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# RAPHIA

**The Canadian Organization for Tropical Education  
and Rainforest Conservation (COTERC)  
Newsletter.**

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## **COSTA RICA INTRODUCES NEW REGULATIONS FOR SCIENTIFIC RESEARCH**

*The following summary has been prepared by Suzanne MacDonald, Director of Research, COTERC*

Costa Rica has recently implemented new regulations for visiting researchers. These regulations are based on a 1992 law on wildlife conservation and are being strictly enforced.

All researchers will be required to fulfill all the requirements of the new law, without exception. These requirements appear to be complex, but the situation thus far has proved quite workable. Collecting permits, for example, have become easier to obtain. The situation as we understand it is as follows:

### **WHO NEEDS PERMITS?**

Everyone who captures, handles, or transports plants, animals or microorganisms needs to register the project and obtain permits. This includes anyone collecting plants or capturing wild animals for teaching purposes or ecological research, even if the

organisms are released unharmed. Transport or trade in wild species of any sort must be authorized by the Wildlife Service.

**WHAT KIND OF PERMITS ARE REQUIRED?**

**Collecting** (capture or handling) permits from the Ministry of Natural Resources are required by all, even for temporary collections. A one-stop service to cover Wildlife, Forestry and

National Parks requirements is being set up by the Ministry with a **one month** time frame. These permits will be valid for up to 6 months and can be renewed.

**Export** permits of two or three types are required. One is from the Wildlife Service and covers compliance with collecting permits, deposit vouchers, CITES restrictions, etc. A second, from CENPRO certifies the non-commercial nature of the material exported and is simply a formality once the Wildlife Service permit is in hand. For plant specimens a third permit is needed from the Plant Quarantine Department of Agriculture.

**Use of nets or traps** requires specific permission. This should be requested in the application for collecting plants.

**Marking** is also regulated and permission is obtained via the collecting permit application. Marking can occur by any of the several methods under the supervision of the Wildlife Service. Consecutive numbering must be used and marking must be done by Wildlife personnel. Costs for this are to be paid by the project.

**HOW MAY PERMITS BE OBTAINED?**

There are two routes available- individual and institutional application. Foreign researchers must obtain authentication of their institutional endorsement by the nearest Costa Rican consulate, as well as "Formula para registrar investigaciones" filled out in Spanish. These documents must be presented to the Costa Rican Wildlife authorities along with the rest of the permit application materials.

**WHAT INFORMATION IS NEEDED?**

\* A brief (3-6 pages) SPANISH summary of the research proposal. This should specify the nature and purpose of the project: the collecting to be done and its relevance; the persons and institutions involved, including all local collaborators; the uses to which the specimens will be put and the eventual disposition of them; and a description of the techniques that will be used for capture, preservation and/or study of live organisms.

Requests to use traps or nets or to mark living individuals should also be expressed in the summary. Poorly explained proposals have been rejected in

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the past, especially when general collecting or sensitive taxa were involved.

\*An official letter of endorsement from the institution with which the researcher is affiliated on letterhead paper and bearing the institution's seal.

\*A completed form entitled "Formula para registrar investigaciones" in Spanish (available through COTERC office)

\*Authentication of the above form by the Costa Rican consular service in the home country of the researcher.

\*A curriculum vitae (3 pages maximum)

\*A copy of the researcher's passport and two passport-sized photos(4 photos if the collecting is in a national park)

\*Completed form entitled "Solicitud de permiso para realizar investigaciones, Servicio de Parques, Nacionales, when collecting in national parks

\*Written authorization signed by the land owners when collecting from private property

NOTE: COTERC will soon provide a translation service for a small fee

#### ARE BLANKET PERMITS AVAILABLE?

A single permit can cover all participants of a course or research project, as long as the principal investigator or course coordinator is willing to assume responsibility for the actions of the associated collectors. Many foreign researchers collect in Costa Rica under the auspices of permits obtained by local collaborators for joint projects. Where feasible, this is usually preferable.

