

## We Must Save Tela Bay To Preserve Mesoamerican Coral Diversity

Coral reefs are a patchwork of life; this diversity makes them beautiful, and is why they draw our admiration. Different colors, fish, and marine life. When all this life mixes, coral reefs thrive, growing into resilient, balanced ecosystems.

The Mesoamerican Barrier Reef is the second-largest coral reef in the world—second only to the Great Barrier Reef in Australia. The reef begins at the northern tip of the Yucatán peninsula in Mexico. It continues south, following the coastline through Belize, rounding the coast through Guatemala, and ending in the Bay Islands of Honduras.

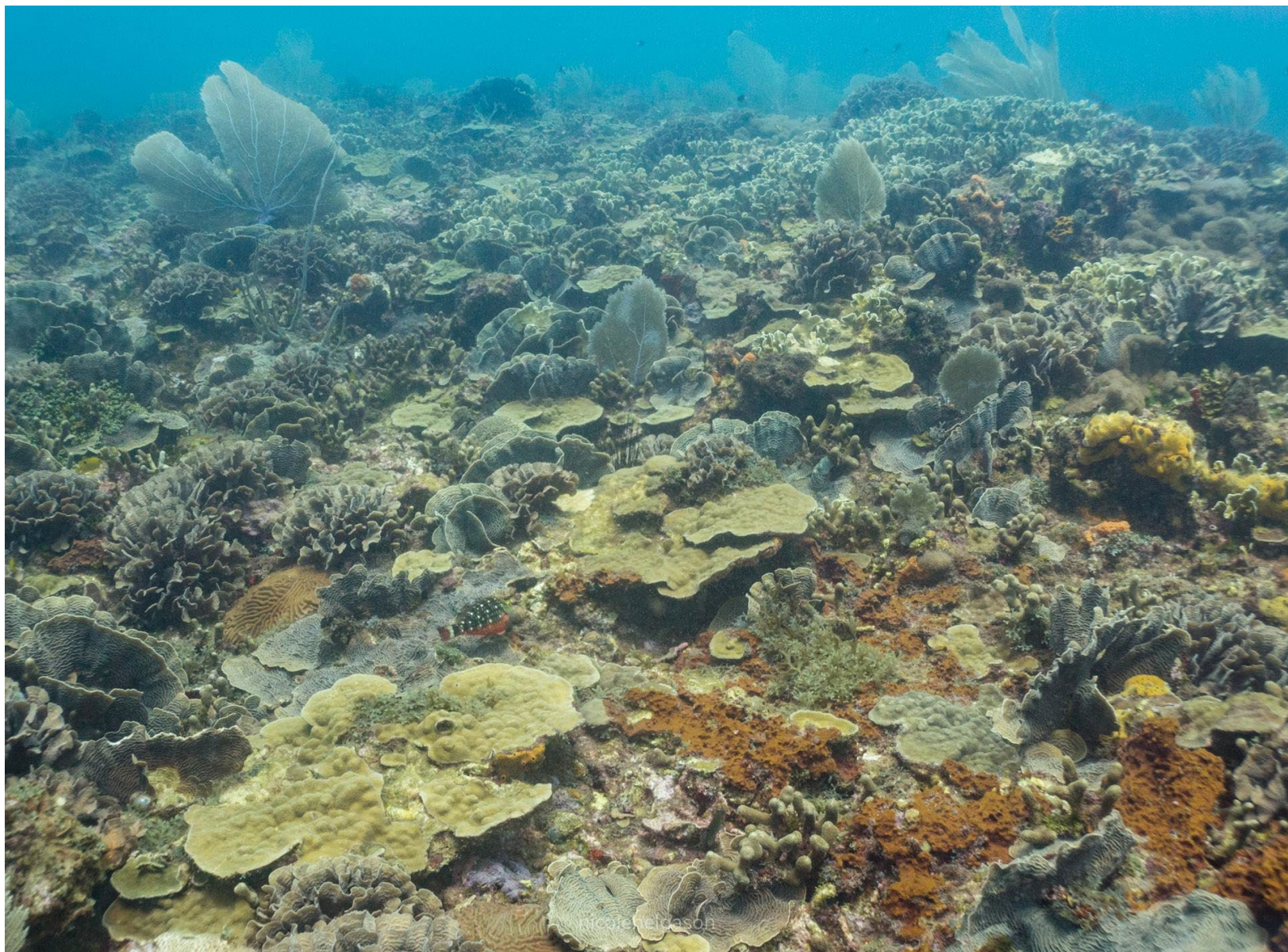
In 2014 a deadly coral disease appeared in Florida, and by 2018 the Stony Coral Tissue Loss Disease (SCTLD) had made its way south into Mexico. The disease moved quickly through Mexican reefs. One year later, by July of 2019, the disease had removed over [30 percent of coral](#) cover in 22 species of coral. Time is running out to save the Mesoamerican Reef, and we can help by protecting unique coral hotspots like the reef in Tela Bay.

