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I. Las Cruces

➤ How to get to Las Cruces

Bus: Buses leave San José from the TRACOPA Terminal. The terminal is located in downtown San José and there are four daily bus departures: 6:00 am, 8:15 am, 12:00 pm, and 4:00 pm. These schedules can vary so contact either Las Cruces or TRACOPA (2221-4214; 2773-3410) to confirm. You take the bus to San Vito. From there you will need to take a 15-minute taxi ride to the station. Buses from San Vito to San José depart at 5:00 am, 7:30 am, 10:00 am, and 3:00 pm.

Via OTS: OTS can organize your transport. Please contact Pablo Richard (pablo.richard@ots.cr) for more information.

➤ Upon arrival

Please, go first to Reception, where you will fill out and sign your Registration Form. If you arrive outside regular operation hours, the key to your room, and your Registration Form will be left at the main guard station at the entrance to the station.

➤ Reception

The schedule for reception is 7:00 am – 5:00 pm all year round. Please note that reception is sometimes closed during the lunch hour (12:00 – 1:00 pm).

➤ Dining room

Meals are served according to the following schedule: Breakfast 6:30 am, Lunch 12:00 pm and, Dinner at 6:00 pm. Meals are served family style and there are typically no reserved tables. When you finish your meal, please take your dish to the kitchen window. To request a box lunch for the field, fill out one of the forms near the coffee/tea area the day before. If you ask for breakfast or lunch for the field, you **cannot** eat the same scheduled meal at the station (i.e., no double dipping)!

If you have food allergies or dietary restrictions/preferences, please indicate this in your reservation and/or at Reception. If you are arriving late to the station, please let Reservations (Pablo Richard) know and they will pass the word to the kitchen to save you a meal. The same can be done once at the station with Reception at Las Cruces.

➤ Rooms

If the station is crowded, you might have to share a room. If you want to move into a different room, please ask at Reception. If you leave the station, but leave your belongings in the room, you will be charged. There is a long-term rate (>30 days) and short-term rate. Check in is at 3:00 pm and checkout at 1:00 pm. Please contact Reception for further information about rooms and rates.

➤ **Gift shop** 

The store is located next to Reception. You can buy souvenirs, sodas, snacks, candies, ice-cream, over-the-counter medicine, phone cards, and some basic field supplies here. Working hours are from 7:00 am - 5:00 pm all year round. Please note that the gift shop maybe closed during the lunch hour (12:00 – 1:00 pm).

➤ **Laundry** 

All rooms are provided with a white laundry bag. Once full, bring the bag to the laundry room and it will be washed for you. You need to fill out a form that is available on the door of the laundry room. You will be charged for a full load, even if you bring only a few items. Please note that when the station is very busy it might take more than a day to process your laundry. The laundry room is located beneath the dining hall terrace and is open daily from 6:00 am – 3:00 pm. You need to pick up your laundry once it is ready.

➤ **Fees**

Reception cannot modify the fees assigned by the Reservations Department. If you have any questions about your fees, please contact the Station Administrator or Reservations in San José.

➤ **Keys**

If you leave your keys inside your office or room, please do not force the door or damage the screen. Please contact

Reception and if they are closed, call the Guard-house. The cost for a lost key is \$20 because we have to change the locks.

➤ **Noise** 

Please maintain low levels of noise at all hours in rooms, labs, and offices. For extracurricular activities (planning a special party), consult with the Station Administrator beforehand to make sure there will be no conflict with other groups or visitors. Keep in mind that some researchers work at night and sleep during the day.

➤ **Seminars**

During the summer field season (June – August), a researcher is usually invited once a week to give a talk for residents at the station. Please see the notice board near the dining hall for further information.

II. Communication

➤ **Internet** 

Internet access is free (2 MB) and available 24/7. All buildings have wireless access. Network addresses are assigned automatically, but if you have problems connecting see the GIS and Informatics Lab Manager. Viewing pornographic websites, as well as downloading music, movies, and games is prohibited.

➤ **Phone** 

All cabins have a telephone and we also have several communal phones. There is also a public phone at the main gate of the station. For external calls, you need to buy a phone card in the gift shop. The number for Las Cruces is +(506) 2773-4004.

➤ **Mail** 

Reception can help you send and receive snail mail. Once a week, mail is sent back and forth from the OTS central office in San José. If you have an important letter or package to send, please coordinate with Reception.

➤ **Fax** 

Reception is in charge of sending and receiving faxes. Please contact them for information. The station fax number is +(506) 2773-4109.

