryant, and CTC Marine Protected Area (MPA) Learning Site Manager Purwanto. Also joining the group were Dr. Jos S. Pet and Dr. Lida Pet Soeade from People and Nature Consulting International (PNCI), senior author and journalist John McBeth, business expert Dennis Heffernan and his wife Indriena Basarah, as well as communications expert Claire Leow and her husband Pieter Bas Kappel.

The expedition's first stop was the Lease Islands MPA, where participants were greeted by Wempy Parinusa, the King of Ameth Village in Nusa Laut - one of three main islands in Lease. Mr. Parinussa is our local champion and received CTC's Ocean Legacy Awards in 2019.



The group also went diving to explore the underwater beauty in Molana and Ameth before proceeding the journey to the Banda Islands. The group also dived and observe the beautiful coral ecosystems near the Gunung Api island.

On October 9, CTC had the honor of participating in Ay Island's "Buka Sasi" (Sasi Opening) ceremony. Led by elders of the Sairun Village, this biannual ritual was marked by the colorful Cakalele traditional dance. Prior to the main agenda, CTC's Executive Director and Board Members also participated in the "Pangkatan Anak Adat" ceremony, which symbolizes the local community's acceptance of CTC as honored family members.



In Banda Neira, while exploring some historical sites around the island, the team visited a local waste processing facility run by Yayasan Cahaya Samudera Indonesia (YCSI) and CTC to address the issue of plastic pollution. Since 2021, the plant has sorted and refined 4.5 metric tons of plastic waste from Ay and Rhun Islands before shipping it to East Java for recycling. Guests also observed the MPA Training for Sustainable Fisheries as part of the Banda Islands Deep-Sea Snapper Fisheries project implemented by CTC in collaboration with PNCI and Yayasan Konservasi Alam Nusantara (YKAN).



Sasi is a traditional, community-led practice of managing marine resources through seasonal closures where certain species cannot be fished. This indigenous knowledge plays a critical role in marine conservation in the Ay and Rhun MPA by allowing certain species to grow and reproduce which results in healthier ocean ecosystems and better economic benefits for locals. CTC concluded this trip by arriving at Tulehu Port in Ambon on the last day. Before saying goodbye, our guests met CTC local staff in Ambon.

## Highlighting the Role of Women in Sustainable Blue Economies



To further strengthen partnerships across the region, CTC joined the Asian Development Bank (ADB) Annual Meeting on September 28, 2022. CTC Executive Director Rili Djohani spoke at a side event entitled 'Building sustainable blue economies for food security and livelihoods' jointly organized by WWF and Worldfish.

Ms. Djohani presented on "Scaling Up Capacity and Collaboration via Peer Learning Networks: Lessons Learned from the Women Leaders Forum in the Coral Triangle Region" and shared the important role of women in ocean sustainability.

This panel presented how aquatic foods, healthy diets, and nature-based solutions promote a sustainable blue economy and resilient communities. It was part of the Civil Society Program, which brings key civil society organizations, including nongovernmental organizations, together to discuss important development issues in Asia and the Pacific.

ADB's annual meetings are a premier forum for the discussion of economic and social development issues in Asia and the Pacific. The meetings create opportunities for interaction among finance ministers, central bank governors, and senior officials from member governments; ADB management and senior staff; civil society; the media; and representatives from the private sector, observer countries, and international organizations.

This year's ADB Annual Meeting was held over four days from September 26-30, 2022. It was the first in-person meeting after the pandemic and generated over 4,000 onsite and virtual participants. The meeting discussed the Asia-Pacific region's path to recovery and the new uncertainties facing our developing member countries, including food security, inflation, and debt crises, while linking these challenges to the ongoing threat of climate change.

## Coral Triangle Countries Endorse New Regional Plan of Action and Acknowledge CTC's Role in Highlighting the Initiative Internationally

On November 29, 2022, the six member countries of the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF) held its 8th Ministerial Meeting and endorsed its new Regional Plan of Action 2.0 (RPOA 2.0). CTC as an official development partner of the regional government initiative, welcomes and applauds this milestone.

The new RPOA 2.0 replaces the previous action plan, implemented from 2010 to 2020. Under the new CTI-CFF RPOA 2.0, the governments of Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands, and Timor-Leste, agreed to continuously work together towards institutional and human capacity building, foster collaborative partnership with international and regional institutions, and explore sustainable finance mechanism to support the CTI-CFF towards sustainable management of ocean life.

