



**WILDLIFE, ECOSYSTEMS AND CONSERVATION:  
THE ECUADOR PROJECT**

**January 18 – March 3, 2017**

**January 17 – March 2, 2018**

**Meeting Place: Quito, Ecuador**

**15 quarter credits/10 semester credits**

**FULL PROJECT DESCRIPTION**

Thank you for your interest in our Ecuador field study. During the program team members will take part in a unique firsthand examination of some of Ecuador's most diverse ecosystems, from the windswept páramo to the misty cloud forest high in the Andes mountains, from the lush foothills where the Andes meet the rainforests to the swirling headwaters of the mighty Amazon River, and ending in the isolated and biologically unique Galápagos archipelago. The unmatched biodiversity of these habitats make Ecuador among the world's famed biodiversity 'hotspots', and affords us the opportunity to study an incredibly rich flora and fauna. Ecuador's richness in plant and animal species is matched only by the diversity of its cultural landscape, and during the project team members will work with representatives of Kichwa communities in the high Andes and Huaorani in the lowland jungle to gain a better understanding of the country's interwoven ecosystems and cultures. We will participate directly in field studies to improve our knowledge of natural history, tropical ecology, and conservation science, while expanding our understanding of the interrelatedness of the natural and human environments, of conservation, and of ecosystem restoration strategies.

**Contents of the Full Project Description:**

- I. Background Information
- II. Project Goals and Activities
- III. Academic Credit
- IV. Team Logistics
- V. Accommodations
- VI. Official Documents/Visa
- VII. Language
- VIII. Pre-Program Mailings
- IX. Project Leader
- X. Project Costs
- XI. Contact Information

**I. Background information**

Owing to its unique location and geography, straddling the equator and bisected by the massive Andes mountains, Ecuador is among the world's most important biodiversity 'hotspots', with more species of plants and animals are found in the country's Andean grasslands, montane and lowland rainforests, rivers and wetlands, and coastal habitats than almost anywhere else on the planet. For instance, researchers in Ecuador's Yasuni National Park counted more than 1,300 species of trees in only 50 hectares of lowland rainforest. Compare that to fewer than 100 native tree species in the *entire* Great Smoky Mountains National Park, the most biodiverse region in the United States. Also in Yasuni, researchers have discovered more than 80 species of epiphytic plants in a *single* tree! Insect diversity is also high, with the country's current number

of known butterfly species surpassing 2,700, whereas all of North America contains fewer than 800. Since Ecuador is a small country, about the size of Colorado, we will have the opportunity to study each of its major unique ecosystems, along with their countless endemic life forms. In Ecuador, we can expect to encounter giant otters, black caiman, Amazonian river dolphins, monkeys, marine mammals, hundreds of species of birds, and a bewildering variety of plants, butterflies and other exotic insects.

Like in most Neotropical ecosystems, Ecuador's biological richness is under threat from human influence. Andean ecosystems have been subjected to high levels of human use since 7,000-8,000 b.p. Although agropastoral systems have historically been sustainable, many rural communities are now in a process of social and economic transition that has led to land conversion and ecosystem degradation. The lowland Amazon, by contrast, is heavily influenced by recent colonization and associated slash and burn agriculture, cattle ranching, and resource extraction. In such contexts, the main challenge facing conservation and ecosystem restoration projects is ensuring that biophysical and socioeconomic factors are equally well understood and incorporated into management practices. Our field studies will permit us to study these complex dynamics firsthand, and observe directly the management of natural and biological resources by government and local communities alike.

## **II. Project goals and activities**

Participants will gain experience, skills, and understanding in three inter-related academic domains. These include: 1) Field research techniques through a hands-on introduction to methods of biological research regarding ecology, natural history, and conservation; 2) Ecology, geology, anthropogenic history, and the diverse flora and fauna of Ecuador's tropical ecosystems, and; 3) Conservation, natural resource management, and sustainable development, with particular attention to the relationship between society and the natural environment.

We will learn through direct engagement with people, places, plants, and animals, as well as through academic means such as lectures, readings, and discussions. Our learning will be both traditional and communal, with each team member striving to bring new insights to the group based on discussions with biologists and local people, from our various study sites, and analysis of wide-ranging experiences. Our guest speakers will include indigenous experts with sophisticated traditional knowledge of their local environments and biologists engaged in studies of montane, lowland forest, and island ecosystems.

We begin the project in Ecuador's capital city, Quito, where participants will be introduced to the program and expectations during the first few days of the project. From there we will travel high into the Andes mountains, where the grasslands of the páramo are the dominant ecological feature. Here, the bizarre frailejones, a giant member of the daisy family, contribute to the mysterious, almost other-worldly atmosphere of this unique ecosystem. Travelling down the Andean slopes, the páramo gives way to cloud forest, so named because the trees are enveloped in a near-perpetual covering of fog and mist. Here in the Andes we will hone our field and observational skills, examine endemic plant and animal species, and study conservation initiatives to protect the region's disappearing natural ecosystems.

From the high Andes we will travel to the Río Bigal Biological Reserve, at the base of Ecuador's Sumaco volcano. Spanning an elevation of 1,400 to 3,600 feet in the Andean foothills, the Reserve is home to a unique mix of Andean and Amazonian plants and animals: here, Andean spectacled bears and jaguars from the lowland jungle roam the same area. The Reserve aims to protect biodiversity in an area of primary and secondary forest that serves as a buffer to the adjacent Sumaco-Galeras National Park. At Río Bigal, we will learn plant and animal census techniques, field observational skills, ecological study, and biodiversity inventory and monitoring.

