ENDANGERED TROPICAL FOREST ECOLOGY IN BORNEO, INDONESIA

Course ID: ARCH 380F
January 25 – February 8, 2021

Academic Credits: 2 Semester Credit Units (Equivalent to 3 Quarter Units)
School of Record: Connecticut College

FIELD SCHOOL DIRECTOR:
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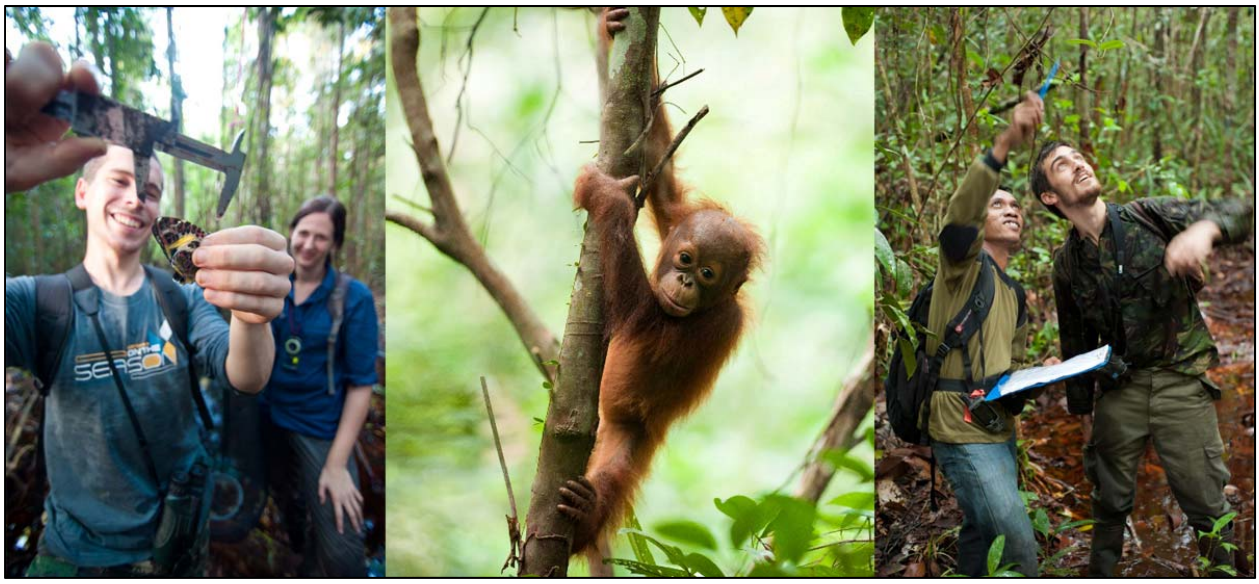

This program is a short introduction to Environmental Science (ES) work. It is designed to present students with the fundamentals of field work and a taste for the rigor of field research. Students considering a full field school experience should apply to any of our standard 4-5 week-long programs.

INTRODUCTION

This course will provide an introduction to endangered peat-swamp forest ecology and conservation on the Island of Borneo, Indonesia. While the program focuses on the Sebangau Forest, lessons learned here have implication and application to the management of endangered environments across the world.

The island of Borneo is renowned as one of the most biodiverse places on the planet, home to a large array of endemic species and unique ecosystems, such as peat-swamp forests. The Borneo Nature Foundation (BNF) is a not-for-profit conservation and research organisation working to protect some of the most important areas of tropical rainforest in Borneo and safeguard their incredible wildlife. BNF's

field programmes include high-quality scientific research as a basis for protecting and managing tropical forests, and we have particular expertise in monitoring the distribution, population status, behaviour and ecology of Borneo's flagship ape species: the critically endangered Bornean orangutan (*Pongo pygmaeus*) and endangered Bornean white-bearded gibbon (*Hylobates albibarbis*). Our wide-ranging biodiversity and forestry research is used to make the case for conservation and demonstrate the harmful impacts of logging and forest conversion. We provide training and capacity building for students, researchers and conservation-area managers, and work with a number of local partners to implement successful conservation projects.