#### WHERE MUST VOUCHERS BE DEPOSITED?

Before the Wildlife Service can issue export permits "identical specimens must be delivered for the National Museum and to the University of Costa Rica...and for the botanical gardens and zoos of the state exclusively". Collectors should plan to be able to leave at least two sets of duplicates or to have the first set accessioned by Costa Rican museums and then loaned (often on the spot) to the scientist's institution. Solid working relations with local collaborators are often invaluable in working out a mutually satisfactory disposition of specimens.

#### WHAT REPORTS ARE REQUIRED FROM PERMIT HOLDERS?

Annual reports to the Wildlife Service are required of all investigators registered in the system; quarterly reports are required if the project will last less than a year. These should include a statement of progress, with reference to the plan originally submitted and an account of the collections made.

The researcher has an obligation to send copies of publications originating from research done in Costa Rica to the National Library and the Wildlife Service. COTERC would also like a copy of any publications.

These reporting obligations must be taken seriously so as not to risk the credibility of COTERC or its associated researchers, nor endanger access to cooperation and permits for future projects. Researchers working through COTERC must accept their responsibility to provide reports, including full disclosure on disposition of all specimens, lists of all marked plants and animals and copies of publications.

If you have any comments or questions please contact Suzanne at 736-2100 ext. 66464 or through the COTERC office.

## AN EXAMPLE OF CONSERVATION AND RESOURCE MANAGEMENT ACTUALLY WORKING

by Elaine Christens, COTERC Membership

This past summer I spent three months in Costa Rica teaching a sea turtle ecology course to university students from the U.S.A. We were situated at a research station in Ostional, which is in a National Wildlife Refuge on the Pacific coast of Costa Rica, on the Nicoya Peninsula. Ostional is a sleepy little village with a dusty dirt road running through it, no electricity and a population of approximately 200 people. It has one store, called a 'pulperia' which sells a few food items, and has the one and only phone in the village. In the middle of the village there is a soccer field, which is characteristic of every village and town in Costa Rica. Most of the houses in Ostional have thatched roofs, a small garden, and several chickens running through the yard.

Ostional has one of two nesting beaches in Costa Rica for the olive ridley sea turtle (*Lepidochelys olivacea*). These two beaches are two of five major nesting beaches in the world for this species. Olive ridley's, along with the Kemp's ridley (*Lepidochelys kempii*) are the smallest of all the sea turtles. Female's nest in large aggregations called an 'arribada' which is a Spanish word meaning arrival, and is a term used to describe a reproductive behaviour unique to sea turtles of the genus *Lepidochelys*. An arribada at Ostional is usually very predictable; beginning on the last quarter moon of each month and lasting for 3-7 days. The peak nesting period at Ostional is from July to December. The main nesting beach at Ostional is 0.9 km in length, and as many as 120,000 turtles

may nest on this beach during an arribada. It is an incredible sight to see.

So many turtles arrive at Ostional that the people living along the beach must put up a barricade of logs to stop the turtles from entering their houses. It takes about 50 minutes for a turtle to dig a hole with her hind flippers (approximately 40-50 cm. deep) and lay an average of 100 ping pong ball sized eggs: A large portion of the nests are destroyed by the large number of turtles that come to nest. At the end of an arribada it looks as if a battle has taken place on the beach; the whole beach is pitted with craters, and there are millions of egg shells spread everywhere.

The nesting beach at Ostional is unique in that the eggs deposited by the turtles (olive ridley's only) are legally harvested by the people of Ostional. Ostional was established in the 1940's because of the plentiful supply of turtle eggs, which provided a continuous supply of protein to the people.

In the beginning, the people of Ostional took the turtle eggs at any time. In 1969, a Wildlife Conservation law was established in Costa Rica that stated that "no part of the turtle could be used..." in other words they became fully protected. This was a difficult law for the people of Ostional to follow. Since they obtain their living principally from fishing and growing basic crops, such as rice, beans and corn, the turtle eggs were an important addition to their diet, as well as another method to supplement their income.

In 1970, the olive ridley nesting beach at Ostional was discovered by scientists. Between 1970 and 1984, studies were conducted on the olive ridley at Ostional. These studies showed that nest density on this beach was extremely high (>90%). Where the turtles nested

solitarily (away from the main nesting beach) hatching success was found to be > 80%.