Amongst the key objectives of the CTI-CFF RPOA 2.0 is to ensure that by 2030 the health of coastal and marine ecosystems, priority threatened species and fisheries in the Coral Triangle region are improved through effective management actions. It also aims that by 2030, the risk resilience and socioeconomic conditions, in particular food security and coastal livelihoods, of communities living in the Coral Triangle region will be improved.

The 8th CTI-CFF Ministerial Meeting was held online and was chaired by H.E. Honorable Nestor Giro, Minister of Fisheries and Marine Resources of the Solomon Islands as Chair of the Council of Ministers of CTI-CFF and co-chaired by HE. Pedro dos Reis, Minister of Agriculture and Fisheries of Democratic Republic of Timor-Leste.



Prior to the Ministerial Meeting, the 17th CTI-CFF Senior Officials Meeting and Pre-SOM meeting were also held online from November 22-25, 2022. CTC participated in both meetings in its capacity as an official development partner and as co-chair of the CTI-CFF Women Leaders Forum (WLF).

In the Chairs' Summary, the CTI-CFF Senior Officials acknowledged and appreciated the contribution of CTC and partners in moving forward with the effort to develop a regional capacity building roadmap to support effective marine protected area management in the Coral Triangle. The CTI-CFF Senior Officials also acknowledged the achievements of the WLF in the last year, CTC's support in highlighting the forum at international conferences, and the efforts of CTC, WWF, and The Nature Conservancy (TNC) in highlighting the contribution of women leaders in the Coral Triangle through online outreach webinars.

## Coral Reef Restoration Task Force Visits Reef Restoration Projects in Sulawesi, Lombok, and Maluku

Indonesia leads the world in the number of existing coral reef restoration programs. A recent review by Dr. Tries Razak revealed that there are hundreds of projects with thousands of structures installed underwater, and millions of coral fragments used. The legal framework is overseen by the Ministry of Marine Affairs and Fisheries, and Environment of Forestry, which holds the key to permit and manage coral reef restoration in Indonesia. Having visited several National Park coral reef restoration sites earlier this year, the Coral Reef Restoration Task Force, a collaboration between CTC and Mars Sustainable Solutions, closed the year by visiting three MPAs: Kapoposang (Sulawesi), Gili Matra (Lombok) & Banda Naira (Maluku).

During the visit, the Task Force learned about how each marine park (Taman Wisata Perairan, TWP) conducted its program. Since 2012, Kapoposang has built a program together with the local community to install 350 Reef Stars in a damaged area just off the coast of the island. Gili Matra and Banda have installed more than 100 reef stars each, along with the incorporation of other coral reef restoration methods such as concrete and bioreeftek. Each park continuously learns from each other through their communication network.

"We first started the coral reef restoration program to address recurring fish bombing issues around the MPA and to promote local ownership, especially among youth," Ilham, the coordinator of TWP Kapoposang, said. "Now, the local people realize how important the reef is and help report bombings around the area to us."

Aside from observing the restoration site, the Task Force also did a survey around seven islands: Kapoposang; Gili Meno, Trawangan, and Air in Gili Matra; Ay, Rhun, and Hatta Island in the Banda Islands. The survey was carried out to identify potential restoration sites to scale up current programs. During our stay, we were involved in relocating several Reef Stars in Kapoposang and joined the training of the community of Gili Meno in preparation to install 2,000 Reef Stars by the end of the year, led by Pariama Hutasoit from the Nusa Dua Reef Foundation.

In addition, the task force team was able to conduct a discussion, survey, and sharing session with the TWP members.

Through these visits, we learned that appropriate site selection and implementation of standards for the chosen method play an important role in promoting coral growth. Routine maintenance and monitoring, as well as sustainable financing, are also crucial aspects of ensuring effective management. Another factor not to be overlooked is sharing information with people who might not be involved in the program, for example, through code of conduct signage and outreach events meant for stakeholders and a wider audience such as students, tourists, tourism operators, youth, women, and other community members.



## Mission Blue Co-Founder Visits Nusa Penida Marine Protected Area (MPA)

In late October, we hosted John Vermilye, co-founder of Mission Blue, for a learning visit in Bali. He visited our Center for Marine Conservation and joined a day trip to the Nusa Penida MPA, which was declared a Mission Blue Hope Spot in 2020. Hope Spots are significant places that are scientifically identified as critical to the health of the ocean.



While in Nusa Penida MPA, Mr. Vermilye and his group snorkeled with manta rays and above healthy coral reefs and did a mangrove forest tour aboard a canoe. He also learned about CTC's marine conservation programs and our efforts to work with communities and protect the unique marine ecosystem. He then met CTC's Executive Director, Rili Djohani, and learned about our organization's programs and enjoyed the new exhibits at our Center for Marine Conservation. It was an inspiring trip and strengthened CTC's collaboration with Mission Blue.

