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Re: Petition to Prevent the Import of Illegally Caught Tropical Fish into the United States and Require Testing and Certification

Dear Ms. Sobeck, Mr. Kerlikowske, and Mr. Ashe:

Each year, cyanide fishing – a fishing method used to collect tropical marine fish for the aquarium trade – likely kills *tens of millions* of tropical marine animals, including thousands of acres of corals around the globe.¹ Although this deadly practice is almost universally banned in nations that are the source of the fish, the National Oceanic and Atmospheric Administration (“NOAA”) estimates that 90 percent of the ten to thirty million tropical marine aquarium fish

¹ Fred Pearce, *Cyanide: an Easy but Deadly Way to Catch Fish*, WORLD WILDLIFE FUND GLOBAL (Jan. 29, 2003), http://wwf.panda.org/wwf_news/?5563/Cyanide-an-easy-but-deadly-way-to-catch-fish; Daniel Thornhill, *Ecological Impacts and Practices of the Coral Reef Wildlife Trade*, DEFENDERS OF WILDLIFE, at *7 (2012), available at <http://www.defenders.org/sites/default/files/publications/ecological-impacts-and-practices-of-the-coral-reef-wildlife-trade.pdf> [hereinafter Thornhill, *Ecological Impacts and Practices of the Coral Reef Wildlife Trade*].

imported to the U.S. each year are caught through illegal practices such as cyanide fishing.²

As your agencies are well aware, the Lacey Act strictly bans the import of “any fish or wildlife taken . . . in violation of any foreign law.”³ Additionally, pursuant to Executive Order, agencies are directed to use their authority “to protect and enhance the conditions” of coral ecosystems, recognizing that the “U.S. role in [the] international trade . . . of coral reef species” can impact those ecosystems.⁴ Yet in the U.S., there are currently few safeguards in place to ensure tropical marine fish⁵ in the aquarium trade have not been caught illegally using cyanide in violation of federal law. The National Marine Fisheries Service (“NMFS”), U.S. Fish and Wildlife Service (“USFWS”) and U.S. Customs and Border Protection (“U.S. Customs”) should do everything in their power to stop this illegal trade that is devastating coral reef ecosystems.

Pursuant to section 553(e) of the Administrative Procedure Act, 5 U.S.C. § 553(e), the Center for Biological Diversity (“Center”), For the Fishes, Humane Society of the United States, and Humane Society International⁶ petition NMFS, USFWS, and U.S. Customs to use their authority to promulgate regulations under the Lacey Act (“Act”) to ensure that marine fish caught using cyanide are not illegally imported into or sold in the United States in violation of the Act. Specifically, we request that NMFS, USFWS, and U.S. Customs promulgate new regulations and guidelines under the Lacey Act:

- Requiring testing and certification to ensure imported tropical fish have not been illegally captured using cyanide,
- Clarifying and directing agency personnel to reject and seize live tropical marine fish imports that test positive for cyanide exposure, revoke import permits from importers of illegally caught tropical fish, and enforce civil and criminal penalties against importers, where appropriate.

Illegal cyanide fishing cannot be allowed to continue. We urge NMFS, USFWS and U.S. Customs (“the Agencies”) to use their full authority under the Lacey Act to ensure that the United States is no longer complicit in the wholesale destruction of some of the world’s most important coral reef systems.

² See *Proceedings of the International Cyanide Detection Testing Workshop*, NAT’L OCEANIC AND ATMOSPHERIC ADMIN. 7 (2008), available at http://www.coris.noaa.gov/activities/cyanide/cyanide_rpt.pdf (“a large portion of the aquarium fish imported to the United States (an estimated 90%) are illegal under the Lacey Act.”).

³ 16 U.S.C. § 3372(a)(2).

⁴ Exec. Order No. 13,089, 63 Fed. Reg. 32,701 (June 16, 1998).

⁵ For the purposes of this Petition, “tropical fish” means “live tropical marine fish” and not “tropical freshwater fish.”

⁶ The Center for Biological Diversity is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center is supported by over 990,000 members and online activists throughout the United States. The Center and its members are concerned about the conservation of imperiled species, including those found in tropical ecosystems, and the effective implementation of U.S. environmental laws.

