



# Costa Rica Big Cats, Primates & Turtle Conservation

*Contribute to vital conservation research in one of the most ecologically diverse locations on the planet.*



At first glance, Corcovado National Park on Costa Rica's Osa Peninsula is a mere pin prick on the world map, covering a measly 0.03% of the world's landmass. This makes it even more astonishing that an incredible 4% of the world's species call the park home and that it is, as described by National Geographic, 'one of the most biologically intense places on the planet'.

Located in Central America, Costa Rica is nestled between the Caribbean Sea and the Pacific Ocean and is home to over 500,000 different species of animals, giving it the highest species density of any country in the world. Over 50% of species found in the country call the Osa Peninsula home, meaning this project is located in the most biodiverse region of one of the most biodiverse countries on the globe – truly a hotspot within a hotspot!

The Osa Peninsula at a glance:

- The largest remaining tract of lowland rainforest in Pacific Mesoamerica
- 2-3% of flora are found nowhere else in the world
- At least 323 endemic species of plants and vertebrates
- The largest population of scarlet macaws in Central America call the peninsula home
- More than 10,000 types of insects
- 700 species of trees, which is more than all of Europe and North America combined
- 463 species of birds
- 140 species of mammal, including 25 species of dolphins and whales.

Sadly, the region and its inhabitants are being gravely challenged by habitat fragmentation and destruction, pollution, poaching and climate change more broadly. Over the past several years, Frontier has been working on the peninsula to carry out groundbreaking survey work and vital data

collection in an attempt to combat the effects of these challenges and to preserve this environmentally significant area.

The research camp itself is based amongst dense tropical forest on the edge of Corcovado National Park, close to the shores of the Pacific Ocean. Volunteers live and work with other enthusiastic and energetic conservationists, working together to carry out critical surveys and data collection activities. Joining this vitally important project will not only give you an opportunity to experience a world of fragile beauty, but to more importantly contribute to the conservation of Costa Rica's precious and unique habitats for the future.

## PROJECT HIGHLIGHTS

- Gain practical research and conservation experience
- Assist with the conservation of vital habitats and their resident species
- Study the ecology and behaviour of several species including jaguars, sloths, turtles and tapirs
- Work within one of the world's most biodiverse forest ecosystems
- Work to improve the conservation status of some of the world's most endangered species
- Vocational qualification available

Please note: the peak turtle nesting season of Olive Ridley turtles begins in June and ends in November. After this period the Pacific green turtles come in to nest until March; sightings outside of this period (March-May) are expected to be less frequent.

## FAST FACTS

<b>Location</b>	Costa Rica
<b>Activities</b>	<p>Primate density and behavioural studies</p> <p>Turtle patrols to monitor nesting and predation</p> <p>Big cats and other mammal monitoring using field sign surveys</p> <p>Neo-tropical river otter surveys</p> <p>Bird surveys in the forest and lagoon</p> <p>Amphibian and reptile surveys</p> <p>Butterfly surveys (seasonal)</p> <p>Self-tailored BTEC research project opportunities</p> <p>Forest trails, river walks and beach walks</p> <p>Recreational sports</p> <p>Trail creation and maintenance</p> <p>Games nights</p> <p>Nocturnal forest walks</p> <p>Awareness-raising and recreation activities in the local community</p> <p>Extra activities and excursions (subject to availability and may involve extra cost)</p>
<b>Transport</b>	<p>Pick-up from Puerto Jimenez weekly on a Monday before 12:00pm.</p> <p>Pick-ups available at all other times for \$40</p>
<b>Accommodation</b>	Frontier forest research station in communal eco-cabins



## WHAT WILL I BE DOING?

Home to one of the largest tropical primary lowland rainforests in the world, Corcovado National Park is also home to a large range of endangered plant and animal species. Over millennia, the dense rainforests have created a dramatic and ideal habitat for hundreds of bird and mammal species and the warm waters surrounding the park are also home to several marine species.

