

Cuba

Gardens of the Queen

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Longspine squirrelfish hiding inside a purple tube sponge

RIGHT: Strolling on one of Cuba's picturesque beaches.

PREVIOUS PAGE: Aggregation of blue tangs and doctorfish feeding on the coral reef, Gardens of the Queen, Cuba



As the wheels touched down at Havana's International airport, the plane erupted with cheers and applause. Many of the passengers on board had waited years, if not decades, to return home and visit relatives in Cuba. As part of a small group of Americans visiting for the first time, I knew immediately that we were in for a special treat. Traveling on permits from the U.S. Department of Treasury, we were embarking on a People to People Educational Exchange program, focused on ocean conservation, research and ecotourism—the first of its kind to allow U.S. citizens to legally travel and scuba dive in Cuba.

Our adventure began in Havana with three days of sightseeing, meetings and educational field trips learning about Cuba's history and culture. Afterwards, we spent six days on a liveaboard dive boat at the Gardens of the Queen (also known as Jardines de la Reina) exploring the uninhabited archipelago of small islands 50 miles south of Cuba's main island in the Caribbean Sea.

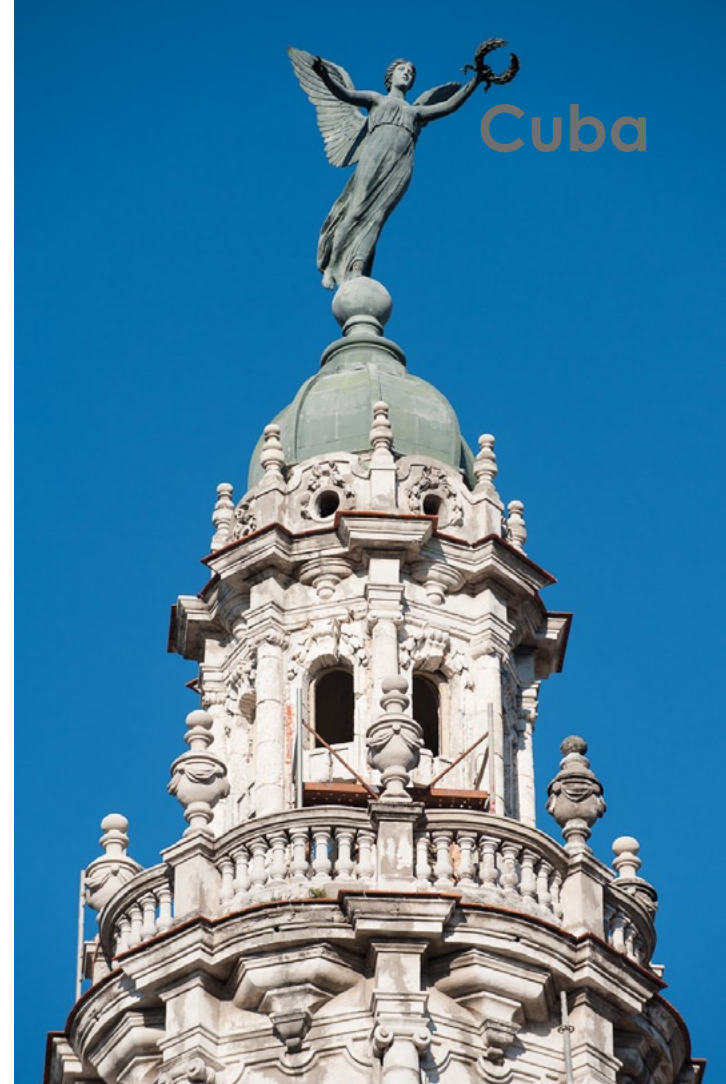
As we walked the streets of Havana, it felt like I had stepped back in time. Classic American cars from the 1950s and early 60's were a constant reminder of a bygone era. Men gathered under large shade trees in city squares

to discuss sports on a lazy afternoon and locals assembled around games of checkers and dominos on marble park benches or an apartment stoop. The newsstand still had *Life* magazine for



