



Canadian Organization for Tropical Education & Rainforest Conservation (COTERC)

Providing leadership in education, research, conservation, and the educated use of natural resources in the tropics.

VOLUNTEER INFORMATION PACKAGE

Caño Palma Biological Station is situated approximately 8 kilometres (5 miles) north of the village of Tortuguero on Costa Rica's north-eastern coast. The Tortuguero area is an ancient flood plain covered by lowland Atlantic tropical wet forest and is biologically the richest ecosystem in Costa Rica. Average daily temperature is about 26 degrees Celsius and rainfall may exceed 6,000 mm per annum. Much of this area has protected status under Costa Rica's parks and reserves system, with Tortuguero National Park (18,946 hectares) and the Barra Colorado Refuge (92,000 hectares), forming a vast corridor which connects with conserved forest in Nicaragua to the north.



The Canadian Organization for Tropical Education and Rainforest Conservation (COTERC) was established in 1991 to serve as a registered non-profit organization in Canada, and to support and administer the operations of Caño Palma Biological Station.

The mission of COTERC is to provide leadership in education, research, conservation, and the educated use of natural resources in the tropics. Among our goals, is to extend our efforts in neo tropical conservation to extend beyond the station's 35 hectare property.

Several projects are underway at the station, including:

- The "Save an Acre" program; a fund expressly for conservation through land acquisition;
- A volunteer program which provides biology students and other interested parties an opportunity to live in a neotropical rainforest and participate in research and monitoring;
- Educational programs and support to local schools and universities in Costa Rica, Canada and abroad;
- An ongoing inventory of the flora and fauna of the Tortuguero region;
- Marine turtle monitoring, protection and community-based conservation;
- Migratory and resident bird monitoring and surveys;
- Large mammal monitoring;
- Rainforest restoration ecology program;
- Collection of meteorological data, and
- Daily educational tours of the station and trails. Visiting tourists are given an interpretive lecture by volunteers and staff to help explain the local ecosystem and some of the conservation issues.

Brief History of Tortuguero

The area surrounding the river mouth has been settled by indigenous people since pre-Columbian times as evidenced by the presence of burial sites and middens. During the last 400 years, vast flotillas of green sea turtles have brought European sailors to this coast to provision ships with meat. The village of Tortuguero, with its approximate population of 1000, began as a packing plant for turtle soup and later prospered as a shipping port for coconuts and bananas from the early plantations. Later, a lumber industry sustained Tortuguero until the late 1970s. Currently, tens of thousands of tourists visit the area annually, staying in lodges along the rivers and canals. Most of the local people's income is tied to tourism, yet this is an economically depressed part of Costa Rica, with most of the tourists staying in lodges outside of town. Although the lodges do provide employment for many of the local guides and hotel support staff, little money filters down to surrounding villages.

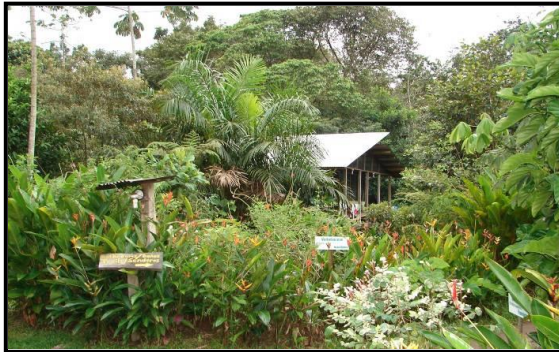


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Biological Station Facilities

The Caño Palma Biological Station is located within the Barra Colorado Wildlife Refuge adjacent to Caño Palma, a 20 metre palm-filled canal which separates the Biological Station from the Caribbean by 200-300 metres. The globally endangered green, leatherback, hawksbill and loggerhead sea turtles come ashore to nest on beaches accessible from the station. There are no



roads in the area, and visitors to Caño Palma arrive by boat via a network of rivers and canals. The station has a large covered boat dock with a lookout designed for viewing wildlife. The compound consists of a lush lawn and gardens with many varieties of tropical plants and shrubs. There is a small pond near the dock which is used by the local wildlife. The station is surrounded by secondary forest in transition, and surrounded by primary forest.