This residential field school will be based in the Natural Laboratory of Peat-swamp Forest (NLPSF), Sebangau, Central Kalimantan where research has been carried out since 1993, in partnership with the Centre for the International Cooperation in Sustainable Management of Tropical Peatland (CIMTROP) at the University of Palangka Raya who manage the site. The former logging camp has been converted into a permanent field station and the previous logging railway now carries only the Indonesian field staff, students and supplies to the forest. Sebangau is of great importance as the biggest remaining lowland forest on Borneo, home to the world's largest protected Bornean orangutan and Bornean white-bearded gibbon populations and delivers a number of important benefits to human communities. Unfortunately, Indonesia also has one of the highest rates of deforestation in the world, placing these biodiversity and community benefits under huge threat. A relative paucity of ecological and social scientific data adds to the challenge of conserving these benefits.

Our field course will provide insight into the tropical peat-swamp forests of Indonesian Borneo. You will learn about the importance of these forests (in terms of biodiversity, carbon storage and other ecosystem services); the threats these face (deforestation, drainage, degradation, fire, wildlife trade, climate change); the drivers of these threats (land conversion for agriculture and oil palm, peat drainage, international markets); the context of these within the local human communities and their relationships with the forest; their impacts on biodiversity (from butterflies to orangutans); and the conservation efforts being undertaken (from international initiatives such as REDD+, to national and local community-led initiatives). Teaching will be through both lectures and practical sessions in the forest, drawing upon the Sebangau projects led by BNF and others, to illustrate relevant topics and teach field techniques. This will provide a wide-ranging and practical learning experience in the Borneo rainforest environment.

ACADEMIC CREDIT UNITS & TRANSCRIPTS

Credit Units: Attending students will be awarded 2 semester credit units (equivalent to 3 quarter credit units) through our academic partner, Connecticut College. Connecticut College is a private, highly ranked liberal arts institution with a deep commitment to undergraduate education. Students will receive a letter grade for attending this field school (see grading assessment and matrix). This field school provides a minimum of 160 direct instructional hours. Students are encouraged to discuss the transferability of credit units with faculty and registrars at their home institution prior to attending this field school.

Transcripts: An official copy of transcripts will be mailed to the permanent address listed by students on their online application. One more transcript may be sent to the student home institution at no cost. Additional transcripts may be ordered at any time through the National Student Clearinghouse: http://bit.ly/2hvurkl.

COURSE OBJECTIVES

This course will provide an introduction to peat-swamp forest ecology and conservation, with a geographic focus on the island of Borneo. The overarching themes are the key factors and principles

underlying peat-swamp forest creation and maintenance, the incredible biodiversity and ecological importance of peatlands, and the way peat-swamp forest research is carried out and informs conservation strategies. Field-based activities and group projects will be complemented with lectures and discussion sessions, led by the school director, expert BNF scientists and local field team members. The two-week residential course will be based within the Sebangau Forest in central Indonesia Borneo. Students will be introduced to and be provided with opportunity to develop field skills in various areas, including primate population density, automated technology (bioacoustics, camera traps), insects, vegetation and peat-swamp forest restoration.

PREREQUISITES

There are no academic prerequisites for participation in this field school. All the course inductions and teaching will be carried out in English, so students must have a good working knowledge of the English language, both written and spoken, for health and safety purposes.

The field school involves physical activities and exposure to the elements and thus requires acceptance that this will not be the typical university learning environment. You will get hot, sweaty, tired, bitten by insects, fall over logs and have to trek in the outdoors. You will be living in a basic forest camp in shared sleeping quarters, with relatively simple (yet tasty) food. It is essential that students are physically and mentally fit and able to cope in a tropical, and at times challenging, environment. Students must accept that unexpected changes in schedule are not unusual, and be ready to spend long hours in the forest (sometimes starting at 4am) with a multi-national team. Last-minute delays, modifications or cancelations to schedules or plans are unavoidable in a jungle environment.