American crocodile floating on the surface with its mouth open

A pair of Caribbean reef sharks swimming over the colorful coral reef, Gardens of the Queen



Street vendor's books on display along Calle Obispo (left); Erected in 1995, the seven story mural of Che Guevara adorns the Ministry of the Interior building just off Revolution Plaza (above); Detail of spire on Gran Teatro (right); Chicken fajitas with plantain garnish at Ivan's Restaurant, a private home converted into a local eatery (bottom left)

Baroque facade of the Gran Teatro (left), one of the world's largest opera houses; A 1938 Chevy drives down the street in Havana (top)

sale on the bookshelves, and all around the city, building facades were carved in intricate detail. This was life as perhaps my parents remembered it, long before I complicated matters.

Mixed in with the nostalgia were reminders that Cuba is still a socialist country, struggling with their proud revolutionary history and capitalistic desires for a better life. Images of Fidel Castro and Che Guevara dot the landscape and armed soldiers stand constant guard at the Revolutionary Museum. Meanwhile, subtle signage on side

streets, advertise businesses, such as hair salons and restaurants, inside private homes. These slowly opening doors to private capitalism are part of the small reforms put in place by Fidel's brother Raul since he was handed power in 2008.

Havana has a pulse to it that is mesmerizing. I am certain that part of the allure was simply being in a place that we had been told our entire lives was forbidden. However, from the live music coming out of doorways and the Cuban jazz on rooftop bars, to the hustle and bustle of the locals going about their



Night scene of Central Park, the Capitol, Gran Teatro, Hotel Inglaterra and Hotel Telegrafo



daily lives, there is an energy you can feel. There is also a dichotomy that comes from seeing modern art deco structures next to baroque, intricately carved building facades that are hundreds of years old. Add in fortresses with working cannons, Cuban cigars, rum, exceptional food and friendly people, and you have a fantastic melting pot of experiences.

An American and Cuban cultural icon, Ernest Hemingway, lived in Cuba from 1940 to 1960 and is still widely revered. His former home, Finca La Vigia, is now a museum, maintained

as it was left upon his departure. His books



remain required reading for Cuban school children. Novels *For Whom the Bell Tolls* and *The Old Man and the Sea* were written while living in Cuba, the latter earning him a Nobel Prize for Literature in 1954. Hemingway dedicated the award to the citizens of the fishing village of Cojimar, the setting for the story. We toured the village and it

was fascinating to see his inspiration in person and realize that the old man was likely based on a real fisherman and drinking buddy of Hemingway's.

Cuba and Havana are still struggling to rebuild from the economic downturn encountered when the Soviet Union collapsed

es, as the infrastructure was ignored and left to decay in the tropical heat.

Fortunately, signs of rebirth and restoration were prominent during our visit. Scaffolding, providing face-lifts, surrounded many of the iconic buildings in old Havana. Cobblestone streets were torn up for new plumbing lines, and large cranes could be seen from the roof of our hotel. With over 3,000 structures in Old Havana of historical

in the early 1990s. Years of electrical blackouts and limited fuel to run machinery or automobiles brought about food shortages and desperate times for a people accustomed to state provided nourishment and health care. Tractors gave way to ox and plows, and cars were replaced with horse-drawn carriage-



1956 Chevy parked at Hemingway Museum



CLOCKWISE FROM ABOVE: A man rolls Cuban cigars at Ron's Tabaco Cafe, Fortaleza de San Carlos de la Cabana; Built in 1646, this fort sits in Cojimar, the town that inspired Ernest Hemingway's *The Old Man and the Sea*; A 1956 Ford Fairlane driving down the Paseo de Marti; Living room inside the house at the Hemingway Museum, Finca La Vigia, San Francisco de Paula; Farmer on horse-drawn cart brings fresh milk to a local restaurant on the road from Havana to Jucaro





University of Havana research vessel, *Felipe Poey*, anchored off the Gardens of the Queen while on a three-week research trip; Cuban flag (inset) flutters in the wind, while in the background the sun rises over a tropical island in the Gardens of the Queen; Housing (right) built into the hillside in the sustainable community of Las Terrazas

significance—the majority of which date back to the 19th, 18th and even the 16th and 17th centuries—resurrecting them all will be no easy task.

