



ANDES TO AMAZON: THE ECUADOR WILDLANDS PROJECT

July 1– August 12, 2012

Meeting Place: Quito, Ecuador

12 semester system units (equivalent to 18 quarter system units)

Program Fee \$3100 plus \$150 Application Fee

Thank you for your interest in our Ecuador Program. During this program, team members will take part in a unique firsthand investigation of a cross-section of some of Ecuador's most diverse ecosystems, from snow-capped volcanoes and sub-alpine grasslands, down through the mists of the montane cloud forests, to the swirling headwaters of the Amazon River. This elevational transect from the highland Andes to the lowland Amazon is situated on one of the richest biodiversity hotspots on the planet, affording the opportunity to study an incredibly rich and endemic flora and fauna. We will also traverse a cultural landscape from the *Quichua* of the highland Andes to the indigenous people of the lowland Amazon, which have intermixed with the Spanish colonial heritage and elements of modern societies to form *mestizo* cultures.

Participants will gain a firsthand understanding of Ecuador's interwoven ecosystems and cultures, while participating directly in field studies to improve resource conservation and ecosystem restoration strategies. We will have the opportunity to explore intact tropical ecosystems in relatively pristine condition, and compare them to human impacted systems, while examining firsthand the natural resource management strategies of the local people, identifying habitat degradation pressures, and evaluating strategies for conservation and ecosystem restoration.

BACKGROUND INFORMATION

Ecuador gets its name from the fact that it straddles the equator, situated in the northern Andes that ring the western edge of the Amazon basin. Ecuador retains a strong colonial and indigenous heritage, including the *Quichua* descendants of the Incan empire and the various indigenous groups of the Amazon lowlands. Ecuador is awash with significant cultural, historical, natural and scientifically relevant features. The capital city of Quito, the second-highest capital in the world (after La Paz, Bolivia), was declared a UNESCO World Heritage site for having the best preserved and least altered historic 'old town' colonial center in Latin America. Other attractions include the equatorial monument *La Mitad del Mundo* just north of Quito, which marks the place where Charles-Marie de La Condamine measured the equatorial line in 1736, the City of Tena (the 'cinnamon capital' of Ecuador) on the Napo River in the Amazon Basin, and the Galapagos Islands, site of many of Charles Darwin's observations that formed the foundation of the *Origin of Species*.

Ecuador is perhaps best known for its natural resource richness, and is recognized as one of the world's 17 megadiverse countries by Conservation International. The topographic diversity creates a dynamic range of environments from the snow capped glaciers to the lowland Amazon, and from coastal to island systems. Despite its small size, over 1,600 bird species have been catalogued, many of which are endemic. This pattern repeats itself with nearly all other major life forms. Key wildlife species observable while we conduct our field work include the Andean condor (*Vultur gryphus*), the spectacled bear (*Tremarctos ornatus*), the little red brocket deer (*Mazama rufina*), the culpeo or Andean fox (*Lycalopex culpaeus*), the ocelote (*Leopardus pardalis*), jaguar (*Panthera onca*), spider monkeys (*Ateles* spp.), and a plethora of bird, reptile and amphibian species.

Like most neotropical ecosystems, this richness is under threat from human use. Andean ecosystems have been subjected to high levels of human influence 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 sub-montane areas (transition to the lowland Amazon), in contrast, are heavily influenced by colonization and associated slash and burn agriculture, cattle ranching, and oil 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 prescriptions. Our field studies will allow us to observe and study these complex dynamics firsthand.

PROGRAM GOALS AND ACTIVITIES

Team members will have opportunities for hands-on investigation of the species and habitats of Ecuador, as well as management of these resources by local people. We will do this by first becoming fluent with the geography of the region. This will include the topography, climate and natural history that constitute the natural environment we will be studying, as well as an introduction to the physical and biological processes of mountain building, glaciation, denudation and soil formation, and ecosystem building that helped promote the incredible diversity we will be examining.

We will then travel across a unique transect that starts with the alpine ecosystems that ring the snow-capped volcanoes, then traverses the *Paramo* grasslands of the highland Andes with its remarkable life forms, the highly threatened upper montane *Polylepis* woodland ecosystems (the tree genus that grows at the highest elevation in the world), the misted cloud forests laden with epiphytes, finally ending at the tropical forests and riverine systems of the lowland Amazon. We will establish sample stations to develop an ecosystem profile at each of the major biomes along this elevational gradient, much as the early geographer and explorer Alexander Von Humboldt did in the early 1800s. Our specific objective will be to compare and contrast the characteristics of intact vs. human impacted habitats, and investigate the ways in which ecosystems are conserved, degraded, and potentially restored. At each sample station, this may include field methods such as establishing transects to sample vegetation through species counts and measurements of structure and composition; monitoring the status of wildlife through such methods as bird counts, mammal trapping, or direct observations of the grazing dynamics of native camelids and other species; observing soil characteristics and hydrologic flows; and finally, evaluating the intensity of human impacts through remote sensing of long term land use change.

