



Smithsonian
National Museum of Natural History

Caribbean Coral Reef Ecosystems Program

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Information for CCRE Field Research

The following information is intended to help researchers plan their field work and fulfill report and publication requirements of the program. Please visit our web site at <http://ccre.si.edu/>
For general information about Belize see <http://www.belizenet.com>.

Carrie Bow Marine Field Station, Belize

The Carrie Bow Cay Marine Field Station is located 15 miles (24 km) southeast of Dangriga on top of the Belize barrier reef at 16°E 48'N and 88°E 05'W. The laboratory supports research in its vicinity, including Twin Cays, a mangrove island 2 miles (3 km) to the northwest. Additional sites of research interest are the Pelican Cays, and Glover's Reef and Turneffe Island atolls.

Contact in Belize: CCREs Belize agent is Pelican Beach Resort and contact is Emerita Tillett,
P.O. Box 2, Dangriga, Belize. Tel: 501-522-2044, Fax: 501-522-2570,
E-mail: acct@pelicanbeachbelize.com

Contact for Arrangements: Zach Foltz, Operations Manager/Smithsonian Scientific Diving Safety Officer, Smithsonian Marine Station, Fort Pierce, FL, 34949-3140;
Tel: 772-62-6212, Fax: 772-461-8154, E-mail: Foltzz@si.edu

Before Your Trip

SCUBA Diving:

It is the responsibility of researchers to comply with Smithsonian Institution diving regulations (Smithsonian Directive 120 - Scientific Diving Safety, www.si.edu/dive) and obtain authorization to scuba dive from the Smithsonian Scientific Diving Safety Officer, Zach Foltz. Please consult with the SI Scientific Diving Safety Officer and allow at least 6 weeks to process your request to dive. No SCUBA diving outside of a SI Approved Dive Plan will be permitted. Compressor, tanks, and weights are available. Oxygen and first aid kits are on site. Bring your own mask, snorkel, fins, wet suit, dive computer, knife, weight belt, regulator and buoyancy compensator.

Deep SCUBA Diving

If you plan to do any SCUBA diving deeper than 60', please discuss your dive and research plans with the Operations Manager, Zach Foltz so he can make necessary arrangements. If your plan includes numerous dives deeper than 60, you may need to hire a captain or plan to bring someone to remain in the boat while you are underwater. All arrangements for a captain can be made through the Operations Manager and should be arranged prior to arrival in Belize.

Animal Care and Use Committee Approval

If you will be carrying out research that requires collecting or interacting with live vertebrates, you will need to fulfill the IACUC training requirements of either your institution or the Smithsonian (<http://prism.si.edu/opmb/pdf/SD605.pdf>). Please submit your approved IACUC protocol to Operations Manager prior to your trip. Research cannot be carried out without the approved protocol on file.

Permits and collections:

It is the responsibility of researchers to comply with all regulations governing collections of specimens under CITES, the U.S. Fish and Wildlife Services Endangered Species laws, and Belize Fisheries regulations. If you need information on these regulations please consult with CCRE program staff. Be aware that there are local laws regulating fisheries and that collecting at Carrie Bow area research sites may interfere with ongoing experiments (more information on the latter is posted in the laboratory or can be obtained from the station manager).

At the beginning of each funding cycle, the CCRE program applies and pays for *research permits* from Belize Fisheries for each project. Researchers will need to send a project description or abstract to the Operations Manager prior to their trip so the research permit can be approved by Belize Fisheries and purchased by the CCRE program. Research Permits will cost each group of researchers \$250.00 per project and will last for the calendar year. Investigators who also need *export permits* must request these from the Operations Manager no later than the Friday before they depart from the island. He will forward you an Export Permit Request Form to fill out and return then will submit the completed request form to Belize Fisheries. With this information in place, we hope to obtain export permits (via Pelican Beach) without stopping at Fisheries in Belize City on the way out of Belize.