Marine research and educational exchange

While in Havana, we met with a scientist from the University of Havana's Center for Marine Research. Founded in 1970, the center is responsible for training all marine biologists in Cuba. The scientist showed us an impactful ten-part public service announcement campaign created by the center, which highlighted the connection Cubans have with sharks, turtles, eagle rays, marine pollution, etc., in their surrounding ocean. We had discussions regarding some of their ongoing conservation research, including work with sharks, sea turtles and a five-year study on manatees.

As part of the manatee study, researchers were able to verify evidence of a manatee traveling from Florida to

Cuba through photographs and also create a tagging and tracking program to study the local population's migration patterns. Additionally, they found that none of the manatees that were documented had propeller scarring on their backs like their Florida counterparts, perhaps in part due to the limited number of boats allowed to operate off Cuba's coast.

The lack of available watercraft also serves as a hindrance for student research. The University has but one boat and limited funding for sending scientists out to sea. We were able to tour that lone research vessel and talk with some of the researchers on board while out at the Gardens of the Queen. The boat, named after famed Cuban scientist Felipe Poey accommodates 17 passengers and three crew members. There is one shared head on board, and everyone sleeps in lawn chairs on the deck.

As part of the permit that allowed us access to Cuba, these people-to-people

educational exchanges were required but also very enlightening. We learned that conservation and the environment are viewed in a very positive light in Cuba.

The government requires environmental permits for all businesses; they are reviewed annually and may also be revoked. Science directs politics in establishing policy and also aids in the creation of a National Environmental Strategy, which is improved upon every five years, based on analysis of the success and failure of the previous plan. Each new design focuses on reforestation, the reduction of pollution both on land and in the sea, and the protection of biodiversity.

Several of the scientists we spoke with also emphasized the importance of collaboration between the U.S. and Cuba on environmental issues. One even went so far as to declare the environment as a national security issue—especially with regards to marine pollution and species

preservation, as we all share the same ocean.

In order to see some of this environmental conservation in action, we spent a day at Las Terrazas, a sustainable development community and ecotourism settlement situated roughly an hour west of Havana. Las Terrazas is part of the Sierra del Rosario, a nearly 100-square-mile expanse of pristine Cuban wilderness, which has been recognized as a UNESCO world biosphere reserve.

Started in 1967 as a government reforestation project—following years of land clearing for a coffee plantation, and later, charcoal—the roughly 1,200 residents have replanted over eight million trees, encompassing 24 different species. The surrounding hillsides are lush with vegetation once again, and the villagers utilize conservation-minded sustainable practices to ensure they stay that way. Our guide led us on a tour of the grounds where we visited a primary and secondary school, community center,



Peacock on the grounds at Las Terrazas

library, movie theater, restaurants, a hotel and Cuba's only zip line facility. Local musicians entertained us during lunch, as peacocks and chickens wandered around the grounds. Afterwards, we called on a resident artist's studio to see world-class eco-conscious paintings and handicrafts depicting climate change.



Colonies of red mangroves (left) grow in the shallow water between islands; Cuban hutia (above) climbing in the bushes at the edge of a sandy beach, also known as tree rats; Late afternoon cloud formations (right), indicating a pending rain storm, gather over a tropical island in the Gardens of the Queen



Field of sugar cane in the Cuban countryside along the route from Havana to Jucaro; Children play volleyball (right) on a cement playground at a local school in the fishing village of Jucaro; Cuban iguana's resting on a sandy beach (far right)



The Gardens of the Queen

Our journey from Havana to the Gardens of the Queen began at 4:30 in the morning with a five-hour bus ride through the countryside. Along the way we passed mountains, farms, small towns and miles upon miles of sugar cane, which is used to make Cuban rum. In the

Gardens of the Queen. The transit provided time to get settled into our rooms, assemble dive gear and camera housings and perhaps grab a short nap to make up for the early wake up call.