DISCLAIMER – PLEASE READ CAREFULLY

Our primary concern is with education. Traveling and conducting field activities involve risk. Students interested in participating in IFR programs must weigh whether the potential risk is worth the value of the education provided. While risk is inherent in everything we do, we do not take risk lightly. The IFR engages in intensive reviews of each field school location prior to approval. Once a program is accepted, the IFR reviews each program annually to make sure it complies with all our standards and policies, including student safety.

The IFR does not provide trip or travel cancellation insurance. We encourage students to explore such insurance on their own as it may be purchased at affordable prices. AON Student Insurance, Insuremytrip.com or Travelguard.com are possible sites where field school participants may explore travel cancellation insurance quotes and policies. If you do purchase such insurance, make sure the policy covers the cost of both airfare and tuition. See this Wall Street Journal article about travel insurance that may help you whether to purchase such insurance.

We do our best to follow schedule and activities as outlined in this syllabus. Yet local permitting agencies, political, environmental, personal, or weather conditions may force changes. This syllabus, therefore, is only a general commitment. Students should allow flexibility and adaptability as field activities are frequently subject to change.

Indonesia is situated on the equator, and therefore has a tropical climate consisting of a wet and dry season. In Borneo, the wet season is usually October to April, and the dry season May to September. The dry season is usually (but not exclusively) a little hotter than the wet season, and obviously not as wet. Both the wet season and the dry season can last longer than expected. Sudden downpours and tropical storms are to be expected.

As Sebangau is a peat-swamp forest, it is very different to a dryland rainforest. It can be extremely wet, and during the wet season it is flooded – the standing water can be waist deep in many places.

Hummocks, tree roots and hidden holes mean that walking can be extremely hard work. Falling over is something of a rite of passage. On top of this the humidity and temperatures are very high. Typical daytime shade temperatures are 32ºC at base camp or in the towns and 27ºC in the jungle. In the late evenings the temperature can drop in the forest (by up to 7ºC), so it can feel quite cool compared to town. To move around the forest some sections have single plank boardwalks, which may be slippery or broken in some places. The rest of the time is spent walking through the forest itself, which can be very muddy or wet. This makes it a rewarding, yet challenging environment.

Hazards and risks in the forest range from mosquitoes, tree stilt roots through to venomous snakes, spiders and scorpions. Before entering the forest, students will have an induction to the forest and training. If students have any medical concerns, BNF advises them to consult with their doctor. For all other concerns, please consult with the school director.

LEARNING OUTCOMES

Upon completion of the course, we expect that students will be able to:

- Demonstrate holistic knowledge of the tropical peat-swamp forest ecosystem and its conservation status, and the importance of this understanding for wildlife and habitat conservation, with an emphasis on Indonesian Borneo;
- Evaluate the causes and importance of the effects of natural and human induced disturbance on the ecosystem;
- Understand the importance of ecosystem services for the community and explain the synergies and contrasts between conservation and local livelihood goals; and
- Apply this knowledge in the field and present findings to the group.

By the end of the course, participants will have received training on various ecological monitoring techniques, complemented with knowledge about social study techniques and the importance of community outreach, livelihoods and engagement, to help understand the conservation status of tropical forest ecosystems. Participants will also learn the skills needed to create and implement projects by undertaking their own short field practice projects. The knowledge and the experiences gained during this two-week field school will offer a window into a career in conservation biology and an unforgettable experience!

GRADING MATRIX

Student grades from the field school will be assessed based on the following weightings:

25%: Student attends and actively participates each scheduled day, including all lectures, group discussions and forest activities.

50%: Student maintains a field notebook that records lessons learned and insights gained, reflections related to assigned reading and lectures, plus consideration of wider implications of topics covered in the course. This to be done through daily diary entries and written answers to assigned short essay questions. This must be submitted at the end of the course together with a brief 1-2-page field report that summarizes and highlights key findings and lessons learned.