## Tela

Tela Bay is paradise, powdery white sand stretching for 40km on the mainland of Honduras, roughly 100km southwest of the Bay Islands, Roatán, and Útila. Tela is home to an exceptional coral reef worthy of our attention. The coral here is so thick it's hard to tell where one coral ends and the other begins. The reef is also home to the highest density of long spiny sea urchins in all of Mesoamerica, if not the Caribbean. These highly efficient coral cleaners play a crucial role in balancing the reef ecosystem.

When I'm learning about a new reef, I like to start by looking at a map analyzing the larger global patterns at play; I'm always intrigued by the bigger picture. When you find Tela on a map, its unique geography stands out as a catch point for ocean currents drifting for thousands of miles across the Atlantic Ocean and into the Caribbean Sea before arriving at Tela Bay. The Mesoamerican reef system is also connected by spiraling currents rising through the Caribbean Sea, connecting the reef and, importantly, the coral and sea urchin larvae created here. Each time I turned another page in the story of Tela, from discovering its geography, a rich history, and its connection to the future health of all Mesoamerican corals, my love and desire to protect this reef grew stronger.

We cannot ignore the potential of coral hope spots like Tela as life saving seed banks for the future of Mesoamerican Reefs.



Until 2009, scuba diving in Tela was relatively unheard-of until Antal Brocsok, of Tela Marine Research, decided to grab a scuba tank and explore his front yard. Not having much experience as a scuba diver, Antal assumed that all reefs must look like this and went on with his life. Three years went by before he invited a group of coral scientists from the Healthy Reefs for Healthy People Initiative to dive into Tela's mythical coral oasis. As the reef came into focus, the divers' eyes began to light up. They looked around at each other in awe of the reef they had just discovered.

## The Perfect Coral Dive



To the untrained eye, Tela may fall short of what most would consider a great dive. The water can be murky with 10m (30 feet) of visibility on a good day, yet it will still take your breath away. Schools of fish are coming back, and we did find some turtles and sharks on the reef. However, corals are the shining star helping to bring the reef back into balance.

The coral reef starts around 12m (40 feet) with ridges covered with coral looking like thick lettuce leaves. Big purple sea fans sway with the currents, and clusters of branching yellow *Porites* and *Madrasia* corals dot the reef like rays of sunshine.

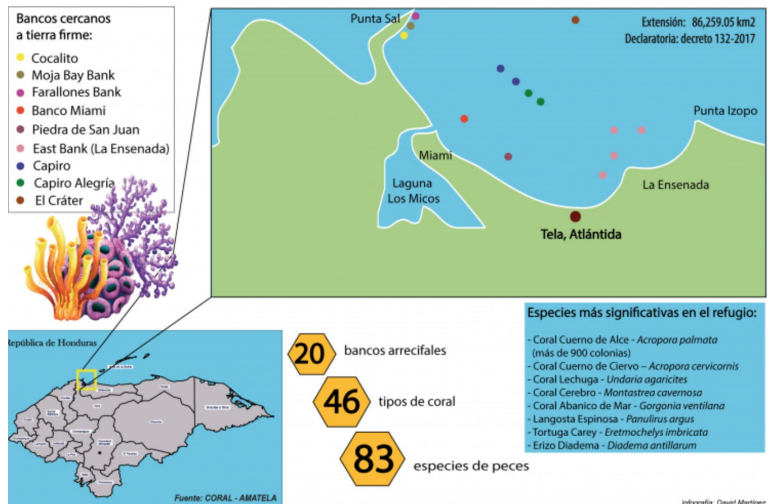
As the ridge sloped inward toward a sandy valley, the most colorful and intricate *Mycetophyllia* plate corals adorn the reef walls down to 16m (53 feet) deep.