On this project, you will help to carry out extensive and broad biodiversity surveys, which could include:

- Walking primate transects to collect valuable data on various primate species in the park
- Beach patrols to assess and survey turtle nesting habits and hatchling health
- Big cat track surveying and data collection
- Undertake surveys on the data-deficient neotropical otter
- Participate in broader surveys and research of exotic bird populations, invertebrates and other animal groups on the peninsula

In addition to wildlife and research activities, volunteers also participate in various other conservation-related tasks. For example, typically once a week all project participants assist with the creation and maintenance of forest trails which help to facilitate the majority of the surveys we conduct. This can be difficult work, but is actually an excellent opportunity to see more of the jungle! In addition to this, there is plenty of time to experience the peninsula with regular walks to identify and observe rare and endangered species, including nocturnal walks to discover the jungle after dark when the big cats are most active.

Things will be busy! However, there will also be sufficient down time to get stuck into a book while swinging on a hammock or taking a dip in ocean or jungle stream. There are also plenty of optional activities to take part in including horse riding, forest canopy tours, dolphin and whale watching tours and guided trips to the national park, so remember to bring along some extra funds!

The project boasts a busy schedule focusing on a broad range of high impact, groundbreaking conservation strategies and scientific research for which volunteers receive full field training in order to undertake. There will also be a wide range of regular lectures designed to complement the practical research component of the project, which cover topics such as species biology, ecology and conservation needs.

## Overview of project objectives

The long term goal of this project is to determine the richness, abundance, distribution and ecological niche of a wide range of endangered, endemic and ecologically important species on the

Osa Peninsula. This is also in order to assess the animal's use of the reserve area on the peninsula in comparison to neighbouring Corcovado National Park. The national park is only a small piece of land and cannot sustain healthy wildlife populations making it critically important to understand the health of the surrounding reserve area and to increase its protections.

This is a wide-reaching project covering many different topics, but has been developed with the understanding that the different research areas we focus on fundamentally overlap with one another. In order to protect the important ecosystems on the Osa Peninsula, we have to understand various key species habitats, habits and trophic preferences amongst other things. These understandings can in turn indicate what actions need to be taken by local communities, governments and the global community more broadly so that we are able to protect the vital biodiversity of the Osa Peninsula.

## **Sea turtle monitoring**

Volunteers patrol two beaches close to camp, which aim to not only gather valuable population data of the endangered marine turtles, but also serve to discourage poachers and predators trying to raid nests and collect eggs. The two species of turtle most frequently observed are the Olive Ridley and the Pacific Green Turtle. During peak nesting season (July-October), turtles found nesting on the beach at night are tagged and given a health check. In the mornings we also conduct nest excavations which involve checking the hatched nests to assess reproductive success after the hatchlings have emerged.

Total clutch size, number of successfully hatched eggs and the number and stage of development of un-hatched eggs are recorded. Any hatchlings that might have remained trapped in the nest chamber are freed and placed on the beach to allow them to reach the sea. The peak season for turtle monitoring begins in June and ends in February/March. Outside of this time, vital work is still carried out but at a markedly reduced level.

## **Primate surveys**

There are four primate species found on the Osa Peninsula, including the squirrel monkey, mantled howler monkey, Geoffroy's spider monkey and the white-faced capuchin monkey. The primary objective of this project is to estimate the density of all four primate species in the areas outside of the Corcovado National Park and to record habitat preferences. Work usually includes walking primate transects for data collection and recording observations.

These surveys are typically conducted three to four times each week and involve recording every troop encountered during slow forest treks, using binoculars. It is important to take an accurate count of the number of individuals within the troop (a good pair of binoculars will certainly prove beneficial) as well as calculating the size of the area surveyed by taking measurements of the distance between the trail and the troop of monkeys. Behavioural data is also collected to determine activity patterns in different habitats, and information regarding plant foraging preferences is also recorded to gain a better understanding of the ecosystem as a whole.

## **Big cats and people**

Five species of big cat call the Osa Peninsula home, including the larger jaguar and puma, the smaller jaguarondi and margay, and the intermediate sized ocelot.

Our big cat research is a relatively new multi-phase project initiated in October 2015 that combines a range of field research methods to study the abundance, distribution and habitat of Costa Rican wildcat species. Conflict between landowners and wildlife is one of the most significant challenges facing wildlife conservation and wildcats are not immune. The wildcats are one of the most heavily

threatened species in Costa Rica as a result of retaliatory killing and persecution as a preventative measure against livestock predation.