I. Legal Background

A. The Agencies Must Prohibit Imports of Species Caught in Violation of the Lacey Act

The Lacey Act requires NMFS, USFWS, and U.S. Customs to ensure there are no imports of fish and wildlife caught in violation of the U.S. or foreign laws. The Lacey Act was enacted to “outlaw the interstate traffic in wildlife illegally taken from their state of origin.”⁷ The purpose of the Act is to stem “the massive illegal trade in fish, wildlife and plants” originating both from the U.S. and abroad.⁸ It specifically calls upon the Department of Commerce, the Department of the Interior, and U.S. Customs to enforce the Act so as to prohibit the importation of animals that are caught within another nation’s jurisdiction in violation of that nation’s laws.⁹

To ensure agencies have the ability to effectively regulate the illegal trade of wildlife, the Lacey Act provides for criminal and civil enforcement, as well as forfeiture of illicit animal items.¹⁰ The Act regulates the illegal import of species in three ways: (1) it makes it a federal offense to import, export, transport, sell, or receive any fish or wildlife that was taken, transported, or sold in violation of any U.S., state, tribal, or foreign wildlife trade statutes, treaties, and regulations;¹¹ (2) it imposes labeling requirements for shipments and makes it a crime to violate these requirements; and (3) it prohibits the falsification of information, records, or accounts regarding species that have been imported, exported, transported, sold, purchased, or received in interstate or foreign commerce.¹²

A key facet of the Lacey Act is the Agencies’ authority to inspect imports of plants and animals entering into the United States.¹³ The Agencies have “broad authority to detain and inspect any international shipment, mail parcel, vehicle, or passenger baggage and all accompanying documents, whether or not wildlife has been formally declared.”¹⁴ The authority to inspect shipments is key: without this authority, effective enforcement of the Lacey Act becomes nearly impossible.

⁷ *United States v. McNab*, 2003 U.S. App. LEXIS 5561, at *23 (11th Cir. 2003); H.R. Rep. No. 97-276, at 7 (1981).

⁸ 127 Cong. Rec. 17,327 (1981).

⁹ 16 U.S.C. §§ 3372(a)(1), 3376(a); *United States v. 594,464 Pounds of Salmon*, 871 F.2d 824, 827 (9th Cir. 1989).

¹⁰ 16 U.S.C. §§ 3374(a)(1); 3373(a), (d).

¹¹ Specifically, the Act makes it unlawful for any person “to import, export, transport, sell, receive, acquire, or purchase in interstate or foreign commerce . . . any fish or wildlife taken, possessed, transported, or sold in violation of any law or regulation of any State or in violation of any foreign law.” 16 U.S.C. § 3372(a)(2). “Person” is defined as “any individual, partnership, association, corporation, trust, or any officer, employee, agent, department, or instrumentality of the Federal Government or of any State or political subdivision thereof, or any other entity subject to the jurisdiction of the United States.” 16 U.S.C. § 3371(e).

¹² 16 U.S.C. § 3372(a)(2), (b), (d); *United States v. McDougall*, 25 F. Supp. 2d 85 (N.D.N.Y. 1998); S. REP. No. 97-123, at 2 (1981).

¹³ 16 U.S.C. § 3375(b) (“Any person so authorized, in coordination with the Secretary of the Treasury, may detain for inspection and inspect any vessel, vehicle, aircraft, or other conveyance or any package, crate, or other container, including its contents, upon the arrival of such conveyance or container in the United States or the customs waters of the United States . . .”).

¹⁴ *Injurious Wildlife: A Summary of the Injurious Provisions of the Lacey Act* (18 U.S.C. 42; 50 C.F.R. 16), U.S. FISH & WILDLIFE SERV. 2 (2013), http://www.fws.gov/injuriouswildlife/pdf_files/InjuriousWildlifeFactSheet2013.pdf.

B. The Agencies Have the Authority to Enact Regulations and Enforce the Lacey Act to Prevent the Importation of Illegally-Caught Wildlife into the U.S.

