

Trouble in Paradise

Commercial collectors remove millions of fish from coral reefs. The HSUS and HSI are targeting a global trade that lays waste to these fragile ecosystems.

by KAREN E. LANGE



RACCOON BUTTERFLYFISH

A school of butterflyfish mingles in shallow waters off Hawaii, where they feed on small invertebrates such as mollusks and tube worms. Newly arrived in hobbyists' aquariums, like many coral reef fish, raccoon butterflies often refuse to eat. Brief lives as pets fuel the demand for more fish.

The news spread quickly on the Big Island of Hawaii: Hundreds of yellow tangs, normally seen swimming through reef waters in bursts of brilliant color, had been found rotting in a dumpster, their luminous pigment shining through the green-tinted sides of two bulging garbage bags. Soon after the discovery last January at the Honokohau Small Boat Harbor in Kona, state Division of Aquatic Resources (DAR) employees squatted in a parking lot and laid out the 551 bodies, dead fish by dead fish, in rectangular grids of yellow, trying to decipher what went wrong.

In a state where coral reef wildlife attract nearly \$800 million in annual recreation and marine tourism revenue, the swoop-nosed animals were apparent victims of an industry that has no use for fish left in the wild. A commercial collector for the aquarium trade may have frozen the fish one by one after they died from stress or injury, gathering their bodies over months for mass disposal. Or the tangs may have perished when a holding tank was contaminated or failed. Whatever the truth, reef collectors were quick to insist that the incident was an anomaly.

As advocates of stricter regulation note, however, the event illustrates all too well the consequences of unsustainable collecting. “Death is the cost of doing business,” says Inga Gibson, The HSUS’s Hawaii state director. “Who cares, from the point of view of the collector, if they lose 10, 20, 30 percent when there are virtually no limits on collection?”

Collectors in Hawaii get an average of \$4 per fish. So they rely on volume to make a profit. That means they don’t worry if they lose some fish or if their methods so injure and stress other fish it’s likely the creatures won’t live long once they get to hobbyists’ aquariums on the mainland. Especially fragile or hard-to-care-for species—like the kind frequently kept as ornaments in pricey tanks that more and more serve as home décor—are shipped with no guarantee they will arrive alive. And no one’s punished. Even in the case of the dumpster deaths, says Bill Walsh, an aquatic biologist with the DAR, offi-

750,000

is the officially reported number of animals removed on average from Hawaii’s reefs each year; actual figures are 2 to 5 times higher

cialists couldn’t have prosecuted the person responsible: “There’s nothing illegal in killing as many yellow tangs as you want.”

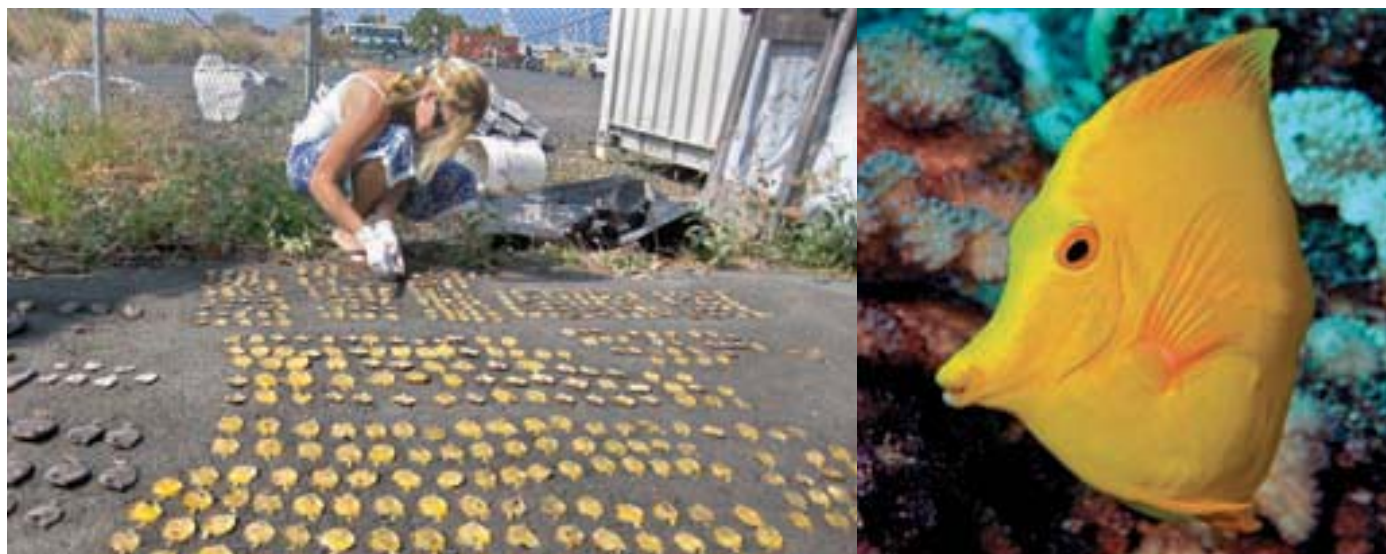
Campaigns recently launched by The HSUS and its affiliate Humane Society International seek to shed light on these and other murky truths of the trade in coral reef fish. A bill being introduced in the Hawaii legislature with The HSUS’s support could finally end the indiscriminate collection of reef wildlife. At the national level, HSI has been working with concerned scientists and other organizations to reform practices in the U.S. HSI is also working to address inhumane and unsustainable collection overseas. These efforts are major steps toward protecting animals who are sold as pets but frequently treated as disposable. The vast majority of pet fish owners don’t stock their tanks with animals from coral reefs—most fish in home aquariums are captive-bred freshwater animals. But the demand from a relatively small number of saltwater hobbyists takes a disproportionate toll on wild reef fish and their habitats.