From the foothills we will travel deep into the lowland rainforest to the Yasuni Scientific Research Station, located within the heart of the Yasuni National Park, a UNESCO Biosphere Reserve that is home to the highest concentrations of plant and animal species known on earth. During our field studies in Yasuni, we'll be able to find as many as 600 species of birds and 10 species of primate just from the station's trail network! Other wildlife here include herds of white-lipped peccary up to 300 strong, enormous black caiman, anacondas, big cats including jaguar and puma, and giant anteater. While the majority of Yasuni's rainforest is intact and wildlife populations are generally healthy, oil development within the park has emerged as a growing threat in recent decades, bringing the danger of environmental contamination, road construction and colonization, as well as adverse effects on local indigenous communities. In Yasuni we will further enhance our field skills by conducting supervised group research projects. We will also examine the various conservation challenges facing this ecological treasure.

After our time in the Amazon we will travel across the Andes and far off the Ecuadorian coast to the Galápagos archipelago, perhaps the world's most famous natural evolutionary laboratory. Here we will study how extreme isolation has helped produce a flora and fauna that is almost entirely endemic. Having evolved in the complete absence of predators, the islands' wildlife is without fear of humans. Charles Darwin famously described an episode in which he repeatedly threw a marine iguana as far as he could into the sea, only to have it return time after time to him. Darwin noted that 'this reptile has no enemy whatsoever on shore, whereas at sea it must often fall prey to the numerous sharks.' Of course, we will study marine iguanas and other Galápagos wildlife – including sea lions, blue-footed boobies, frigate birds, albatross, and giant tortoises – from a greater distance than did Darwin, but his account is nonetheless revealing of the island's evolutionary isolation. In the Galápagos we will also study the human activities that now threaten local plant communities and wildlife, and what is being done to protect and restore the archipelago's irreplaceable and fragile ecosystems.

This project in Ecuador provides an exciting opportunity to learn about the functioning of diverse ecosystems from the Andes to the Amazon and on to the remote Galápagos, as well as the interaction between the natural environment and local communities in one of the most visually stunning and biodiverse spots on the planet. By the end of the project, team members will have a deep understanding of the Ecuadorian natural and human landscape, the human activities that threaten both, and the efforts underway to conserve and restore the natural environment for the benefit of people and myriad tropical plant and animal species.

**Please note that prior field research experience is not required, and all necessary field methods and data gathering skills will be taught on-site in Ecuador.** However, we expect participants to arrive excited and prepared for a rigorous yet rewarding field study experience. Spanish language skills are not required, but will enhance the experience of participants.

### **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)

Students will be evaluated on the basis of: 1) active participation in our learning process and activities; 2) examinations and other graded assignments; and 3) implementation and presentation of an independent research project.

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 Quito, Ecuador, and meet the instructors at the Mariscal Sucre International Airport (UIO). The project ends on San Cristobal Island, in the Galapagos, where participants can decide to either fly back to mainland Ecuador and then home on the scheduled date or remain in Ecuador and travel independently.

All reasonable efforts will be made to follow the activities outlined above. However, please understand that on our Ecuador program, travel arrangements can remain tentative until the traveling actually takes place. Weather conditions and road closures, as well as political and bureaucratic considerations may affect our plans. Wildlands Studies has put together an innovative, unique program in Ecuador, 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 bring their own camping and backpacking equipment (tent, sleeping bag, backpack, water filter, etc.). A complete, detailed packing list will be provided to all participants.

#### **V. Accommodations**

We will lodge primarily at research stations but will also be camping, backpacking, and staying at occasional hostels or rural lodges throughout Ecuador.

#### **VI. Official documents/visa**

You will need a current passport that does not expire until six months after the end of the program. Visas are obtained upon arrival in Ecuador.

#### **VII. Language**

This program is taught in English, although many of the research stations and locations we visit will be Spanish-speaking. The ability to speak Spanish is not a course prerequisite. The Instructor and other staff will translate as needed. Of course, it is always helpful to speak Spanish, and if you have the chance, please practice or brush up on your language skills before the project initiates.

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

Detailed information regarding travel and visa information, equipment 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 initiates.

## IX. Project Leader

GEOFFREY R. GALLICE: Ph.D in Entomology, University of Florida, 2015. Geoff is a tropical biologist whose scientific research interests lie in the ecology and evolution of butterflies. In particular, he is interested in the clearwing butterflies, a group whose biology is fascinating, and which serves as a model for diverse studies in ecology and evolution in the tropics. He is also active in applied conservation research, and is currently leading a project to explore the threat posed by road construction to biodiversity conservation in the Amazon rainforest of Peru. His research has taken him throughout Guatemala, Costa Rica, Panama, Ecuador, Peru, Bolivia, Brazil, Malawi, Zambia, and Malaysia. Geoff has been teaching with Wildlands Studies since 2012 and currently leads our Peru and Ecuador Projects.

## 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.

This includes most in-country accommodations, travel in-country, camping costs/permits, logistical support, group supplies and materials/research costs.

Food Money: \$675 (varies according to taste, dietary preferences and exchange rate)

Personal Spending Money: \$400

Estimated Airfare: \$1000

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)

Phone: 831-684-9999

Fax: 831-684-9998