25%: Undertake practice study project, present learning outcomes to the group and write short report in field notebook.

TRAVEL & MEETING POINT

We suggest you hold purchasing your airline ticket until six (6) weeks prior to departure date. Natural disasters, political changes, weather conditions and a range of other factors may require the cancelation

of a field school. The IFR typically takes a close look at local conditions 6-7 weeks prior to program beginning and make Go/No Go decisions by then. Such time frame still allows the purchase deeply discounted airline tickets while protecting students from potential loss if airline ticket costs if we decide to cancel a program.

Students can book their international and domestic flight together through a travel agency or online flight search engine or fly into Soekarno Airport in Jakarta and then book a return domestic flight from Jakarta to Tjilik Riwut Airport in Palangka Raya. Tjilik Riwut Airport is not an international airport. At immigration in Indonesia, agents will require students to show a return ticket out of the country, so it is necessary to purchase a ticket to leave the country before starting their journey. For international flights, United, American or Asian airlines such as ANA, Japan Airlines are usually the cheapest flights flying from the US to Indonesia. These can be booked using a travel agency, the airline's website or cut-price websites, like expedia.com, skyscanner.com or priceline.com. Students need to book their flight to arrive into Palangka Raya on the start date of the course and BNF recommends booking a domestic Garuda flight. At the time of writing, Garuda offer two flights per day from Jakarta to Palangka Raya, at 5:45am and 2:55pm. Students also need to book their flight leaving from Palangka Raya on the final day of the course. Return flights to Jakarta on Garuda are currently scheduled for 8:20am and 5:30pm. BNF recommends ensuring at least four hours between your domestic arrival/departure time and international arrival/departure time for transferring at Jakarta International Airport. BNF requests all students send a copy of their itinerary to join@borneonature.org at least two weeks prior to their arrival to arrange meeting at the airport.

Upon arrival, students will be greeted at the arrivals exit of Tjilik Riwut Airport. If students miss their connection or flight is delayed, BNF asks students to call the number listed on the Syllabus or contact join@borneonature.org. A local emergency cell phone number will be provided to all enrolled students.

VISA REQUIREMENTS

For participation in the course, students are required to obtain an Indonesian Social Cultural Visa from the nearest Indonesian Embassy or Consulate in the student's country of origin or residence. BNF will be in contact with students approximately two months prior to their departure to send over the Social-Cultural Visa instructions and documents required from BNF to support the visa application. Under the conditions of the Social-Cultural Visa, students are only permitted to participate in activities related to BNF and travelling around the country after the course strictly as a tourist. This means that students are not permitted to travel before the course on this visa or volunteer/participate in activities with other organizations within Indonesia. If students wish to travel before the program within Indonesia, students will need to enter Indonesia on a Visa-On-Arrival. Students would then need to leave the country to apply for the Social-Cultural Visa sponsored by BNF's Indonesian counterpart at an Indonesian Embassy in Singapore or Malaysia and re-enter Jakarta using this Social-Cultural Visa. If students do wish to travel after the course, BNF just requests your travel information for the duration of your stay within Indonesia to inform BNF's Indonesian counterpart (sponsoring the visa) of further plans after the activities with BNF have ended.

There is one Indonesian Embassy located in Washington DC and five Indonesian Consulates in the US, which are located in Chicago, Los Angeles, San Francisco, New York and Houston. Students should refer to this website to determine which embassy or consulate to apply through to obtain their visa based on the jurisdiction of each consulate: http://www.embassyofindonesia.org/index.php/2016/01/24/list-of-consulates-general-of-the-republic-of-indonesia-in-the-united-states-of-america/. After students have been accepted on the course, BNF will need the students to send over a copy of their passport and CV and confirm which embassy/consulate they will be applying to so the appropriate support letter from BNF's Indonesian counterpart can be prepared. **NOTE**: Passports must have at least 6 months validity and at

least two blank pages for visas (amendment and endorsement pages cannot be used for visa purposes). BNF are responsible for providing the support letter from BNF's Indonesian counterpart and photocopy of the identify card of the Indonesian sponsor, both of which are required for the visa applications. In addition to these two documents, students will need to provide:

