

## **My trip to the La Hesperia nature conservation reserve in Ecuador's cloud forest**

### **Ecuador**

Ecuador is a country found on the north-western coast of South America, on the Equator. It is a highly diverse country, both in terms of human and environmental geography. The country is inhabited by fourteen ethnic groups, each of which maintains its own individual way of life. The country is bisected by the Andes, which create a wide range of different habitats.

Despite its small size, Ecuador is one of the 17 mega diverse countries in the world with thousands of indigenous plant and animal species. This is mainly because of the country's 46 different ecosystems, which include rain forest, desert, mountain, island and of course, cloud forest. As a result, the huge number of niches in Ecuador supports 18% of global bird species, 10% of the world's plant species and 8% of animal species; 4,500 species of butterfly call Ecuador their home.

### **The Cloud Forest**

Cloud forest is a unique ecosystem which is formed by the interaction of several special conditions. It is found at altitudes of 1000-3500 metres in tropical and sub-tropical areas (the only exception to this is small islands, where cloud forests may be found as low as 500m). They are characterised by constant cloud and mist cover situated around the canopies of the trees.



Cloud forests fulfil a number of important ecological functions. First of all, they retain a large quantity of incoming water from both rain and the clouds themselves. Species found in cloud forest tend to require less water to survive, and as a result much water is stored in the mosses and lichens that inhabit the canopies of trees in the forest. This water is then gradually released into the water cycle, creating a constant, steady source of water for areas downhill. This also limits water-related erosion.

Cloud forests tend to receive the same amount of rain as rain forests, but are much cooler because of their high altitude. They contain a generally lower total numbers of species, but have a very high rate of endemism. This means that many of the species found there are unique to Ecuadorian cloud forest, and found nowhere else. This raises their value as a protected ecosystem, as several species depend entirely on them for survival. Cloud forests have very low resilience. This is because of the steep land; when a tree falls in most other forests, they leave a gap of sunlight, which allows dormant seeds in the seed bank to suddenly sprout and quickly grow, restoring the forest. In a cloud forest, when a tree falls it often takes most surrounding trees with it, as well as most of the soil and

anything on the slope nearby. This means it takes very long for new trees to grow in deforested regions of cloud forest.

## **La Hesperia**

La Hesperia is a nature reserve with an area of 814 hectares found in the western range of the Andes at an altitude of 1100-2040 metres. The station works with tropical nature conservation, combating deforestation, protecting existing forest, restoring degraded areas and leading a self-sustainable existence. It works alongside the local community to improve living conditions and provide education for local children.



The reserve contains three types of forest: pre-montane evergreen, low montane and high montane.

## **The experience**

I joined the La Hesperia reserve for a period of 4 weeks as a volunteer. La Hesperia is found between the village of Tandapi and the town of Santo Domingo, about 3 hours away from Quito. The volunteer's function there was to assist local workers with conservation and restoration activities, as well as help provide our own food.

The average day began with breakfast at seven thirty (which generally contained bread baked the previous day by a volunteer, orange juice from freshly picked oranges and coffee we had picked and prepared ourselves), and work beginning at eight thirty. We were generally split into groups depending on what had to be done. Most of the work tended to consist of machete-ing and clearing trails, but there was also hardwood tree-planting, tending to the vegetable gardens, and also harvesting a processing oranges and coffee. Alexandra (who was in charge of volunteering at the reserve) explained to us that it was a constant fight against the encroachment of the forest, and even leaving things for a week or two could end up with things being completely choked by plants.

While working we saw much of the local wildlife, the most evident being the dozens of species of butterfly fluttering around, especially large, blue-winged *Morpha* species, as well as transparent butterflies found deeper in the cloud forest. There was also a huge variety of other invertebrates, including the hundreds of moths that inevitably flocked to the lights in the communal area, and the many spiders that were irresistibly and inexplicably attracted to the toilets and showers.

Mammal sightings were limited to occasional monkey viewing in the mornings.

We were also given talks every week about various locally important issues, including cloud forest conservation. Because of excellent media awareness and constant deforestation, the rainforest is considerably better protected by law and people than the cloud forest, despite the two sharing similar problems. Because of the protection in lowland rainforest, many of its exploiters have moved onto cloud forest, despite logistical difficulties presented by the rough terrain. The most valuable resource in the cloud forest is the various hardwood species such as chigua and tangare. One problem with perception of damage to the cloud forest is caused by loggers coming in, removing only hardwood species (which are rare, and very slow growing) but leaving the rest. The

end result is a forest that looks undamaged, but in fact lacks several critical species and is unhealthy. Much of our most direct conservation work was maintaining young hardwoods in the nursery, and also replanting them into the higher regions of the cloud forest.

The majority of volunteers at the station were from Britain and America, but people came and went during my stay. Our time together led to interesting insights into other cultures and points of view, and hopefully gave me several new friends to visit in the future. We also spent a lot of time working alongside long-term local employees of the reserve, which was also enlightening. It turns out they were all extremely good football players, as we found out during friendly matches held on the pitch by the school. No amount of rain would put them off.

We had weekends free, and so decided to travel during them. On the first extended weekend I joined a group of other volunteers that travelled to Puerto Lopez, a small seaside village on the south-eastern coast. From there we took a tour to the Isla de la Plata, which



several rare species from the Galapagos are known to call home (including the Blue-footed booby). Along the way we also went whale watching, and saw several pods of humpback whales. On the second weekend all the volunteers went to Otovalo, a small town in the mountains north of Quito, where we took advantage of the festival and the large market. Absolutely everyone bought souvenirs there, as the region is famous for its weaving. On the last free weekend, I joined a group that went to Canoa, another beach village on the north-east coast. While there I tried my hand at surfing and exploring coastal caves. Despite spending an average of 12-18 hours on a bus per trip, it was worth it as not only were all the final destinations great fun, but we saw most of the fascinating terrain of Ecuador from the buses.

### **Final comments**

The time I spent in Ecuador was very valuable to me, as the memories will be unforgettable, and the experience in practical nature conservation will be invaluable when I begin to look into work in related areas. I would like to thank the AHMS fund for allowing me to make this trip.