Interspecies diversity is high for corals like *Mycetophyllia*, which are in a dwindling supply throughout the Caribbean and Mesoamerica.

Swimming northeast along the ridges, the reef drops off into rocky ledges down to 20m (65 feet); beyond this, the reef is surrounded by sand on all sides. Only a patch of stony reef 10km (6 miles) wide has been explored, an area comparable to the size of Útila.

#### Tesoros que resguarda el Refugio de Vida Silvestre Marino Bahía de Tela



There are undiscovered rocky reef patches throughout the Bay, and I had the chance to explore several brand new reefs. I was even lucky enough to have a beautiful reef named after me, Nikki's Reef. It's hard to put into words just how amazing the reef in Tela is, how it captivates my thoughts and dreams and continues to draw me back in.

The average coral coverage in the Tela is 70 percent, with some reefs being so plentiful this number jumps to over 100 percent. Corals begin growing over corals, making it hard to know where one begins and the other ends. Take into consideration that the average coral coverage in Mesoamerica is around 18 percent, with Honduras having the highest coral cover percentage, increasing from 22 to 27 percent in 2020. [\*\(Healthy Reefs for Healthy People 2020 Report\)\*](#)

Let that sink in. The average coral coverage in the Mesoamerica reef is 18 percent, Honduras 27 percent, and Tela 70 percent. The coral reef in Tela is an anomaly, with all the odds stacked against it. And I haven't even mentioned the reef at Punta Sal.

### **Thriving Habitat of Critically Endangered Elkhorn Coral**

On the far northern tip of Tela Bay is a jaw -dropping elkhorn ( *Acropora palmata*) coral reef. What was once considered a coral so abundant and robust it could sink the largest sea-faring ships is now a critically endangered species across Mesoamerica and all of the Caribbean sea. Punta Sal in Tela bay is home to more than 900 colonies of Elkhorn coral. These coral are noble in their quest to protect the shores of [Jeannette Kawas](#) National Park in the Punta Sal Peninsula. The park still contains some of the last known jaguars in the region and, in its own right, is shrouded in history and enchanted tales of pirate ships and hidden treasure.



Punta Sal has many unique Acropora colonies, and it's likely to find the hybrid *Acropora prolifera*.

