

Bonaire – Coral Reef Biodiversity Enchantment

July 18-27, 2020

4 graduate hour's credit

\$2000 without credit \$2175 with credit

Day 1: Fly into Kralendijk Bonaire, which is a Netherlands Antilles in the Caribbean Sea, about 80 km north of Venezuela. One of the most beautiful islands in the Caribbean, Bonaire is not in Hurricane Alley and boasts a beautiful arid climate and is surrounded by one of the most healthy, fringing coral reefs in the world. Because Bonaire boasts a fringing coral reef, we can access over 63 dive and snorkel sites from shore. A nearby tiny island, Klein Bonaire, is accessible via a short ferry ride and has an additional 26 dive and snorkel sites.

After checking into our hotel and renting a car, we will grab our snorkel gear and head to one of the nearby beaches to begin our exploration of this magnificent ecosystem.

During a seaside dinner, we will watch the sun set over the ocean and try to catch a glimpse of the famous and illusive green flash of light that sometimes accompanies the sunset.

Day 2: Our exploration of the island of Bonaire will begin this morning at sunrise, as we travel to the eastern marshes to search for brilliantly colored flamingos and other shore birds. One of the industries on Bonaire is salt production, so as we pass the famous Salt Pier and the salt drying ponds, we will learn of the history and economics of this export. In the days before refrigeration, salt preserved food and was an essential commodity.

After our morning birding expedition, we will return along the coast and snorkel or dive several of the most accessible and beautiful reefs. If a salt ship is not at the pier, we will snorkel at the Salt Pier, which is one of the best places on the island to see Green Sea Turtles. Every time I went snorkeling here, I was rewarded with being able to swim with these graceful creatures. The sponges and soft corals are finding a home on the metal pier struts of the Salt Pier. We also glimpsed a beautiful Green Moray Eel and a school of barracuda while snorkeling here.

The choices of stunning beaches and shore accessible reefs line the whole southern shore of Bonaire, with protection from the pounding surf and winds of the north shore.

In 1633, the Dutch expanded their empire to include Bonaire and the wealth of salt flats. Native peoples, convicts from other colonies and some Africans were enslaved to work in the brutal corn and salt fields of Bonaire. We will stop to explore some old slave huts and catch a glimpse of a grimmer window into the past.

As a complement to our snorkel or dive excursions, we will use class time to identify the hundreds of fish and invertebrate species that we are seeing each day. Our bird lists will also grow with flamingos, parrots, parakeets, egrets, herons, bananaquits and tiny warblers. Bonaire is also teeming with an amazing lizard fauna, so we will search for the famous Basilisk lizards that can run on water and for the Giant Green Iguanas, as well as the Whiptail Lizards.

This evening after our dinner, back out to the sea we will go to explore the fascinating bioluminescence of a myriad of plankton. At night, the plankton surrounds our underwater flashlights and then as the lights dim, the creatures begin to emit their eerie lights. As we move underwater, our motions set the dinoflagetes aglow. It is like dancing in a shimmer of iridescence. We will learn the biology and chemistry of these amazing tiny organisms.

Day 3: Our travels will take us to the western part of the island today as we explore many more dive and snorkeling sites that rim Bonaire. Your eyes will fill with wonder as you spot the stunning colors of parrotfish, damselfish, groupers, filefish, boxfish and hundreds of other species. We will learn some of the protection devices of the fish, such as inflating with air and becoming too large to swallow, or slashing the predator with the dagger sharp blade of a surgeonfish. We will watch cleaning stations where large fish come to be groomed and allow tiny fish to enter their mouths and gills unharmed. We will learn the fascinating biology of how many fish change sexes throughout their lives. The coral is itself an amazing colonial animal with a symbiotic relationship with zooxanthellae algae. When the coral becomes stressed, the algae is expelled which causes coral bleaching. Again we will use our shore time to identify organisms that we see.

Day 4: Today is one of my favorite adventures as we travel to the northern shores of Bonaire to Lac Bay, a huge protected bay with some of the best wind surfing anywhere. We will spend some time either snorkeling or wind surfing here and then drive further into the mangroves for a beautiful canoe trip through the mangroves. Mangroves are one of the few plants that can grow with their toes in the ocean water and so act as a filter for river sediment, a storm buffer, and a nursery for tiny fish waiting to grow big enough to migrate to the open ocean. As the mangroves clear to make a tiny passageway just big enough for our canoes, we will get a lesson on mangrove ecology from our local guide. Then slip on your mask and snorkel and ease into the water to glide through the mangroves for a look at the encrusting sponges, gorgonians, and intricate pattern of life that grow on the roots.

Day 5: Let's take a rest from the sea by exploring the only National Park on Bonaire, Washington Slagbaai. Bonaire is arid so our sights today will be giant cactus and the parrots and iguanas that feed on them. We will study the geology of this beautiful coral island and see

evidence of a giant tsunami that ripped massive hunks of coral out of the sea and deposited them far up on the shore. Bring your snorkeling gear, because we will continue to explore the fringing reef within the National Park.

Day 6: Today we will hop on the ferry to explore Klein Bonaire. The ferry will drop us off a few miles away from the sand dock on this tiny island and we can drift snorkel back with the current. This drift snorkel is one of the best most beautiful snorkeling experiences I've ever had, with healthy coral and a myriad of teeming life. With my underwater camera snapping, I just couldn't comprehend the energy and the diversity of the reef. A huge Orange File Fish came to curiously stare into my mask and thousands of fish darted in and out of coral crevices. On shore as we rest from our watery adventures, we can further explore the cactus and mangrove ecosystem of the island. I even experimented with trying above and below photography where half the photo captures the blue sky and mangroves while half captures the coral reefs and teeming fish below the water. We will continue our study of learning the fish, invertebrate and coral species that we see today.

Tonight after dinner, we can go for a night dive or snorkel. The reef day creatures hide while thousands of night creatures come out to play. Parrotfish spin a mucous sleeping bag for themselves while coral polyps extend their tiny tentacles to filter feed plankton. We will dance again in the bioluminescence.

Day 7, 8: We could live on this island for a very long time and not be able to explore each of the easily accessible dive and snorkel sites. Our daily pattern will be rise early to see the best bird behavior and then snorkel and dive all day long. While resting on the shore, we will study the ecology of the animals and this beautiful ecosystem. The little town of Kralendijk is also a great place to explore when we get water logged. This little shipping port, once a salt trade center, is now home to divers from around the world who come to explore the reefs. The marina is a sight to behold with boats from around the world moored on the shimmering sea. The Dutch culture and history is still very evident throughout town.

Day 9: Pack up to fly home with so much knowledge of the health and hazards of a coral reef ecosystem. Your camera cards and your minds will be filled to the brim with the beauty and wonder of this amazing water planet on which we live.