

A DYING ECOSYSTEM

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I rose before the sun. At about 4:30 AM, I paddled out to my boat to go fishing, a July tradition of mine that started 20 years ago in high school. At first, it was my dad and I, chasing Striped bass all over Boston Harbor, we would run the boat from Minute's light off the coast of Cohasset all the way up to Egg Rock up by Marblehead, searching for the biggest, strongest fish in the harbor. Honestly, we started it to have something to do during the pandemic and the lockdown. Soon though, we both had commercial fishing licenses and the fifty-dollar price-tag on an average fish made for a nice supplement to my odd summer jobs. As far as I can remember, we caught our biggest fish that first year, a rare sixty-pound Striped Bass.

We don't see those anymore, at least not in the summer, and rarely even in the peak of the migration in the spring, in fact, the whole fishery seems to be on the decline. The Striper migration out of the Chesapeake usually starts in early May, but we don't see any fish bigger than twenty inches until mid to late June. In the last few years, however, I stopped even seeing those in the summer. At first, I thought we had overfished, as we had with so many other species in New England in the past. I started keeping a log a few years back, out of curiosity, and maybe a bit of desperation disguised as hope of finding those elusive fish. we had with so many other species in New England in the past. I started keeping a log a few years back, out of curiosity, and maybe a bit of desperation disguised as hope of finding those elusive fish.

As the years droned by, the fish came fewer and further between. At first, I thought I was having an off year, maybe I was

just unlucky when I went out, but, as these ‘bad years’ added up, I began to see a trend. As fickle as fishing can be — you can be out on the same boat with someone else and one of you will get skunked while they catch fish after fish — as a scientist through and through, it was hard to ignore what I observed. Year after year, without fail, the fish were slowly disappearing. I feared it was something similar to the Northern-Atlantic Cod fiasco that plagued New England fisheries years ago. But it ended up being worse than that.

In the 80s and 90s cod was a super popular seafood dish, it tasted good and was easy to prepare, and importantly, carried a high price, at least that’s what my dad and grandfather told me. Naturally, every commercial fisherman desperately wanted to chase it, and eventually, the population dwindled. It got to the point where the government had to step in and put a hold on the fishery in hopes that the population might return, but it never recovered, and the commercial cod fishery in New England died out for good (Bergman). Stripers had never had the same commercial draw, however, so eventually I came to doubt my initial theory.

Last summer, early on an August morning, I must’ve been one of the only people awake at 4:30 AM on a Sunday in summer. Every fisherman knows that the best bite is always at dawn on an early outgoing tide. I reached my eighteen-foot skiff, praying that I would catch a fish, I hadn’t caught one all summer, and hadn’t even felt a bite on my line. I turned on a headlamp, and rigged all of my gear, and checked the weather one last time, a balmy 65° and rain forecasted to start in an hour. I started the engine, cast off the mooring, and turned on a northern heading, towards Boston Light, one of my favorite spots to catch fish. As I cast off, I noticed just how warm the water felt, warmer than I had ever felt around Boston before. It felt like Florida!

Before reaching Boston light, I dropped a sabiki rig, meant to catch baitfish. I left it in the water for close to an hour before giving up and deciding to use old plastic lures instead. It didn't even occur to me at the time, but I hadn't even seen many baitfish, no minnows, herring, or mackerel, all summer, and the ones I had seen were unusually small. They looked like babies that had only been born earlier that year. I moved on from Boston Light, with nothing to show for my effort, and as I returned towards the harbor, I still hadn't seen any signs of fish at all. I didn't see any sea birds circling the water, come to think of it, I hadn't seen any of that in the coastal waters at all.

After eight hours on the water, I finally gave up, I resigned myself to a fishless season, and headed back in to tie up the boat. I was confused, disappointed, and, honestly, a bit angry. I had sunk so many days into fishing, I never thought I'd have a season where I caught nothing. As I came back into the dock, I heard several grizzled, older lobstermen and commercial fishermen griping about the season, how little they'd caught, and wondering about where the fish had gone. Their worries were all too real, as the New England commercial fishing industry was, at one time, one of the most diverse and populated in the world.