Based on the hypothesis that if nest density were decreased, hatching success would increase, the people of Ostional formed an association called "Integral Development Association of Ostional" whose objective is the marketing of turtle eggs. In 1984, with the support of the biologists, the people of Ostional submitted a proposal to the government of Costa Rica to legalize the taking of turtle eggs at Ostional. Unfortunately, the 1969 Wildlife Conservation Law did not allow this to happen. An amendment to the Law was requested and in 1986, the 1969 Wildlife Conservation Law was modified to say that "no part of the turtle can be used except at Ostional where the eggs can be harvested by the community of Ostional".

From 1986 to the present, the people of Ostional have been harvesting the eggs based on a scientifically based management plan. The people of Ostional can harvest eggs for the first 36 hours of an arribada but only on the main arribada beach and only during daylight hours. It was quite a feeling being on the beach by myself all night tagging turtles, and then having the whole village come down to the beach to collect eggs at 5:30 am. Everyone participated, men, women and small children. They were usually finished by 10:00 am as it generally became too hot to work on the beach by that time.

Ostional has one of the few programs in the world where the harvesting of individuals (in this case eggs) may actually increase the size of the species population.

The eggs are sold below the black market price of turtle eggs in order to discourage the illegal sale of eggs from



other beaches. The eggs are part of Costa Rican culture and are sold in many bars and market places. It is an old custom in Costa Rica to serve turtle eggs as a snack with beer and liquor where they are eaten raw. The eggs are also used in various recipes.

This is an example of conservation and resource management actually working. Before the legalization of the egg harvest, Ostional was a village of impoverished individuals -many suffered from malnutrition. Ostional was also very isolated from the rest of Costa Rica by very bad roads. Since then, roads have improved and bridges have been built and repaired.

Welcome to new director, **Monica Wrobel**, who was voted to fill a vacant position on the board of directors recently. Monica filled the voluntary position of Membership Secretary to COTERC before leaving for 18 months as the New Noah. She has now returned from her sojourn in Jersey and Mauritius and we know that she will add a new dimension to the board.

## REPORT FROM CANO PALMA

by *Greg Mayne, former Cano Palma station manager*

I can hardly believe that I'm leaving Cano Palma and something that I've made such a part of me. "This is it" I say as I gather my belongings and prepare myself for an overland trek through Central America and my eventual trip home. How can two years

have gone by so quickly?

It only seems a short time ago that I was scrambling to ready myself for an experience so inexplicably foreign and to be honest, something unsure and intimidating. So much has transpired between that time and today that I find almost impossible to explain completely my thoughts and feelings. I will say, however, that it has been a time of growth, not only for the biological station in Cano Palma, but for myself as well.

Allow me to share with you some of my thoughts and experiences. Living in the rainforest of Costa Rica is an experience of sights, sounds and smells. The species diversity is so rich that rarely does one find any semblance of likeness or routine. The climatic changes are in itself, for example, a natural force that can never be planned around. Just when it appears that fine weather has arrived the skies quickly begin to darken as the Atlantic winds push in cloud formation. Within minutes the air begins to cool bringing with it the first rain and you find yourself dashing to take down the still damp clothes strung out trying to dry from the last rain cycle.

Never have I witnessed such rainfall in my life. The intensity of tropical rainstorms is a force to be reckoned with. The complete blackness of night is punctuated by blinding flashes of lightning followed by deafening earth-shattering thunder.

On occasion, evenings are spent sweltering in the humidity and insomnia is your nemesis. And yet, quite suddenly, you may find yourself reaching for covers that have been kicked onto the floor as a new, fresh breeze blows in from the ocean.

The extreme heat and burning intensity of the sun can be contrasted by the drab, overcast skies that bring a slight dampness and chill to the air. These interminable changes and contrasts are essential ingredients which spawns life in our rain forests.