# PUBLIC EDUCATION AND OUTREACH

## Private Sector Collaboration to Promote Ocean Conservation in Nusa Lembongan



CTC once again collaborated with Bali Hai Cruises to conduct awareness-raising and outreach for young children in Nusa Lembongan, focusing on the issues of marine conservation, endangered, threatened, and protected marine species, and plastic pollution. The events featured traditional "Wayang Samudra" performances to create an exciting and fun learning experience for local schoolchildren, as well as a video showing focusing on the protection of manta rays, a popular marine animal found in the islands, and a theater performance by local youth focused on reducing plastic waste.

The first event was held on October 19, 2022, and attended by 63 students and teachers from three elementary schools, while the second event, held a week later, was attended by 58 students and teachers from local junior high and high schools from Nusa Penida and Nusa Lembongan.

The events were attended by Bali Hai Cruises' General Manager Pande Ardika, CTC Executive Director Rili Djohani, and guests from the Australian General Consulate in Bali, including Amelia Ekkel, the Head of Public Diplomacy Unit, as well as representatives from the Management Unit of the Nusa Penida Marine Protected Area (MPA) and the community surveillance group (Pokmaswas).

The CTC and Bali Hai Cruises have been organizing outreach events since 2016 and resumed in 2022 after activities were put on hold during the pandemic.



## CTC's Ocean Keeper Club Ends the Year with Face to Face Fun Learning Session

The Ocean Keeper Club at CTC presented two monthly events this quarter that were centered on Wayang Samudra and sea turtles. Since the club's founding in March 2022, 450 students have participated in its sessions, with the final one taking place in December.

The Club's three main characters, Max, Mindy, and Octa, guided 38 young participants through an hour-long session titled "The Journey of the Sea Turtle" in which they learned more about sea turtles and followed this endearing marine animal as it traveled around the oceans for many years.

In October, a Wayang Samudra performance, online games, and interactive presentations were among the hybrid fun learning activities that were provided to 31 Ocean Keeper club members. Ida Ayu Made, a participant from SDN 2 Sanur, expressed her desire in continuing to attend the program each month. "I enjoy learning about the waters, and this time I learned something new about sea turtles," she said.

The club uses a fun learning approach to teach kids about the wonder of our seas, its distinctive populations, as well as the problems they confront today. It connects schoolchildren from all throughout Indonesia through interactive learning and club engagement and intends to reach more areas next year.



# CENTER FOR MARINE CONSERVATION

## Swiss Embassy in Indonesia and Australian Consulate General in Bali Hold Events at CTC's Center for Marine Conservation

On December 9, the Embassy of Switzerland in Indonesia organized an evening reception at CTC's Center for Marine Conservation. The event was hosted by the Ambassador of Switzerland to Indonesia, Timor-Leste, and ASEAN, His Excellency Olivier Zehnder. The event gathered around 100 guests, representing the Swiss community in Bali. During the event, the guests enjoyed an alfresco meal in our courtyard and visited our interactive exhibits, including the Grand Blue Project by Swiss underwater explorer, Mr. Edi Frommenwiler, as well as our interactive coral restoration exhibit and current art installations.



This seminar featured eight guest speakers. It included three parallel workshops that discussed various topics on the economy of waste management, renewable energy-emerging innovations and solutions-and also a workshop on access, inclusion, and empowerment in environmental programs. The Australian Consulate-General also showcased local community innovations for managing waste and renewable energy initiatives, including projects that the Australian Consulate-General has supported through its Direct Aid Program.



On December 12, the Australian Consulate-General in Bali, along with visiting New Colombo Plan students from Murdoch University, hosted a seminar on waste management and renewable energy at CTC's Center for Marine Conservation. With 155 participants, the seminar aimed to share ideas, encourage new and creative thinking, showcase local solutions, and build partnerships to address waste management and renewable energy challenges in Australia and Indonesia.



## Fun Learning Activities at the Center for Marine Conservation

In this quarter, we started hosting foreign students once again at our Center for Marine Conservation. We received students from Udayana University's Study in Bali program and 4D Reef who joined a variety of our educational programs to get to know more about marine biodiversity and ocean protection.