Living facilities are clean and comfortable but basic. Volunteers, researchers and students share a dormitory which can accommodate 30 people. The rooms are equipped with bunks and the station provides mattresses and bedding. A large airy dining room which connects to the kitchen and office is the central meeting area on the station's one acre compound.



The station has electricity which powers a fully functional kitchen equipped with refrigerators and freezers. Water is pumped automatically from a well into a pressurized system and drinking water is passed through an activated carbon filter and UV treatment before being chilled. An outbuilding at one corner of the compound contains two showers and a washing machine. Laundry is air-dried on lines behind the building. Composting and flush toilets are located in the dormitory washroom and in an outbuilding at the corner of the compound.



A palm-thatched natural history exhibit helps visitors better understand the area's natural history and reference material is provided in a screened-in study area and library. Three trails (2km) are maintained on the property providing visitor access to the rainforest; the smaller of these is sometimes used for daily interpretive tours. Kayaks and a canoe are available to tour the canal and lagoons. Swimming is permitted in the canal at your risk; however, the ocean next to the station is not recommended due to dangerous rip tides, currents and logging debris and sharks. The Biological Station is constantly being improved to provide even greater comfort and amenities.



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Health and Fitness Concerns

There are medical facilities in Tortuguero accessible 24 hours a day. There is also a 24 hour clinic in the city of Cariari which can be reached by boat in an hour and a half, and a hospital in the city of Guapiles, which is an additional 20 minute drive from Cariari. A helicopter from San Jose can be arranged if an airlift is required. Some of these services are run by private companies and is expensive; therefore medical coverage is required. We recommend that you see your physician or local health clinic well in advance of traveling to Costa Rica. Follow your doctors medical advice regarding inoculations, prescription medicine and health precautions.

It is essential that you inform the station staff of any medical conditions or allergies you may have. The station has a first aid kit, including snake antivenin, but you should bring any personal medications you may need. Let the staff know where you keep your medication and how to administer it in case of an emergency. Make sure you have copies of any prescriptions to accompany the medication you are bringing into the country to avoid problems with customs officers.

The level of physical fitness required to participate in activities varies depending on the biological monitoring program. The most strenuous activity is marine turtle monitoring. You must be able to carry a light pack and walk at a fast-paced for up to 10 km during night or morning beach surveys. Large mammal monitoring requires that you walk up to three km in difficult rainforest terrain where you can expect wet and muddy conditions.

Financial Concerns



Volunteers contribute a donation of \$250.00 U.S. per week to participate in our biological monitoring programs. Rates for long-term stays and/or rates for two or more volunteers can be discussed with the Station Manager prior to your travel. This donation will be collected at the end of each week during your stay. You will be given food, accommodation, limited transportation to the village and a one year membership to COTERC with electronic newsletters in return for your participation. There are no banks in Tortuguero and so we are

unable to accept traveler's cheques or credit cards. Donations to the station must be in U.S. dollars or the Colone equivalent. When arranging U.S. cash for your trip, be sure to ask your bank for clean bills, absolutely free of even tiny tears or nicks or writing. Costa Ricans are very particular about their currency.

Donating Equipment

If you would like to do something special to support our biological monitoring and conservation programs, that great! Here are some items that are currently in demand:

- Rite-In-the-Rain field notebooks
- Your favourite biology and ecology technical books for the library
- Stationary
- Computers
- Memory sticks
- Functional binoculars or spotting scope.
- Night vision binoculars
- Mist nets - for capturing and identifying birds and bats
- Dissecting microscopes
- Motion sensitive cameras to monitor wildlife movement in the forest.



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Useful Items to Bring

Remember you will be living in a rainforest environment and prepare accordingly. Rainforests are wet places with high humidity and higher temperatures than you may have experienced. This list is a minimum; you should allow for changes of clothing.