The Lacey Act grants the Agencies the authority to enact any necessary regulations in furtherance of the Act. Section 3376 of the Lacey Act delegates enforcement and regulatory authority to the Secretary of Commerce, the Secretary of the Interior, and U.S. Customs.¹⁵ The Secretary of Commerce has further delegated its authority to NMFS.¹⁶ Similarly, the Secretary of the Interior has delegated authority to administer the Act to USFWS.¹⁷

The Lacey Act explicitly grants the Agencies the authority to inspect imports containing animal specimens, including the authority to run laboratory tests on those specimens. Specifically, the Act allows the Agencies to “detain for inspection and inspect any vessel, vehicle, aircraft, or other conveyance or any package, crate, or other container, including its contents, upon the arrival of such conveyance or container in the United States or the customs waters of the United States.”¹⁸ The common definition of “inspect” is “to look at (something) carefully in order to learn more about it, to find problems, etc.,” or “to view closely in critical appraisal.”¹⁹ Because laboratory tests are an effective means of inspecting shipments of wildlife for compliance with the Lacey Act, such tests are within the Agencies’ authority under the Act.

Not only do the Agencies have the authority, but they also have a duty to ensure illegally caught fish and wildlife do not enter the United States.²⁰ To effectuate this duty, the Agencies can seize or deny entry to all illegally caught “fish or wildlife . . . imported . . . or purchased contrary to the provisions of [the Act].”²¹ Section 3374 of the Lacey Act explicitly provides joint authority between the Agencies to enforce the forfeiture provisions of the Act.²² All three agencies are authorized to employ these provisions, as well as “all provisions of law relating to the seizure, forfeiture, and condemnation of property for violations of customs laws.”²³ Thus, if a shipment containing wildlife is identified as being imported in violation of the Lacey Act, the Agencies have the authority and duty to seize these shipments from the importers.

¹⁵ 16 U.S.C. § 3376(a).

¹⁶ *Department Organization Order 10-15*, DEP’T COMMERCE §3.01(nn) (Dec. 12, 2011), http://www.osec.doc.gov/opog/dmp/doos/doo10_15.html; Delegations of Authority, NOAA ORGANIZATIONAL HANDBOOK, TRANSMITTAL NO. 61 4 (2015), available at http://www.corporateservices.noaa.gov/ames/delegations_of_authority/transmittal-61.pdf.

¹⁷ See, e.g., *Department of the Interior-USFWS Substantiation for Establishing a Categorical Exclusion for the Listing of Injurious Wildlife Under the Lacey Act*, U.S. FISH & WILDLIFE SERV. (2015), available at http://www.fws.gov/injuriouswildlife/pdf_files/CEQ-FWS-substantiation-for-Lacey-Act-listing-final-9-28-15.pdf.

¹⁸ 16 U.S.C. § 3375(b).

¹⁹ Merriam-Webster Online Dictionary, <http://www.merriam-webster.com/dictionary/inspect> (last visited Dec. 28, 2015).

²⁰ See 16 U.S.C. §§ 3372(a), 3376(a);

²¹ 16 U.S.C. § 3374(a)(1).

²² 16 U.S.C. § 3374(b).

²³ 16 U.S.C. § 3374(b).

Furthermore, NMFS and USFWS have the authority to issue regulations detailing civil and criminal penalties, and to impose sanctions for import permit violations.²⁴ Regarding permit sanctions, NMFS has the authority to “suspend, modify, or cancel . . . any license or permit authorizing a person to import or export fish or wildlife . . . issued to any person who is convicted of a criminal violation of any provision of this chapter or any regulation thereunder.”²⁵

Thus, the Lacey Act establishes a duty and provides the Agencies’ broad authority to inspect and test imports of animal specimens to ensure they are not imported illegally into the United States. The Act provides NMFS and USFWS the authority to enact regulations to ensure these specimens are accurately identified and seized or turned away at the border, violators’ import licenses revoked, and that the Agencies can adequately enforce the civil and criminal penalty provisions of the Act. As shown below, there is an urgent need for NMFS and USFWS to use this authority to stem the unabated flow of illegally caught tropical fish into the United States.

