



Life in Plastic? Not So Fantastic. . .

The ever-growing marine plastic debris problem faced by the Coastal Bend and how one organization is leading the way in mitigation strategy.

By Zoe Ruben

It's a beautiful evening in Corpus Christi, Texas. After getting off work, Coastal Bend local Nate Floyd heads out to JP Luby Beach to catch some evening waves. As gulf surf goes, the evening is near ideal; waves are coming in rolling sets and the water is just the right degree of warm as summer is just around the corner. The setting sun tinges the water orange and red and kisses Nate's face as he paddles back in. He feels the sense of calm contentment he always gets after surfing. In that salty, golden hour moment, nothing can dampen his mood.

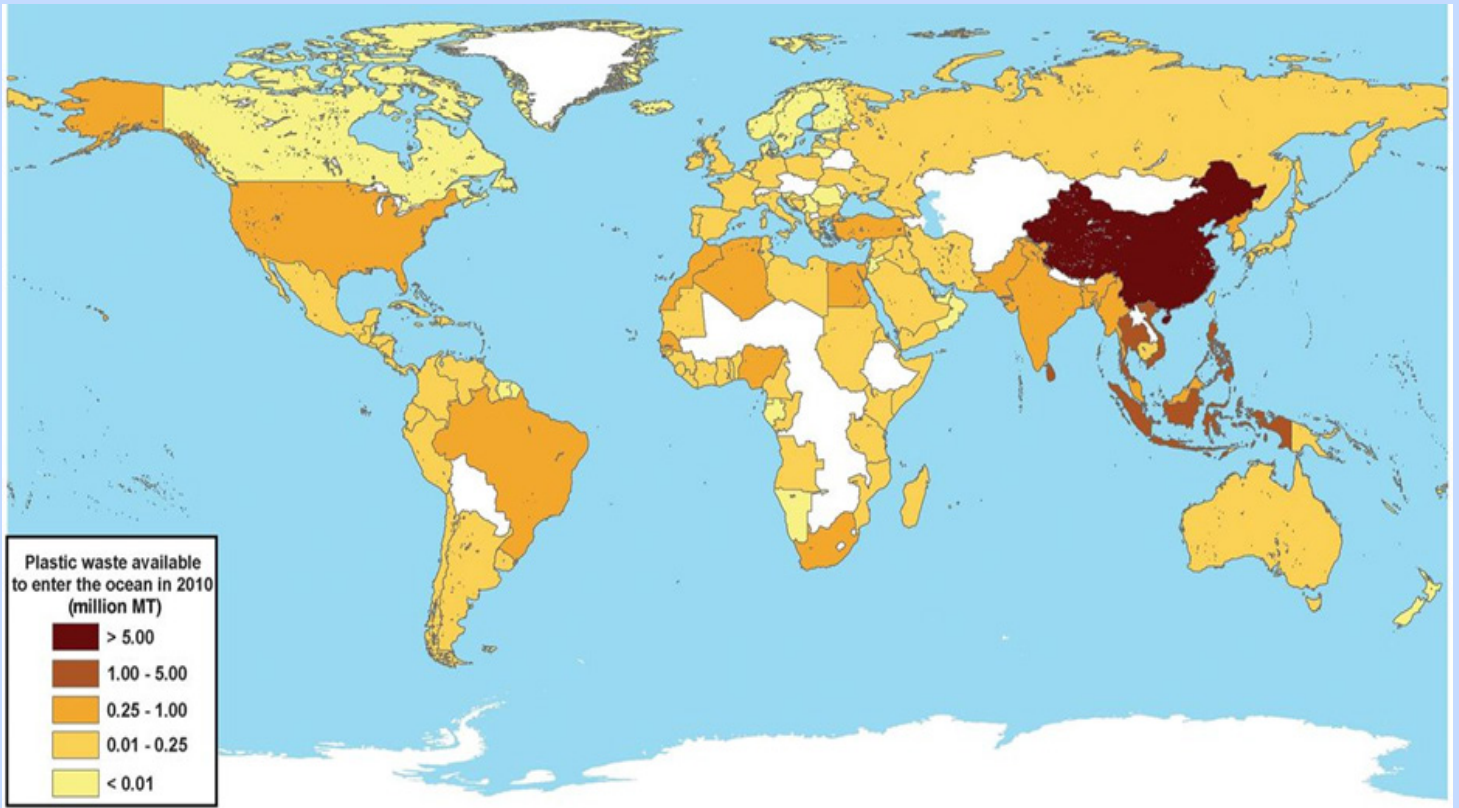
As he heads back towards the car, he suddenly trips over something partially hidden in the sand. A piece of driftwood, perhaps? No. Nate looks down to see the body of a partially decomposed seagull. Its skin has worn away and he is able to see its stomach cavity. It contains a



A seagull takes flight among pieces of plastic. Labeled for reuse with modification.

variety of brightly colored objects, starkly contrasted with the matted tones of the remains of the seagull. It's clear that the gull's last meal was not one of fish or bread from a friendly tourist, but one of plastic.