**Tela needs to capture the world's attention, as we lose reefs at an unprecedented rate in Mesoamerica.**

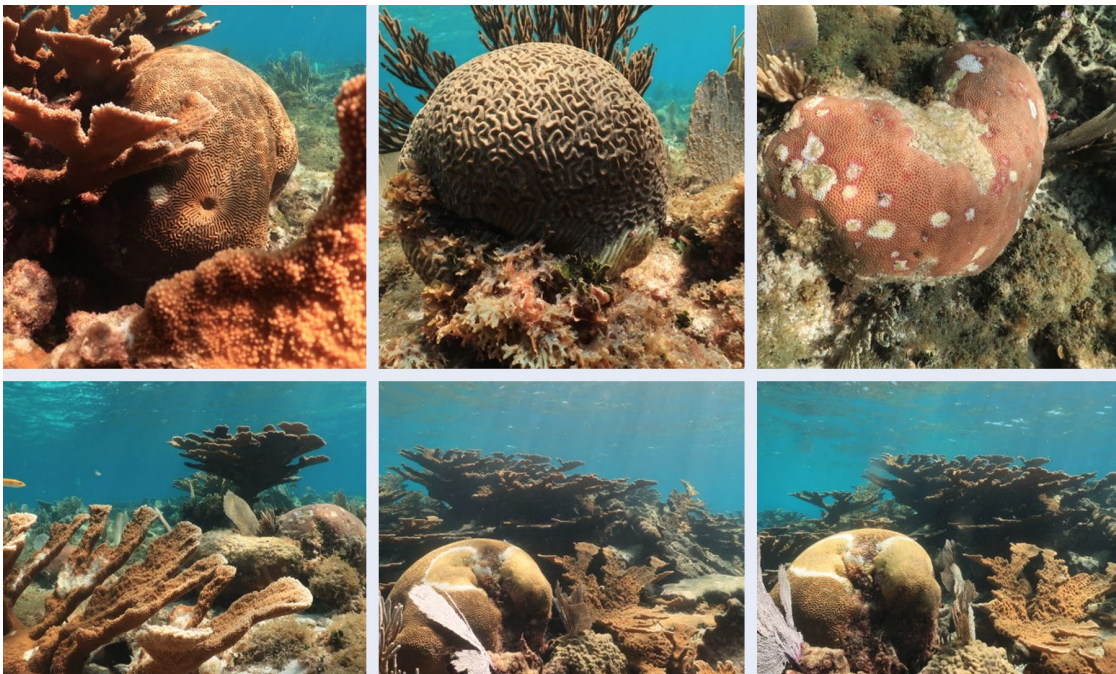
## Stony Coral Tissue Loss Disease

In 2014 a mysterious disease in Florida called “white plague disease,” killing corals with a vengeance. By 2018 the disease known as Stony Coral Tissue Loss Disease (SCTLD) had made its way to [Mexico](#) and northern Belize. By July of 2019 in Mexico, the disease had removed over 30% of coral cover in 22 species of coral in just one year.

I remember visiting Mexico Yucatan Peninsula in 2018, it was January, and I was documenting coral diversity for my Guide to Caribbean Corals. I’d heard murmurs of a reef called [Arrecife Limones](#) in Puerto Morelos National Park. This reef was off-limits to recreational divers since 2014; I was told it was full of branching *Acropora* corals.

I tried everything to get access to this reef. All I wanted was the chance to document the biodiversity and share its beauty. The scientists were hesitant and assumed my articles would attract divers. In the end, I was denied access to visit. Fair enough, I was just some crazy coral nerd trying to see a reef. I was disappointed I never got to visit.

In July 2018, six months later, a significant outbreak of SCTLD coral disease broke out in Arrecife limones, and [hundreds of coral colonies](#) were lost.





In May 2021, the disease reached Roatán, the Bay Islands in Honduras, only 100km away from Tela, and scientists estimate Roatán could lose 50 to 70 percent of its coral in the next 16 months. Coral colonies with SCTLD infections have already been reported in at least "half" of Roatán's coral reef, said Roatán Marine Park biologist Gabriela Ochoa. For now, the disease has still not reached Tela.

**Scientists estimate Roatán, only 100 km from Tela, could lose 50 to 70 percent of its coral in the next 12 months.**

Time is running out. We are losing coral diversity right before our eyes. I've seen it first hand, scientists see it, scuba divers see it, and fishers and communities are the ones who suffer the most from their loss. But beyond these local communities, the impact of coral loss diminishes like a ripple the further it extends from the source. Global biodiversity is still a loss to humanity; we are all connected, everything is connected.



## What Makes The Reef In Tela So Healthy

There are a few theories as to why this reef is so healthy. Scientists believe one of the keys to the coral's success in Tela is thanks to the reef's high abundance of long spiny sea urchins, around 1.5 urchins per m<sup>2</sup>, compared to the 1 urchin per 100m<sup>2</sup> average in the rest of the Mesoamerica reef system.

Every night-sea urchins wander the reef, grazing on any algae which are threatening to overgrow corals. These sea urchins provide an invaluable ecological service, and their essential role as coral cleaning machines is being researched in unison with coral restoration. Scientists have been able to breed and raise sea urchins in captivity successfully. They are now discovering ways to transplant urchins en masse to coral reefs with newly settled coral fragments.



The picture on the right shows a piece of coral at the bottom of the colony covered in turf algae. While in the images the coral has been picked clean by an urchin.

It is estimated that sea urchins need to be close, around 1m apart, for spawning to succeed in the wild. It's possible with Tela's high abundance of urchins, this reef is a seed bank, not only for corals but also the critically important long spiny sea urchin *Diadema antillarum*.

