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Personal Climate Essay Rough Draft

Peer Reviewers: Kate and Carrie

Sushi that Saves the Sea

Summers spent swimming in the Florida Keys,
Salty air and a gentle breeze,
Underwater worlds full of mysterious creatures,
With their colorful bodies and slimy features.
Beyond the beautiful, bright blue water,
Our oceans are getting hotter and hotter.
Coral reefs disappear and creatures will follow,
those who love the sea will start to feel hollow.

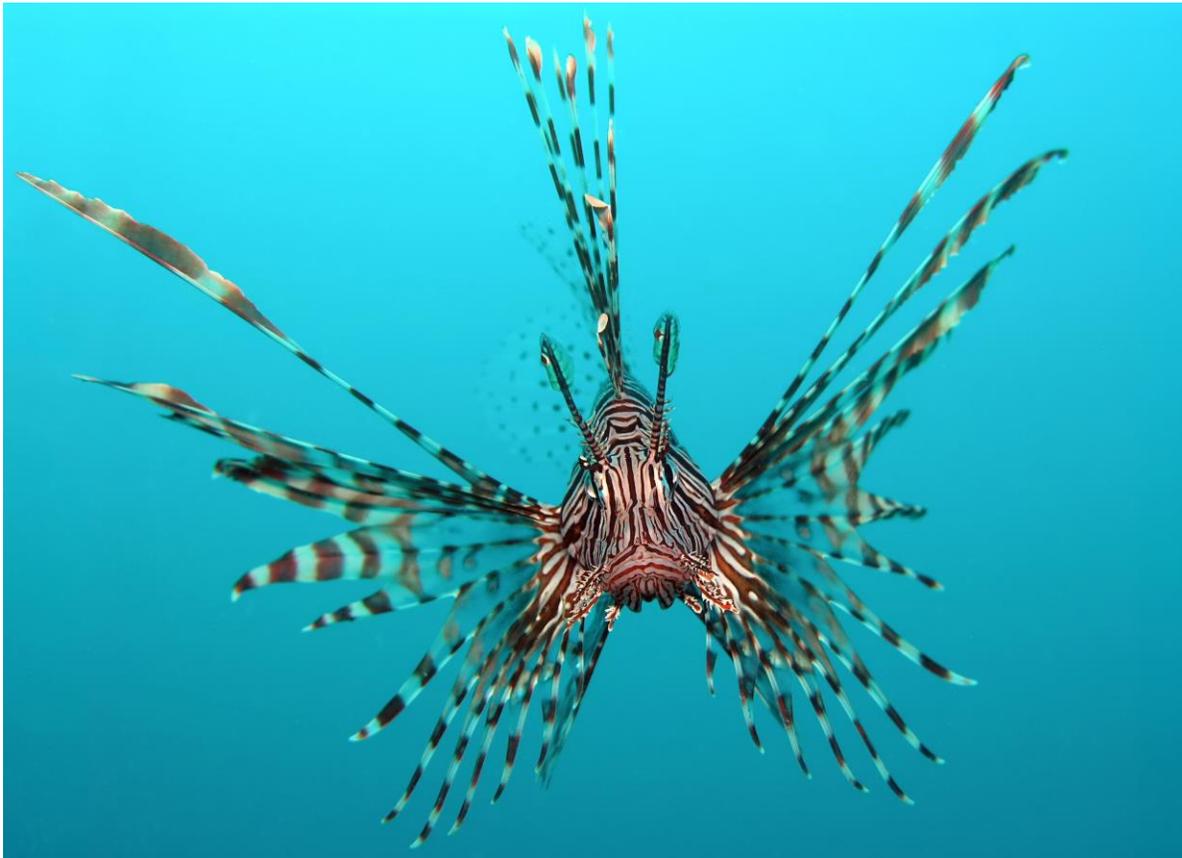
One time a seahorse curled its tail around my finger,
a magical moment in my brain that will forever linger,
Once a nurse shark swam underneath my Nana and me,
Leaving us terrified but then smiling with glee.
We swam with a goliath grouper, an 800 pound fish,
'Oh please don't eat me' was my only wish.
Sometimes you spy fish fly atop the sea,
Or dolphins riding waves just as happy as can be.