“A DARK HOBBY”

Left in the wild, coral reef fish who survive the larval stage can live for decades. Yellow tangs, the most popular of those collected in Hawaii, often live 20 to 30 years, and fish in their 40s have been found on reefs. Taken from their natural homes, however, yellow tangs and other fish die at a rate that would never be tolerated for dogs or cats.

Casual aquarium owners are often unaware of the consequences of purchasing wild-caught marine animals instead of captive-bred freshwater fish. But those who profit from reef collection are willing participants in the destruction of fragile ocean environments. “It is a force of evil ... a dark hobby,” says Robert Wintner, a diver who owns Snorkel Bob’s, a chain of snorkeling equipment and rental stores in the islands. Years of seeing fish disappear from the reefs have turned him into one of the most outspoken opponents of Hawaii’s trade.

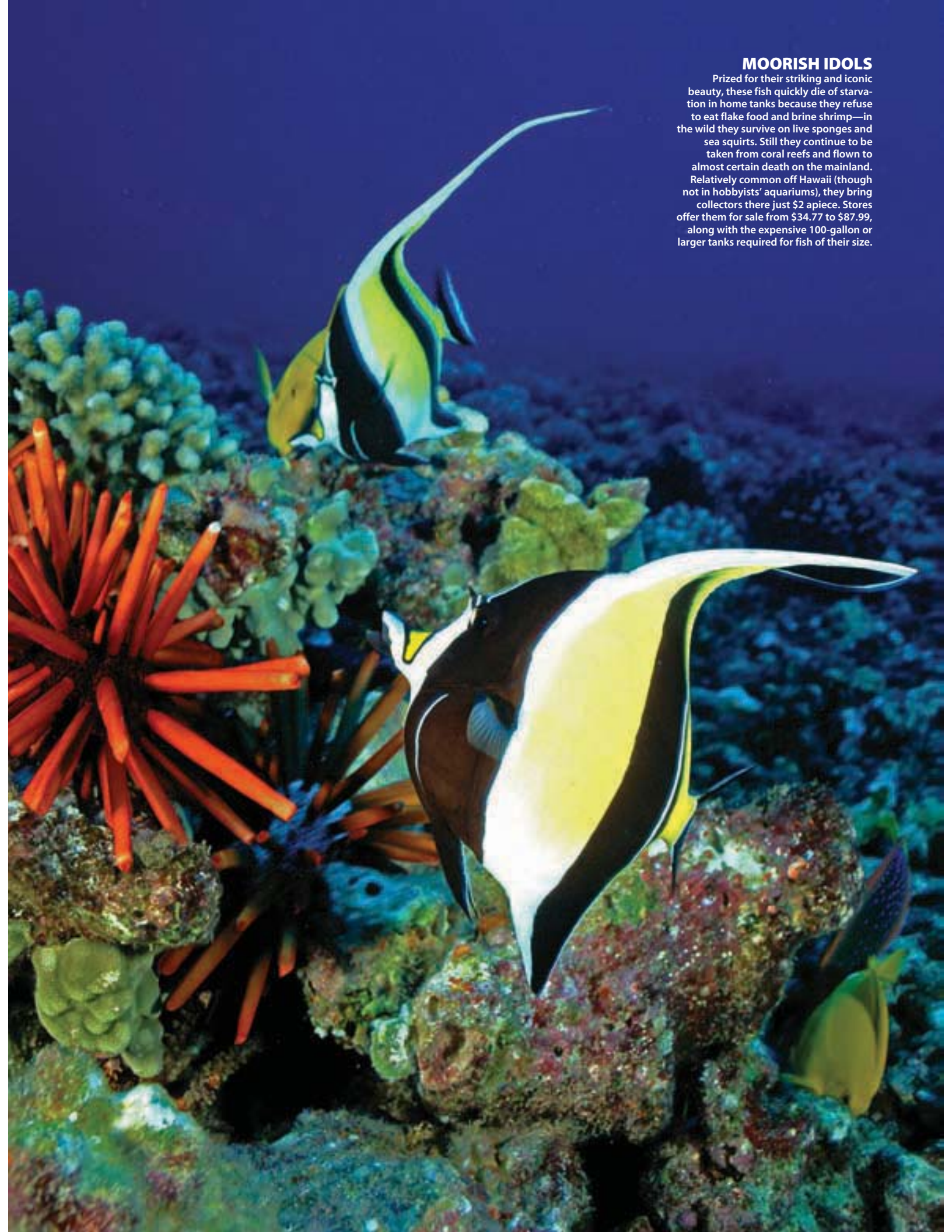
An estimated 99 percent of aquarium fish collected from reefs off countries such as the Philippines and Indonesia die within a year,