The Gardens of the Queen National Park was established as a marine protected area (MPA) in 1996. Consisting of over 250 coral and mangrove islands stretching across 75 miles of the Caribbean Sea, the park has a total area of over 830 square miles. Catch and release sport fishing is

allowed within the 386-square-mile fishery reserve but otherwise, with the exception of lobsters, the area is a complete no take zone. Additionally, visitation is limited to a mere 1,500 combined fishermen and divers per year. Birds, iguanas, hermit crabs

and hutia occupy the islands, the latter being a medium sized rodent that nests in trees and is affectionately called a tree rat. The park is part of the Cuban National System of Protected Areas and is managed as an area of special care for special use.



Diving

The next day, as I gently slid into the water, I thought of all the technology necessary to allow us humans to survive in the underwater world and how truly out-of-our-element we are beneath the surface. I then warily scanned the sur-





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rounding sea grass for a prehistoric creature that has been living in harmony with water since the days of dinosaurs. The trepidation and excitement of being up close to an American crocodile was palpable. It is not every day that you come face to face with a living fossil.

As I cautiously made my first approach, the crocodile glanced in my direction and then lazily shut its eyes, as if already bored with our meeting. As I drew closer, the eyes opened once again, and it allowed me a few tight portraits before slowly rising to the surface for a breath of air and a scan of its surroundings. Thankfully, I had a few more opportunities to photograph the crocodiles, and those interactions were one of the highlights of my trip, but they were only the first of many big animal encounters while in Cuba.

We were fortunate to have Caribbean reef sharks swimming with us on nearly every dive. Rarely have I been in the water with sharks that did not turn and swim in the other direction in reaction to divers, but here, they ignored us and continued on their path. The same could be said for the large number of groupers found on the reefs. I saw several variations of black grouper, along with tiger



grouper and the endangered Nassau grouper, and for the most part, they were also indifferent to divers. In addition to the reef sharks, we had a couple dives where we hung in blue water beneath the boat as a dozen or more silky sharks

swam circles around us. The sharks were attracted to the scent of a single fish placed in a steel box hung beneath the boat, and they stayed with us for over an hour providing terrific photo opportunities and exciting interactions.



CLOCKWISE FROM TOP LEFT: American crocodile resting on the sandy bottom amongst the sea grass; A dozen or more silky sharks swimming below the dive boat; Black grouper with dark, marbled patterning; Silky shark swimming in the blue water near the water's surface

Healthy reefs

The coral reefs in the Gardens of the Queen were the healthiest I have ever seen in the Caribbean. Everywhere you looked the corals, sea fans and sponges were incredibly robust, in great variety

and thriving with fish life. Larger species such as tarpon, barracuda and snapper were a common sight and accompanied the many schools of grunts, tangs and creole wrasse on the reef.

The icing on the cake for me was at



The sun is visible above this colorful coral reef, which is covered with sea rods, sea fans, sponges and hard corals

a dive site called Paradise Reef where we found huge colonies of beautiful elkhorn coral. These mainly shallow water corals are threatened and endangered throughout their range, and in some areas, their abundance has declined by 95 percent.

The Gardens of the Queen was Cuba's first MPA, and its creation required the establishment of fishing licenses and an enforcement office, as well as the creation of jobs and retraining for the displaced fishermen. Many of those fishermen are now employed as sport fishing guides, boat drivers and dive guides within the MPA. The area has been highly successful, as the ecosystem is abounding with healthy corals, large quantities of fish and marine life and abundant apex predators such as sharks

and grouper. The evolution took time, yet the fishermen who are still fishing outside the reserve are realizing the benefits of an increased fish catch from the spillover effect, and the former fishermen are receiving comparatively higher wages by working in the tourism industry.

The success can be partially attributed to the parks location 50 miles offshore, the lack of commercial fishing, limited access and impact and effective enforcement. The Gardens now serve as an example for Cuba and abroad, touting the benefits of conservation and MPA's. Subsequently, the Cuban government has been creating more marine protected areas, with the ultimate goal of safeguarding 25 percent of their waters—the most of any country in



Nassau grouper swimming amongst several large sea fans on the coral reef; Diver and large pillar coral (right)



the world. To that end, efforts are currently underway to expand the fishery reserve and protect the remainder of the Gardens of the Queen as a no take zone.