- Two recent color passport photo (4cm x 6cm) (white background)-do not staple or affix to the form;
- Completed online application form (in duplicate)-complete online first to register your application (see instructions below) but then send in the application as well with these documents from the link at the top of the page;
- Copy of your US state license;
- Copy of Green Card (for non-US citizens);
- Travel itinerary-both inbound and outbound to prove that you will be returning to the US and leaving Indonesia before 60 days
- Proof of financial support (bank statement minimum of $2000)
- For the embassy in Chicago, students will also need to obtain a letter from their university acknowledging their participation in the course.

Prior to sending in these documents, students will need to complete an online application to register their visa application through this link: https://consular.embassyofindonesia.org/. Below are instructions for how to fill out the Online Application Form:

Scroll below on the page and click on "Visit Visa-Socio Cultural to Indonesia". To the right of the page (after you have again read through the instructions), you can click on "start your application".

To start, you need to choose the state you live in, which should then correspond to the embassy you have already listed on your support letter from Indonesian sponsor. Then print the registration number you are given for future reference.

Purpose of Visit: Social

Visa Type: SINGLE

Length of Stay: State the length of time you will be spending in Indonesia with BNF (maximum for Social Cultural is 60 days).

Point of Entry and Departure: Jakarta

Fill in your travel information below

Address in Indonesia: JALAN SEMERU No. 91, City: PALANGKA RAYA 73112; Province: KALIMANTAN TENGAH; Tel: 0536 3221429

Sponsorship in Indonesia:

Type of Sponsor: OTHER

Organization's Name: UPT LLG-CIMTROP, UNIVERSITAS PALANGKA RAYA

Contact Name: Dr. Ir. Yusurum Jagau

Address: KAMPUS UNPAR TUNJUNG NYAHO; City: PALANGKA RAYA 73111; Province: KALIMANTAN TENGAH; Tel: 0536 3236880

If you have flight details please fill them in at the bottom – if not leave the section blank. NB: The Embassy has been known to insist on a ticket proving you plan to leave Indonesia.

Personal Information – Occupation:

If enrolled at University: "STUDENT" then your University address

If not enrolled at University: Tick OTHER and write NOT APPLICABLE for Name of Company and NOT APPLICABLE for any other information involving company details

Fill in other information as so, with passport info and upload a visa photo.

Students need to print two double-sided copies of their application form to send with their application. When applying, students should check embassy opening hours – the embassy is closed on both US and Indonesian national holidays. Visas take 3-5 working days to process if submitted in person and 5-7 working days when submitted via mail. The cost of the Social-Cultural Visa is $50 for the Chicago, Houston, Los Angeles and San Francisco Consulates and Washington DC Embassy and $55 for the New York Consulate. Payments can be made by company checks, cashier's checks and money order only. Students should address the money order to the "Indonesian Consulate General" or "Indonesian Embassy" for the respective office. For visa applications by mail, students should submit a prepaid self-addressed return envelope by U.S. Postal Service Express Mail/FedEx (No Ground FedEx) or UPS with tracking number. Please note that the embassy does not have expedited service and students should send the application and required documents listed above to the respective embassy address.

BNF has separate visa instructions for each Indonesian Embassy/Consulate within the US, as well as several other Indonesian Embassies/Consulates throughout the world, so BNF is happy to assist citizens of other countries with the application process via other Indonesian Embassies. Upon arrival at Immigration in Jakarta, students should walk past the Visa-On-Arrival desk, as they will already have the Social-Cultural Visa and go directly to the main foreigners' immigration desks.