Squatting near fish found dead in a dumpster at a Kona boat harbor, an employee from the Hawaii Division of Aquatic Resources examines the bodies of 551 yellow tangs who once swam amid the state’s coral reefs, like this fish (right), photographed in the wild by diver Robert Wintner, author of *Some Fishes I Have Known*. The dead tangs and 59 other fish found with them perished in the hands of a commercial collector. Many fish collected for aquariums in Hawaii die before they ever reach a hobbyist’s home. Meanwhile, the ecosystems they were taken from suffer. Off West Hawaii, the state’s biggest aquarium fishery, the number of yellow tangs outside protected areas has dropped 45 percent during the past 10 years. In the Philippines and Indonesia, where cyanide is used to collect fish and quantities taken are higher, local populations have been wiped out.

MOORISH IDOLS

Prized for their striking and iconic beauty, these fish quickly die of starvation in home tanks because they refuse to eat flake food and brine shrimp—in the wild they survive on live sponges and sea squirts. Still they continue to be taken from coral reefs and flown to almost certain death on the mainland. Relatively common off Hawaii (though not in hobbyists' aquariums), they bring collectors there just \$2 apiece. Stores offer them for sale from \$34.77 to \$87.99, along with the expensive 100-gallon or larger tanks required for fish of their size.



A large, pale blue Hawaiian cleaner wrasse is shown in profile, facing right. A smaller, colorful cleaner wrasse with a yellow and black body and a purple mouth is cleaning the large wrasse's eye. The background is dark blue.

HAWAIIAN CLEANER WRASSE

Dwarfed by the ghostly silhouette of a gray unicornfish, a wrasse cleans parasites off its temporary host. Hawaiian cleaner wrasses keep coral reefs healthy. The fish themselves depend on the presence of 30 to 40 other fish to survive. Placed in tanks, they seldom live long because there aren't enough parasites to eat. That doesn't stop collectors. "Aquarium hunters can and do empty any given reef of cleaners," says photographer and diver Robert Wintner. A proposed "white list" of fish approved for the aquarium trade would prohibit collectors on the Big Island of Hawaii from taking cleaner wrasses, along with other threatened and fragile species.

A school of yellow and white pyramid butterflyfish is swimming over a coral reef. The fish have white bodies with yellow patches and yellow tails. The coral reef is brown and green, and the water is blue.