- Light weight (cotton) long pants, ones with side pocket are ideal for hiking
- Quick-drying long sleeve shirts for hiking and evenings
- T-shirts or short sleeved shirts and shorts for use around the camp
- Rubber boots and sandals
- Plenty of socks
- Several changes of underwear
- Rain jacket or poncho
- Hat
- Towel
- Flashlight or headlamp (with spare bulbs and batteries- rechargeable)
- Sunscreen
- Insect repellent (non-aerosol)
- Water bottle
- All toiletries, including phosphate-free soaps and shampoos
- Mosquito net for your bed
- Snacks, the station provides three meals daily, but not snacks. Arrangements can be made for the station staff to buy on your behalf during the twice-weekly grocery runs to the village.
- Any small traveling games you might like to have
- Paper and pens/pencils
- Water shoes for turtle monitoring surveys

Volunteer Duties

Apart from the ecological monitoring programs, volunteers will be assigned duties by station staff as required and according to the station's needs. These duties may include the following:

- Yard and trail maintenance;
- Leading daily tours;
- Preparing meals and washing dishes;
- Collecting weather data;
- Assisting visiting researchers with data collection;
- Preparing rooms for researchers and student groups, and
- General facility maintenance

If you have particular skills (i.e., construction, electrical, plumbing), which relate to the station's needs, we certainly want to know about them. In the course of your stay there will be plenty of time to explore the rainforest surrounding the station and the beaches and canals.

General Conduct

As a volunteer to Caño Palma Biological Station, you will represent COTERC to the people of Costa Rica. The quality of your conduct will reflect on the organization and the Biological Station. We have worked hard to develop good will and a positive relationship with Costa Ricans. Drunken or violent behaviour will be grounds for immediate dismissal, and may be punishable under law. Recreational drugs, including marijuana, are illegal in Costa Rica and will not be permitted at the station.



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Travel and Transportation Information

Anyone planning a trip to Costa Rica is advised to obtain a copy of a good travel guide, which will provide information on necessary documents, basic travel needs and cultural details. Some of the more popular titles are: The Lonely Planet Guide to Costa Rica, The New Key Guide to Costa Rica, Costa Rica- The Rough Guide and Frommer's Costa Rica.

Once you have arrived in Costa Rica's capital, San Jose, you will have two options for travel to Tortuguero:



1. Tortuguero can be reached by small plane via two airlines for approximately \$80.00 U.S. Flights leave early in the morning and take 25 minutes. Bookings should be made with Sansa or Nature Air on a weekday, 2 to 3 days in advance. Should you contact the station ahead of time they can arrange your flight with an agent from SANSA in the town of Tortuguero. You would then pay for your ticket upon arrival. An email confirmation would be sent by the station to you, or any San Jose travel agent can make the booking for you, or you can make the booking from your country of origin. There is a luggage restriction of 25 pounds.
2. Travel overland is possible by bus and boat. From San Jose, arrive at the bus terminal called Los Caribeños where you will take a bus to Cariari. The bus departs at 9:00am costs around \$3 (you can purchase your tickets from the booth for Guapiles). It is suggested that you get to the bus station at least half an hour in advance. Upon reaching the central bus terminal in Cariari at approximately 11:00 am, you will find a small office, which will arrange further bus and boat transportation. Here you will be directed to catch another bus at the municipal bus terminal. To get to this terminal, exit the terminal for San José and turn to your right. Walk 800m and you will see small local bus station located behind the local police station on your left hand side. The bus for Finca La Pavona leaves at 12pm and there will be a few different boat drivers waiting for locals to take them to Tortuguero. We suggest that you let the boat driver know you are traveling to Caño Palma Biological Station and they will drop you off for \$10.00. The entire trip from San Jose takes about five hours. If you contact the station ahead of time the station manager will be more than happy to advise the boat driver of your arrival and assist you with any questions.



**Please contact the Station Manager a day or two
prior to your planned arrival:**

Email: station@coterc.org

Phone: 2709-8052

Calling outside Costa Rica: 0-11-506-2709-8052



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PROJECTS

Marine Turtle Monitoring & Tagging Program



This project is conducted in co-operation with Global Vision International (GVI) and the Caribbean Conservation Corporation (CCC). The project is supported by the Ministry of Environment & Energy (MINAE) of Costa Rica. Data is shared with the Caribbean Conservation Corporation (CCC) as well as with other conservation organizations in the country to help understand population dynamics and augment protection for the turtles on the beach. Four of the world's seven marine turtle species nest in the area, including, leatherback (*Dermochelys coriacea*), green (*Chelonia mydas*), hawksbill (*Eretmochelys imbricata*) and loggerhead (*Caretta caretta*).

