



## STRIPPED TO THE BONE

In 2012, Liz Cunningham witnessed a dramatic coral bleaching event in the Turks and Caicos Islands in less than a period of a week. That month the National Oceanic and Atmospheric Administration (NOAA) documented record-breaking temperature highs for the North Atlantic and Caribbean Sea. This excerpt from Cunningham's award-winning book, *Ocean Country*, describes what she saw.

Text by Liz Cunningham  
Images by Alain Feulvarch

**THE BOAT CHUGGED** out into the sleek waters of Grace Bay to a site called Boneyard. Oh, I loved that place! I sat on the upper deck of the boat and remembered the last time we were there, just the week before. It was a series of deep sand channels, densely populated with finger and staghorn coral. The finger coral was shaped like protruding stubby thumbs and the staghorn coral, like the large antlers of a deer – hence its name, Boneyard.

Boneyard teemed with life. Each cluster of coral colonies ranged from 20 to 100 “thumbs” and “staghorns”, densely packed together. It was hard sometimes to even see the coral mounds, because the schools of hundreds of yellow grunts were so thick, they only parted as you came very close to them. And those schools were punctuated by hundreds of parrotfish and damselfish and hamlets and grouper and trumpetfish. Not to

mention a turtle or a herd of spotted rays or a shark swimming through.

As we motored out, I remember thinking that these waters were the most deeply alive place I had ever experienced.

The boat slowed. One of the divemasters used a long pole to moor on to the buoy. We geared up.

“OK kiddo, get in the water,” the divemaster said, as he checked my gear. I put the heel of my hand to my mask to keep it in place, looked at the horizon and took one long step off the edge of the back of the boat, and into that world I so deeply cherished.

I exhaled and sank softly into the water. I closed my eyes for a second or two, just to feel the water river along my body.

“Warm,” I mused. I opened my eyes and looked at my dive computer, it was nearly 28 degrees Celsius (82 degrees Fahrenheit), three degrees warmer

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than the week before. I turned horizontal as I sank and looked down at the site that was now about 12 metres below.

“Where am I?” I thought. “This can’t be!”

What I saw was almost unrecognisable. The sand channels were there, but there was hardly a sign of life. Everywhere I turned, the coral was white and brown, with green-brown algae growing over it. There were a few

**LEFT** Divers drop into a very different world when they dive the Boneyard today

**BELOW** The schools of fish like these jacks depend on a healthy ecosystem, underpinned by a diverse coral reef





small clusters of fish in places and an occasional lone fish, looking out of place.

The coral had bleached.

I paused at a bed of staghorn coral. The week before it had been filled with so many half-inch juvenile parrotfish and blue chromis that the water appeared to be filled with blue and white snow. Small multicoloured fish had darted furtively and mischievously, sometimes chasing each other, or nibbling off a piece of coral, nestled in the safety of its tight matrix – a dazzling display of light created by a multitude of life forms.

Now it was barren and whitish-grey, except for one singular oval-shaped blue tang that nibbled on the algae overgrowth.

We kept swimming, searching for a spot that might not be so damaged. “How many miles did this stretch for?” I asked myself. As I moved my fins slowly through the dense water, I felt as if I was swimming through the ashen remnants of a bombed-out cathedral.

Each spot I remembered once deeply alive and illuminated with life was now devoid of the mosaic of colour and life. Only a white-brown monotone armature remained, covered with algae.

**ABOVE** Atlantic spadefish once beckoned divers into the thriving corals this site was famous for

**RIGHT** The vibrant colours of these corals are lent by heat-sensitive algae that live in the corals' tissues and provide them with energy



The sense of the coral's ailing was palpable. We swam through a landscape of millions upon millions of tiny, near-microscopic animals, ailing and dead, unable to support the multitude of life forms it once did.

Before getting back on the boat, I keep looking down to the reef. I still couldn't quite believe it. *How could this happen in less than a week's time?* It was incomprehensible.