II. Factual Background

A. Overview of the Marine Aquarium Trade

The global trade in ornamental marine fish is a major industry, valued at US \$200-330 million annually, that results in the export of up to 30 million marine fish each year in addition to large quantities of coral reef habitat.²⁶ A recent study found that the United States, during a one-year period, imported more than 11 million marine ornamental fish of more than 1,800 species from 125 families.²⁷ Federal data from USFWS’ Law Enforcement Management Information System shows an estimated 12.5 million live marine tropical fish enter into the United States each year, with total imports ranging between 8.1 and 16.8 million individuals annually.²⁸

²⁴ 16 U.S.C. § 3373(a)(3).

²⁵ 16 U.S.C. § 3373(e); *see also* 50 C.F.R. Part 14, Subpart I (discussing license conditions and grounds for revocation).

²⁶ Shuman, C. S., G. Hodgson, and R. F. Ambrose, *Population Impacts of Collecting Sea Anemones and Anemonefish for the Marine Aquarium Trade in the Philippines*, 24 CORAL REEFS 564-573 (2005); Andrew Rhyne et al., *Revealing the Appetite of the Marine Aquarium Fish Trade: the Volume and Biodiversity of Fish Imported into the United States*, PLOS ONE 7:e35808 (2012); *See Coral Reef Wildlife Trafficking for the Aquarium Trade*, SEA SHEPHERD, <http://www.seashepherd.org/reef-defense/aquarium-trade.html> (last accessed Feb. 8, 2016); Kessler, *New Initiatives to Clean Up the Global Aquarium Trade*, ENVIRONMENT 360, http://e360.yale.edu/feature/new_initiatives_to_clean_up_the_global_aquarium_trade/2660/ (last accessed Feb. 8, 2016); Colette Wabnitz et al., *From Ocean to Aquarium: The Global Trade in Marine Ornamental Species*, UNITED NATIONS ENVIRONMENT PROGRAMME 6-7 (2003) (“A total of 1,471 species of fish are traded worldwide with the best estimate of annual global trade ranging between 20 and 24 million individuals.”); Brian N. Tissot et al., *How U.S. Ocean Policy and Market Power Can Reform the Coral Reef Wildlife Trade*, 34 MARINE POL’Y 1385, 1386 (2010) (“[t]rade in coral and coral reef species originates from at least 45 countries and removes up to 30 million fish”).

²⁷ Andrew Rhyne et al., *Revealing the Appetite of the Marine Aquarium Fish Trade: the Volume and Biodiversity of Fish Imported into the United States*. PLOS ONE 7:e35808 (2012).

²⁸ USFWS, Law Enforcement Management Information Service Database (Oct. 2015) (database search for live tropical marine fish imports). The live tropical marine fish import totals for each year calculated from the Center’s FOIA request are: 16,843,544 (2005), 16,157,922 (2006), 14,236,510 (2007), 10,694,966 (2008), 11,481,761 (2009), 12,475,167 (2010), 10,656,523 (2011), 12,784,021 (2012), 11,505,027 (2013), 8,144,470 (2014). *But see* Andrew Rhyne et al., *Revealing the Appetite of the Marine Aquarium Fish Trade: the Volume and Biodiversity of Fish*

Ninety-five percent of marine ornamental species are collected from wild populations as juveniles or adults from coral reef ecosystems.²⁹ Overall, only about one percent of the marine fish species in commercial trade are captive bred.³⁰ Unfortunately, for some reef fish species, the marine aquarium trade has caused the virtual elimination of local populations, major changes in age structure, and the promotion of collection practices that destroy reef habitats.³¹ Taking these species out of the wild often leaves ecological gaps in these species' food chains, heavily impacting the reefs where they were sourced.³² For example, the orange clownfish and its sister species *A. ocellaris* were the fifth most commonly imported marine ornamental fish into the U.S. in 2005, with more than 400,000 individuals imported.³³ Studies provide evidence of population declines of anemonefish, such as clownfish, resulting from overharvesting due to the marine aquarium trade.³⁴