Project goals include:



- Improve the understanding of leatherback, green, loggerhead, and hawksbill marine turtle nesting patterns on this unprotected beach;
- Increase awareness and improve conservation education among local residents and businesses;
- Decrease the rate of poaching and human disturbance, and
- Share monitoring results and conservation success stories with governments and conservation organizations

The project runs from February to November. The distance of the beach surveyed each night is 11.2 kilometres (7 miles).

Resident & Migrant Bird Monitoring

Since 1991, Caño Palma Biological Station has monitored resident and migrant birds; first with the National Museum of Costa Rica, then in 1994, with the Tortuguero Integrated Bird Monitoring Program. The Program combines the use of area searches, constant effort mist netting, and migration counts into a long-term monitoring and training program following the recommendations of the Partners In Flight – Aves de las Américas monitoring guidelines. During migration season (August – December & February – May), birds are trapped in mist nets placed on station trails on a weekly basis. During other times of the year area searches are conducted in various locations surrounding the station. This study is conducted in cooperation with Partners in Flight, US Forestry Service, Caribbean Conservation Corporation (CCC) and Klamath Bird Observatory.





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Resident Breeding Bird Surveys

This project is conducted with guidance from Dr. Steve Furino of the University of Waterloo and staff from the Museo Nacional in San José. Tropical birds comprise a large portion of the world's total biological diversity, yet knowledge of their reproductive behaviour and ecology in this ecosystem is poorly understood. This survey provides data on nesting behaviour, ecology and habitat use. The program has the following goals:

- Improve the knowledge of resident bird ecology and population dynamics
- Increase awareness of tropical birds and conservation among local people
- Document location, species, clutch size, hatching and fledging success rates
- Provide research opportunities and share information with national and international biologists.

With sufficient nest records, breeding density and survival rates can be determined and shared with the conservation community. Only one nest of Rufescent Tiger-Heron (*Tigrisoma lineatum*) was known world-wide prior to the discovery of eight nests in the immediate vicinity of the station during the period from 2001 to 2005.

Children's Environmental Education



This project commenced in 2003 and is on-going. Each Thursday, one-hour classes are given to the school children (ages 6-12 years) in the village of San Francisco located just north of Tortuguero. Our aim is to increase environmental awareness in the community's children, and by extension to their parents. The classes are conducted in Spanish and weekly lessons are planned, including local field trips and stewardship activities designed to engage local youth in conservation efforts.

Large Mammal and Primate Monitoring Program

This project has established baseline data on the presence and absence of the large mammals and each of the three primate species ranging in and inhabiting the lowland rainforest of the Caño Palma and Tortuguero region. The three Costa Rican primate species are found to inhabit the area, including; mantled howlers (*Alouatta palliata*), white-faced capuchins (*Cebus capucinus*) and spider monkeys (*Ateles geoffroyi*); other large mammals include the jaguar (*Panthera onca*), the tapir (*Tapirus bairdii*), and white-lipped peccary (*Tayassu pecari*) and many others beyond this (see the large mammal checklist). Volunteers will follow a standardized protocol while conducting presence/absence data along the black water canals and established forest transects of Caño Palma. Project data provides an improved understanding of demographic parameters, distribution, habitat use, and foraging behaviour. There are numerous projects in the large mammal and primate program to accommodate Masters and PhD students. They are invited to work with current baseline data and flesh out detailed projects. We invite other researchers to inquire about potential research at the station.





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Community Reforestation Program

This is a new project for the station and it has received great response. Volunteers participate in a tree-planting program designed to restore some of the native trees that are considered "rare" in the Tortuguero region. A seed collection program and germination table has been established to enhance the survival rate of seedlings once they have been transplanted. Volunteers assist in all aspects of the project.



Last Updated: March 8, 2010