PYRAMID BUTTERFLYFISH

Hovering near a drop-off, a dazzling cluster of fish feeds on plankton in Hawaiian waters. At night members of this species can change color to hide from predators. Unlike most butterflyfish, pyramids eat plankton, not coral reef invertebrates, and so are easier to care for in home aquariums. But they're just as likely to die during capture and transport.



HAWAIIAN TURKEYFISH

While many healthy Hawaiian reefs still teem with fish (left), other formerly abundant species, like the turkeyfish, are now extremely rare. As its numbers dropped, the price it brought rose—from \$6 to \$38 apiece—spurring collectors to scour coral ledges for the few who remain.



POTTER'S ANGELFISH Found nowhere else but Hawaii and a nearby Pacific atoll, these crazily colored fish graze reefs for algae in the daytime, always ready to dart into a coral crevice for protection. Though not as popular as yellow tangs, who account for 70 percent of fish flown out of Hawaii for home aquariums, Potter's angelfish have also suffered declines outside protected areas, putting wild populations at risk so hobbyists can keep exotic pets.



ORNATE BUTTERFLYFISH Even aquarists agree these fish, who mate for life, should be left in the sea, as they feed only on live coral polyps. Yet they're taken by collectors. At right, goldring surgeonfish swarm a turtle for a meal—a scene that could only happen in the wild.

reports Bob Fenner, a retired collector who has written about the trade. A big contributor to the high mortality rate is the cyanide commonly used to stun fish for easy capture.

In Hawaii, where collectors net fish without cyanide, Fenner and other defenders of the aquarium trade point out mortality rates are not so steep. But plenty of the animals still die. Each year, an estimated 15,000 fish perish before they can be shipped out of Hawaii—like the yellow tangs found in the dumpster. That's based on officially reported numbers. Experts believe the actual death toll is two to five times higher.

In an effort to quickly take fish from depths of 40 feet or more without killing them, collectors often use a cruel practice known as venting, or fizzing. The safest course would be to bring fish up slowly and let them adjust gradually to pressure changes—as human divers do when they decompress to avoid the bends. But that would require more time than collectors are willing to give. So netted fish are hauled up rapidly, and their swim bladders are pierced with a hypodermic needle to relieve a dangerous buildup of gas that might otherwise force their stomachs out of their mouths. Sloppy venting can pierce organs other than the swim bladder or, if needles are reused, cause an infection. Even expert venting does nothing to relieve fatal pressure that can build up in a fish's eyes and brain.

After being stuck with a big needle, the fish face a series of other hazards: There's the stress of the entire experience, which can kill a fish; the loss of protective coating on their scales from being handled; the poor water quality that results when fish are held in cramped or crowded containers of water; and the drop in oxygen as ammonia and other toxins rise. There's being deprived of food for days before and during transport in order to ensure their waste

doesn't foul the water, even though many eat constantly in the wild.

At every step of the way—from the collector to the wholesaler to the pet shop—the trade takes a steady toll, says ocean tour guide operator Rene Umberger of Maui-based For the Fishes. The industry expects about 9 percent of fish to die during or shortly after each leg of their journeys to pet stores (from Hawaii to Los Angeles and from L.A. to their final destinations). Once in stores, fish continue to die. Those who survive go to some of an estimated 700,000 U.S. saltwater aquariums, where they also may die because of incorrect water temperature and salinity or improper food.

Hobbyists often blame such deaths on their own lack of experience. But the fish they were sold were often so damaged they were never going to make it. It's known as “post-traumatic shipping disorder.” Fish collected with cyanide may survive many days after initial exposure to the poison, but sicken and die once fed. Certain types of fish, even when fairly healthy, are known to be difficult if not impossible to keep in an aquarium because they starve without their wild food sources, such as live coral or the parasites of other fish.

“The pet stores are not going to tell customers, ‘You buy this fish and it will be dead in a week,’” says Teresa Telecky, director of wildlife at Humane Society International. “They want to sell the expensive tanks and the salt crystals and the heaters.”