There was never a morning from which I would awaken and not realize what a sublime place Cano Palma is. The forest appears to come to life in the early hours of dawn as the howler monkeys vocalize to ensure a comfortable distance between groups. Dozens of species of birds join together in song to create a rich mixture of sound, the most obvious of which are the parrots, with their loud, raucous calls that make sure that nothing is left in a slumber, including me.

As the heat of the day subsides, movement within the forest accelerates. Nightfall is soon upon you and nothing is left uncloaked by darkness. Nocturnal creatures make their presence known by a multitude of sounds and many flowers release their fragrance. These are only the more obvious signs of life which we are permitted to observe.

Administering and developing a biological field station certainly provided me with a better understanding of conservation. Cultural sensitivities must be kept foremost in mind when establishing such a station. Mistrust is an ever present obstacle that can only be overcome with persistence and a continuance of projects and the subsequent involvement of the community.

Conservation is not just setting aside protected areas but rather about addressing important social issues such as alternative means to traditional

agrarian lifestyles. In the near future, our sustainable development butterfly farm project will hopefully serve as an example of how we can better utilize our natural resources while at the same time, providing alternative income for local individuals.

Although I am leaving the station, I'm taking with me a part of it and leaving behind a large part of me. I would like to extend my appreciation to the COTERC board of directors for affording me this most incredible of experiences.

#### ADOPT AN ANIMAL PROJECT

*The Simon Bolivar National Zoo of Costa Rica has begun an adopt an animal program. The zoo spends 6,000,000 colones a year feeding the animals of the zoo. The director of the zoo, Yolanda Mataramos, has been a strong supporter of COTERC's development.*

*The zoo provides a list of animals that can be adopted. It could be a toucan, an iguana or a jaguar. Once the animal is adopted the ZOOPARENT will receive a certificate and a sign with the name will be placed in the zoo. The ZOOPARENT will also receive the zoo's newsletter and an invitation to educational and recreational activities organized by the zoo.*

*For more information, contact:*

**ADOPT AN ANIMAL PROJECT  
FUNDAZOO  
P.O. Box 11594-1000, San Jose  
Costa Rica.**

#### EXECUTIVE DIRECTOR REPORT

While most everyone was preparing for Christmas in early December, I was preparing for another visit to Costa Rica to meet our old station manager Greg Mayne prior to his departure and liaise with our new manager Pat Opay.

On the advice of our membership secretary Elaine Christens, I stayed at the Toruma Youth Hostel in San Jose located in an old mansion in San Pedro, one of the suburbs, slightly removed from the noise and pollution of the downtown region but easily accessible by taxi. The hostel offers bunk beds in a basic accommodation but is well protected and has a soda (small restaurant) adjacent to it. Breakfast is included in the room rate, and is quite a bargain at \$6.67 US per night.

I had anticipated spending the majority of my time at Cano Palma Biological Station, but alas, I ended up having only four days there, mainly because of the new Wildlife Law recently being enforced. Pat Opay and I met with many and various officials, in an effort to determine how best we might be able to assist any people wishing to study or conduct research at the station.

In addition, it was necessary for us to register Cano Palma Biological Station itself with the Wildlife Department, MIRENEM. In a separate article, COTERC's director of Research has outlined these new requirements. I want to thank Pat for his tremendous job of putting together the necessary documentation and his ability to translate during the meetings. Our lawyer, Rolando Chacon was very

helpful in putting together the material in the correct legal format for presentation to MIRENEM.

We also met with our two advisors. Yolanda Matamoros is the director of the Simon Bolivar Zoo in San Jose, and had been very kind in freely offering us her advice and assistance in contacting various officials. Pat and I were invited to attend the opening of a fundraising art exhibit held at Banco Nacional, where we met the president of the bank, as well as the principal advisor to the Ministry of Energy, Mines and Resources. Yolanda also interceded on our behalf to arrange a formal agreement between Cano Palma Biological Station and Universidad Nacional for cooperation in future research. There will be a formal signing of the documents on my next trip to Costa Rica.

Melania Ortiz, is our other advisor and is director of Museo Nacional and also provided us with the assistance regarding our application to the Wildlife Department. Although we had been working with personnel from Museo Nacional since our inception, a more formal agreement is being drawn up for future cooperation. Several of the Museo Nacional's personnel, including Gustavo Vargas, Director of Natural History, will be visiting Cano Palma in the New Year to assess the bird monitoring program in effect since 1991, as well as new projects.