Our next task will be to understand the influence of local cultures on these habitats. At each sample station, opportunities exist for participatory research with local communities, including interviews and focus groups. The purpose will be to document land management strategies, evaluate motivating factors for resource conservation and restoration, and identify opportunities and constraints for alternative sustainable economic uses (e.g. ecotourism, non-timber use of forest resources, agroecosystem management). Where available, we will discuss resource conservation issues with local government officials and non-profit organizations to include this broader institutional perspective. We will then integrate the socioeconomic data with the ecosystem profile at each sample station, and identify key opportunities for conservation and ecosystem restoration. The goal of this process is to share and present the team findings with the local communities and institutions that will be managing these unique Ecuadorian resources over the long term.

One of the major components of this program will be our team's association with some of the many research stations, parks and reserves situated along our transect. In this way, we will have the opportunity to interact directly with scientists, examine ongoing research projects, work with natural resource management professionals, and participate in ongoing reforestation and ecosystem restoration projects. Participation in active ecosystem restoration projects may include planting trees, installing erosion control devices such as check dams, establishing grazing exclusions, or restoring water flows in impacted ecosystems. This hands-on

work experience will provide an invaluable counterpoint to the insights gained during the surveys at each of the points along the elevational transect, and is considered fundamental to the process of integrating and applying new insights.

This project represents an exciting opportunity to learn about the interaction between the natural environment and local communities in one of the most visually stunning and diverse spots on the planet. By the end of the project, we will all have gained a deeper understanding of the human – environment interaction from the highland Andes to the lowland Amazon of Ecuador, and how this influences ongoing conservation and ecosystem restoration strategies.

Note that all field methods and data gathering techniques will be taught in Ecuador. No prior research experience is required, but we expect participants to arrive excited and prepared for a rewarding field study experience. Our backcountry activities will be supplemented by field seminars led by Wildlands Studies staff, Ecuadorian government officials and community/conservation organization leaders.

ACADEMIC CREDIT

Students will receive 12 semester units (18 quarter units) awarded through California State University Monterey Bay Extended Education. While students usually encounter no difficulties in transferring credit to their home campus, applicants should check with their advisors prior to enrolling. Our staff will be happy to explain the program in further detail to the applicant's advisor, if necessary. The Ecuador field studies program gives credit in three courses:

ENVS 370, Environmental Wildlands Studies (4 semester system units)

ENVS 371, Wildlands Environmental Field Survey (4 units)

ENVS 372, Wildlands Environment and Culture (4 units)

Students will be evaluated on the basis of: 1) examinations; 2) extent and quality of fieldwork and participation in group field activities; 3) and the design, implementation, and written report to the group of an independent 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.

TEAM LOGISTICS

Participants will fly into Quito and meet at the Mariscal Sucre International Airport. If you are traveling in advance of the program, you can arrange to join the group in Quito when the recommended flight arrives at the airport. At the end of the program, you can decide whether you want to fly home on the scheduled date, or remain in Ecuador to travel on your own. About twelve weeks before the project begins, we will be sending a specific gear/food/pre-travel preparation list to team members.

For vaccinations and travel medications, we recommend you see a travel nurse at your university or county health clinic and follow their recommendations, as well as consider the travel immunizations recommended by the Center for Disease Control. At the very least, you should have current tetanus and hepatitis vaccinations.

Within Ecuador, we will travel as a group on both public and privately chartered transport, such as chartered buses or rented vans. Because of our mode of travel, it is essential that you be able to carry all of your gear on your back, so please make sure that you can do this before you leave. Load your pack, and try it for a couple of hours. If your pack is too heavy, eliminate some things.

Reasonable efforts will be made to follow the program that Wildlands Studies has outlined here. However, experience indicates that weather conditions, road flooding, and bureaucratic considerations may affect our plans. Wildlands Studies has put together an innovative 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 inadvertently arise during our journeys, often producing some of the program's most memorable moments.

PRE-PROGRAM MAILINGS

Detailed information regarding flight recommendations, gear/food, meeting plans, group expenses payment and medical recommendations will be sent to all enrolled team members in a subsequent Logistics letter about 8-10 weeks before the project initiates.

PROJECT LEADER

BRETT HARTMAN is a restoration ecologist who has worked on applied restoration projects and conducted research in the Andes, the Amazon, and in North America. He is currently at the Geography Department of the University of California, Santa Barbara.

FOR MORE INFORMATION

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PROJECT COSTS

Program Fee:	\$3100 plus \$150 Application Fee. Program fee due May 1, 2012 Enrollment on a space-available basis after the fee due date until the program is full.
Estimated in-country Expenses:	\$2100 per person share of land/sea transportation and fuel in Ecuador, lodging, field activities/permits, group supplies, readings. In-Country Fee due May 1, 2012
Food in Ecuador:	\$400
Airfare:	\$900 (based on July 2012 estimate)
Personal Spending Money:	\$400 (this varies according to taste - but don't be caught short)

Students should inquire at the financial aid office of their home campus regarding the use of their loans or grants for this program. CSU Monterey Bay/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.

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