There is a direct correlation between the success of the prey of wildcats and the success of wildcats themselves, and recent poaching of their prey is directly linked to reduced wildcat populations. Both the wildcats and their prey are studied in an attempt to understand the health of cat populations on the peninsula. The ultimate objective is to understand how this ecosystem works, which then allows for a formulation of sustainable strategies to maintain predators and prey in this critical biological corridor neighbouring Corcovado National Park.

It is important to note that these species are elusive and sightings are rare. Even if you don't see them whilst out on the trail or on camp, it is very likely that you will find evidence that they are around through leaving tracks and faeces. Seeing a big cat is mostly down to luck and being in the right place at the right time, though the nocturnal treks increase your chances of a sighting.

## **Neotropical river otters**

Classified as Data Deficient on the IUCN Red List, the neotropical otter (*Lontra longicaudis*) found in the waterways of the Osa Peninsula urgently requires research so that authorities can gain a better understanding of the conservation status of this elusive animal. Very little is known on the distribution, abundance and habitat use of the otter which makes it very difficult to assess the population status and whether it falls under the Critically Endangered or Vulnerable.

Our study seeks to provide one of the first year-round studies of a local population of otters with regard to the spatial distribution throughout the year. It is critical to study these animals all year round as it is expected that the otters will expand, contract or shift their core areas of use as the river changes in depth, width and course within and between seasons. This information has conservation significance as it ensures that any strategies to protect this species that are recommended as a result of this work consider the habitat requirements throughout the year and not just within a specific shorter period.

We are using GPS to record where indirect evidence of otters has been found into a Geographic Information System (GIS) to assess the spatial distribution through computer analyses. We are also initiating interviews with local communities to gain anecdotal understandings of the presence and distribution of the otter. The data from local people is vital to understanding the population patterns of these elusive animals. Frontier has just published our first research paper on river otters in the area and look forward to strengthening this research.

## **Bird point count surveys**

Bring your binoculars, put on your twitcher's hat and get set to be up bright and early for bird surveys which occur several times a week. Surveys typically take place along the Rio Carate and at the ecologically sensitive lagoon, Pejeperrito. Many of Costa Rica's hundreds of bird species can be sighted here, as well as several migratory species. Frequently sighted are trogons, antbirds, hummingbirds and tanagers, and if you are lucky maybe a Baird's Trogon or Great Curassow.

Bird counts are a commonly used method of identifying avian species composition in an area and we aim to study the diversity of the bird community in primary and secondary forest as well as within the river course and more disturbed areas such as plantations and gardens. Not only will you be identifying birds by sight, but you will start to learn to identify birds by the calls they make. You be surprised at some of curious ways in which staff have learnt to identify the unique calls of different birds!

## **Butterfly diversity in the forest understorey (Seasonal)**

Butterflies are a well recognised indicator of habitat quality, ecosystem function and health and can be used as an early warning system for environmental change. As a key part of the food chain a greater richness and abundance of butterflies will promote greater diversity of animals at the top trophic level (e.g., wild cats) and any changes in the environment and forest health that results in detriment to butterfly populations will have significant negative impacts on other wildlife. This work is conducted only in the dry season due to damage caused by rainfall and therefore typically runs between October/November and May/June.

## **Amphibian and reptile richness and abundance**

Costa Rican amphibians and reptiles are a diverse group and are amongst one of the most sensitive to climate change due to their use of small microhabitats and the porous nature of their skin. Declines have already been seen amongst these two groups due to reductions in rainfall, and humidity and increased temperatures increasing bacterial growth and disease transmission. The sensitive nature of amphibians and reptiles to altered climatic variables makes them an excellent indicator group for studying the effects of changing climates.

Our study aims to collect baseline data on the different species that live within primary and secondary forests and more degraded areas on the peninsula, whilst also collecting data on ecological variables related to the species. Environmental data such as temperature and humidity is also recorded to monitor the effects of climate change on populations between years. The idea of this project is to create an inventory of all amphibians and reptiles in the area, which will allow us to estimate the number of species there are likely to be in the area and can be used to monitor not only the richness but also the abundance and microhabitat preferences of the species.



