The Fish That's Eating the World

You move slowly, with the confidence of a king strolling through his kingdom. You inflict agony on anyone who dare challenge you. Your appetite is insatiable—you eat and eat and eat. And you prefer to hunt your dinner in the dark, hovering over your prey like a menacing cloud until—BAM! You swallow your helpless victim whole.

So what are you?
A shark? A grizzly bear? A monster from a fairy tale?

No. You are a lionfish—about the size of a football. And right now, you are causing disaster in our seas.

Striking and Beautiful

The lionfish is native to the warm waters of the South Pacific and Indian oceans. But over the past 30 years, lionfish have invaded the Atlantic Ocean—particularly off the coasts of North Carolina and Florida and in the Caribbean Sea and the Gulf of Mexico.

No one knows exactly how lionfish got to the Atlantic. But most researchers agree that humans are likely to blame.

With their dazzling stripes, leaf-like fins, and 13 spines that extend from their backs like spikes, lionfish are striking and beautiful. So it's not surprising that when American pet stores began importing baby lionfish many decades ago, the fish quickly became a popular choice for home aquariums. But lionfish are not suited for life in a tank. They can grow to be 18 inches long in just a few years and have a tendency to eat their fellow aquarium dwellers.

Scientists speculate that people began dumping their "pets" into the ocean as the fish outgrew—or out-ate—their tanks. Perhaps these owners figured there was no harm in releasing lionfish into the Atlantic. The ocean is the ocean, right? Wrong.

Total Disaster

The arrival of lionfish in the Atlantic Ocean has triggered an ecological disaster. Lionfish are what is known as an invasive species: they do not belong in the Atlantic, and they are upsetting the natural balance of the environment.

How?
For one thing, they consume enormous quantities of fish and shellfish. Like underwater vacuum cleaners, they suck up everything in their path. Scientists have observed lionfish eating at a rate of one to two fish per minute—and they don't stop when they are full. Their stomachs balloon—to up to 30 times their normal size—to make room for more. Sometimes they eat until they make themselves sick.

The problem with the lionfish eating so much is that not much food is left behind for all the other fish. As a result, many types of fish in areas with large lionfish populations could die out.

Another problem is that lionfish harm coral reefs. Coral reefs are vibrant ecosystems that teem with life. They are vital to ocean health. They provide food and shelter for millions of types of fish and plants. They even protect coastlines during storms.

But lionfish, which prefer to live around coral reefs (think of all that food!), are creating an imbalance. Lionfish eat the fish that eat algae, plant-like organisms. As a result, there is too much of the algae, which damages coral reefs and can eventually kill them.

Even humans are affected. The livelihood of many fishermen depend on catching and selling the fish that lionfish are eating.

In the meantime, lionfish populations in the Atlantic are continuing to grow.
part because the fish breed so quickly. A female can release as many as 30,000 eggs every few days. And lionfish have virtually no predators in the Atlantic to keep their numbers under control. Because of their venomous spines, not even sharks go near them.

**Not the First**

Lionfish are far from the first invasive species to cause problems. An estimated 4,500 invasive species live in the U.S., with more reported each year. Hordes of Asian carp, which were imported in the 1970s, have spread up the Mississippi River. Millions of wild hogs, whose ancestors were brought to the U.S. in the 1500s, are wreaking havoc across Texas. The Burmese python, native to Southeast Asia, has taken over the Everglades in Florida.

The damage these kinds of invaders cause can be devastating. For example, in the 1880s in Hawaii, mongooses were imported to control rat infestations on farms. But the mongooses devoured more than just rats. They feasted on so many birds and turtles on the island that many species there are now endangered.

**What Can Be Done?**

The good news is that many people across the U.S. are working to solve the lionfish problem. Unfortunately, it’s unlikely that we will be able to get rid of them completely, says Dr. James Morris, a scientist and lionfish expert from the National Oceanic and Atmospheric Administration. But there are ways to keep their numbers under control.

First, we can make sure that no non-native pets are released into the wild. Some states like Florida have developed regulations banning certain non-native species, like lionfish, to reduce the risk of release.

Second, we can be vigilant about reporting lionfish sightings. The Reef Environmental Education Foundation (REEF) has trained scuba divers to hunt lionfish. Anyone who spots a lionfish can notify REEF and within 24 hours, divers will locate and humanely kill the fish.

In areas where the lionfish problem is especially bad, locals have begun holding lionfish hunting contests. During these “lionfish derbies,” divers take to the water with spears. Whoever catches the most lionfish wins.

In 2016, the Lionfish World Championship cleaned out more than 8,000 of the fish from Florida waters in one weekend.

Another way to help? Eat them. In 2010, REEF released a cookbook to help educate fishermen and cooks on how to prepare lionfish. (Lionfish are safe to eat once their spines are removed.) Since then, many have rallied behind the idea of making lionfish a food source. Lionfish are even for sale in some grocery stores.

As for you, lionfish, we know it’s not your fault that you ended up here. You’re just a hungry fish looking for a meal—or several.

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**Newspaper Article**

**Invasion of the Giant Goldfish**

**How a little pet became a big problem**

By Maggie Pierce

It starts out innocently. Someone decides to get rid of a pet goldfish and sets it free in a river or lake. But what happens next is like something out of a horror movie.

A goldfish in the wild is nothing like the tiny orange fish that swims around in an aquarium. In the wild, goldfish grow to be gigantic—sometimes up to 4 pounds. (That’s about the size of a Chinook.) As they swim along the bottoms of rivers and lakes, they disturb plants and stir up sediment, harming native fish. They also eat the eggs of native fish. And they spawn at a rapid rate. A goldfish can produce up to 30,000 eggs a year, more than most freshwater species.

“Once you introduce something into a new environment—even if it’s a cute, cuddly aquarium fish—it can have quite unexpected, serious biological consequences,” Dr. Stephen Beatty of Murdoch University told The New York Times. Beatty is studying the goldfish in Australia’s Vause River.

Over time, goldfish can take over a body of water, destroying the habitat of native species. This has happened in several states in the U.S., as well as in Canada and Australia. Goldfish have now become one of the worst invasive aquatic species on Earth.

Goldfish were first bred in ancient China, where they were considered a symbol of good luck and kept in small garden ponds. They were brought to the U.S. in the 1800s and eventually became common prizes at carnivals and fairs, as well as popular pets.

Once goldfish move into a river or lake, they are extremely difficult to get rid of. Sometimes, though, nature does clean up the messes humans make. In 2015, officials in Boulder, Colorado, were considering draining a lake that had been invaded by goldfish—until a flock of pelicans showed up and scared all the goldfish down. Still, to make sure goldfish invasions don’t get worse, it is imperative that pet owners not dump their goldfish into the wild. Instead, unwanted goldfish should be given away—such as to a local aquarium or pet store.

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**Writing Contest**

An aquarium has hired you to help educate the public about what to do with a pet fish that can no longer be cared for. Make a short video or poster on this topic. Be sure to include why it’s important not to release pet fish into the wild. Send your work to Fish Contest. Three winners will each get Squirm by Carl Haassen. See page 2 for details.