

Vanishing Innocents: Fish, Dolphins, and Other Sea Creatures in Troubled Waters

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Photograph by Charles Saylan

Sardinia has a unique and unforgettable scent, different from any other place I've known. It's the scent of the Mediterranean undergrowth, of junipers and myrtles. If I close my eyes and concentrate, I can almost smell it even now, thousands of miles away and many years later.

As a young girl, I anxiously waited for summer vacations in Sardinia where, every August, my family and I would spend weeks in a rustic oceanfront camp near the town of Posada. As I neared the end of the semester, still bent over my textbooks, I would imagine unending barefoot walks on floury sand beaches, hours passed floating in a tepid sea or exploring the shoreline.

The rocky shore in front of where my family was camped was still mostly untouched by civilization. The half-moon beach was covered by the brownish, salty hair of dead seagrass leaves of *Poseidonia oceanica*. Early most mornings, my father and brother left to go spear fishing along the coast. Instead of going with them, I usually stayed near camp and played in the tide pools of the intertidal zone. It was enough for me to sit on a rock with my feet in the water and peek into this uncontaminated microcosm with its crowds of small and colorful sea stars, crabs and tiny fish. I could easily lose myself here amongst this diversity of life I had found between the rocks and the sea.

I had fun as a child and a teen, in those summers spent in Sardinia and along other shores of the Mediterranean; I explored the sea and nurtured myself from it. I recall lobsters and succulent oysters as being large and plentiful. I remember grouper and sea bass large enough to feed my entire family. But the world I experienced doesn't seem to be there anymore. The soothing sound of nature, the untouched land and open shorelines, the salty sea bursting with life are all disappearing. The large groupers and lobsters are gone. And the rest is vanishing with every day that passes.

As I travel back to the places of my youth, the same Mediterranean Sea that nourished its people for millennia is now a warmer, dirtier, and more barren place. We still know little of this underwater world that will likely collapse before we are able to learn its secrets. Not only are large top predators like sharks, albacore and bluefin tuna, marlin, and swordfish on the brink of extinction, but smaller species like anchovies are now becoming scarce.

Overfishing is taking a heavy toll on fish stocks and catch sizes are becoming smaller every day, yet we continue to fish further and further down the food chain. Soon, if we keep up this behavior, we'll be seeing invertebrates and jellyfish as the common fare on the dinner tables of the world.

But looking at the Mediterranean gives me only a glimpse of the dour future of Earth's oceans. Worldwide, unregulated commercial fishing fleets are pillaging our waters with ever-advancing fishing technologies. Target species are plundered along with a massive by-catch (the unregulated, accidental capture of non-target animals). We disregard and degrade the ecosystems in which these creatures flourish, slowly transforming them into dead zones and marine graveyards. And, many of us never think about the consequences of these actions. It's not just about the survival of the species in question, it's about our own survival as well.

Today, near ninety percent of large predatory fish have disappeared. I sadly read how prominent scientists believe we face a collapse of the entire fish stocks by 2050. Some species, like tuna, may be gone just in the next few years. Tuna, like the bluefin, are astonishing hunters. They are what marine biologist and writer Richard Ellis calls "*a quintessential ocean ranger, the wildest, fastest, most powerful fish in the sea.*"

I clearly remember Atlantic bluefin in the Mediterranean Sea as I grew up. I once watched them from the bow of a ship off the seaside of France, as they cleverly herded a shoal of sardines. On a fishing boat off the coast of Tunisia, I observed a large school of bluefin pass under the boat at full speed on their way out toward open water. At sea, bluefin were common. They could be as large as a dolphin and their massive muscular strength was evident as they swam to speeds in excess of thirty kilometers per hour. What I couldn't know back then, was that bluefin tuna would turn out to be one of the most endangered species in the oceans. They now risk extinction in just a few years. And bluefin tuna are not alone in the race toward total annihilation...



A LONG-BEAK COMMON DOLPHIN. (PHOTOGRAPH BY MADDALENA BEARZI)

My brother Giovanni has been studying different species of dolphins in Croatia and Greece for over two decades. His research shows that the once-bountiful Mediterranean population of short-beaked common dolphins is now in a heartbreaking and dangerous decline. On the island of Kalamos, where Gio had maintained one of his research stations, common dolphins have almost completely vanished from the surrounding coastal waters. Only a decade ago things were quite different. Gio told me he used to relax in front of his research station and comfortably wait for the schools of common dolphins to pass by in the channel.

The sightings that were once an everyday occurrence were now, at best, a monthly encounter. As my brother's research efforts grew with the passing years, the number of dolphins dramatically plunged, from 150 animals recorded in 1995, to only 15 in 2007. At first, he thought the dolphins might simply have moved away from his study area, but further research proved him wrong. Most of the dolphins were missing.

My brother believes the main culprit in the disappearance is overfishing, primarily due to the recent arrival of large commercial purse seiners in the area, which have depleted the sardine and anchovy stocks. These species are what common dolphins eat. Gio explained to me how the traditional artisanal fishery, which sustained local villagers for centuries, didn't deplete the fish population. It was the development of industrial-scale fisheries that actually sucked the life out of this place.

Over the years, Gio and I have swapped opinions, thoughts, and drafts of papers about the animals we are both passionate about. More than an ocean apart, we both conduct scientific research on dolphins and whales in the wild. We've lectured and written about cetaceans and the oceans and worked hard in our respective non-profits

to promote conservation in different areas worldwide. What for both of us started exclusively as research became, as we aged and the natural world around us changed, a continuous effort to protect dolphins and other sea creatures as well as their habitats. Neither of us deliberately chose this path as, at the outset of our respective careers, we could never have known it would be necessary. But the natural world changed, and we both changed with it.

I recognize that the problems are complex. We can't just blame overfishing for wiping out biodiversity and not allowing the oceans to replenish themselves. Overfishing is one of the biggest problems, but it's part of a larger series of issues. The real threat comes from the synergistic effects of human activities on the marine environment. Oceans are affected by climate change and sea levels are on the rise. There is more pollution, which opens the door to new diseases. Our oceans are becoming progressively more acid, because of increasing carbon dioxide present in the water. Industrialized agriculture runoffs have 'fertilized' nearshore habitats forming massive dead zones, where no creature can survive.

I read about environmental problems every day and it is often overwhelming. I think I understand why many people feel paralyzed and unable to act. We are confronted with too much information to process. The news is often bad and frequently contradictory, so it is difficult for the public to know what is true and what is not. Adding to this confusion is the constant bombardment from television, email, and Internet, which permeate all aspects of our everyday lives.

I am sad when I think that the world my brother and I grew up in has changed so much; that the encounters with nature we experienced may become just a memory. If we humans don't act together and soon, some of the magnificent creatures I've studied might not be around much longer. Time is *not* on our side. But I have a profound trust in our inherent ability to change and become better humans; more considerate of the world we live in and the diversity of life upon which we depend. And it is still this trust that keeps me going.

This article has been adapted from the book [*Dolphin Confidential: Confessions of a Field Biologist*](#) (Chicago University Press, 2012).

Maddalena Bearzi has studied the ecology and conservation of marine mammals for over twenty-five years. She is President and Co-founder of the Ocean Conservation Society and Co-author of *Beautiful Minds: The Parallel Lives of Great Apes and Dolphins* (Harvard University Press, 2008). She also works as a photo-journalist and blogger for several publications. Her most recent book is [*Dolphin Confidential: Confessions of a Field Biologist*](#).

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