We advise you to pack samples in your personal luggage (check-in). There can be no alcohol (flammable) or formalin (toxic) preservatives, so all liquid should be drained from the sample before it is packed. Be sure to include the proper paperwork and permits with your samples.

Remember that all material collected under Smithsonian auspices remain the property of the Smithsonian Institution which will make representative samples available to Belize Fisheries and the Museum of Belize. Researchers may take samples on extended loan and arrange for duplicates to be deposited at their home institutions.

Shipping materials:

Researchers requiring special transportation of extremely heavy or unwieldy equipment should allow three months lead time and should work closely with Zach Foltz to arrange for shipping. Generally, shipping equipment in advance of your arrival in Belize is less desirable than traveling with your materials as excess baggage. If questioned by Belize Customs, demonstrate ownership and commit to re-exportation of non-disposable equipment to your home institution.

Filming and Drone Usage in Belize:

Researchers planning to film or use drones in Belize will need to get the correct permits from the Belize Filming Commission, Customs Department, and Public Utilities Commission. Zach can help with these but it is important to start work on obtaining the proper permits well in advance of a trip to CBC.

International and Local Travel

(Home–Belize City–Dangriga–Carrie Bow Cay) Consecutive research trips are scheduled back to back so that the boat brings arriving participants out to Carrie Bow Cay and returns those who are departing back to Dangriga. These boat trips are scheduled for Wednesday afternoons so travel must be planned accordingly.

Program participants should contact Operations Manager well in advance of their trip to reserve space on Carrie Bow Cay and to make local travel arrangements through the Pelican Beach Resort. Zacary

will also arrange for overnight accommodations for those unable to arrive early enough to take the boat the same day and for special charter planes for heavy loads or other circumstances.

Home to Belize City:

Please plan your international flights to arrive in Belize City by 1:00 pm on a Wednesday to have time to catch the outgoing boat. *Special arrangements:* If for some reason this is not possible, you may have to arrive the day before the scheduled boat (see Boat Transportation below) and overnight in Dangriga at Pelican Beach Resort. Contact Zach Foltz in advance.

Belize City to Dangriga (to Carrie Bow via boat):

Upon arrival at Belize City International Airport, check in at the Tropic Air desk for the regularly scheduled flight to Dangriga. Pelican Beach Resort makes reservations for all CCRE participants. Once you arrive at the Dangriga airport, a driver from Pelican Beach Resort will pick you up and take you to the resort. You will wait there until the boat is loaded and ready to leave for the island. The boat trip to Carrie Bow Cay takes about 1 hour and can be choppy, stormy, or extremely sunny; pack sensitive equipment well.

Carrie Bow Cay to Dangriga:

On Wednesdays, departing researchers return from CBC by early evening and have to overnight in Dangriga because most international flights out of Belize City depart in the morning or midday. You will receive dinner and breakfast at the Pelican Beach Resort.

Dangriga to Belize City:

Early Thursday morning, Tropic Air transports CCRE participants from Dangriga to Belize City.

Facilities and Equipment

Boats:

Three power boats are available for researchers, one 18-ft boat with a 15 hp outboard and two 25-ft boats with 85 hp outboards. These have a range of approximately five miles. A 25-ft boat may be used for longer trips by qualified boat drivers. All boats are equipped with 2-way radios. Contact Operations Manager for arrangements.

Fuel Usage:

Research groups will be given one tank, 6 gallons, of fuel per day. Typically, this is plenty of fuel to reach most research sites. If you are planning to travel/work at a more distant site that requires more than 1 tank, there will be plenty of fuel available on the island and the station manager will provide you with the fuel that you need. Once you return from your trip, you will be charged the current price per gallon in Belize for the excess fuel usage during your trip. Please discuss any long trips with Operations Manager prior to your arrival on CBC.