III. Important documents for research

➤ **Approval letter**

All researchers must have the Director's authorization to conduct research. In order to obtain it please contact the Station Director. Proposals with special requirements such as those that require collecting or marking of specimens, research that involves collecting for genetic or molecular studies, or the establishment of permanent plots, are typically approved by an external Advisory Committee. Proposals submitted to this committee usually require a longer time to process, and

approve. For projects that require access to tree canopies or any other potentially dangerous activity, researchers must demonstrate proper training or previous experience before initiating the investigation. See the Las Cruces Operations Manual for further details.

➤ **MINAET permit**

The Costa Rican Ministry of the Environment and Energy requires that everyone conducting research and/or exporting biological samples must obtain a research permit (decree No. 32553-MINAE). If you are working with DNA samples, you must also obtain a permit from the National Commission for the Management of Biodiversity (CONAGEBio). You may file your own research permit, or for a fee you may file through the OTS Costa Rican office. For more information, please contact Francisco Campos in the General Services Department (francisco.campos@ots.ac.cr).

IV. Research facilities

➤ **Work space** 

Work space is assigned based on your needs (desk/laboratory) and availability. Please contact the Resident Biologist for more information.

➤ **Laboratory** 

The Resident Biologist is available from Monday – Friday 7:00 am to 5:00 pm and can provide researchers with keys to

access the laboratory. On weekends prior arrangements need to be made.

Equipment and materials: Las Cruces has lab space, freezers, dryers, ovens, glassware, scopes, scales, etc. All equipment and materials are available for researchers. In order to reserve equipment, you need to contact the Resident Biologist and also for further information about purchases of lab supplies, quantities, status, availability and such. An equipment list is available by emailing the Resident Biologist. Please keep in mind that a lot of materials and equipment are difficult to get in San Vito, the nearest town, but with advance notice, purchases can be made in San José. Shipments from the U.S. can take two weeks or more.

Ovens and refrigerators: The Resident Biologist is in charge of scheduling and coordinating use of equipment. To prevent fires, it is important to avoid contact between plant materials, and the heating elements in the drying ovens. Remember always to label clearly all samples to prevent misplacement or losses. Please provide a complete list of your refrigerated and frozen items to the Resident Biologist and dispose of unwanted samples properly.

Chemical waste: Environmental protection is a priority for OTS. Las Cruces expects that all chemical wastes produced by your research will be treated and disposed of properly. For safety procedures or other inquiries, please contact the Resident Biologist.

➤ **Geographic Information System (GIS)**

We have aerial photos, databases, and satellite image of Las Cruces and surrounding areas. For more information and assistance with GIS databases, please contact the GIS Lab Manager.

➤ **Computer room** 

The station has several public computers with Internet access, located in the Sala Mildred Mathias. Priority is given to researchers. Due to regular computer cleaning and hard drive formatting; please keep a backup of all your files. Pornographic websites as well as music, movie, and games sites are prohibited.

➤ **Shade houses and Greenhouses**

We have limited space available for researcher use in both shade houses and greenhouses. Please visit or contact the Station Taxonomist or Resident Biologist for more information.

➤ **Library** 

The Don Stone Las Cruces library has over 1400 volumes, and thousands of articles and journals. It is open Monday – Friday 7:00 am – 5:00 pm, and on weekends when courses are present at the station and request access in advance. If you want to take a book to your room, please write its title and your name in the notebook near the main door. Please specify day of return. Put the book back on the return table when you are done. To search for articles, you can use the database

BINABITROP-Costa Rica (National Bibliography in Tropical Biology; www.ots.ac.cr/index.php?option=com_content&task=view&id=139&Itemid=299). If you do not find a book, magazine, or article, ask the Resident Biologist. The librarian in San José may be able to send you a book or article that is not available at the station.

➤ **Herbarium** 

The Herbarium at Las Cruces has more than 4100 specimen sheets belonging to some 1700 species. In addition, we have small reference collections of lichens, seeds, and seedlings. A digital version of the herbarium as well as images of live specimens and seed collections is available on the OTS website and accessible from anywhere there is internet service (www.ots.ac.cr/herbaria). The herbarium is open during office hours and only with prior consent of the Resident Biologist or Station Taxonomist.

➤ **Wilson Botanical Garden** 

Established in 1962, the Wilson Botanical Garden is spread over 10 hectares with an estimated 5,000 species of plants from all over the world. A comprehensive listing of all accessions to the Garden is available on the OTS website at (www.ots.ac.cr/jbw).

➤ **Canopy Tower**

The canopy tower is available for use by all overnight guests to Las Cruces. It is strictly prohibited to use the tower in

inclement weather – **NO EXCEPTIONS**. The tower is also closed at night unless permission is coordinated in advance with Las Cruces scientific staff.