ACCOMMODATION

At the field site, students sleep on bunk beds in single-sex dormitory style rooms equipped with mosquito nets, pillows, mattresses and sheets provided by BNF. Students should bring their own sleeping bag/sleeping bag liner. Shelves and plastic storage boxes are provided for personal belongings. There are no fans or air conditioning at camp. There is a common area with tables for the students to work at and a separate meeting/workshop space within the accommodation block where lectures will be held. Students are responsible for hand washing their own clothes, but all washing equipment will be provided at camp.

There is only one western-style toilet at camp, all other toilets are squat toilets, as is standard throughout Indonesia, and the camp is equipped with a sewage system. Toilet paper is provided, but this is not flushed down the toilets and is disposed of separately. The bathroom in Indonesia is called a 'mandi' and 'to mandi' is to take a shower. These are cubicles with a water supply, in a large bucket, which you pour over yourself. There is no hot water, but water is instead pumped from beneath the surface of the peat to be used for the bathrooms and washing clothes.

Camp is equipped with a generator, which runs from 5pm to 10pm every evening, providing time to charge electrical equipment such as phones, laptops and cameras. While at camp, and within the forest, the internet signal is generally strong enough to contact friends and family using WhatsApp. Sending and receiving emails is sometimes possible, but cannot be relied upon. There is no WiFi, so students need to unlock their US phone and purchase an Indonesian SIM card that is specifically for internet and which usually costs about US$5.

Meals are served at camp regularly at 7am, midday and at 6pm. Snacks are also provided every day for students to take into the forest with them. Meals are traditional Indonesian food, which includes rice with every meal. Drinking water and hot water for tea, coffee and hot chocolate is freely available at

camp. BNF makes every effort to accommodate vegetarian, vegan and any other dietary preferences/food allergies at camp. This will be more difficult for the time spent in Palangka Raya, especially for vegans, so BNF recommends students consider bringing supplements/multi-vitamins along with them. Please note: a severe peanut, soy or egg allergy could be difficult to accommodate as these foods are used frequently in Indonesian cooking, but BNF has no problem with accommodating gluten or lactose intolerant diets.

COURSE SCHEDULE

All IFR field schools begin with safety orientation. This orientation includes instruction on how to behave at the field site, proper clothing, local cultural sensitivities and sensibilities, potential hazards posed by fauna and flora, review IFR harassment and discrimination policies and review of the student Code of Conduct.

The provisional schedule below is designed to present the theory and rationale in lecture form, prior to carrying out practical sessions in the field. The schedule is flexible and subject to potential alterations or delays due to weather or other unforeseen circumstances that are inherent when living in the jungle.

Day	Description
1	Arrive in Palangka Raya; check in at hotel; meet group and relax
2	Day: Check in at BNF office to collect passports and complete admin; introductory lecture; buy essential supplies and SIMs; visit university office for opening meeting.
	Evening: Dinner and lecture on Tropical Peatland Ecology
3	Morning: Travel to forest; camp induction and Health & Safety briefings
	Afternoon: GPS/compass/map training; introductory forest walk
	Evening: Lecture and discussion on Ecological Monitoring
4-8	Practical learning sessions on Ecological Monitoring, including Habitat Monitoring (vegetation plots); Invertebrates as Indicators; Night walks (nocturnal visual encounter); Automated Technology in Ecological Monitoring; Gibbon Call Triangulation; and Following Primates to understand ape behavioural ecology. Students to split into smaller groups and rotate between projects, with optional rest days on day 7 or 8. Afternoons to include Journal Club session, assessing information from field practical and preparation for practice study projects. Evening lectures to include (i) Monitoring of Flagship Species; (ii) Apes as Indicators: Primate Behavior Research; (iii) Technology in Monitoring Research as well as Q&A sessions and reviews of the days activities plus Night walks
9	Morning: Interactive conservation education session
	Afternoon: Practical conservation education activity with local children's club
	Evening: Lecture and discussion on Peat-swamp Restoration and Conservation in Kalimantan
10	Morning: Practical learning session on peat-swamp forest restoration
	Afternoon / Evening: Preparation for mini-projects
11-13	Carrying out mini practice study to answer specific, defined questions and hypotheses, considering all elements including ethics and resources required, etc., and practice in the field.
14	Morning: Present learning outcomes from above to group, hand in field notebooks for assessment, pack and clean up camp
	Afternoon: Return to Palangka Raya, check in hotel
	Evening: Farewell dinner and wrap up
15	Depart from Palangka Raya