Imported into the United States. PLOS ONE 7:e35808, at *2-3 (2012). Rhyne et al. calculated that 11,003,181 marine fish entered into the United States between May 2004 to May 2005. They reviewed 8,015 import invoices labeled as having marine tropical fish, but noted that USFWS claimed there were 9,412 invoices marked as containing marine tropical fish. Thus, the approach of Rhyne et al. may have underestimated the total number of marine tropical fish entering into the United States by at least 15%, or 1.65 million fish. By contrast the Center reviewed data from USFWS's Law Enforcement Management Information Systems ("LEMIS") database and filtered data reported to USFWS to only review (1) live tropical marine fish (2) caught in the wild (3) successfully imported into the U.S., (4) for commercial purposes (5) that reported imports in terms of specimen numbers (versus, for example, shipment weight). These values were calculated exclusively through self-reporting by importers, and there is a significant chance for input and reporting error. Thus, this methodology may erroneously include or exclude shipment information, causing these values to be under- or over-estimates. It should also be noted that both the Center's data analysis and the Rhyne et al. study did not exclude live marine tropical fish imported into the United States for commercial purposes other than the aquarium trade.

²⁹ Shuman, C. S., G. Hodgson, and R. F. Ambrose, *Population Impacts of Collecting Sea Anemones and Anemonefish for the Marine Aquarium Trade in the Philippines*, 24 CORAL REEFS 564-573 (2005); T. C. Stevenson et al., *Fisher Behaviour Influences Catch Productivity and Selectivity in West Hawaii's Aquarium Fishery*, ICES 68 J. MARINE SCI. 813-822 (2011); *Coral Reef Wildlife Trafficking for the Aquarium Trade*, SEA SHEPHERD, <http://www.seashepherd.org/reef-defense/aquarium-trade.html> (last accessed Sept. 28, 2015); Rebecca Kessler, *New Initiatives to Clean Up the Global Aquarium Trade*, YALE ENVIRONMENT 360 (July 3, 2013); Joanna M. Murray & Gordon Wetson, *A Critical Assessment of Marine Aquarist Biodiversity Data and Commercial Aquaculture: Identifying Gaps in Culture Initiatives to Inform Local Fisheries Managers*, PLOS ONE 9(9): e105982, at *9 (2014) ("Unlike the freshwater ornamental trade where around 90% [of] species are commercially bred; only 1–10% of marine[tropical species] are currently cultured").

³⁰ A.W. Bruckner, *The Importance of the Marine Ornamental Reef Fish Trade in the Wider Caribbean*. 53 INT'L J. TROPICAL BIOLOGY 127-138 (2005).

³¹ Tissot et al., *How U.S. Ocean Policy and Market Power Can Reform the Coral Reef Wildlife Trade*, 34 MARINE POL'Y 1385, 1386 (2010).

³² See, e.g., Jane Lee, *Do You Know Where Your Aquarium Fish Come From?*, NAT'L GEOGRAPHIC (July 18, 2014), <http://news.nationalgeographic.com/news/2014/07/140718-aquarium-fish-source-sustainability-animals-ocean-science/>; ENVIRONMENT 360, http://e360.yale.edu/feature/new_initiatives_to_clean_up_the_global_aquarium_trade/2660/ (last accessed Feb. 8, 2016) (discussing the overfishing of blue and yellow tang populations and impacts to the ecosystem).

³³ Andrew Rhyne et al., *Revealing the Appetite of the Marine Aquarium Fish Trade: the Volume and Biodiversity of Fish Imported into the United States*. PLOS ONE 7:e35808 (2012).

³⁴ Jones, A., S. Gardner, and W. Sinclair, *Losing "Nemo": Bleaching and Collection Appear to Reduce Inshore Populations of Anemonefishes*, 73 J. FISH BIOLOGY 753-761 (2008); Shuman, C. S., G. Hodgson, and R. F. Ambrose, *Population Impacts of Collecting Sea Anemones and Anemonefish for the Marine Aquarium Trade in the Philippines*, 24 CORAL REEFS 564-573 (2005).

