



## **MARINE & COASTAL ECOLOGY OF THE INDO-PACIFIC: THE THAILAND PROJECT**

**January 22 – March 6, 2017 (Thailand and Malaysia)**

**January 22 – March 6, 2018 (Thailand and possibly Indonesia)**

**Meeting Place: Bangkok, Thailand**

**15 quarter credits/10 semester credits**

### **FULL PROJECT DESCRIPTION**

Thank you for your interest in our Thailand/Indo-Pacific program. This winter (2017), our team will explore the coastal and marine ecosystems of the Indo-Pacific along the Andaman coast of Thailand, and the Pacific coast of Peninsular Malaysia. In 2018 we intend to introduce a new field component in Indonesia and we will announce the details of this segment during the summer of 2017.

Team members will engage in an ecological survey of key habitats on the coastal mainland and several offshore island groups. We'll divide our time between marine national parks that lie on the mainland, protecting habitats that include mangrove forest and sea-grass estuaries, and offshore islands that support spectacular fringing coral reefs. The Indo-Pacific region supports the highest diversity of tropical marine life on Earth. Hundreds of species of reef-building corals form the substrate for an ecosystem that is spatially complex, dynamic and accessible. The number of fish and other animals that are resident on the reef seems nearly uncountable, and many of these species are highly co-evolved with one another. Our time spent in the water and along the shoreline will enable us to experience firsthand lifecycles of predation, competition, and cooperation in these rich marine ecosystems.

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#### **I. Background Information**

Maritime Southeast Asia, as this region is known, has long been a cultural crossroads; today it enjoys some of Asia's richest ethnic diversity. Chinese sailed south as early as the 15<sup>th</sup> Century, bringing Buddhist traditions. Arab merchants came across the Indian Ocean to trade, bringing their Muslim faith, which today remains an important aspect of Malay culture. This rich cultural context enables us to focus on human ecology as we conduct our environmental studies. Several of the places we'll visit support ethnically distinct local populations, including indigenous groups like the Moken and the Uraklawoi, whose animistic traditions offer a

viewpoint that contrasts with the cultural norms of the Thai and Malay people. Our field studies will include visits to coastal communities that fish for a living, using gear that ranges from small-scale cast nets to large commercial trawlers. The depth of their indigenous knowledge about the sea is remarkable, and we will enrich our program by tapping into this knowledge.

As we travel overland through southern Thailand and the Malaysian Peninsula we will discover that the coastal ecosystem is utilized in many different ways. In some places, appropriate, small-scale harvesting of marine resources provides a sustainable lifestyle; in other places, the human enterprise seems disruptive and unsustainable. Often, tranquil coastal communities become vulnerable to exploitation. Even within the National Parks, there are challenges to maintaining healthy marine biodiversity and ecosystem function. For example, shrimp farms coexist uneasily with the mangrove forests, which are recognized for their value as a critical buffer between land and sea, protecting the land from storms and tsunamis, and filtering sediment eroded from the land. Fish trapping for commercial purposes threatens the marine diversity and the economic base in some coral reef areas, as does poorly managed tourism development. With all these environmental challenges surrounding us, we will be able to include shoreline ecosystem management as another key focal area for the program.

## **II. Project Goals and Activities**

Our team will meet in Bangkok, Thailand, then move gradually southward through Thailand to the northern part of Peninsular Malaysia. En route, we will make extended visits to ecologically significant habitats including mangrove forests, sea-grass estuaries, sandy beaches, and the fringing coral reefs that flourish in the crystal-clear waters of the Indo-Pacific. Three of our field sites are island groups that lie well offshore. Two of these – Ko Surin and Ko Adang – are managed by Thailand's Marine National Park System and are located in the Andaman Sea, a part of the Indian Ocean. The third, Pulau Perhentian, lies in the South China Sea off the west coast of Peninsular Malaysia. With abundant sea turtles and large bumphead parrotfish, the Perhentian Islands are geographically and biologically quite distinct from the other places we'll study.

The environmental history of each island group tells a unique story. All of the islands are remote, but Surin and Perhentian have historically been more isolated and better protected from encroachment. This is evident in the larger size of the fish, and the extensive and less disturbed coral gardens found in these places. As we will discover, the fishery at Adang Island has been exploited more intensively by local and outside interests. Today, the National Park is working to maintain biodiversity in the face of intense fish trapping for both subsistence and commercial purposes, and high levels of tourism on nearby islands, which are difficult for the park to control. Both Surin and Adang support small populations of indigenous people whose ethnicity and subsistence lifestyles are different from the Thai, and national park managers in both places are working with these groups to help them maintain their traditional lifestyles and cultural values.

