

## **Killing Nemo**

by Amy Mathews Amos

Dear Editor,

New from Blue Ridge Press: Everybody roots for the little clown fish in Disney's Finding Nemo. Unfortunately, we rarely root for his buddies, 30 to 60 million coral reef fish snatched up annually and delivered to home aquariums in the U.S. and Europe. Poor handling kills many, while coral reefs are damaged. Simple changes to U.S. import laws could help fix the problem, writes Amy Mathews Amos, an independent environmental consultant who advises conservation groups and others on marine conservation issues. Ms. Amos lives in Shepherdstown, West Virginia.

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Questions? Contact editor Glenn Scherer ([scherer@blueridgepress.com](mailto:scherer@blueridgepress.com); 802-223-7997) or editor David Lillard ([lillard@blueridgepress.com](mailto:lillard@blueridgepress.com); 304-876-2860).

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It's a true story. Well, not exactly true – clown fishes and blue tangs can't really talk like they do in Disney's animated film Finding Nemo. But those beautiful fish inhabiting the aquarium in your dentist's office or your cousin's home really are taken directly from tropical coral reefs. And if you found yourself rooting for Nemo, brace yourself.

Each year an estimated 30 to 60 million coral reef fish are removed from tropical reefs and shipped halfway around the world for ornamental display in the United States and Europe. Along the way, many of them die.

Their perilous journey takes them from their coral reef home to a diver's net, to a boat, to a holding facility, to a jet plane, an importer's warehouse, then a retail store. They make this trip largely in plastic baggies and boxes, the water replaced every few days to replenish oxygen and remove built-up waste. Not surprisingly, the dirty water and stress take their toll. So to make up for the fish that die, divers take even more from the reef.

While we may find cartoon characters adorable, in reality few of us empathize with captured fish. But beyond the trauma to Nemo and pals is the impact of this largely unregulated practice on coral reefs. More than 85 percent of fish caught for the marine

aquarium trade come from Indonesia and the Philippines. Overfishing is rampant in these countries, and controls are almost nonexistent. According to Dr. Brian Tissot, a biologist at Washington State University who has studied the impacts of the marine aquarium trade, some reefs have been “knocked flat” from overfishing, with fish populations a tiny fraction of what they would be without the aquarium trade.

But it’s not just fish populations that get destroyed. Coral reefs are structures produced by living organisms in oceans. The primary organisms typically are stony corals that secrete an exoskeleton of calcium carbonate, creating a reef that supports the corals and a huge variety of other animal and plant life. Divers often squirt cyanide into reefs to stun fish, making them easier to catch. Cyanide typically doesn’t kill the fish outright, but it does kill corals and other life on the reef. Divers also often pry corals apart to find fish hiding in crevices, destroying a reef structure that took decades or centuries to build.

All of this comes at a time when corals can least afford it. Pollution and overfishing for food are major problems on these reefs. And corals are notoriously vulnerable to increases in water temperature and other effects of climate change. According to Tissot, the net effect of removing reef fish in such large numbers is that we are making coral reefs less able to handle stresses like global climate change. “Our best defense against climate change is a stable reef with an intact ecosystem. A reef that retains its own natural complexity will be more resilient to these changes.”

The good news and the bad is that this destruction is driven largely by demand in the United States and Europe. Because we created most of the demand, we can also change it. According to Dr. Eric Borneman, a coral biologist at the University of Houston and an author on the aquarium hobby, “Just reducing the mortality rate would make a huge, huge difference.” He urges hobbyists to buy fish only from reputable businesses that source from responsible exporters that can trace their fish to its source. These businesses sell healthy fish that clearly have been handled well throughout their journey. Although they may be more expensive initially, the higher survival rates of these fish make them less costly because they don’t need to be replaced – and therefore don’t fuel demand for overfishing on coral reefs. He also urges hobbyists to learn “which fish are almost impossible to kill and which are almost impossible to keep alive” in captivity. Those that won’t survive in a tank should never be removed from a reef.

Brian Plankis, president of the nonprofit Reef Stewardship Foundation, maintains, “Everyone can take action to help coral reefs, not just hobbyists.” He recommends reducing your personal carbon footprint by driving a more fuel efficient vehicle, taking public transportation, and purchasing electricity from renewable sources.

Ultimately, changes need to happen on the water in source countries to eliminate overfishing and cyanide use. But changing demand in the United States can help: without a market, there’s nothing to sell. Changes to U.S. import laws are needed to prevent unregulated or poorly managed fish from entering the country. Stricter shipping requirements to reduce the number of fish that die en route may also be necessary.

In the meantime, keep rooting for Nemo. The future of the world's coral reefs may depend on it.

Amy Mathews Amos is an independent environmental consultant advising conservation groups and others on marine conservation issues.

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