The United States is the world's largest importer of marine ornamental species, with imports representing 80 percent of global trade, followed by Europe and Japan.³⁵ Nearly one hundred countries supply fish to the marine aquarium trade in the U.S.³⁶ From 2005 to 2015, federal import data indicate that the top-five largest importers to be the Philippines (44.95% of imports), Indonesia (25.97% of imports), Sri Lanka (9.4% of imports), Thailand (3.3% of imports), and Haiti (2.03% of imports).³⁷ In the main exporting countries, fishermen collecting aquarium fish must collect several times more fish than ultimately arrive in the United States for sale to account for supply chain mortality rates as high as ninety percent.³⁸

³⁵ Shuman, C. S., G. Hodgson, and R. F. Ambrose, *Population Impacts of Collecting Sea Anemones and Anemonefish for the Marine Aquarium Trade in the Philippines*, 24 CORAL REEFS 564-573 (2005); Tissot et al., *How U.S. Ocean Policy and Market Power Can Reform the Coral Reef Wildlife Trade*, 34 MARINE POL'Y 1385-1388 (2010); Andrew Rhyne et al., *Revealing the Appetite of the Marine Aquarium Fish Trade: the Volume and Biodiversity of Fish Imported into the United States*. PLOS ONE 7:e35808 (2012); Jane Lee, *Do You Know Where Your Aquarium Fish Come From?*, NAT'L GEOGRAPHIC (July 18, 2014), <http://news.nationalgeographic.com/news/2014/07/140718-aquarium-fish-source-sustainability-animals-ocean-science/> (more than half of all fish caught for marine aquarium trade exported to the United States).

³⁶ USFWS, Law Enforcement Management Information System Database (Oct. 2015). *But see* Andrew Rhyne et al., *Revealing the Appetite of the Marine Aquarium Fish Trade: the Volume and Biodiversity of Fish Imported into the United States*. PLOS ONE 7:e35808 (2012) (stating that only 40 countries supply fish to the marine aquarium trade in the United States).

³⁷ USFWS, Law Enforcement Management Information System Database (Oct. 2015). One anomalous data subset is worth noting: the Czech Republic—an entirely landlocked country—is listed as the country of origin for nearly 600,000 wild-caught specimens, or 0.45% of the global total over the past ten years. This data subset seems to be the primary outlier; all other major importing countries have tropical coastal waters. However, the inclusion of the Czech Republic in the LEMIS database as a country of origin for wild-caught tropical marine fish should serve as a warning as to the reliability of the data contained within this database. The Czech Republic does have a captive breeding program, so it is possible that the importer and port have simply misdesignated these imports as being taken from the wild. *See also* Andrew Rhyne et al., *Revealing the Appetite of the Marine Aquarium Fish Trade: the Volume and Biodiversity of Fish Imported into the United States*. PLOS ONE 7:e35808 (2012) (finding that the Philippines and Indonesia are the largest global suppliers, accounting for approximately 86% of exports (55% and 31% of individuals, respectively), followed by Hawai'i, Sri Lanka, Brazil, Maldives, and Vietnam); A.W. Bruckner, *The Importance of the Marine Ornamental Reef Fish Trade in the Wider Caribbean*. 53 INT'L J. TROPICAL BIOLOGY 127-138 (2005); Tissot et al., *How U.S. Ocean Policy and Market Power Can Reform the Coral Reef Wildlife Trade*, 34 MARINE POL'Y 1385-1388 (2010) (finding that 71% of exports come from the Philippines and Indonesia, with Trinidad and Tobago (4%), Sri Lanka (3%), Singapore (3%), Thailand (2%), and Haiti (2%) as the next-largest importing countries); *and Marine Aquarium Biodiversity and Trade Flow*, NEW ENGLAND AQUARIUM, <https://aquariumtradedata.org/> (last accessed Feb. 5, 2016) (listing Haiti as the third-largest importer between 2000 and 2011, followed by Sri Lanka, Thailand, and the Solomon Islands).

³⁸ Thornhill, *Ecological Impacts and Practices of the Coral Reef Wildlife Trade*, at 7; Colette Wabnitz et al., *From Ocean to Aquarium: The Global Trade in Marine Ornamental Species*, UNITED NATIONS ENVIRONMENT PROGRAMME 33-34 (2003) (“Large percentages of fish captured through [cyanide fishing] die in transit due to their weakened state, resulting in more fish being collected than would otherwise need to be, to allow for a fatality margin. Reports indicate that . . . as many as 75 per cent of fish collected using narcotics die within hours of collection, and 20 per cent to 50 per cent die soon after that. About another 30 per cent on average die prior to export and it is not unusual for retail outlets in importing countries to register mortalities of 20 per cent or more.”).