Wildlands Studies teams have visited the Adang Island group annually since 1992, and through these visits we have acquired a solid perspective as to how the coral reefs and associated coastal habitats can change as a result of storms, shifting wind patterns and sea temperatures, seismic events, and human exploitation. This winter, our team will spend about a week on each of these three island groups conducting an academically structured exploration of the coral reef environment. We will perform snorkeling field studies while examining how the reef functions biologically, learning the names and the life histories of the regional fish and invertebrate species associated with the reef, and discussing the many ways the human enterprise is affecting the ecosystem.

Our coral reef study involves using GPS to locate specific places on the reef to measure and photograph the coral. Here, as part of our monitoring effort, we will identify fish species that are sensitive to commercial exploitation or which serve as indicators of ecosystem health, and document the species along the reef edge for comparison among the island groups, and comparison over time. This information is interesting to us, but also useful to Thai marine scientists and the staff of the National Parks who are responsible for managing this resource.

Mainland coastal sites are another focus of our program in Maritime Southeast Asia. Trang Bay is a system of river channels that converges to form an estuary amidst towering pinnacles of weathered limestone. Communities of artisanal fishermen practice ecologically sustainable methods for harvesting crabs and fish from the shallow waters of the bay. With its extensive sea-grass beds (essentially, meadows that flourish on the sandy bottom of calm tropical bays where waters are shallow and clear), the area around Trang supports Thailand's only population of dugongs, or sea-cows. These gentle, grazing marine-mammals are kin to the Caribbean manatee. In Trang, non-government organizations have been active in promoting coastal conservation and the rights of indigenous people to control the local fishery. Local people have in turn become ardent dugong conservationists. It is here in Trang that we will witness how local activism can establish wildlife protection initiatives. We have also selected Khao Sok National Park and the Cheow Lan Reservoir in the interior of Thailand's Southern Peninsula as a representative freshwater habitat to provide an element of contrast, and an opportunity to focus on the tropical evergreen forests that still occur in this region.

**Please note that prior field research experience is not required. All necessary skills of data acquisition will be taught on-site.** Through our field studies we will have a singular opportunity to assess major issues affecting marine conservation and environmental sustainability in the Indo-Pacific region, and to explore possible strategies to help meet the region's future needs. On our program, you can expect to have direct exposure to diverse shoreline and marine ecosystems while learning about the ecology and conservation of those ecosystems.

### **III. Academic Credit**

Students will receive 15 quarter credits/10 semester credits from Western Washington University. Our staff will be happy to explain the program in further detail to the applicant's advisor, if necessary. This field studies program gives credit in three courses:

ESCI 497T, Environmental Wildlands Studies (5 quarter credits/3.35 semester credits)

ESCI 497U, Environmental Field Survey (5 quarter credits/3.35 semester credits)

ESCI 497V, Wildlands Environment and Culture (5 quarter credits/3.35 semester credits)

Letter grades are determined by the quality of assigned work, and by participation in field activities. Students will take two examinations during the program. Material covered on the exams includes field observations, class presentations, information gathered from interviews with local people, and assigned readings. Other assignments may include supervised ecological field research on an introductory level. Team members are also evaluated on participation in discussions and other class activities.

Team members are expected to conduct themselves in a mature and responsible manner. Wildlands Studies reserves the right to require any student to withdraw from the program if their conduct is detrimental to or incompatible with the interests, safety, or welfare of any course participants. We ask all students to read the Student Program Manual before joining the project on-site.

#### **IV. Team Logistics**

Participants will fly into Bangkok, Thailand and meet at the Bangkok Airport. If you are traveling in advance of the program, you can arrange to join the group in Bangkok when the recommended flight arrives at the airport. Participants can decide whether to fly home on the scheduled date or remain in Thailand to travel on your own. Within Southeast Asia, we will travel as a group on both public and privately chartered transport. Examples include train, minibus, and *songtaew* (a truck with benches in the back that is just the right size for our class). Travel to offshore islands involves scheduled boat service. Once we reach the islands, we may hire smaller, locally operated boats to get to the most interesting field sites for snorkeling investigations and other marine field studies.