Tidal flow

Diving conditions and visibility at the Gardens of the Queen are dependent on tidal flow. The direction the tide is taking the sediment from the mangroves determines which dive sites are best for that time of day. While we were there, we typically had better visibility on our two morning dives and deteriorating visibility in the afternoons. We were also there at the end of the rainy season, which meant late afternoon thunderstorms but made for incredible sunsets. There was the possibility of seeing whale sharks on our trip, as they are found in

Phoenix DIVE SHOW

September 21 & 22, 2013
(Saturday & Sunday)
PhoenixDiveShow.com

St. Louis DIVE SHOW

October 5 & 6, 2013
(Saturday & Sunday)
StLouisDiveShow.com

Carolina DIVE SHOW

October 11 & 12, 2013
(Friday & Saturday)
CarolinaDiveShow.com

Baltimore/D.C. DIVE SHOW

January 25 & 26, 2014
(Saturday & Sunday)
BaltimoreDiveShow.com

TEXAS DIVE SHOW

February 22 & 23, 2014
(Saturday & Sunday)
TexasDiveShow.com



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CLOCKWISE FROM FAR LEFT: Diver and aggregation of French grunts, bluestriped grunts and porkfish; Schoolmaster hiding amongst the roots of mangroves; Diver and colony of elkhorn coral in shallow waters; Southern stingray foraging in sea grass on the sandy bottom

the area around the full moon in October and November but unfortunately we struck out.

Diverse ecosystems

On a few of our surface intervals we had the chance to snorkel amid the mangroves and surrounding sea grass. I found several species of corals and anemones that I had not seen on the outside reef, along with upside down jellyfish, sea stars, sting rays and plenty of juvenile fish seeking protection in the mangroves root structure. At one point, I was staring face to face with a three-inch barracuda, quietly cursing the fact that I did not have a macro lens on the camera.

While the mangroves serve as a nursery for many species of fish, the deserted beaches of these remote islands serve as critical nesting sites for hawksbill sea turtles. Thankfully,



Cuba no longer harvests turtles as a commercial entity and stopped trying to export hawksbill turtle products in 2008. We saw a few turtles on our dives, and hopefully, that means

their population is doing well.

As if the crocodiles, sharks and beautiful reefs were not enough, the Gardens of the Queen also harbors a healthy population of critically



endangered Atlantic goliath grouper. These fish can grow to a length of eight feet and are considered mature at a weight of 400 to 800 pounds. We were treated to a couple of fish in the 400-pound range, along with a smaller youngster that was still intimidating in size.

These impressive fish are very inquisitive and circled us throughout the dive. On several occasions, the larger grouper produced a guttural booming sound to warn the smaller one when it had apparently got out of line. The explo-



sion of force could be felt in the water column, and the concussion sent up a cloud of sand from the grouper's gills.

Marine biologists from the University of Havana, along

with scientists from abroad, are studying the Gardens of the Queen in hopes of determining why this ecosystem has remained so healthy while other areas around the world have



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Goliath grouper swimming above a large purple barrel sponge on coral reef; Red cushion sea star (right) in shallow bed of sea grass



Diver at deep water pinnacle of sponges, sea fans and encrusting corals; Large colony of elkhorn coral (top)

suffered the effects of global warming. With luck the discoveries made here will help restore other areas to the pristine conditions we experienced on this amazing trip.

Afterthoughts

Watching U.S. President Obama shake hands with Raul Castro at the memorial for Nelson Mandela, I am hopeful that the economic embargo will one day be lifted and all Americans may once again travel to Cuba. Until such time, I feel truly fortunate to have experienced Cuba, the city of Havana and the fantastic diving at the Gardens of the Queen.