I sank all of the remaining day into researching where all the fish went. Knowing Stripers are a cold-water species, and that they migrate from south to north following the cold water and their food sources gave me a start.

First off, the ocean is warmer than it used to be, especially in the Gulf of Maine. Our water temperatures are rising like nowhere else in the world (Bloch). The Striper migration has always been one of the most predictable things about New England's oceans, at least in my opinion. The weather can change, we can barely forecast it, heat waves appear and disappear and storms seem to

pop up without warning, but the migration has always happened around early to mid-May. At least it did when I was young. From decades of observation, it usually goes something like this: as the waters off the coast of Maryland and Virginia heat up, the fish head north for the summer, and some make it up to Canada, before returning to the brackish waters down south to breed, and then it repeats the next spring. However, as our oceans heat up, migration patterns are changing, and the migration moves earlier and earlier each year (Goertler Et. Al). The biggest problem with this, ignoring the obvious ecological issues and warning signs it provides us, is that the commercial fishing season remains aligned with the old migration patterns. Opening day still sits around mid-June every year, but by that point, most of the big fish have moved on, and the little ones are too small for commercial sale (Massachusetts Division of Marine Fisheries). So, with no fish to catch during the actual commercial season, all of the commercial fishermen are losing money, and wasting time. I've overheard countless older guys saying they are going to pack up their boats and head north or south, to start looking for other fish. Frankly, I don't blame them. As the fish go, all of these businesses and jobs in general, especially the small, family-owned ones, will disappear with them (Bloch).

Without the fishermen, and the small fishing communities dotting the northeastern seaboard, we will lose a crucial part of our heritage, and culture. Aside from that, though, we are staring down the barrel of one of the worst ecological disasters in decades. We are witnessing the collapse of one of the most diverse, and densely populated, marine environments. The rising ocean temperatures are causing a complete collapse of the food chain. The old plankton, known as Diatoms, an order of animals I studied way back in general biology, were accustomed to cold water. All species above them had evolved to make this specific food chain work. But the rising temperatures caused those

Diatoms to disappear, and instead, we got other types of warm water plankton (National Oceanographic and Atmospheric Administration). I think the ocean warmed so quickly that evolution and the natural changes necessary to adjust the food chain could not take place. It was just too fast for nature, which eventually caused the bait fish to disappear. As the food source for the bigger, predatory species like the Striper moved on to different waters, the bigger fish followed their food. Now, in 2042, the entire Massachusetts Bay ecosystem lies in ruins. We see crazy red tide blooms which used to only happen down south, and any animal caught in one of those, especially the fish, will most likely die. In a few years, I'd bet all of our old northern species, the Striper, bluefish, even the whales, will be gone, following their cold water and food sources, and for a while, we'll be left with nothing but plankton and algae. we'll be left with nothing but plankton and algae.

From what I have overheard, and seen firsthand, this is not natural. No, this is all man-made. We pumped the atmosphere full of carbon and trapped all of the solar heat in, which, in turn, directly caused the ocean temperatures to rise, while also causing deep rippling effects across our climates and normal weather patterns. I could sit here and say what we can do now, but frankly, I think it is too late. If only I could tell my past self about this dismal future, maybe I could have stopped, or at least slowed, our impact on the Earth. We needed to cut our carbon outputs and find ways to reduce our pollution. If that electric car fad in the early 2020s had really caught on, maybe we could have avoided this. Any effort, no matter how small, would have made a difference. I guess there isn't much point in looking back now. It's far too late, and we, humanity, have destroyed the only known island of life in the universe. Nature, as we once knew it, is gone, and I'm not sure there is any way we can recover from our mistakes now.

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