EQUIPMENT LIST

□ Rucksack (65 Liters or more); no suitcases please

- □ Lightweight sleeping bag (1-2 season) or cotton sleeping bag liner. It can get chilly at night in the forest (min. 18°C), particularly once students have acclimatized, so you are advised to bring an extra blanket or thicker liner with you
- □ Day pack (20-30 Liters) to carry daily supplies in the forest, which include food, water, first aid kit, equipment, poncho etc. A rain cover is also useful. Forest colors only please (greens and browns), no bright colors
- □ Waterproof bags for any electrical equipment□ Head torch (LED recommended) plus batteries. AA and AAA batteries are available in Palangka Raya, but large square head torch batteries are not
- □ Whistle
- □ Compass (Silva quality)
- □ Water-resistant digital watch (not essential)
- □ 2 Liter water bottle.
- □ Camera
- □ Sunglasses
- □ Mosquito repellent
- □ Towel (microfiber towels dry quicker, as do sarongs (see below))
- □ Sarong which can be purchased in Palangka Raya (quick-drying, cheap and culturally acceptable)
- □ Lightweight walking boots (Season 2) or walking shoes, which will provide sufficient support. Some people choose to wear wellington boots or trainers, which can be purchased in Palangka Raya (generally only European sizes 37-42 are available). BNF doesn't recommend purchasing expensive boots, as peat water is very acidic and tends to destroy most boots after continuous use. If students bring hiking boots, BNF advises wearing them prior to coming to camp to ensure they are comfortable
- □ Waterproof jacket or poncho in forest colors (greens and browns)
- □ Sun hat
- □ Sweat bands, bandana or head bands (not essential)
- □ Swimwear (also need shorts and t-shirt to cover up) (not essential)
- □ Flip flops or sandals
- □ Min two sets of casual clothes for relaxing in camp. T shirts and longer shorts are ok, but no short shorts please!
- □ Field clothes in forest colors only as bright colors disturb wildlife. BNF advises against purchasing expensive field clothes for the course, as they become frayed or stained in the forest. Army surplus shops are a good source of cheap clothing. Natural materials, such as cotton, are cool and quick drying

The following list is recommended as a minimum number of field clothes items to bring:

- □ Two pairs of forest trousers
- □ Two loose long sleeve tops/shirts
- □ Two t-shirts
- □ Two pairs of normal socks
- □ Two pairs of knee high/long socks/football socks

First Aid Kit

Students will take a small first aid kit with the essentials into the forest and leave other supplies at camp, so a waterproof first aid bag is useful. The starred items can be purchased in Palangka Raya but you are advised to arrive well-prepared.

- □ Painkillers (paracetamol/ibuprofen) *

- □ Antihistamine creams and tablets for treatment of insect bites
- □ Fungicidal cream/antifungal dusting powder
- □ Plasters (band-aids) *
- □ Thick bandages (1 long one) *
- □ Eye drops *
- □ Ear drops *
- □ Alcohol wipes and antiseptic cream/spray *
- □ Anti-malarial tablets
- □ Anti-diarrheal tablets *
- □ Scissors and tweezers
- □ Sachets of re-hydration powders, such as Diarolyte (essential for replacing lost minerals from excessive perspiration)
- □ Talcum powder recommended for sweat rash *
- □ Sun screen (a high SPF as we are 1º off the equator and the sun can be very strong), after sun lotion and lip protection cream. Only advised to bring a small bottle, as you won't be out in the sun often.
- □ Support bandage, if you have had any previous ankle or knee injuries.
- □ 'Epi Pen' if you have strong allergies to stings/bites/nuts. Please consult with your GP.
- □ Any personal medication that you normally bring e.g. Asthma inhaler. Also bring spares.
- □ For female volunteers; tampons and, if prone to cystitis, one course of preferred treatment.