➤ **Sala Mildred Lounge**

Located next to the dining room, this room is equipped with cable television and a book exchange program. Feel free to use the lounge but keep in mind that it is a shared space.


V. **Fieldwork**

➤ **Las Cruces Permanent Plot**

It is prohibited to make any type of manipulation or capture in the Las Cruces permanent plot. For questions or if you want to establish a permanent plot, please consult with the GIS Lab Manager. If you need to work in some of these areas, you must ask for the Director's approval.

➤ **Marks and garbage**

If you need to place marks or any other objects in the forest, please use biodegradable material when possible. At the end of your research, you **must** pick up all materials that you placed in the forest. In addition, write your name and a final project date of the project on all your marking materials or objects. If you do not do this, station staff will remove them!

➤ **Machetes and firearms**

The use of machetes and firearms inside the station is prohibited. Only security and forest rangers are allowed to use

them. If you need to use a machete in the forest, you need permission from the Director.

➤ **Trails**

We have 12 km of trails at Las Cruces. All are signed every 50 m indicating the distance in sequential numbers. The numbers increase as you move away from the station. Each trailhead is also color-coded. You can request a forest map at Reception that provides additional details.

➤ **Radios** 

If you are working in the field by yourself, we recommend that you use one of our radios; however, the number of radios available is limited. If you plan to work alone, coordinate with the Resident Biologist and/or Reception before leaving the station. Use channel 3 to communicate directly with Las Cruces. Researchers are responsible for returning radios to Reception in good working condition.

➤ **Hiring Field Assistants**

Anybody who works at Las Cruces as a field assistant is required to have a contract and insurance coverage. The contract must be signed by the employee at least 7 days before he/she starts working. For further information and assistance with hiring field assistants, contact the Station Administrator or the Administrative Assistant.

VI. LC Master Plan guidelines 

Las Cruces staff and researchers have developed a Master Plan with the purpose of coordinating the impact of increasing research and educational use at Las Cruces. In this section you will find important aspects that you need to consider for your proposal. Further details are outlined in the Las Cruces Operation's Manual.

➤ **Collecting seeds and seedlings**

Collecting is allowed only within the borders of established trails (within 1 meter of the center of the trail), and in low research restriction areas (Wilson Secondary Forest, Heye Annex, Melissa's Meadow). To collect seeds or seedlings anywhere else, ask for the Director's permission, and make sure you justify the collection in your proposal.

➤ **Marking**

Vegetation: If you plan on studying organisms or plots that may not be accessed by others, you will have to install obvious biodegradable-material markers (surveyor's measuring tapes, flags), that clearly demarcate the plant or area involved. Please mention these markers in your proposal. On all your marks, put your name and final date of the project. At the end of your research you **MUST** remove all your flags, tags, and any other accessory materials used.

Animals: Please make a list of all markers you plan to use on animals (except very short-lived markers) and give it to the Director. To use bird bands, you must fulfill the regulation of the existing banding systems. This generally entails custom

bands with your initials and a number. Please note that you must receive permission for work with vertebrates, according to your home institution's regulations (IACUC in the case of U.S. researchers).

➤ **Long-term plots**

Establishment of long-term plots requires prior approval. For the establishment of long-term plots, please contact the Director to avoid conflicts with other projects and specify this in your proposal. Some areas are zoned as low restriction, meaning they are appropriate for large-scale manipulation. Areas zoned intermediate restriction are not suitable for large manipulations. For further information on zoning, please contact the GIS Lab Manager or review the Operation's Manual.

➤ **Site Restrictions**

You should not mark plants within a meter from the center of any trail. LC staff is responsible for cleaning these areas on a regular basis and your marks will be removed during trail maintenance.

The Botanical Garden is zoned high restriction and any research is strictly limited. The Las Cruces Permanent plot is only available for observational studies unless approval is granted by the Station Director. See the LC Operations Manual for further details on zoning and restrictions.

➤ **Exotic plants or animals**

Live plants or animals from outside Las Cruces (exotics or introduced) are restricted and approved on a case by case basis.

Please make sure to mention any introduction of exotic organism in your proposal.

➤ **Artificial gene flow**

Experimental plantings in forest sites cannot be allowed to flower or fruit and must be removed at the end of the experiment. Hybrid fruits from hand pollinations must be carefully collected.

VII. Services

➤ **Storage room**

Storage for researchers' belongings is limited. All objects must be properly packed and clearly labeled: complete name, storage date, owner's phone number and email. Please consult with the Resident Biologist to determine space availability in the storerooms and leave a copy of your list. There is no charge for storage of items by long-term research projects at Las Cruces.

