

REEF TO RAINFOREST

Malaysian Borneo July 2019



**Collect and
Publish Data on
Coral Reefs in
Borneo**

**Become an
Environmentally
Conscious Diver**

**Earn College
Credits**

**Explore a 130
million year-old
rainforest**

**Document rare
and endangered
species**

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Introduction

SEASFiRE organizes citizen science, marine education, and adventure programs which enable you to **explore** nature, **discover** the world around you, and **create** media documenting it, publishing articles, photos, videos, and podcasts, on a dedicated website and on social media.

We mix scuba diving with science education, conservation, and digital production to craft a unique expedition that allows you to experience amazing environments and express yourself in ways you never thought possible.

We help you reach your potential through experiential learning, group activities, and individual projects. Our expeditions allow you to experience the realities of climate change, and to contribute to our understanding of its impact on the most vulnerable ecosystems on earth.



We run positive experiences for the participant and the planet. Conservation is at the heart of what we do, but the program is predicated on teamwork and enormous amounts of fun. All the pictures in this document were taken during SEASFiRE programs.

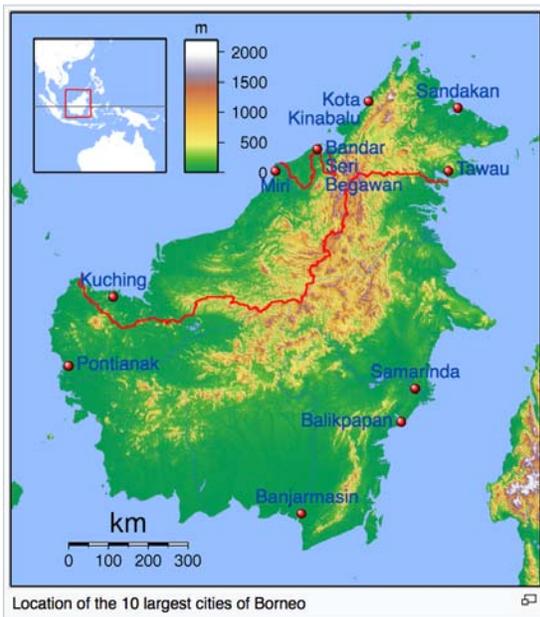
Program Structure

The twelve-day SEASFiRE@Summer program will take place from 12 to 23 July 2019 in Sabah, Malaysian Borneo. You can learn to scuba dive, or if you are already a certified diver, you will learn and refine underwater skills while starting to make and document conservation dives. Throughout the program, you will publish regular updates and your research outcomes on the SEASFiRE website and to internationally-recognised conservation organisations.

The program is split into three distinct phases:

1. Dive/Conservation Training
2. Rainforest Conservation and Wildlife Expeditions
3. Coral Reef Conservation

Destination



The program will take place in Sabah, Malaysia. The diving will take place in Tunku Abdul Rahman Marine Park, which is near Kota Kinabalu, the capital city of Sabah. For the rainforest conservation activities, we will travel to the Sandakan area, on the east of the state. While in Kota Kinabalu, we will dive with Down Below Marine and Wildlife Adventures, staying in their hostel, which is in a new development on the southern end of town. The lodge is open only to Down Below guests, has 24-hour staff cover and CCTV. Each day, we will travel to the Down Below dive centre on Gaya Island or on Manukan island in the marine park for the day's activities.

SEASFiRE Modules

The program includes the following SEASFiRE Modules

- What's the Problem?
- Marine Life Identification
- Introduction to Blogging
- Coral Reef Biodiversity
- The Jungles of Borneo
- The Secret Life of Corals
- Marine Debris

SEASFiRE learning materials will be provided to all participants well in advance of the program. The contents of the modules are described below the Draft Schedule.

Dive/Conservation Training

Days two to five of the program are given over to dive training. If you do not know how to dive, will be enrolled in the PADI Open Water course. Upon completion, you will be certified to dive with a buddy to a maximum depth of 18 metres anywhere on the planet. If you are already a certified diver, you will receive training in underwater photography and marine life identification, completing several conservation dives.