If you are a U.S. citizen and would like to dive Cuba for yourself, please contact Ocean Doctor (Oceandoctor.org/gardens/)—the only organization with permits

to take Americans to dive the Gardens of the Queen. If you are not a U.S. citizen, please contact the Avalon Cuban Diving Centers (Cubandivingcenters.com), as they are the sole dive operator at the Gardens of the Queen.

The author would very much like to thank Ocean Doctor and Avalon for their incredible hospitality and memories that will last a lifetime, as well as Blue Abyss Photo (www.blueabyssphoto.com) and Scubapro (www.scubapro.com) for their assistance with underwater photo and dive gear.

Matthew Meier is a professional underwater photographer and travel writer based in San Diego, California. To see more of his work and to order photo prints, please visit: www.matthewmeierphoto.com



SOURCES:
OCEANDOCTOR.ORG/GARDENS
CUBANDIVINGCENTERS.COM
WIKIPEDIA.ORG
 EYEWITNESS TRAVEL CUBA
 MOON HANDBOOKS CUBA

fact file



Cuba



SOURCES: U.S. CIA WORLD FACTBOOK, XE.COM

History Cuba was home to native Amerindians before Christopher Columbus discovered it in 1492. When Columbus sailed into the Gardens of the Queen he named it for Queen Isabel. As Cuba developed as a Spanish Colony over the next several centuries the native population declined. During that time, large numbers of African slaves were brought over to work the sugar and coffee plantations. Cubans overthrew Spanish Rule following the Spanish-American War of 1898 and the Treaty of Paris established Cuban independence from the United States in 1902. Several governments ensued before Fidel Castro led a rebel army and took control in 1959. He ruled his socialist regime for nearly five decades before stepping down as president in February 2008 and handing the country over to his younger brother Raul. Government: Communist state. Capital: Havana

Geography Cuba is the largest island in the Caribbean and is located 90 miles (150km) south of Key West, Florida. The island has a total area of 42,802 square miles (110,860 square km), with 2320 miles (3735km) of coastline. Los Jardines de la Reina, or the "Gardens of the Queen", covers more than 837 square miles (2168 square km) and is one of the largest

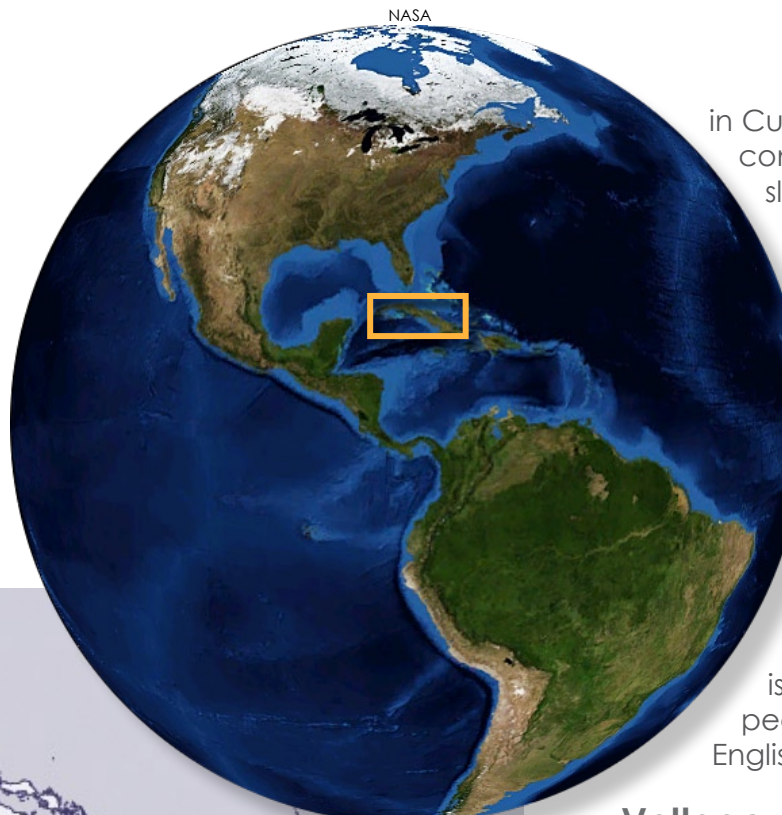
marine parks in the Caribbean. It is situated 50 miles (80km) south of mainland Cuba and is comprised of islands, reefs and mangroves. Coastline: 3,735km. Lowest point: Caribbean Sea 0m. Highest point: Pico Turquino 2,005m