I love the ocean and adore the Keys,
These places create magic memories.
One painful thought that makes me feel sad,
Will future generations have experiences like I've had?

My favorite memory from childhood was in the Gulf of Mexico near Big Pine Key, when a longsnout seahorse swam swiftly towards my hand and wrapped its tiny tail on my finger. I remember holding onto that mystical creature and feeling so very lucky to live on this miraculous planet. Exploring the ocean has always brought me joy. Swimming to the bottom of a brain coral could lead you to a hammerhead shark, hawksbill sea turtle, manatee, angel fish, spiny lobster, or a tarpon with eyes bigger than baseballs. In Florida it has become increasingly likely that you will also see at least one lionfish on a brain coral.

While spending summers with family in the Florida Keys from elementary school through college, we have watched the populations of spiny lobsters and groupers drastically decline while lionfish appear to be spreading all over the seas we love. When I was in elementary school, we could hop off the back of the boat and plunge below the blue to find a single coral teeming with eight, nine, ten lobsters. When we most recently returned in search of the lobsters, we caught just five of the spiny crustaceans after snorkeling from sun up to sun down. Instead of lobsters on the corals, lionfish had taken their place. Lionfish have been wiping out oceanic biodiversity ever since they were introduced in 1985. A wave of guilt hit me when it dawned on me that my family and I had been contributing to the decline of spiny lobster populations. Now, along with humans, lionfish are a dangerous threat to native species around Florida .

Lionfish are easily recognizable with their multitude of poisonous spines covered in distinct maroon, orange and white zebra stripes.



Lionfish are believed to have been introduced into the oceans around Florida in 1985 after home aquarium enthusiasts ordered the colorful creatures from the Indo-Pacific and later dumped them into the sea (after the lionfish likely devoured any other living thing in their shared tank.)

One day I was reading a New York Times article detailing just how catastrophic the lionfish invasion can be. The article, written by Ligaya Mishan, stated that “Researchers have observed

that the presence of a single red lionfish in a small patch of reef can lead, in just five weeks, to an 80-percent decrease in the number of native fish that survive from larvae to adulthood. The damage goes beyond the decimation of biodiversity to the habitat itself; lionfish victims include baby parrotfish, whose mature counterparts would otherwise feed on the algae that, unchecked, can smother coral reefs. Worse still, lionfish breed at a startling rate: Females are capable of producing eggs every three to four days, roughly two million a year.” Today, lionfish have spread from Florida all the way up north to Massachusetts and all the way south to Brazil.

2 million eggs a year,
Multiplying all my fear,
One lionfish can ruin a reef,
Invasive species: the biodiversity thief!

According to the Global Coral Reef Monitoring Network of IUCN, “the healthiest Caribbean reefs are those that still have robust parrot fish populations, such as Bermuda and Bonaire.” If lionfish continue to consume all the juvenile parrotfish until they vanish, coral reefs will quickly fade away after being smothered in algae. If coral reefs are gone, millions of reef fish species will disappear too. Without reef fish, the entire food chain of our oceans will rapidly die. Oceans sequester 25% of the world's carbon, so if the oceans and their biodiversity die... humans won't be far behind.

Shortly after reading the New York Times article, I watched a netflix documentary called Seaspiracy that made me never want to buy fish from the commercial fishing industry again. The documentary shared alarming facts like how the commercial fishing industry produces 46% of all ocean debris and plastic. The film also detailed how slave labor is commonly used in the commercial shrimping industry, and went on to share that the “bottom trawling” method of commercial fishing wipes out an estimated 3.9 billion acres of seafloor and seafloor habitats every year. These destructive practices lead to millions of dead whales, turtles, dolphins or any other creature swept up by plastic nets and henceforth known as “bycatch”.

With commercial fishing and invasive species simultaneously destroying our oceans and underwater biodiversity, I see a need for solutions to address these problems. Plant based seafood is an up and coming alternative to commercial fishing, but I don't know if my family is ready to give up seafood overnight. How could I use my personal consumption to fight back against the commercial fishing industry and lionfish?