## **WHAT HAPPENS WHEN I ARRIVE?**

If you arrive on a Monday before 12:00pm, you will be greeted at Puerto Jimenez airport or bus station by a Frontier staff member and escorted by local bus to the project camp. If arriving after 12:00pm on a Monday or at any time on any other day, a pick-up can be arranged for an additional \$40.

## **WHERE WILL I BE STAYING?**

Life on camp is a unique experience! You will be staying in simple, shared, mixed-sex eco-cabins amidst the jungles near to Carate. This is a jungle research camp, so a mosquito net is an absolute must! We have tried to keep the camp in harmony with its pristine surroundings, so conditions are simple, but environmentally friendly and comfortable.

The camp is situated about 5 minutes walk from Playa Carate, a beach which stretches for over 20 miles all the way into Corcovado National Park. There are cool, refreshing showers and toilets on camp too. You'll be feeling one with the jungle before you know it!

**Check out our camp tour video!**

## **WHAT WILL I BE EATING?**

We feel it is very important to support the local economy, so most of our supplies are sourced locally. This means we do not have access to everyone's preferred foods and much of what we eat is seasonal and fresh. Costa Rican food is delicious, with a focus on rice, beans and good quality fruit and vegetables.

Cooking and cleaning are carried out communally on a rotational basis, so everybody will be responsible for meal preparation. You will have the opportunity to learn how to cook the national staple food, gallo pinto, consisting of fried rice and black beans. Another dish that is simple to prepare with local ingredients and is often eaten on camp is light and crispy tortillas stuffed with refried beans and vegetables.

There are no refrigeration facilities for meat, fish and dairy, so the team takes the environmentally friendly option of vegetarianism during their time on project. If this sounds worrying to you, not to worry, as volunteers regularly make delicious comfort foods such as pizza, falafel-style burgers, curries with homemade chapattis and ginger and cinnamon cakes to name but a few. Get creative! There is also powdered milk to satisfy you avid tea-drinkers.

Much of the fresh water in the streams surrounding the camp and on the peninsula are safe to drink and it's important to remember to keep hydrated. Just be sure to check with staff first.

Costa Rica is also world famous for its coffee and it represents the country's biggest export, so coffee lovers will have plenty of opportunities to get their hands on some. Luxuries like chocolate and packet soup are available in the town nearby, but it is worth bringing some of your favourite treats out with you as well as any herbs or spices. It is recommended that you buy snacks when in town (cereal bars, biscuits etc) for mid-morning sugar dips or to give you energy on long treks.



## **COSTS**

1 week	US\$ 945
2 weeks	US\$ 1,445
3 weeks	US\$ 1,995
4 weeks	US\$ 2,445

5 weeks	US\$ 2,845
6 weeks	US\$ 3,095
7 weeks	US\$ 3,395
8 weeks	US\$ 3,695
10 weeks	US\$ 4,245
20 weeks	US\$ 6,495
Extra week	US\$ 395
Christmas week	US\$ 295

## DEPARTURE DATES

Every Monday

## DURATION

You can join this project for a minimum of 1 week

## CHRISTMAS OFFER

This project is available for the special price of US\$255 per week over the Christmas period. Placements starting on the 23rd or 30th of December 2019 are eligible for this price, subject to availability. Please apply using the orange button below and then tell your volunteer advisor that you wish to take part over Christmas.

## WHAT'S INCLUDED

### Before you go

- Pre-departure support & documentation
- Travel advice & documentation
- Kit advice
- Discounted medical kit
- Free Frontier t-shirt (UK)
- UK residential briefing weekend including food, accommodation and training (extra cost applies)

### In-country

- Accommodation
- 3 meals daily (while on project)
- Project orientation and training
- Airport pick-up, Mondays before 12:00pm
- In-country emergency support
- 24-hour international HQ backup
- BTEC and CoPE qualifications available

## AIRPORT INFORMATION

Nearest airport(s): Puerto Jimenez (PJM)

## CONTACT INFORMATION

Call us on 020 7613 2422 (UK) / 1 949 336 8178 (US)

Mail us on [info@frontier.ac.uk](mailto:info@frontier.ac.uk)

Check out our social media here:



*Project details were correct at the time this document was generated. Price, dates and other details are subject to change. Please see our website for current details for this project.*