Climate Air temperature can range from 75-80°F (24-27°C) during November to April and 85-90°F (29-32°C) during June to August with nighttime temperature dropping by roughly ten degrees. Afternoon thunderstorms are common during the rainy season, which is from May to October. Water temperature can range from 75-85°F (24-29°C) and a 3mm wetsuit is recommended for diving.

Economy Cuba has a socialist economic system but is slowly introducing limited reforms and expanding opportunities for self-employment. These measures are meant to increase enterprise efficiency and alleviate serious shortages of food, consumer goods, services and housing. The economic downturn in the 1990's, caused by the loss of Soviet aid

and domestic inefficiencies, is still affecting the average Cuban's standard of living.

Currency The official currency is the Cuban Convertible Pesos (CUC), which in slang is pronounced *kook*. One U.S. Dollar is currently equal to one CUC, however when exchanging dollars to CUC, you will only receive .87 CUC back in return due to fees/taxes. Those fees are not imposed on Euros, and therefore, there is a much better exchange rate for Euros when compared to the U.S. Dollar. U.S. based credit and debit cards will not work in Cuba due to the U.S. Embargo, and so travellers must carry enough cash to support themselves while there. Exchange rates: 1EUR=1.37CUC,



RIGHT: Global map with location of Cuba
BELOW: Location of the Gardens of the Queen marine protected park on map of Cuba



Voltage 110 volts, with U.S. standard 2- and 3-prong plugs are available on the liveaboard dive boats. UK/European two rounded plug sockets (220V) are available at the hotels in Havana. Adaptors are typically available at the higher end establishments.

Cuisine Cuban cuisine is simple and has a mixture of indigenous and European influences, mainly Spanish. Rice and black beans is a staple, along with fried plantains, which is served with pork or chicken. Beef and seafood is available at tourist restaurants but is not common for locals. Empanadas filled with meat are often served as snacks or appetizers. The menu on the liveaboard boat includes a variety of local dishes, fresh fruits and vegetables and American style breakfasts. Fresh fish and local lobster are also readily available.

Tipping A 10-15% tip is customary for shuttle drivers, dive guides and boat crewmembers, as well as wait staff in restaurants.
Health There is an intermediate degree of risk of food or water-borne diseases such as bacterial

in Cuba, but it is tightly controlled, painfully slow and expensive. While at the Gardens of the Queen, Internet access is only available on the Tortuga Floating Hotel.

Language The official language of Cuba is Spanish. Though in tourist areas many people also speak English.

diarrhea and hepatitis, as well as vectorborne diseases such as dengue fever (2013).
Driving Vehicles travel on the right side of the road. An International driver's license is accepted for renting a car and you may also be able to use your home county's. The roads are generally paved and in good condition, though not necessarily well marked.

Decompression chamber The nearest hyperbaric chamber is located at Guantanamo Bay Naval Station. There are no chamber facilities in the Gardens of the Queen.

DAN Insurance Coverage Here's what DAN says: "Due to the embargo the US imposed on Cuba, we would not be able to pay/settle any claims for accidents while actually in Cuba. However, we would be able to evacuate a member from Cuba and transport them to a medical facility in which we would be able to pay claims as stipulated by the policy. If you have specific in depth questions, please feel free to contact our claims department. You may reach them at 1-800-292-8381."

Travel/Visa A passport is required for entry into Cuba. U.S. Citizens may not enter Cuba legally without special permits and permissions. Ocean Doctor's license issued by the U.S. Treasury Department provides legal travel for U.S. citizens and residents only while participating in their person-to-person educational trips.

Websites
Cuba Toursim - Canada
www.gocuba.ca
Cuba Toursim - UK
www.travel2cuba.co.uk