



REEF CHECK
Empowering people to save
our reefs and oceans



Methods in tropical reefs monitoring (9th Reef Check course at Bangka Island)

Bangka Island, north Sulawesi, Indonesia, 8-16 October 2020

Reef Check Italia onlus, the Faculty of Fisheries and Marine Sciences of the Sam Ratulangi University (FFMS-UNSRAT), Manado, Indonesia and Coral Eye organise an international field course on coral reefs monitoring approaches opened to both marine biology students and diver volunteers from around the world. The course, taught in English, aims to:

- provide the basic knowledge for the identification of hard corals and their diseases
- present an overview of the well-established coral reefs monitoring approaches
- learn and apply different methods underwater, including Reef Check and Coral Watch protocols
- contribute to the monitoring and conservation of the coral reefs at the Bangka outpost

Lectures and seminars will be alternated with day and night dives, as well as practical sessions in the lab. At the end of the course, it is expected that the participants demonstrate what they learned and discuss the results achieved. Participants will obtain the international tropical **EcoDiver certification** issued by the **Reef Check Foundation**.

Participants

The number of participants is limited to 15. Although it is not required any scientific qualification, participants should be confident with the main groups of marine invertebrates and possibly have some experience in tropical dives. They should hold at least a 2nd level international dive certificate (allowing diving to 30 m depth), a minimum of documented 30 dives, a medical certificate allowing to safely dive (written in English, Italian or Bahasa Indonesia) and international dive insurance (e.g., DAN, DiveAssure, AquaMed). Each participant must carry his/her full diving equipment, except scuba tanks and weights, provided on-site.

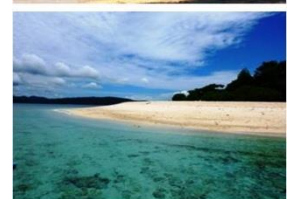
Costs are split in two parts:

1. **Course fee**, including teaching materials and Reef Check certificate, is **€ 260.00** and must be **paid to Reef Check Italia onlus** as a non-refundable deposit **upon confirmation**, either by PayPal (to postmaster@reefcheckitalia.it) or by bank transfer (to Reef Check Italia onlus, UBI BANCA, IBAN: IT08K031111331900000010004 BIC/SWIFT: BLOPIT22).
2. **Full board accommodation** (9 days/8 night) and **dives cost € 840.00** and must be **paid to the Coral Eye upon arrival**. You may pay by cash (Euro or IDR), however prepayment by bank transfer (PT Coral Eye Bangka, Commonwealth Bank, Manado, Sulawesi Utara Indonesia, Euro account: 2950000435, IDR account: 2950000434, SWIFT: BICNIDJA) is recommended. Soft drinks/beers, additional excursions and extras are not included (if you want to by credit card). Moreover, a small donation to the **Bangka Conservation Found** (100,000 IDR ~ 7.00 Euros) will be required on-site. If you like to pay by Credit Card, since not always working, please ask in advance (to info@coral-eye.com).

Transfers from Manado to Bangka and return is managed by Coral Eye and included in the accommodation costs. To properly organise transport from/to Bangka, every participant must arrive at Manado downtown or airport

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c/o Dipartimento di Scienze della Vita e dell'Ambiente, Università Politecnica delle Marche, Via Brecce Bianche, Monte Dago, 60131, Ancona.
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within **8th October 2020, at 9 o'clock**, and leave from Manado airport not before the **16th October 2020, at 16 o'clock**. A longer stay in Bangka must be agreed with Coral-Eye well in advance.

Booking & Confirmation

Subject to availability, booking is available for every participant starting from 1st of March 2020 by sending the application form (available at www.reefcheckitalia.it) and the required attachments by email to postmaster@reefcheckitalia.it. Based on first come first served, only requests comprehensive of all requested documents and the **non-refundable deposit fee (€ 260.00** to Reef Check Italia onlus) will be confirmed.

Grants

Reef Check Italia onlus offers **5 grants** to partially cover the accommodation costs to the most deserving undergraduate students and young (<28 yrs.) graduate biologists or naturalist based on their CV, including diver qualifications and previous volunteer experiences.

1st place = € 800.00

2nd place = € 700.00

3rd place = € 600.00

4th place = € 500.00

5th place = € 400.00

Grant applications must be submitted within the **31st of May 2020** by sending the application form (available at <https://www.reefcheckmed.org/italiano/reef-check-tropical/bangka-2020-bando/>) and the required attachments by email to postmaster@reefcheckitalia.it. Grant selection results will be communicated by email and published on the website within the **18th of June 2020**. Grant acceptance has to be confirmed by the winner as soon as possible and in any case within the **22nd of June 2020**, by sending all the required document and paying the non-refundable deposit fee of **€ 260.00** to Reef Check Italia onlus either by PayPal (to postmaster@reefcheckitalia.it) or by bank transfer (to Reef Check Italia onlus, IBAN: IT08K031111331900000010004 BIC/SWIFT: BLOPIT22). If not confirmed within the due date, the grant will go to the next persons in the list, increasing the grant of the following winners and eventually adding further beneficiaries.