This type of occurrence is sad, but not uncommon. A 2015 study on worldwide marine plastic debris estimated that of 2.5 billion metric tons (MT) of municipal solid waste generated by 93% of the global



Estimates for million MT of plastic waste generated by populations living within 50km of the coast from 192 countries in 2010. Sourced from “Plastic waste inputs from the land into the ocean”, Jambeck et. al (2015)

population in 2010, approximately 11% (275 million MT) of that was plastic¹. Of this, an approximated 4.8 to 12.7 million MT entered the ocean¹. For reference, one ton is equal to 2,000 pounds. An average pickup truck weighs up to 6,000 pounds, or 3 tons. So, 4.8 to 12.7 million MT of plastic debris is equivalent to 1,600,000 to 4,233,333 pickup

trucks making their way into our ocean. Let that sink in. Assuming no improvements in waste management infrastructure, these numbers are predicted to increase by an order of magnitude by the year 2025¹. If this increase in marine plastic debris continues, we may come to the day where there is more plastic in the ocean than fish.

With these glaring statistics, it's no surprise that wildlife is suffering. A 2015 study estimates that 99% of all seabird species will have traceable levels of plastics in their digestive tracts by the year 2050². A 2019 global assessment of plastic ingestion by fish found ingestion rates to be a whopping 54.6% of species in marine environments³. Furthermore, bioaccumulation rates of plastic chemicals in the tissue of fish that are subsequently ingested by humans have been linked to a myriad of medical issues, including liver damage, reproductive and infertility problems, damage to the immune system, and even cancer⁴. Evidence has even been found that blue crabs in Corpus Christi Bay have been ingesting microplastic fibers and particles: an indication that plastic has infiltrated our own Coastal Bend food web⁵.

As if this wasn't enough information to make swearing off plastics forever an appealing idea, the Coastal Bend is facing other marine plastic debris issues, and these issues are affecting our economy. According to a Convention & Visitors Bureau study, nature tourism comprises over 40% of the tourism in the Coastal Bend Area⁶. The Texas General Land Office's 2019-2020 Adopt a Beach Cleanup report shows that plastic bottle caps are the most common pollutant along Texas coastlines, numbering 45,733 pieces and accounting for a whopping 23.66% of total trash⁷. Additionally, food wrappers, plastic beverage bottles, straws, lids, grocery bags and other plastic bags all rank within the top ten most common trash items along the Texas coastline⁷. For an area that thrives on tourism, keeping

beaches as pristine as possible is a must. Additionally, Corpus Christi's Solid Waste Services Department spends \$145,000 each year to pick up loose plastic bags near the transfer station and along the road between the transfer station and the Cefe Valenzuela landfill⁸. These are bags that have been properly disposed of by residents but have flown from trucks or out of the transfer station. If improper disposal of plastic bags were not such a big issue, taxpayer dollars could be going towards other pressing issues.

Clearly, plastic pollution is a burgeoning concern both globally and locally. However, there are ways to mitigate this issue, especially at a local level. The Surfrider Foundation - Texas Coastal Bend Chapter (TXCBC) is at the forefront of the battle against single-use plastic. Their Skip the Plastic

Program advocates for reusables in place of single-use plastic items, educates on the issue of marine plastic debris, and provides ways for the community to get involved through beach cleanups and other events. TXCBC also runs the Ocean Friendly Restaurants (OFR) Program, which aids restaurants in transitioning to more sustainable practices. Some of these include elimination of styrofoam to-go packaging, proper recycling practices, and reusable foodware options only. In the Coastal Bend, the following restaurants are listed as OFRs:

- Texas State Aquarium Pepsi Shoreline Grill
- UTMSI Cafeteria
- TAMUCC Dining Hall
- Glow
- La Playa Mexican Grille
- Scuttlebutt's Seafood Bar and Grill
- Water Street Sushi Room

But what can we as individuals do to assist in battling the ever-growing issue of marine plastic debris? Surfrider Foundation lists ten ways to rise above plastics⁹:

1. Reuse whenever possible.
2. Refuse unnecessary plastic.
3. Reduce single-use.
4. Bring your to-go mug!
5. Buy music and videos online instead of buying plastic CDs and DVDs.
6. Seek out reusable alternatives to plastics.
7. Recycle. The City of Corpus Christi offers recycling for plastics #1-7!

8. Volunteer at a beach clean-up.
9. Support bans in single-use plastic.
10. And most importantly: Spread the word! Educate your friends and family about the effects of plastic on marine life.

Now more than ever, the issue of marine plastic debris needs to be addressed. TXCBC is paving the way for individuals to get involved. We now need only heed the call.

References

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6. Skip the Plastic! (n.d.). Retrieved from https://skiptheplastic.surfrider.org/?page_id=20
7. Top Ten Items – Texas, USA. 2019-2020 Adopt-A-Beach Cleanup Report.
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An aerial photograph showing a long, straight strip of white sand beach extending from the ocean on the right to a city skyline on the left. The sky is a mix of blue and orange, suggesting sunset or sunrise. The ocean has gentle waves breaking onto the shore.

Don't mess with Texas beaches.

-Surfrider Foundation