Table 1: Top 10 Importing Countries, 2005-2015*

Rank	Country	Total (2005-2015)	% Global Total
1	Philippines	59,002,779	44.95%
2	Indonesia	32,775,317	24.97%
3	Sri Lanka	12,331,527	9.40%
4	Thailand	4,325,517	3.30%
5	Haiti	2,660,904	2.03%
6	Trinidad and Tobago	2,320,205	1.77%
7	Fiji	1,965,484	1.50%
8	Singapore	1,701,170	1.30%
9	Kenya	1,635,621	1.25%
10	Kiribati	1,323,438	1.01%

Total Number of Imports-Top 10 Countries (2005-2015)	% Total
120,041,963	91.46%

Total Number of Imports-All Other Countries (2005-2015)	% Total
11,210,189	8.54%

*Note: 2015 import data only includes information up to October 27, 2015, the date the Center's FOIA request was fulfilled.

The diversity and volume of species traded is substantial and growing.³⁹ For example, between 1988 and 2007 the imports of live corals taken directly from reefs to the United States increased by 600%, while the global volume of live coral imports increased nearly 1500%.⁴⁰ Despite the diversity of fish species involved in the aquarium trade, a large portion of global trade is concentrated on a few families and species, with damselfish and anemonefish (Pomacentridae) dominating global trade.⁴¹ An analysis of data from the Global Marine Aquarium Database during 1997 to 2002 found that Pomacentridae accounted for 43% of all fish traded.⁴² More recently, Rhyne et al. (2012) analyzed marine ornamental fish imported into the

³⁹ Shuman, C. S., G. Hodgson, and R. F. Ambrose, *Population Impacts of Collecting Sea Anemones and Anemonefish for the Marine Aquarium Trade in the Philippines*, 24 CORAL REEFS 564-573 (2005); Tissot et al., *How U.S. Ocean Policy and Market Power Can Reform the Coral Reef Wildlife Trade*, 34 MARINE POL'Y 1385-1388 (2010).

⁴⁰ Tissot et al., *How U.S. Ocean Policy and Market Power Can Reform the Coral Reef Wildlife Trade*, 34 MARINE POL'Y 1385-1388 (2010).

⁴¹ Andrew Rhyne et al., *Revealing the Appetite of the Marine Aquarium Fish Trade: the Volume and Biodiversity of Fish Imported into the United States*. PLOS ONE 7:e35808 (2012); P. Zajicek et al., *A Florida Marine Ornamental Pathway Risk Analysis*, 17 REV. FISHERIES SCI. 156-169 (2009).

⁴² P. Zajicek et al., *A Florida Marine Ornamental Pathway Risk Analysis*, 17 REV. FISHERIES SCI. 156-169 (2009).

United States between May 2004 and May 2005.⁴³ This study found that more than half of the marine aquarium fish imported into the United States were damselfish and anemonefish.⁴⁴ Twenty species represented 52% of the total number of individuals imported.⁴⁵

B. Cyanide Fishing Is One of the Largest Sources of Environmental Degradation and Species Devastation

Between 25 and 90 percent of all fish imported to the United States are caught using cyanide.⁴⁶ These illegal imports have extreme consequences for the reef environments, as “[f]ishing with cyanide and other poisons is likely the single largest source of mortality and environmental damage in the coral reef wildlife trade.”⁴⁷

Cyanide fishing is normally accomplished by mixing sodium cyanide tablets and water in a squirt bottle.⁴⁸ Fishermen then squirt the cyanide directly onto the reef, killing or paralyzing the target species.⁴⁹ Other methods of cyanide fishing include lacing bait with cyanide or dropping 55-gallon drums of cyanide directly onto reefs.⁵⁰

Exposure to cyanide is fatal to a variety of marine life. As much as 90 percent of all fish collected using cyanide die through the collection and importing process.⁵¹ Five to 75 percent of fish exposed to cyanide die within hours of collection, with an additional five to 80 percent experiencing delayed mortality.⁵² Fish that survive the initial cyanide exposure can experience

⁴³ Andrew Rhyne et al., *Revealing the Appetite of the Marine Aquarium Fish Trade: the Volume and Biodiversity of Fish Imported into the United States*. PLOS ONE 7:e35808 (2012).