The Study in Bali group consisted of 15 students from Germany who participated in a short course program in Bali. The short course program also introduces students to the culture and environment of Bali. Another group that we hosted were from 4D-Reef, an EU-funded program investing in the past, present and future of coral reefs. This group consisted of 28 PhD students from various countries who work together to study coral reef conditions across the Coral Triangle region.



© Adam Putra / CTC



During their visit to CTC's Center for Marine Conservation, they had the chance to play our Escape Room and CTC's board game, prior to their visit to the Nusa Penida Marine Protected Area the following day. The trip provided an opportunity to visit the mangrove site in Nusa Lembongan and CTC's coral restoration site in Ped Village in Nusa Penida. Participants had the chance to meet with our partners, local community members and had a hands-on experience in the coral restoration process.



© Adam Putra / CTC



## CTC Hosts Marine and Fisheries Officers from Central Java and East Java Provinces

On September 22, we welcomed 18 officers and staff from the Marine and Fisheries Department of East Java Province to our Center for Marine Conservation. Their visit aimed to raise staff capacity and knowledge about marine conservation. The group was welcomed by Marthen Welly, CTC's Marine Conservation Advisor and continued with a presentation of CTC's recent work in marine protected areas. Wira Sanjaya, CTC's Project Leader for the Nusa Penida MPA, also shared the program's strengths and challenges within the Nusa Penida MPA. The participants were enthusiastic in asking questions and sharing insights related to programs in their own locations.

In December 20, we welcomed 15 officers and staff from the Marine and Fisheries Department of Central Java Province for a learning visit at our Center for Marine Conservation and our learning site in Nusa Penida MPA. The visit was led by the Head of Coastal and Small Island Marine Affairs, Lilik Harnadi.



© Adam Putra / CTC

During the visit, the participants enjoyed a tour at our Center for Marine Conservation and gave them an insight into the work that is being done to protect and conserve the marine environment. They also joined our team for a hands-on learning experience in the Nusa Penida MPA. This was an opportunity for the participants to gain an insight from the field team regarding the design, planning and management of the marine protected area.



CTC works with the Central Java Province to promote sustainable Blue Swimming Crab (BSC) fisheries amongst its fishers. We hope through this visit and sharing knowledge, we will continue to work together to support sustainable fisheries in Indonesia. We are committed to sharing its knowledge of marine conservation with other stakeholders in order to support conservation efforts. We hope that these visits will help strengthen the relationship and collaboration between CTC and our visitors and partners from Central and East Java Province.

## Dutch Artist Creates New Murals at CTC's Center for Marine Conservation



© Rili Djohani / CTC

"I like to see the corals, fish, and sun in the sea." When (CTC Executive Director) Rili (Djohani) asked me to paint on CTC's wall, I wanted to bring my memories back to life. I painted a coral on the front wall, and on the other side, it could be a fish. "So, people will see corals when they come and fish when they leave," she said.



© Rili Djohani / CTC

CTC has collaborated with Dutch artist Anne van Borselen to create new murals at our Center for Marine Conservation highlighting the beauty of our underwater environment. Anne is based in Amsterdam and is a frequent visitor to Bali. She was born in Surabaya in 1937. Painting runs in the family. Her mother, Emiria Soenassa, was a famous Indonesian artist, and her great-great grandfather from her father's side, J.W. Can Borselen, was a landscape painter for King William III from the Netherlands. Anne works with different artistic mediums and is known for her layered, freeform combinations of colors and motifs.

When asked what inspired her murals at CTC's Center for Marine Conservation, Anne said she thought about people and landscapes as well as her memories from snorkeling when she was younger.



© Rili Djohani / CTC

# INSTITUTIONAL DEVELOPMENT

## New Supervisory Board Member



In October, CTC welcomed Linda Uiharto as CTC's new supervisory board member, replacing Susantin Sinarno, who recently retired. In her new role, Ms. Uiharto will be working closely with CTC's finance team, providing critical advice on financial and tax matters as well as guidance during our annual external audit.

Ms. Uiharto is a certified tax consultant, a chartered accountant, and an expert in payroll services. She is currently the Co-Managing Director at Tricor Indonesia, part of the Tricor Group, considered one of Asia's leading business expansion specialists, with global knowledge and local expertise in business, corporate, investor, human resources, payroll, corporate trust, debt services, and governance advisory. She is also one of the founders of PT ASA Indonesia, a business outsourcing company specializing in corporate services.

Prior to these roles, Ms. Uiharto built her career for over a decade as an accountant and tax officer for major industrial companies in Indonesia. She earned her master's degree in finance from Tarumanagara University in Jakarta and she founded PT BPO Seven Inovasi Indonesia. Her company specializes in the business process outsourcing of corporate functions and has been serving clients in an extensive cross-section of industries by managing their critical finance, accounting and commercial activities.