Course contents

This intensive course, at its 9th renewed edition, combines different aspects of coral reef conservation. It includes basic knowledge in corals identification and their diseases, the pollution risks and many approaches to coral reefs monitoring. In particular:

Reef Check Tropical EcoDiver Program



The Reef Check EcoDiver program allows anyone with an interest in the ocean to learn more about tropical coral reefs. Reef Check combines **education** with **action** to give volunteers a unique experience while taking an active role in conserving the world's reefs. The EcoDiver program allows participants the rare opportunity to work with teams of scientists throughout the world to combat the crises affecting our reefs today. The world's reefs are changing fast, and it is up to us to ensure that reefs are around for future generations. Using the globally standardised scientific protocol, the Reef Check EcoDiver program collects valuable data to establish the status of coral

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reefs world-wide. The data are analysed and used locally by marine park managers, nationally by fisheries and environment managers and internationally by organisations including **United Nations** agencies to help better track and care for coral reefs.

Become certified to conduct your Reef Check surveys and take an active role in conserving your favourite coral reefs. This course is designed to teach you everything you need to know to conduct full-scale Reef Check surveys. In this program, you will learn all about the globally standardised Reef Check methodology as well as how to identify key indicator fish, invertebrates and substrates selected by Reef Check for global

monitoring and conservation of coral reefs! This course will allow you to join the Reef Check monitoring team and assist in underwater surveys around the world.

Methods include substrate, fish and invertebrate transects coupled with a socio-economic survey.

Materials: Reef Check EcoDiver Kit for Indo-Pacific, including data board.

Testing and Certification: PowerPoint ID test (80% to pass) and field ID test (90%) to obtain regional certification. Certification qualifies the holder to participate in Reef Check surveys in the region and to submit their data to the global database.

More info: <http://reefcheck.org/ecodiver/about-ecodiver/>

CoralWatch Protocol



CoralWatch is a citizen science project based at The University of Queensland, in Brisbane, Australia.

CoralWatch helps non-scientists around the globe understand and support effective reef management by using engaging tools that provide people with accessible information and hands-on-experience collecting scientific data about the health of corals using the Coral Health Chart. This chart standardises changes in coral colours and provides a simple way for people to quantify coral health and contribute to the CoralWatch global database. The Coral Health Chart is used by dive centres, scientists, school groups, and tourists.

Materials: an underwater kit with Coral Health Chart and data board.

More info: <http://www.coralwatch.org>

Coral Finder Method



An underwater book to learn how to identify hard corals and discover the huge species diversity in a coral reef. The answer to the question “What coral is that?” is in your head – literally. Your eyes and brain are the

world’s most powerful supercomputer capable of solving complex visual problems instantly. Traditional field guides put text between you and the answer – and text needs to be interpreted. The Coral Finder reduces the problem of identifying corals to a series of simple visual choices. The Coral Finder makes coral identification practical and easy by using WYSIWYLF – What You See Is What You Look For! Instead of memorising thousands of images and names in your head you just look up the shape, and the Coral Finder gives you a simple matrix of best bets to choose. Simple – just the way we like it. The Coral Finder creates a choice matrix for easy, at-a-glance decision-making.

Materials: underwater book.

More info: <http://www.byoguides.com/>

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Teaching staff

Prof. Massimo Ponti, benthic ecologist at the University of Bologna



Massimo is graduated in Environmental Science and has a PhD in Ecology. He is adjunct professor in Scientific Diving Methods and Marine Experimental Laboratory at the University of Bologna, in Marine Communities and Ecosystems at the University of Padoa (Italy) and in Quantitative methods in marine science at the Polytechnic University of Marche (Italy). He is the President of the Italian association of scientific divers, diving master instructor and Vice-President of the Reef Check Italy no-profit association. His research experiences range from temperate to tropical benthic ecology, mainly focusing on species diversity, habitat-species interactions, human disturbances, global climate change, marine protected areas and biodiversity conservation.

Prof. Leo Chan Lai, associate Director State Key Laboratory in Marine Pollution City University of Hong Kong



Visiting associate professor, Department of Biomedical Sciences, City University of Hong Kong; Deputy Secretary-General, Shenzhen Marine Innovative Research, Education and Industry Consortium; Director, Shenzhen Key Laboratory for Sustainable Use of Marine Biodiversity; Founder and President, Sea Dweller Union (SDU); Deputy Secretary-General, Shenzhen Marine Research and Technology Consortium (SMART); Deputy Director, Shenzhen Research Centre for the Oceans and Human Health (H2O); Chief Technical Advisor, State Key Laboratory of Marine Environmental Science (Xiamen University); Adjunct Professor, Xiamen University.

