



REEF CHECK
Empowering people to save
our reefs and oceans



Methods in tropical reefs monitoring (8th Reef Check course at Bangka Island)

Bangka Island, north Sulawesi, Indonesia, 3-11 October 2019

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 on 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 an international dive insurance (e.g., DAN, DiveAssure, AquaMed). Each participant must carry his/her own full diving equipment, except scuba tanks and weights, provided on site.

Costs

Course fee, including teaching materials and Reef Check certificate, is **€ 200.00** 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, IBAN: IT08K0311113319000000010004 BIC/SWIFT: BLOPIT22).

Full board accommodation (9 days/8 night) and **dives** cost **€ 800.00** and must be **paid to the Coral Eye** upon arrival. Soft drinks/beers and additional excursions are not included.

Moreover, a small donation to the Bangka Conservation Found (100,000 IDR ~ 7.00 Euros) will be required on site.

Transfers from Manado to Bangka and return is managed by Coral Eye and included in the accommodation costs. In order to properly organise transport from/to Bangka, every participant must arrive to Manado downtown or airport within 3rd October 2019, at 9 o'clock, and leave from Manado airport not before than 11th October 2019, at 15 o'clock. Longer stay in Bangka must be agreed with Coral-Eye well in advance.



Reef Check Italia – onlus

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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Booking & Confirmation

Subject to availability, booking is available for every participant starting from 1st of March 2019 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 will be confirmed.

Fellowships

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 on the basis of their CV, including diver qualifications and previous volunteer experiences.

1st place = € 800.00 (i.e. full board accommodation and dives)

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 2019** by sending the application form (available at <https://www.reefcheckmed.org/italiano/reef-check-tropical/bangka-2019-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 2019**. Grant acceptance has to be confirmed by the winner as soon as possible and in any case within the **22nd of June 2019**, by sending all the required document and paying the non-refundable deposit fee of € 200,00 Reef Check Italia onlus either by PayPal (to postmaster@reefcheckitalia.it) or by bank transfer (to Reef Check Italia onlus, IBAN: IT08K0311113319000000010004 BIC/SWIFT: BLOPIT22). If not confirmed within the due date, the grant will go to the next persons scrolling through the list, increasing the grant of the following winners and adding further beneficiaries.

Course contents

This intensive course, at its 6th 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

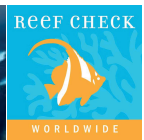
action to give volunteers a unique experience while taking an active role in conserving the world's reefs. The EcoDiver program allows participants the rare opportunity to work with teams of scientists throughout the world to combat the crises affecting our reefs today. The world's reefs are changing fast, and it is up to us to ensure that reefs are around for future generations. Using the globally standardized scientific protocol, the Reef Check EcoDiver program collects valuable data to establish the status of coral reefs world-wide. The data are analysed and used locally by marine park managers, nationally by fisheries and environment managers and internationally by organizations including **United Nations** agencies to help better track and care for coral reefs.

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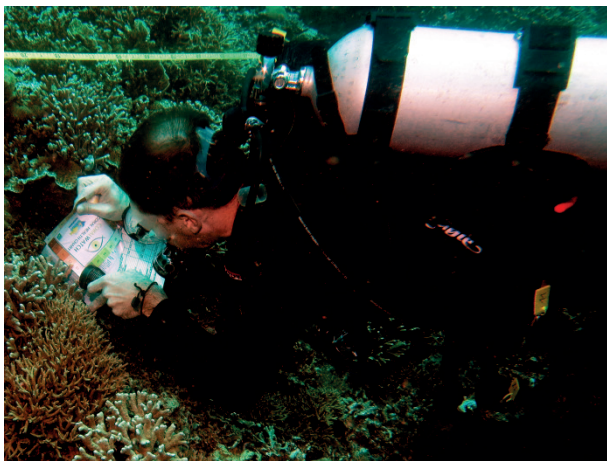