Communications

The Carrie Bow Cay Marine Field Station is in phone contact with the Pelican Beach Resort. Mail can be sent or received at least once a week. The sending of faxes can be arranged with Pelican Beach. Internet access is available for basic internet usage. An *emergency only* (cell-phone) contact number for Carrie Bow is 011-501-532-2392

Housing:

Housing on Carrie Bow is in modest frame houses. Accommodations may be shared. Twin beds, pillows, sheets, pillowcases, blankets and towels are provided.

Kitchen:

A cook is resident on the cay. The kitchen provides three meals a day. There is a refrigerator with a freezer compartment and a solar-powered freezer.

Laboratory:

The laboratory building contains a wet lab with adjacent seawater system, a dry lab, library, and storage. Equipment includes dissecting and compound microscopes, balances, centrifuge, water deionization system, glass and plastic lab ware, a gas refrigerator with freezer compartment, and basic chemicals such as formalin and ethanol. If you will be needing additional chemicals or supplies including dry ice please let the Zach know in advance of your trip so arrangements can be made.

Personal Items:

Bring your own snorkeling gear, windbreaker or rain gear, sun block, hat and flashlight and medications. Supplies can be brought to the Cay from the mainland on the weekly boat.

Workshop:

A small workshop is available with basic tools where items may be repaired or fabricated.

Medical Care in Belize

Medical institutions in Belize may or may not be able to immediately ensure payment from your insurance provider. Because of this, we highly recommend that all SCUBA divers have DAN Insurance, which is accepted internationally. Please check with your provider as to what information or arrangements they would need to facilitate payment and/or avoid deposits or prepayments in the event of an emergency. Payment to private hospitals in Belize City will be covered in the following order:

1. Patient's insurance covers cost directly
2. Patient covers medical costs via credit card or direct payment
3. Pelican covers initial payment and charges CCRE

CCRE Science Communications Policy for Visiting Scientists:

In order to more effectively communicate about science going on at Carrie Bow Cay, the CCRE program is revising its communications requirements for visiting scientists. Starting in January 2014, all visiting scientists are asked to provide the following:

- At least 3-4 photos from you trip, highlighting your research for social media outlet (all photos are credited). Preferably, these should be sent while you are on the island, or shortly after your return (within one week, please).
- One report submission, summarizing your activities on the island. This submission should be 500-600 words in length, written in a "blog post" style, i.e. meant for public consumption. Some great examples include:

<http://ocean.si.edu/blog>
<http://scientistatwork.blogs.nytimes.com>
<http://deepseanews.com/>

- Your article should be accompanied by 1-2 high-resolution photographs. You can use photos submitted during (or shortly after) your trip, but if there are more pertinent photos related to your article, please share those with us as well. Several articles throughout the year may be selected for submission to Smithsonian blogs for publication.
- Your article is due within one month of your trip to Carrie Bow Cay.
- Please notify us ahead of time if you plan on doing any blogging on your own, or if you've been invited to blog for another media outlet, or if you plan on posting to Twitter, Facebook, or Instagram so that we can re-tweet, share, and otherwise "boost" your post as well share your content with our audience. If you are writing for another outlet, please include a link to our website in your article (www.ccre.si.edu), and refer to the facility at least once as the Smithsonian's Carrie Bow Cay Field Station.
- When you are ready to publish a paper on scientific results stemming from activities on Carrie Bow Cay, please send the complete reference with an abstract and journal of submission for assignment of a CCRE contribution number to the Program Coordinator, Michael Jones (jonesms@si.edu) once your manuscript has been accepted. In your final submission, include the number either in the acknowledgment section or elsewhere in a footnote. Choose wording such as: "This is contribution xxx, Caribbean Coral Reef Ecosystems (CCRE) Program, Smithsonian Institution". When your paper is published, please send an electronic version to Scott Jones.
- There are opportunities to participate in outreach events in the area. The CCRE program and Pelican Beach can facilitate evening lectures and/or classroom visits. If you are interested in communicating with local audiences, contact Zach or Scott prior to your visit.

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