All reasonable efforts will be made to follow the activities outlined above. However, please understand that on our Thailand program, travel arrangements in Thailand and Malaysia can remain tentative until the traveling actually takes place. Weather conditions, road closures, as well as bureaucratic considerations may affect our plans. Wildlands Studies has put together an innovative, unique program in Southeast Asia, and team members need to be flexible, patient, and prepared to adapt to unexpected situations. Being flexible also allows us to take advantage of unique opportunities that can produce some of the program's most memorable moments. Participants are required to provide their own tent and topical camping gear, including a mattress pad and blanket or sleeping sack. A sleeping bag and cooking equipment are not necessary on this program.

#### **V. Accommodations**

Primarily camping, occasional youth hostel or rural lodge. Accommodations range from National Park bungalows to tent-camping on the beach.

#### **VI. Official Documents/Visa**

You will need a current passport that does not expire until six months after the end of the program. You will also need to obtain a 60-day Tourist Visa from a Thai consulate in the United States or other country. Please complete your visa application in plenty of time before the program starts, because the process may take longer than expected. For Malaysia, we will request a free entry-permit on arrival at the border, which we'll cross by bus. For our return to Thailand, a 15 or 30-day entry permit, available at the border, is sufficient. If your passport is from a country other than the U.S., Canada, E.U., or British Commonwealth, please check with the Thai Embassy to make sure that all of these visa policies apply to you.

#### **VII. LANGUAGE**

The course will be taught English.

#### **VIII. Pre-Program Mailings**

Detailed information regarding travel to Thailand, and visa requirements, equipment/gear requirements, food costs, meeting plans, group expenses payment, medical and vaccination recommendations, and academic preparations will be sent to all team members in a logistics letter emailed about 8-10 weeks before the project starts.

## IX. Project Leaders

CHARLES CHRIS CARPENTER: Ph.D. in Biological Ecology, UC Davis, 1991. Chris is a conservation scientist who has conducted field studies and led natural history expeditions in Asia for over twenty years. His main academic focus is the ecology and geodynamics of mountain environments. He is also interested in the marine world, environmental control of species richness, and strategies for habitat conservation. He lives in Chiangmai, Thailand, and teaches part of the year at Payap University. Chris has been teaching with Wildlands Studies since 1990 and has taught in China, India, and Southeast Asia. He currently leads our Indian Himalaya, Thailand and Nepal Projects.

THANIT KUNKHAJORNPHAN: M.S in Environmental Management, Mahidol University, 1996. Thanit is a cultural ecologist whose research interests include conservation and sustainability. She consults for Payap University in Chiang Mai, Thailand, and has worked throughout Southeast Asia with research organizations to develop effective survey methods and indigenous communities to design culturally appropriate teaching materials. Thanit has been teaching with Wildlands Studies since 1998 and has taught in Thailand, China, Laos, Cambodia, and Malaysia. Thanit currently teaching our Thailand Project.

## X. Project Costs

Program Fee: Winter 2017: \$4000 plus \$150 Application Fee. Program fee due November 1, 2016.

Winter 2018: \$4150 plus \$150 Application Fee. Program fee due November 1, 2017.

Enrollment on a space-available basis after the fee due date until the program is full.

Estimated In-country Expenses: Winter 2017: \$2650 per person.

Winter 2018: \$2750 per person.

Includes most of in-country expenses: all accommodations, in-country transport, payments to guest speakers, National Park entrance fees, logistical support, class supplies, and about 80% of all the meals on the program.

Food Money: \$400-\$500 (varies according to taste, dietary preferences and exchange rate)

Personal Spending Money: \$300 (varies, but don't be caught short)

Airfare: \$1300 (estimated)

The In-Country Expense Fee *does not* include personal expenses like snacks and beverages, souvenirs, personal communication costs (Internet and phone), or visa costs. Individual team members are also expected to pay for some meals in cities and towns, and at some of the field sites where it is more convenient for us to eat in small groups on our own and where reasonably priced meal options are available. This amounts to about 20% of all the meals on the program. For those of us on a limited budget, personal expenses can easily be contained within the USD \$8-10/day range with an additional estimated total meal cost of about \$400.

Students should inquire at the financial aid office of their home campus regarding the use of their loans or grants for this course. Wildlands Studies is not responsible for non-refundable airline or other tickets or payments or any similar penalties that may be incurred as a result of any course cancellation or changes.

**XI. Contact Information**

Email: [wildlands@wildlandsstudies.com](mailto:wildlands@wildlandsstudies.com)

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