

Why Is the Sea of Cortez Called the “World’s Aquarium”?

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We know there are questions around travel amid the coronavirus (COVID-19) outbreak. Read our note [here](#).

There are only a few stunning places in the world where dramatic, arid, mountainous terrain meets a sparkling cerulean sea teeming with marine life — and the Sea of Cortez is one of them. The Sea of Cortez, which is also known as the Gulf of California, is one of the world’s most biodiverse bodies of water. Famous French oceanographer, marine conservationist, and filmmaker Jacques Cousteau dubbed it the “Aquarium of the World” after exploring it in the 1960s. The late Cousteau spent his naval and post-naval career perfecting scuba diving techniques and equipment in spectacular underwater venues worldwide, so the moniker carries some weight coming from him.

Cousteau wasn’t the only well-known person to admire the Sea of Cortez’s flourishing ecosystem. Novelist John Steinbeck spent six weeks aboard a vessel exploring the sea in 1940 and described its undeveloped shoreline as “ferocious with life.” He kept a log and published it as *The Log of the Sea of Cortez*. Needless to say, it’s obvious that the Sea of Cortez is a place to write home about. Here are only some of the many reasons why this special place is so deserving of its nickname.



DAILY QUESTION

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Where Is the Sea of Cortez?

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Playful sea lions, whales, dolphins, manta rays, sea turtles, sharks, fish, giant Humboldt squid, and a multitude of seabirds are just a few of the animals you might encounter in the Sea of Cortez. The “world’s aquarium” is a 750-mile-long, narrow marginal sea wedged between Mexico’s mainland west coast and the Baja Peninsula, with a surface area totaling 62,000 square miles. Due to the ecosystem’s biodiversity, importance to conservation, and stunning beauty, much of the sea and its approximately 900 islands and islets are part of a UNESCO World Heritage Site called the [Islands and Protected Areas of the Gulf of California](#).

Species That Call It Home

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The Sea of Cortez has one coral reef located near the southern end of the peninsula (although it has numerous rock reefs). Around 900 fish species live in the sea, and 10% of them are endemic (native to the area). More than one-third of the world’s marine mammal species, such as whales, sea lions, and dolphins, live or migrate through here. Five of the world’s eight sea turtle species (leatherback, loggerhead, green, olive Ridley, and hawksbill) also spend time here.

Gray whales migrate more than 10,000 miles from their summer feeding grounds in the Arctic to breed and nurse their young in the gulf's coastal lagoons. Earth's largest animal, the blue whale, visits the gulf to mate, feed on krill, and give birth during February and March. Great white, hammerhead, thresher, and whale sharks also populate these beautiful, calm waters. Graceful manta (or mobula) rays leap nine feet into the air, returning to the water with a loud splash that can be heard from far away.

Add that to the 700 desert plants, 115 reptile species (about half endemic), over 150 bird species, and thousands of invertebrate species (animals without backbones), and you have a veritable melting pot of life in and around the gulf. Unfortunately, many of the sea's animal inhabitants are endangered, so local, national, and international conservation efforts are necessary to preserve the diverse ecosystem.

Teeming With Life

Credit: [DavidMSchrader](#)/ iStock

Upwelling Ocean Currents

The abundance of life is primarily due to the gulf's nutrient-rich, upwelling oceanic currents. Tiny animal and plant organisms called zooplankton and phytoplankton thrive in the upwellings and serve as a smorgasbord for larval reef fish. Fish of all sizes and many other animals become part of the vast food chain that feeds the sea's larger animals, such as the Humboldt squid, blue whale, orca (killer whale), several shark species, and seabirds.

Rifts in the Seafloor

The sea lies above a fault line between two tectonic plates known as the North American Plate and Pacific Plate. Underwater volcanic activity typically occurs along fault lines, and this area is no exception. Hydrothermal vents in the seafloor gush hot water into the cold sea, which may contribute to the abundance of microscopic

life. The plate movements have also created deep basins or rifts within the sea, so it holds a tremendous amount of water. The Pacific Plate is still moving away from the North American Plate, so the entire Baja Peninsula moves west about two inches per year.

Currents and Tides

Ocean currents and tides also contribute to the sea's flourishing ecosystem. Winds from the northwest blow across the gulf during winter, which pushes warmer surface water into the Pacific Ocean. Cold, nutrient-rich ocean water replaces the warmer water. The process reverses in the summer when southern winds push warm surface water back into the sea and force the colder, deeper water out. Massive amounts of water also flow in and out of the gulf from daily tides.