➤ **Car rental** 

For research purposes, you can rent a Las Cruces car to access surrounding areas. Our service includes the driver and should be arranged a few days in advance due to limited staff availability and vehicles. For information about fees and to make a reservation, please contact Reception.

➤ **Printing and Photocopying**

The photocopy machine is available for researcher use and there is a per-page charge. You can pay at Reception directly,

or write down the number of copies that you make on the list that is on top of the machine. Copies will then be charged to your account.

Printing can be done at Reception. Please email documents; you **cannot** bring them on a flash drive as we have had too many problems with viruses.

➤ **Workshop and maintenance**

You may request project help from the workshop and maintenance staff (for example, for building a piece of equipment or for installing equipment in the forest). This assistance will be provided based on the work schedules and priorities of the staff. Small projects are done free of cost but larger projects must be paid for by the researcher. Depending on the kind of work, you will need the approval from the Station Administrator.

➤ **Purchases**

Please contact Reception to purchase any material, equipment, or items that you need for your research.


VIII. Transportation 

➤ **Taxis** 

If you need transportation once you are in Las Cruces, you can call a taxi to come from San Vito. Please ask Reception to make the call or the taxi may not come.

➤ **Airport** 

Confirm your flight two or three days ahead of time. Remember that for international flights you must be in the airport two to three hours before departure time. The exit tax at the airport is \$26.

IX. Security and emergencies 

➤ **Security** 

Theft has rarely been an issue at Las Cruces. Nonetheless please be prudent and remember to lock your room, and do not leave any valuables in public places. If you prefer, you can keep possessions at Reception in a safe lock box, but you will only have access to these items during working hours.

➤ **Emergencies**

In case of an emergency during office hours, dial Reception at ext. **3000** (7:00 am to 5:00 pm); after hours, dial the Guard house ext. **3240**. Las Cruces also has an emergency protocol manual that is available on the main website. Each building has a fire extinguisher. Locate the closest unit to your room.

➤ **Medical emergencies** 

If you do not feel well or you have a medical emergency, please contact Reception during office hours by dialing ext. **3000** (7:00 am – 5:00 pm); after hours, dial ext. **3240** (Guard house) or contact any member of the staff. They will make necessary arrangements to take you to the San Vito hospital as

soon as possible. There are emergency first aid supplies outside the laboratory, and at Reception. We also have a First Aid Committee that is trained to deal with most issues that arise at a field station.

Allergies: If you are hyper-sensitive to insect bites and stings, always carry medication with you – you are in the tropics! Avoid sitting, lying down, or putting your hands anywhere without checking first for insects or dangerous animals.

Snakebite: Venomous snakes are relatively uncommon but they do exist at this altitude. Be careful when you walk on or off. We strongly advise that everybody wear boots or shoes and always carry a flashlight at night. Do not walk in sandals or barefoot on the trails. Report snake bites immediately to Las Cruces staff. All snakebite issues are dealt with at the San Vito hospital.

X. Contacts

- **Las Cruces Reception**, Demetrio Quiel/Carolina Vindas (repcion.lc@ots.cr; ext. 3000)

➤ Administrative Staff

- **Station Administrator**, Emilce Ramírez (emilce.ramirez@ots.cr; ext. 3200)
- **Head of Accounting**, Andrea Hernández, (andrea.hernandez@ots.cr; ext. 3210)
- **Administrative Assistant**, Maricel Gómez (maricel.gomez@ots.cr; ext. 3220)

➤ Scientific Staff

- **Las Cruces Director**, Zak Zahawi (zak.zahawi@ots.cr; ext. 3100)
- **Head of Educational Groups and Research Logistics**, Rodolfo Quirós (rodolfo.quirós@ots.cr; ext. 3110)
- **Naturalist Guide**, Ariadna Sánchez (ariadna.sanchez@ots.cr; ext. 3120)
- **GIS Lab Manager & Informatics**, Yerlyn Blanco (yerlyn.blanco@ots.cr; ext. 3130)
- **Station Taxonomist**, Federico Oviedo (federico.oviedo@ots.cr; ext. 3140)
- **Sustainable Development**, Carolina Vindas (carolina.vindas@ots.cr; ext. 3150).

➤ Committees

- **Sustainable Development:** Manage sustainable development, and the enaction of the Rainforest Alliance program (water saving, electricity, environmental impact, relations with the community...). [Contact Rodolfo Quirós, Carolina Vindas].
- **Occupational Health:** Oversee the health and safety of employees (adequate use of protective equipment, emergency procedures, etc.). [Contact Emilce Ramírez].
- **Emergencies:** Issues such as fire, earthquakes, people lost in the forest, medical problems (snakes bites, poisonings, etc.). [Contact Zak Zahawi].