Many thanks to both of these gracious and busy women who have been so generous with their time.

After concluding some more business on Monday, I flew to Tortuguero, December 14 with a new friend Barbara Flores. Barbara has moved from Toronto to take up residence in San Jose and accompanied me on her first



trip to the tropical rainforest. The weather for the most part was sunny and hot, and we were greeted by Pat Opay at the Tortuguero airport for our boat journey to the station. I don't think I will ever lose the awe that I feel of entering another world when the boat turns into the narrows of Cano Palma. Here one truly gets the feeling of being in the jungle, with overhanging lianas and trees reaching to the sky, shading the occupants on the dark water below.

The main topic of conversation was the demise of the present kitchen. This was the original structure built by the previous owner to house his family and the termites have duly had their way with it. A new kitchen must be constructed as quickly as possible and we decided that we would add on an additional room for bunkbeds while we were at it. Construction should begin very soon on this new building but meanwhile the temporary kitchen has been set up in the old museum area. During the time that Greg Mayne worked at the station, he succeeded in erecting new buildings including a house for the assistant, a station manager's house, a museum/hammock kiosk and a new toilet with a septic system. Again, we would like to thank Greg for all his hard work on our behalf.

It was truly wonderful to wake up once again to the raucous calls of howler monkeys, toucans and parrots and listen to the unique whistle and see the acrobatics of the oropendola bird. I was lucky enough to hear a jaguar roar one evening and find his footprints on the Raphia Trail the next morning. The butterflies, hummingbirds and poison arrow frogs were all plentiful and this time I even saw the Disney-like morpho butterflies several times.

Just prior to my arrival two volunteers from Canmore, Alberta put together an interpretive brochure for a self-guided tour on the Colibri Trail, complete with numbered plaques at which to stop and read the guide. Many thanks to Gareth Thomson and Sylvia McAllister for their very extensive work on this brochure.

All too soon my four days were up, and it was time to take the small plane back to San Jose and then on to Canada. I do hope to spend much more time at Cano Palma Biological Station next time and want to conclude that I feel very positive about our future, and am convinced that COTERC is making its presence known, and will continue to carry on vital conservation work both in Costa Rica, as well as in Canada.

### CONSERVATION NEWS FROM COSTA RICA

extracts from the Tico Times

#### CAMPESINOS AND ENVIRONMENTALISTS WORK TOGETHER

The tropical dry forests and seasonal lagoons of Guanacaste' Bajo Tempisque region have suffered severe degradation from the agriculture activities of the area but an innovative new project is working to make the farmers allies of conservation, while helping to improve their way of life.

Conservationists working in the area coordinating their efforts with agricultural organizations in the hopes of improving the status of protected areas while helping the farmers who live near the protected areas. The environmentalists are working with

those residents living in the buffer zone(that surrounds the protected areas)looking for development that permits conservation. The project is known as PACA - the Environment Project for Central America and is a joint effort of the international development agency CARE and the U.S. environmental group-Nature Conservancy.

PACA also has projects in Honduras, Guatemala and Belize and works with NGO's that are active in development or conservation in specific areas. The Neotropica Foundation, one of the PACA partners in Costa Rica, provides technical and financial assistance to the members of the National Parks Service for fire prevention in the Tempisque Conservation Area.

One of PACA's partners is AGUADEFOR which represents 18 local agricultural organizations. Their main focus is reforestation which can generate income for small farmers while contributing to the ecological recovery of the region. AGUADEFOR has provided loans and training for community groups to establish tree nurseries that produce saplings of native species.

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#### INTERNATIONAL BIKE RACE FOR THE RAINFORESTS

Last October, the first ever International Mountain Bike "Save the Rainforest" Race was held in Costa Rica with a 30-kilometre downhill circuit from Irazu Volcano to Turrialba. Organizers were using the race to raise public awareness of the importance of and dangers facing tropical rainforests around the world.

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