Then I realized.... ***We can Eat them to beat them!***

Lionfish Sushi & Ceviche,
To fight invasive fish we can eat them away.
Lionfishkabobs & Fritters,
They may be dangerous but they're tasty critters.
Lionfish Tacos & Sandwiches,
Eat till the nuisance vanishes.
Commercial fishing is incredibly cruel,
catching your own Lionfish is freakin' cool!
I would just appreciate,
If you put Lionfish on your plate.

I was born in West Palm Beach, Florida and seafood has always been a staple in my family's diet. One time my Papa Clark, Dad, brother Mason and I caught a 75 pound Wahoo that fed the whole family for weeks! It felt pretty cool to see aunts, uncles, cousins and friends all share a fish that I had helped catch; the wahoo was a whole lot tastier than the plastic wrapped filets from Publix, too. As I inch closer to graduating from Appalachian State studying Sustainable Development, taking my consumption into my own hands seems like a sustainable alternative to supporting the commercial fishing industry. If I can help encourage citizens and businesses to work together to fight lionfish with our stomachs, it could increase the lifespan of native species for decades to come and contribute to saving our oceans. One idea I have to promote lionfish consumption is to start a sustainable food truck, 'the Loopy Lionfish'. We could serve all things lionfish from ceviche to lionfishkabobs, providing a community with a delicious alternative to commercial fishing and an opportunity for consumers to do some good for the environment with their meal. I have a kayak and a fishing spear, which is all you really need to start chipping away at the invasive invasion, one lionfish at a time. One good thing that lionfish has going for it is that the fish tastes delicious! Once you remove the poisonous spines, the fish is absolutely scrumptious. I can see it now...the Lionfish Roll: the Sushi that Saves the Sea!

Last summer I went out on a lionfish expedition with my super cool Aunts Kim & Denise and my honey boo Kate in the Florida Keys. Kate and I met at App State on the elevator of our dorm, Doughton Hall, during our freshman year. Kate is the most amazing person I know and I was so excited to show her a place that means so much to me. We jumped on Kim and Denise's boat, heading out to the Gulf of Mexico to find some dangerous and delicious Lionfish. No fishing poles needed, I hopped into the bright blue sea with my flippers, snorkeling gear and a spear to hunt down the delectable Lionfish. Kate had never been to the Keys before and followed me in the water while atop some floaties. I was so excited to show her the beautiful underwater world that was such a big part of my childhood. We flipped our flippers through the waves and it wasn't long before we found a washout full of tiny caves for salty critters to call the perfect home. There

weren't any sea turtles, lobsters, seahorses, or dolphins on the washout, but there was a beautiful angel fish along with two lionfish. I took a deep breath and swam to the bottom while Kate looked on from above, and I released my first spear shot of the day that connected with the invasive species. After about two hours and some fun in the sun, we came home with four lionfish to filet. My Aunt Denise carefully removed the poisonous spines with a pair of scissors and fileted the invasive fish, and after we scrubbed down the boat it was time to cook our catch. Aunt Denise fried up the catch of the day and served the flaky fish with some lemons, and we ate outside while watching the water. The fish was fantastic and it felt like we were doing *something* good for the environment with our meal. While we munched on the tasty treats, a pack of manatees surfaced right in front of us at the dock. The gentle sea cows rolled about while we dined like Queens and Kings, and I realized that I would be happy spending my life working to protect the sea and all its wonderful creatures...except for lionfish, they're for dinner.

I don't want an office with a view,
There are so many things we need to do.
Outplant mangroves to protect the coast,
Sequester carbon so we don't roast.
Boycott global commercial fishing,
It's time to act, no more wishing.
Photograph critters incase they're the last ones we see,
Catch and eat lionfish with me.

<https://www.nytimes.com/2020/10/02/t-magazine/eating-invasive-species.html>

<https://blog.nationalgeographic.org/2014/07/02/to-save-coral-reefs-start-with-parrotfish/>