Coral reefs were in terrible danger from anchoring damage, overfishing, divers kicking delicate coral heads that take years to regrow, and nutrient runoff, that miserable hodge-podge of sewage, fertilisers, and detergents that

gets pumped into rivers and oceans daily. And coral bleaching was yet one more indicator that climate change was on the brink of showing the true fury of destruction it was capable of.

Several days later I showed video footage of the reef to Marsha Pardee, a marine ecologist, and John Walch, President of the Reef Ball Foundation. Marsha and John explained that the temperature change wasn't the only culprit, that the coral had been weakened for years by sediment in the water from dredging and construction, and from nutrient runoff. The temperature change was the straw that broke the camel's back.

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They explained it wasn't just bleaching that I saw, but coral disease and algae overgrowth. The tattered and frayed sea fans and the not-completely white brain coral suffered from that tongue-twisting phenomenon that scientists call eutrophication. This means that algae that's been feasting on sewage and fertilisers and other chemicals is choking the coral. It had been having a degrading effect on the reef for decades, but with the temperature spike it reached a tipping point and became widespread.

Bleaching happens when the coral, reacting to environmental stresses, expels the algae. The coral gets its nourishment from the algae's ability to make energy from light – photosynthesis. And it gets its beautiful green and rose and yellow hues from the algae's colour. So, when it expels the algae, it loses its colour and turns white. It can survive for a while without the algae, but not too long and not if the coral disease and algae overgrowth became predominant.

The night after I had witnessed the bleaching, I was just stunned. My view of the world had changed massively. I'd heard so many individuals recount that at some point they get to a place where they understand that the Earth is ill like an ailing body. And what ails it? What limits its ability to renew itself? *Humankind*.

If you'd asked me the day before, "Do you understand this?" I would have

said, "Of course I do!" But in no way would I have understood it the way I did after seeing that bleached coral reef, which went on for miles and miles and miles.

But there was something else that I hadn't understood as deeply as I do now: how much can be done. Among other things, to save coral reefs we need to end overfishing, curb plastic pollution and nutrient runoff. We need to take decisive action on climate change and vastly expand the number of marine protected areas, in an effort parallel to the effort to set aside vast tracks of land for national parks 100 years ago in the US. Today only about two percent of the ocean is protected. We need to protect at least 30 to 50 percent of the ocean to restore its health.

People often ask me, "Is there any hope left for the seas?" I tell them that if there is still a chance there is still hope. *One of the greatest dangers is to mistake a narrow margin of possibility for lack of hope.*

There's an eye in the needle we need to pass through. There are so many things we need to do. We can see this two ways: There are so many things to do, so there is little hope. Or we can set our sights this way: There are so many things *we can do* and each of us has a role to play.

I cast my lot with the can-do crowd – some of the most creative, dedicated and loving people I have ever met,

part of that ever-growing movement to save the life of this Earth and make it more just. Perhaps we could look back a century from now and see that we squeezed through that eye in the needle – as the efforts 100 years ago to establish national parks in the US did and became a catalyst for nearly 100 other countries to do the same. The thread that passes through the needle is the collective chain of efforts – each of us living as if our actions and our voices matter. **AD**

**ABOVE** If divers want to see charismatic creatures like sharks, we need to work to preserve the ecosystems they rely on



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**Liz Cunningham's** mission is to be a voice for the life of the seas and the people who are working to save them, to inspire and empower others to join the effort to save our seas and forge a sustainable future. She writes and speaks to audiences about ocean conservation and the traits we need to be effective stewards of our seas and life on this planet – among others, courage, an engaged, active hope, and the ability to work together to find solutions. She is the author of the award-winning book, *Ocean Country: One Woman's Voyage from Peril to Hope in Her Quest to Save the Seas*, with a foreword by Carl Safina, and *Talking Politics: Choosing the President in the Television Age*. Learn more about her work at [www.lizcunningham.net](http://www.lizcunningham.net)

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