This month, we also bid goodbye and paid tribute to Ms. Sinarno, an avid scuba diver and ocean advocate. As a member of the CTC's Board of Supervisors from 2010 to 2022, she provided critical advice to ensure CTC's solid financial integrity from the very beginning. Her valuable support helped us consistently remain compliant with Indonesia's financial laws and regulations. Ibu Susantin also joined the CTC team in our annual staff retreats and scuba-dived with us to discover and explore Indonesia's unique marine biodiversity that we are protecting. We will miss her valuable advice and positive demeanor and wish her well in her retirement.

In her tribute, CTC Executive Director Rili Djohani thanked Ibu Susantin for her 12 years of service to CTC. "What a great conservation journey we had together. Your zest for diving, love for nature and commitment to CTC's mission has been exemplary. CTC greatly benefitted from your experience and expertise in finance, tax and accounting. Our heartfelt thanks for all your guidance and support, enthusiasm and care for our organization, board and team," Ms. Djohani said.



## Annual Work Planning and Retreat

In November, we held our annual work plan meeting and retreat attended by all CTC staff from Bali, Jakarta and Maluku. The meeting took place at our Center for Marine Conservation in Sanur and Wapa di Ume in Sidemen Bali. It was a great time to recharge and plan for our activities next year.



## New Team Members



### Tabitha Rudang, *Nusa Penida Field Officer*

Tabitha joined CTC in October 2022. As the Nusa Penida Field Officer, she assists in managing the day-to-day operations of CTC's program at the Nusa Penida MPA Learning Site. She also helps maintain relations between CTC and the local community, MPA key stakeholders, and partners. She is responsible for data collection and information on the biophysics, socioeconomics, and governance aspects of the Nusa Penida MPA, as well as supporting the delivery of field training to target communities and other potential partners. Tabitha graduated from the Faculty of Fisheries and Marine Sciences of Diponegoro University, Semarang, Central Java, in 2021. Before joining CTC, Tabitha worked at Gili Shark Conservation as a Project Leader and Lead Scientist, where she taught a women's community group to do the coral restoration and analyze coral growth in different media. Prior to that, she was a commercial diver at PT Antasena Maritim Jaya.



### Gerald Istia, *Lease Islands Field Officer*

Gerald joined CTC in November 2022. As the Lease Islands Field Officer, he supports the implementation of the Kalesang Dugong Project in the Lease Islands MPA. He also assists in stakeholder coordination to achieve the Kalesang Dugong Project objectives by collaborating with the Baileo Foundation team, indigenous communities in the target villages, the government, and the Lease Islands MPA management unit. He will also support the implementation of ecological surveys of dugongs and their habitats, socio-economic surveys, outreach, and community awareness-raising in target villages and the Lease Islands MPA. Gerald holds a Master's degree in Fisheries, Marine, and Small Islands Resource Management Study Program from Pattimura University, Ambon, Indonesia.



### Haryani Turnip, *Policy Coordinator*

Ani joined CTC in November 2022. As CTC's Policy Coordinator, she plays a pivotal role in supporting the implementation of Indonesia's MPA Vision 2030 by facilitating dialogues and coordinating with the national and provincial governments, partner organizations, and other identified agencies. She helps maintain government relations with the Ministry of Marine Affairs and Fisheries (MMAF), Ministry of Tourism, Ministry of Home Affairs, Ministry of Finance, Coordinating Ministry for Maritime Affairs and Investment, Coral Triangle Initiative for Coral Reefs, Fisheries, and Food Security (CTI-CFF) Regional Secretariat, National Coordinating Committee (NCC) Indonesia, and Local Government Network (LGN).



# 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-KP)
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 (BKKN) 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 Word 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 Baiteo
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. OceanBeltz
11. PADI
12. Hotels in Bali (Hard Rock Hotel Bali, Fairmont, Mercure, Sudamala, Prama, Sanur Paradise, Tandjung Sari)
13. Dive Operators Community Komodo (DOCK)
14. GAHAWISRI Bali
15. GAHAWISRI Maluku
16. Smiling Tours
17. Buffalo Tours
18. Tierra Mar
19. Sustainable Solutions
20. Studio JvG

## 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. Celagi Buana Putra
03. Majelis Alit
04. Forum Krama Muda
05. Mangrove Tour Jungut Batu
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. Klasis 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. USDOJ (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



© Dwi Surkan Darmawan

## 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)