Rainforest Conservation & Wildlife Expeditions

On Day 6, we will travel across Borneo to visit a number of conservation areas and animal sanctuaries in the Sandakan area. There are long journey times within Borneo, but traveling by road enables you to see first-hand the levels of deforestation on the island.

Labuk Bay Proboscis Monkey Sanctuary

Named for their distinctive long noses, the proboscis monkey is endemic to Borneo. Proboscis monkeys' habitat has been destroyed systematically over the past 40 years, and the population has shrunk by about 50% in that time. Labuk Bay Proboscis Monkey sanctuary is a small haven hemmed in by several palm oil estates. Due to the small size of the sanctuary and the deforestation of the surrounding area, natural food sources are scarce. Monkeys are given fruit to supplement their diet by staff at the sanctuary. This isolated population of monkeys has survived as a result. How sustainable this sanctuary is in the longer-term remains to be seen.



Sepilok Orangutan Rehabilitation Centre

Sepilok Orangutan Rehabilitation Centre (SORC) was established in 1964 to rehabilitate orphaned orangutans. The centre stretches across 43km² of protected land, and is home to between 60 and 80 orangutans. About 25 orphaned orangutans live in a special nursery on-site. The centre nurses injured orangutans and other wildlife back to health. Orphaned orangutans are teamed with an adult to learn the skills they would learn from their mother in the wild. In its first 50 years, Sepilok received 758 orangutans. Of these, over 600 have been successfully rehabilitated, with 500 released into the local reserve.

Bornean Sun Bear Conservation Centre

Next door to SORC, the Bornean Sun Bear Conservation Centre was established in 2008. Drawing inspiration from their neighbours, the Centre is dedicated to the rehabilitation and release into the wild of the smallest bear species in the world. Suffering from dramatic habitat loss caused by deforestation, rescued bears can be observed from a dedicated canopy walkway and viewing platform.

Kinabatangan River

We will travel to Bilit Adventure Lodge, which is inside the Sukau-Kinabatangan Wildlife Sanctuary, an area of secondary rainforest south of Sandakan. We will cruise up and down the river in small speedboats, spotting wildlife near the river banks. In the past, SEASFiRE expeditions have seen wild orangutans, pythons, proboscis monkeys and pygmy elephants. At night, we can walk into the secondary rainforest, looking for sleeping birds and small nocturnal creatures, such as civet cats and a vast range of insects. We will plant some belin trees in the rainforest, contributing to the repopulation of the local ironwood population, which is Vulnerable, according to the International Union for the Conservation of Nature.

Coral Reef Conservation

Upon our return to Kota Kinabalu, the entire team will participate in research and media-focused scuba dives and other marine activities.

Creature Feature Dive

Once you have learned essential Marine Life Identification skills, you will be tasked with photographing, then identifying and documenting at least one creature during a dive. You will input data about the organism into the SEASFiRE marine life database.



Marine Life Surveys

The number and range of fish and other organisms living on the reef is a strong indicator of the health of the local ecosystem. You will perform a marine life survey, looking at interactions between marine species, the presence of different organisms, and what this means for the health of the reef.

Coral Health Check

Coral bleaching is one of the most dramatic illustrations of environmental pressures on a coral colony. Coral's colour is a good proxy for more general coral health. You will record observations on a coral health chart and a data slate. All data collected is submitted to the CoralWatch program, which is run by the University of Queensland.

Art Dive

One of the highlights of the expedition is a truly unique experience – the SEASFiRE art dive. We take you to a shallow reef and ask you to draw the corals and fish you observe on a canvas. Learning to draw underwater is a fun challenge, and your drawing is an amazing souvenir of the SEASFiRE program.



Coral Rescue

How would you like to grow your own coral reef? On the last day of the program, we will visit an area where coral is vulnerable to being broken and fragmented. We will snorkel to rescue broken pieces of branching coral. You will bring these corals back to the Down Below dive centre, and use epoxy to glue them to clay dishes. Once the corals have had an opportunity to grow in their new bases, the Down Below staff will return them to the reef from which they were removed, in the hope that a new coral colony can successfully grow.