The Sea experiences massive daily tides as well, meaning fresh, nutrient-rich ocean water flows in and out constantly. The tidal flushes, combined with the seasonal wind and current patterns and upwellings of nutrient-dense water, create a steady stream of nutrient replacement and balance salinity levels. The continuous mixing of cold and warm water prevents the Sea from becoming too warm or too cool for optimum ecological growth.

Mangrove Swamps

Also essential to the gulf's biodiversity are the mangrove swamps that serve as nurseries and homes for several marine species. Mangrove trees live in shallow tidal lagoons, usually located in areas where fresh and saltwater mix along the sea's edge. Juvenile fish, oysters, crabs, and bottom dwellers thrive in the dark safety provided by the stilt-like roots, which are usually submerged.

Rivers and Tributaries

The sea also receives nutrients from multiple rivers and tributaries. The Colorado River feeds into the north end of the gulf in a delta, and until recent decades, supplied a significant flow of nutrient-rich

water. (Its flow has dramatically diminished due to upriver diversions for agricultural and human use.) Many fish species swim to this area to spawn because of the plethora of food that will ensure their offspring have plenty to eat.

Natural Beauty and Wonder

Credit: [MattGush](#)/ iStock

Whenever UNESCO decides to add to its World Heritage Site List, the site in question must meet a series of criteria. The diversity of marine and terrestrial life is one reason the Sea of Cortez landed on its list. Another reason is the unparalleled splendor of the area encompassing the sea. Dramatic contrasts between the turquoise water, rugged islands, rocky cliffs, sandy beaches, tidal flats, and coastal deserts create an astonishingly beautiful area begging to be explored — and protected.

At times, the sea itself even appears to change colors. We typically don't notice the tiny plankton that live in water, but this gulf illuminates their existence. It's not uncommon to see enormous blooms of red-tinged phytoplankton turn the water red, which has earned the Sea of Cortez another colorful nickname — the Vermilion Sea.

Sprinkled throughout the gulf are hundreds of islands and islets — most of which remain uninhabited. Many are privately owned or under the protection of various government conservation authorities. One island, Isla Maria Madre, housed a federal prison from 1905 until 2019. An Indigenous population known as the Seri people communally own the gulf's largest island, Tiburón Island (named for the Spanish word for shark). The Seri conduct ceremonies here and consider Tiburón a sacred site. Today, Tiburón is an ecological preserve co-managed by the Seri tribal government and the Mexican government.

Home to the Endangered

Credit: [Leonardo Gonzalez](#)/ Shutterstock

Due to overfishing, pollution, lack of freshwater nutrients, and unchecked tourism, many of the magnificent creatures that call the gulf home are endangered. The world's smallest porpoise and rarest marine mammal, the [vaquita](#), lives in the northern part of the sea and is critically endangered. According to the International Union for Conservation, there are fewer than 20 adult vaquitas left in the world. The vaquita's misfortune is because it shares a habitat with the totoaba, a large fish whose swim bladder is incredibly valuable on the Asian black market for its supposed medicinal qualities. One totoaba [swim bladder can sell for tens of thousands of dollars](#), earning it the nickname "aquatic cocaine." Vaquitas are caught and drown in the gill nets fishermen use to catch the totoaba (which are also critically endangered). Fishing for totoaba has been illegal since 1976, and in recent years, international cooperation has tried to halt poaching, trafficking, and selling them.

Conservationists and scientists worldwide recognize the Sea of Cortez's overall significance and value, resulting in a variety of efforts by multiple governments, nonprofits, and ecotourism businesses to preserve and protect it from further harm. UNESCO also placed the Islands and Protected Areas of the Gulf of California on its List of World Heritage in Danger in 2019, to bring more attention to protecting the vaquita and totoaba.

Significance of the Cabo Pulmo Marine Reserve

Credit: [Paola Ruffo Ruffo](#)/ Shutterstock

Cabo Pulmo, the only coral reef in the Sea of Cortez, lies just offshore of a tiny town on the peninsula's northeastern tip. After decades of overfishing, residents of the town who relied on the reef's fish for food and their livelihood noticed a significant decline of life in the

water. They realized they had to give up their livelihood to save the reef, and successfully lobbied the state government to protect it. In 1995, the government established the [Cabo Pulmo National Marine Park](#), which protected the reef from all forms of fishing.