## So, where is the problem?

Just past the north end of Tela Bay, behind Punta Sal is by the biggest river in Honduras, Rio Ulúa which is estimated to contribute over 100,000,000+ tons of sediment every year to the ocean and is the main contributor of sediment to all of the Mesoamerican Barrier Reef.

Tela has a storied past with industrial agriculture starting in 1912 as a commercial banana plantation. Today, many banana plantations have been replaced with palm oil plantations, and hundreds of hectares of wetland are destroyed each year to make way for more palm trees.



With all this agriculture comes the influx of pesticides and fertilizers into the rivers and streams. The high nutrient, murky waters of Tela are perhaps one of the contributing factors to its abundance of corals. Still, everything has a limit, and the balance could easily tip, causing a catastrophic decline. The shallow Bay of Tela is also consistently ranked amongst the reefs with the highest and prolonged thermal stress, with summer temperatures getting up to 34c. The cards are stacked against Tela, yet the reef continues to defy all odds and thrive when corals shouldn't exist.

## Solutions

Governments and NGOs have been [fighting to save Tela](#) and in 2012 an initiative was launched to establish a fisheries management plan [protecting 20 reef sites](#). The project outlined recovery areas, aimed to curb illegal fishing and implement restrictions on fishing gear, including the use of harpoons and fishing cages. The mandates also limited the length of fishing nets to 600 meters and nets must have mesh holes equal to or greater than seven and a half centimeters to avoid capturing juvenile fish.



While the program did succeed in reducing the number of fishers coming from neighboring areas, enforcing the ordinance remains a challenge. The Honduran Armed Forces that lead patrols monitoring the park lack the resources and the number of rangers to monitor areas, such as Los Micos Lagoon and the Punta Sal Peninsula.

In their first meeting of 2018, the Honduran Congress discussed the creation of 'El Refugio de Vida Silvestre Marino de Tela', and it was agreed that 822.6 km<sup>2</sup> of Tela Bay will now be protected by law in a new national marine park. Sobeida Núñez, director of the Asociación Amigos del Arrecife de Tela (AMATELA), confirms that this organization, together with Tela Marine, the UMA, and the National System of Protected Areas of Honduras (SINAPH) will be the institutions in charge of managing the Bahía de Tela Marine Wildlife Refuge. The management plan for this protected area is expected to be ready in December 2019.

Solid-waste pollution is another challenge facing the Tela Bay Marine Wildlife Refuge. Officials admit that a new system for wastewater management is critical since the current system only serves half of the neighborhoods in the bay area. An initiative to build a new [water treatment plant](#) was introduced to the National Congress of Honduras in 2020.

## **Act**

Tela Bay is a seed bank for Mesoamerica, a refuge for marine life. Priority must be given to protect this reef, not only for the communities who depend on it but for the health and prosperity of the region. By protecting one reef we can have a more considerable impact on the entire Mesoamerican reef system, the second-largest barrier reef in the world. Now is the time to elevate our efforts and stop at nothing to

protect these critical hot spots of diversity, there is no time to waste. Stony coral tissue loss disease is within a few hundred kilometers of reaching Tela, and compounding stressors like agriculture runoff, raw sewage, and warming waters are all looming.

Tela has already emerged unscathed from decades of coral decline in Mesoamerica, but the tide could turn in an instant. We must act now to save this pristine reef before it becomes another statistic of what could have been saved.



*Photographs and words by Nicole Helgason*

*All images were taken on a Nikon Coolpix FP7100 point and shoot camera*

## Healthy Reef For Healthy People - Mesoamerican Goals

*Action for Honduras:* Declare and enforce more fully protected replenishment zones, especially for fish spawning sites, to rebuild populations.

- Ecosystem restoration efforts, such as enhancing populations of key herbivores and reef-building corals are underway but need massive scaling up.
- Expanding the amount of fully protected areas (including fish spawning sites) and increasing enforcement of fishing regulations are needed to reverse the declines in fish populations.
- Improving sewage treatment throughout the region is necessary to protect human and reef health. The pathogens and other contaminants in wastewater or septic leachate, can fuel both diseases and algal proliferation, reducing coral growth, recruitment and survival.

<https://www.healthyreefs.org/>