Other

- □ ATM card/credit card
- □ Photocopies/scans of any important documentation, including passport and visa
- □ Two-prong round plug converter (220v), which is the same as European plugs. Can be used both in town and at camp
- □ Chargers for any electrical equipment
- □ Entertainment for when relaxing in camp (e.g. playing cards, books, games, MP3 player etc.)
- □ Decent waterproof binoculars, 10 x 42 magnification or more. Binoculars are recommended for the field as they are very useful and we do not have spares to lend to people
- □ Indonesian phrasebook – students will be working on a daily basis with Indonesian field assistants, with varying degrees of conversational English
- □ Small selection of stationery including notebook, pens and pencils *
- □ USB pen – BNF can back up your photos for you during the expedition. USBs are also useful for storing any important documentation
- □ Silica gel
- □ Multi-vitamins
- □ Hammock (optional)

CURRENCY EXCHANGE

Traveler's cheques cannot be changed in Palangka Raya and, while possible for notes of large denominations, it can be difficult to exchange cash. There are many Bureau de Change desks in the Jakarta airport, but they may be closed if students arrive late in the evening or early morning, and exchange rates are poor. By far the easiest way to obtain money is via the ATMs (cash machines) in Palangka Raya or at the airport in Jakarta upon arrival in Indonesia. There are many banks in Palangka Raya, which allow international ATM/debit card withdrawals, but BNF advises students to contact their bank before leaving the country to check about international transaction and withdrawal fees and place a note on their bank cards so the cards are not blocked by the bank for suspicious transactions while using the card in Indonesia.

CULTURAL AWARENESS

Indonesia is a tolerant, but socially conservative, religious country, so BNF asks that students dress respectfully and will provide students with further social and cultural awareness information upon arrival in Palangka Raya. At all times in Jakarta, Palangka Raya and at the field site, women are requested to wear a bra and to cover their cleavage, shoulders, upper arms, stomach and legs above the knee, and men are requested to wear long shorts or pants and shirts (no bare-chested). This is non-negotiable and BNF takes a stern view of people who ignore these rules. There are not many foreigners living in Palangka Raya, so people may approach students and ask to take a photograph together. People are generally friendly throughout Indonesia and this small gesture is very polite if students wish to oblige.

REQUIRED READINGS

Cheyne, S.M. *et al.* (2008) Density and population estimate of gibbons (Hylobates albibarbis) in the Sabangau catchment, Central Kalimantan, Indonesia. Primates 49: 50-56.

Cheyne, S.M. and Macdonald, D.W. (2011) Wild felid diversity and activity patterns in Sabangau peat-swamp forest, Indonesian Borneo. Oryx 45: 119-124.

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Dohong, A., A. Abdul Aziz and P. Dargusch (2018) A review of techniques for effective tropical peatland restoration. Wetlands 38(2): 275-292.

Dohong, A. *et al.* (2017) A review of the drivers of tropical peatland degradation in South-East Asia. Land Use Policy 69: 349-360.

Fitzherbert, E. B. *et al.* (2008). How will oil palm expansion affect biodiversity? Trends in Ecology and Evolution 23(10): 538-545.

Gardner, T. A. *et al.* (2008). The cost-effectiveness of biodiversity surveys in tropical forests. Ecology Letters 11: 139-150.

Harrison, M.E. (2013) Using Conceptual Models to Understand Ecosystem Function and Impacts of Human Activities in Tropical Peat-swamp Forests. Wetlands 33 (2): 257-267.

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Harrison, M.E. *et al.* (2012) Ecological Monitoring to Support Conservation in Kalimantan's Forests: Concepts and Design. The Orangutan Tropical Peatland Project Report, Palangka Raya, Indonesia.

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