Over the next several decades, the conservation effort paid off. The number of marine creatures, from the smallest herbivores to mid-sized carnivores to large predators, gradually increased. By 2009, the biomass had increased by more than 400% — a faster growth rate than any other protected area in the world. The biomass within the preserve was five times higher than the nearby open-fishing (unprotected) waters, proving that the protected status was working. Even slow-growing animals such as predatory sharks, massive rays, sea turtles, and humpback whales have increased in numbers and now rely on the reef and the surrounding area for food and reproduction.

The primary reason for Cabo Pulmo's success is the local community support that enforced fishing bans within the preserve. Ecotourism is the new economic driver for the area. Residents who had to give up fishing as their only income source can now earn far more money working in tourism-related jobs such as tour guides, dive instructors, and hospitality jobs. Many realize they must protect the reef to protect their new livelihood. When plans to build a \$2 billion mega-resort in the area were announced in 2012, the community demanded protection, and eventually, the [Mexican president withdrew the development permit](#), canceling the entire plan.

Best Places to Witness the Sea's Biodiversity

Credit: [Leonardo Gonzalez](#)/ Shutterstock

Scuba divers have been captivated by this spectacular underwater treasure trove for decades, but with the increase in ecotourism, even non-divers are finding plenty of reasons to visit. Visitors to the

popular resort town at the peninsula's tip, Cabo San Lucas, already know that diving, sportfishing, sea kayaking, and whale watching are among the top things to do. If you want to enjoy the gulf's marine and terrestrial life without the big resorts, parties, and crowds, head to one of its parks or protected areas, all included in

UNESCO's [Islands and Protected Areas of the Gulf of California](#).

Cabo Pulmo National Marine Park

[Cabo Pulmo](#) is one of the more accessible marine protected areas, since it's only a 90-minute scenic drive from San José del Cabo (where the largest international airport in the region is located), and a two-hour drive from Cabo San Lucas. If you want to stay locally, you'll find small hotels and ecotourism cabins in the town nearby. You can also camp inside the park in designated areas. Once here, your opportunities to see wildlife are vast, and many eco-friendly operators offer scuba and snorkeling trips, sea kayaking, whale watching, and land-based Jeep tours.

Espiritu Santo Archipelago

This protected area is a series of stunning islands offshore from the city of La Paz, with Isla Espiritu Santo as the main attraction. Along its coast, reefs and mangrove ecosystems create nesting areas for seabirds, plus safe habitats for juvenile fish, sea lions, and sea turtles. You can stay on Espiritu Santo for the day or overnight in an eco-camp. Los Islotes, a tiny island north of Espiritu, is also a popular stop for day trips to frolic with sea lions.

The Bay of Paz offers its own attractions, including an area called [El Mogote](#), a whale shark marine refuge, where tour operators offer trips to swim with whale sharks. The bay also serves as a nursery to scalloped hammerhead and sharpnose shark species. La Paz is a larger city along the Baja Peninsula, with an international airport and multiple types of accommodations. You can drive from Cabo San Lucas to La Paz in about two hours.

Bahía de Loreto National Marine Park

[Bahía de Loreto National Park](#) offers another fantastic opportunity to enjoy the Sea of Cortez's wonders. Five majestic islands and the Baja coastline make up this protected area in the sea's central section. The park provides sanctuary for species that were once abundant in the Sea of Cortez, including tuna, dorado, sea bass, billfish, and roosterfish. Sea turtles, sea lions, spinner and bottlenose dolphins, rays, and many seabird species also are park residents, and humpback, blue, gray, and fin whales regularly visit. (February and March are the best months to see blue whales.) Operators offer single and multi-day boat and kayak tours, plus diving, snorkeling, whale watching, sportfishing, hiking, and camping opportunities. Loreto, located a little north of the islands that make up the park, is the closest town with an [international airport](#) (with flights from Mexican cities, Los Angeles, and Calgary). Visitors can also fly into La Paz and drive north for about four and a half hours, or drive safely across the Cross Border Express into Tijuana and catch a flight. In Loreto, you'll find various places to stay, ranging from basic hotels to midscale resorts.

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