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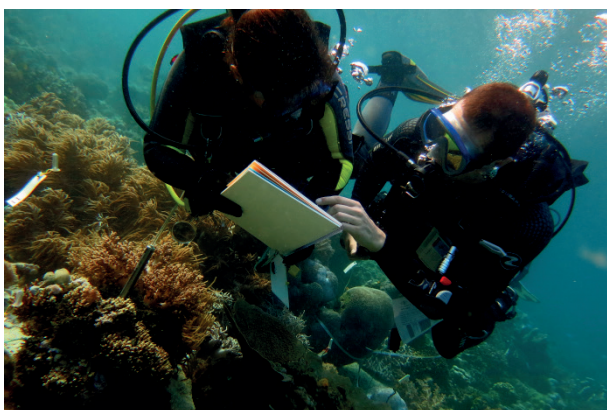
Become certified to conduct your own Reef Check surveys and take an active role in conserving your favourite coral reefs. This course is designed to teach you everything you need to know to conduct full scale Reef Check surveys. In this program you will learn all about the globally standardized Reef 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.

CoralWatch Protocol



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

Coral Finder Method



An underwater book to learn how 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

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 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 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: underwater kit with Coral Health Chart and data board.

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

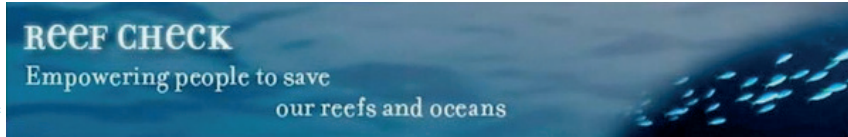
world’s most powerful supercomputer capable of solving complex visual problems instantly. Traditional field guides put text between you and the answer – and text needs to be interpreted. The Coral Finder reduces the problem of identifying corals to a series of simple visual choices. The Coral Finder 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 from. Simple – just the way we like it. The Coral Finder creates a choice matrix for easy, at-a-glance decision making.

Materials: underwater book (some copies are available for purchase).

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 and adjunct professor 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, 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



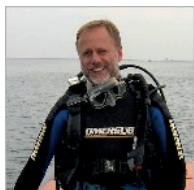
Prof. Markus T. Lasut, marine biologist at the Sam Ratulangi University, Manado. Markus is graduated in Faculty of Fisheries at the Sam Ratulangi University (Indonesia) and Marine Science at the Aarhus University (Denmark). He received his Doctor of Technical Science (D.Tech.Sc) in Integrated Tropical 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 book "Le scogliere coralline" (The coral reefs). 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, marine biologist and environmental educator



Eva is a PhD student in Marine Biology at the University of Bologna, she is graduated in Environmental Science and Marine Biology at the University of Bologna. She is a scuba diving instructor since 2004, with several working experiences in Italy and abroad, Advanced European Scientific Diver and Reef Check coordinator. Her main interests are temperate and tropical benthic ecology, anthropogenic impact, and biological indices.

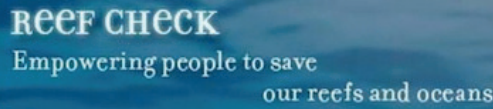
Dr. Marco Segre Reinach, marine biologist and CORAL EYE manager



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	03/10/2019	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	04/10/2019	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	05/10/2019
afternoon	Coral taxonomy: using the Coral Finder		
evening after dinner	1 st night dive (group A) ¹ Seminar: North Sulawesi Ecology, Tourism impacts		
Sunday	06/10/2019		
		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	07/10/2019
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	08/10/2019		
		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	09/10/2019
afternoon	Mangrove exploration (snorkeling)		
evening after dinner	Reef Check exams (2 nd part) Preparation of student presentations		
Thursday	10/10/2019		
		afternoon	Seminar: Scientific discoveries in North Sulawesi Student presentations
		evening	Beach party
Friday	11/10/2019	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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