Prof. Markus T. Lasut, marine biologist at the Sam Ratulangi University, Manado



Prof. Markus T. Lasut, marine biologist at the Sam Ratulangi University, Manado. Markus is graduated in Faculty of Fisheries at the Sam Ratulangi University (Indonesia) and Marine Science at the Aarhus University (Denmark). He received his Doctor of Technical Science (D.Tech.Sc) in Integrated Tropical Coastal Zone Management at the Asian Institute of Technology (Thailand). Today he is professor in the field of Marine Pollution Studies at the Faculty of Fisheries and Marine Sciences of the Sam Ratulangi University, Manado (Indonesia).

Dr. Daisy Makapedua, marine biologist at the Sam Ratulangi University, Manado



Daisy is graduated in Faculty of Fisheries at the Sam Ratulangi University (Indonesia). She received her PhD in Italy. Today she is a researcher in the field of Marine Sciences at the Faculty of Fisheries and Marine Sciences of the Sam Ratulangi University, Manado (Indonesia). She largely contributed in discovery and study the Indonesian coelacanth *Latimeria menadoensis*. Her main research topics are zoology and physiology, including molecular studies.

Dr. Gianfranco Rossi, marine biologist and Reef Check Tropical Trainer



Franco is graduated in Marine Biology with a thesis on "The involvement of Recreational Scuba divers in the Monitoring of Coastal Environment". Scuba Instructor. Author of the books "Le scogliere coralline" (The coral reefs); Coral Eye Museum (A collection of hard corals from Coral Triangle); Corals (Guide to the identification of the main genera of coral reef builders of the Indo-Pacific Region). Seminars on Scleractinians ID (Coral Reef Builders) at DiSVA - Polytechnic University of Marche (Italy). He is expert in coral killing sponges. He is member of the steering board Reef Check Italy no-profit association.

Dr. Eva Turicchia, benthic ecologist at University of Bologna and environmental educator



Eva is a regional coordinator of RCI initiatives and U-CEM course director. She is in the executive board of the Italian Association of Scientific Divers and in the steering committee of Reef Check Italia. She is a marine benthic ecologist graduated at the University of Bologna. She is also an expert in scientific communication for different age groups, from children to adults, and in the development of visual advertising material. Eva has a post-doc position at the University of Bologna and is appointed as an international consultant by the United Nations Development Programme. Her main interests are temperate and tropical benthic ecology, anthropogenic impact, biotic indices and citizen science programs.

Dr. Marco Segre Reinach, marine biologist and CORAL EYE manager



Marco has a degree in marine biology and oceanography. He developed a direct knowledge of the marine environment while sailing and diving for many years around the world, as crew of regatta and cruises boats. In 2009 after three years around Indonesia, Marco joined up the team, managing the start-up of Coral Eye outpost and after many years he still here...

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Preliminary schedule

Thursday	08/10/2020	morning	Participants arrivals (transport Manado - Bangka)
		afternoon	Check dive ¹
			Course presentation and organisation
		evening after dinner	Introduction to hard corals Introduction to Reef Check method
Friday	09/10/2020	morning	Reef Check method (Fish) Fish identification (snorkeling) ¹
		afternoon	Reef Check method (Invertebrate) Invertebrate identification (snorkeling) ¹
		evening after dinner	Reef Check method (Substrate 1 st part) Coral Watch method
		Saturday	10/10/2020
afternoon	Coral taxonomy: using the Coral Finder		
evening after dinner	1 st night dive (group A) ¹ Seminar: North Sulawesi Ecology, Tourism impacts		
Sunday	11/10/2020		
		afternoon	Data entry & data analysis
		evening after dinner	1 st night dive (group B) ¹ Seminar: Coral Ecosystems Disruptive Microalgae: Source, Distribution, Transfer and Threats
		Monday	12/10/2020
afternoon	Data entry (group A) - Coral Identification (group B) ¹		
evening after dinner	2 nd night dive (group A) ¹ Seminar: Monitoring programs & Coral Diseases		
Tuesday	13/10/2020		
		afternoon	Data entry (group B) - Coral Identification (group A) ¹
		evening after dinner	2 nd night dive (group B) ¹ Reef Check exams (1 st part)
		Wednesday	14/10/2020
afternoon	Mangrove exploration (snorkeling)		
evening after dinner	Reef Check exams (2 nd part) Preparation of student presentations		
Thursday	15/10/2020		
		afternoon	Seminar: Scientific discoveries in North Sulawesi Student presentations
		evening	Beach party
Friday	16/10/2020	morning	Delivery of diplomas Departures

The activities at sea are indicated in blue

¹ House reef at Coral Eye

Note: program can be changed according to weather conditions, leisure dives may be converted in monitoring/sampling dives whenever need.

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