If a fish manages to not only make it to a home aquarium but actually survive a year or more, the animal has probably suffered a huge amount of pain, distress, and fear, according to Stephanie Yue Cottee, a researcher at the University of Guelph in Canada. The reefs the fish have left behind have suffered too—ecosystems that have already been dealt blows by pollution, climate change, overfishing, and unsustainable collection of creatures such as hermit crabs with

key roles in reef health. Many of the most popular aquarium species, such as yellow tangs, are herbivores who keep algae in check with their constant grazing. Off Maui, their disappearance, combined with runoff of fertilizers and partially treated sewage, is causing long green strands of filamentous algae to blanket coral reefs.

Coral reefs have already been hit hard by pollution, climate change, and unsustainable collection of other animals with key roles in the ecosystem.

UNBRIDLED TRADE

Each year, around 100 commercial collectors take an estimated 1.5–3.75 million fish and invertebrates from Hawaii's reefs. All they need

to collect and sell the animals is a commercial marine license, available for \$50 to residents, and an aquarium fish permit, which is free. Once a collector has these, he can pretty much do whatever he pleases, as long as he stays out of protected areas and files monthly reports, which aren't checked for accuracy.

Most of the reefs, other than a third off West Hawaii, are open for collection of nearly any type of aquarium fish, including rare and endemic ones. For almost all targeted species, there's no limit on the number or size of fish taken. No limit on the number of collectors. And no specific ban on venting, starving fish, or cutting the dorsal spines of certain species to prevent sharp tips from puncturing plastic bags. The result, says Brian Tissot, a marine ecologist at Washington State University, is “a race to fish,” with total disregard for the future.

The removal of so many fish—most of whom are juveniles who

haven't reproduced—has shrunk populations outside protected areas by 14 to 97 percent, according to a 2004 report. As fish become rarer, prices increase and collecting continues apace.

The situation has reached the point where the DAR's Walsh, who has been carefully monitoring populations off West Hawaii and until recently believed the trade was sustainable, says something has to give. "Without [reform], I would say the fishery is unsustainable and should not continue. It's the result of too many fishermen taking too many fish. These are resources the state is just giving away. It's ludicrous. It's crazy."

The Marine Aquarium Council tried to get industry members worldwide to voluntarily hold themselves to sustainable and humane practices through a certification program. But few signed on. There isn't enough money to be made in supplying certified fish, even though they are generally healthier and tend to live longer. Collecting and transporting more humanely costs more, and many hobbyists don't want to pay the higher prices.

But if wildlife advocates have their say, the days of do-as-you-please aquarium collection may be numbered. In August, the Maui County Council passed a law requiring local collectors to obtain a county permit and submit reports on how many fish die. Another ordinance, still pending, would ban collectors from venting fish, depriving them of food for more than 24 hours before shipping, and clipping their spines. In addition, it would require wholesalers and retailers to submit mortality reports.

Also last year, county council members on the Big Island proposed prohibiting the trade there, while Hawaii state Sen. Josh Green says he will introduce a bill to restrict or potentially ban the trade statewide. Collectors on the Big Island have agreed to cap the

number of permits, which has been rapidly rising, as well as limit the fish species they can collect to 40 out of 169 (though enforcement may be challenging, given that DAR staff aren't allowed to inspect collectors' boats without probable cause).

Hawaii, though, supplies just a tiny fraction of the 30 million coral reef fish sold each year to hobbyists worldwide. Indonesia and the Philippines supply many more, accounting for 70 percent of the imports into the United States, which buys more than half the animals taken from reefs worldwide. Any reform effort will have to address collection methods in those and other countries and better regulate the transport and sale of fish across the U.S., according to a 2010 report by Tissot, Telecky, and others. Otherwise, local fish populations will continue to be decimated and reefs destroyed.

Five thousand miles northeast of Hawaii, in a Maryland pet store, hobbyists are offered a stark choice, usually without knowing it. In one aisle are displays of captive-bred freshwater fish—relatively easy to care for and presenting virtually no environmental concerns. But in the next aisle over are aquariums of wild-caught saltwater fish. Yellow tangs—most likely collected from a reef off the Big Island—swim back and forth in little tanks. A starter kit, including an aquarium large enough to keep these fish healthy, costs \$869.95 on sale. The individual fish are priced from \$39.99 to \$79.99, depending on size. The cost in lives and suffering and ecological damage isn't posted. ■

More than
50–60%
of coral reef animals taken
worldwide are imported
and sold in the U.S.

▶ **WEB EXTRA:** View a slideshow and learn more about the consequences of buying fish taken from the wild at humanesociety.org/magazine.