Beach Cleanup

Of the six million tons of trash that enters the ocean each year, 50 to 80 per cent of it is plastic. Plastic is clogging up our seas and entering the marine food chain. Because it takes hundreds of years for plastic to degrade, it washes up everywhere. Plastic tends to float, and so washes up on shore or can be found in the shallow waters off the beach. We will clean up a beach area near the island, documenting the trash we collect.

Draft Schedule

Day	Non-Divers	Certified Divers	Stay overnight
July 12	Arrival in Kota Kinabalu. Pickup from airport & transfer to DDB Lodge		DDB Lodge, KK
	SEASFiRE Module: What's the Problem?		
July 13	Open Water Training Day 1	SEASFiRE Module: Introduction to Underwater Photography 2 dives: Fun dive and practice with cameras	DDB Lodge, KK
	SEASFiRE Module: Marine Life Identification		
July 14	Open Water Training Day 2	Creature Feature Dive Marine Life Survey	DDB Lodge, KK
	SEASFiRE Module: Introduction to Blogging Document organisms in SEASFiRE's marine life database		
July 15	Open Water Training Day 3	2 Dives: Grouper Hunt; Catching Butterflyfish	DDB Lodge, KK
	SEASFiRE Module: Coral Reef Biodiversity Upload data from marine surveys to earthDive		
July 16	Open Water Training Day 4	Trophic Levels Survey Coral Health Check	DDB Lodge, KK
	SEASFiRE Module: Jungles of Borneo Upload CHC level data to CoralWatch		
July 17	Transfer to Sandakan by bus Visit Labuk Bay Proboscis Monkey Sanctuary		Sepilok Jungle Resort

Day	Non-Divers	Certified Divers	Stay overnight
July 18	Visit Sepilok Orangutan Rehabilitation Centre Visit Sun Bear Conservation Centre Transfer to Bilit Adventure Lodge, Kinabatangan River Cruise Night Jungle Walk		Bilit Adventure Lodge
July 19	River Cruise Tree planting		Bilit Adventure Lodge
	SEASFiRE Module: Underwater photography		
July 20	Bus Transfer to Kota Kinabalu		DDB Lodge, KK
July 21	Creature Feature Dive Marine Life Survey		DDB Lodge, KK
	SEASFiRE Module: Secret Life of Corals		
July 22	Coral Health Check Dive Art Dive		DDB Lodge, KK
	SEASFiRE Module: Marine Debris		
July 23	Snorkel for broken coral and coral planting Beach cleanup		N/A (leave KK in the evening)

Costs

The program costs \$2,000. This includes:

- Accommodation on dorm-sharing basis in Kota Kinabalu, and up to four-people sharing in Bilit Adventure Lodge. Sepilok Jungle Resort is twin-sharing.
- All dive requirements, including training and certification as appropriate.
- All travel within Sabah required by the program.
- All SEASFiRE training materials required for the program.
- Breakfast and lunch in Kota Kinabalu on all days when we visit Gaya Island.
- All meals when travelling in Sabah outside Kota Kinabalu.
- Entry tickets for all centres on the draft schedule.
- Web site, support, and media requirements, including use of cameras on the surface and underwater.

The program costs do not include:

- Dinner on nights when we are in Kota Kinabalu.
- Soft drinks, alcohol, and other discretionary spending
- Travel from your home to Kota Kinabalu.
- Camera permits for the conservation centres we visit.

Conclusion

The SEASFiRE@Summer program exposes you to scuba diving, environmental activism and conservation science. Even with the environmental degradation you will document, Borneo is still an incredible place to visit, and you will see things impossible to find elsewhere. The program is an amazing, rewarding and fun experience, unlike anything else you've ever experienced. Please email us at jschnei@inverhills.edu to register your interest or to ask any questions.