⁴⁴ Andrew Rhyne et al., *Revealing the Appetite of the Marine Aquarium Fish Trade: the Volume and Biodiversity of Fish Imported into the United States*. PLOS ONE 7:e35808 (2012).

⁴⁵ Andrew Rhyne et al., *Revealing the Appetite of the Marine Aquarium Fish Trade: the Volume and Biodiversity of Fish Imported into the United States*. PLOS ONE 7:e35808 (2012).

⁴⁶ *From Ocean to Aquarium: The Global Trade in Marine Ornamental Species*, UNITED NATIONS ENVIRONMENT PROGRAMME 34 (2003); (70-90% of all reef fish caught using cyanide); Lee, *Do You Know Where Your Aquarium Fish Come From?* (“almost half the fish coming out of the Philippines [are] treated with cyanide”); Thornhill, *Ecological Impacts and Practices of the Coral Reef Wildlife Trade*, at 118 (“70-90% of all coral reef fish in the aquarium trade are captured using cyanide”); Anecdotally, conservationist Rene Umberger has recently confirmed the widespread exposure of aquarium fish to cyanide in the U.S. A majority of the fish she has tested from a large tropical fish seller have shown signs of cyanide exposure.

⁴⁷ Thornhill, *Ecological Impacts and Practices of the Coral Reef Wildlife Trade*, at 117.

⁴⁸ Thornhill, *Ecological Impacts and Practices of the Coral Reef Wildlife Trade*, at 117.

⁴⁹ Thornhill, *Ecological Impacts and Practices of the Coral Reef Wildlife Trade*, at 117.

⁵⁰ Thornhill, *Ecological Impacts and Practices of the Coral Reef Wildlife Trade*, at 118.

⁵¹ Thornhill, *Ecological Impacts and Practices of the Coral Reef Wildlife Trade*, at 7; Colette Wabnitz et al., *From Ocean to Aquarium: The Global Trade in Marine Ornamental Species*, UNITED NATIONS ENVIRONMENT PROGRAMME 33-34 (2003) (“Large percentages of fish captured through [cyanide fishing] die in transit due to their weakened state, resulting in more fish being collected than would otherwise need to be, to allow for a fatality margin. Reports indicate that . . . as many as 75 per cent of fish collected using narcotics die within hours of collection, and 20 per cent to 50 per cent die soon after that. About another 30 per cent on average die prior to export and it is not unusual for retail outlets in importing countries to register mortalities of 20 per cent or more.”); Colette Wabnitz et al., *From Ocean to Aquarium: The Global Trade in Marine Ornamental Species*, UNITED NATIONS ENVIRONMENT PROGRAMME 34 (2003).

⁵² Thornhill, *Ecological Impacts and Practices of the Coral Reef Wildlife Trade*, at 120; Colette Wabnitz et al., *From Ocean to Aquarium: The Global Trade in Marine Ornamental Species*, UNITED NATIONS ENVIRONMENT PROGRAMME 33 (2003).

damage to their brains, hearts, livers, kidneys, and intestinal tracts.⁵³ 30 percent or more of the fish that survive importation die after arrival into the United States but prior to purchase.⁵⁴

In addition to its effects on fish, cyanide kills coral polyps on contact or by “disrupting their symbiotic association with [their] zooxanthellae.”⁵⁵ One biologist estimates that “[a] square met[er] of reef is destroyed for every live fish caught using cyanide.”⁵⁶ The high doses regularly used in cyanide fishing commonly result in instant coral death, medium doses result in total coral bleaching, while low doses cause corals to lose their symbiotic zooxanthellae.⁵⁷ Annually, over 500 metric tons of cyanide is used on Philippines reefs alone,⁵⁸ with even more possibly being used in Indonesia, which likely kills thousands of acres of corals each year.

Cyanide fishing has the capability to cause widespread destruction of and mortality within reef ecosystems. As the world’s largest importer of tropical fish for its aquarium trade, the U.S. has a responsibility to ensure its importation policies discourage the use of this fishing practice.

C. Cyanide Fishing Is Prevalent in Indonesia and the Philippines, Despite Local Prohibitions

1. The Largest Tropical Aquarium Fish Exporting Countries Are Also the Countries that Experience the Most Cyanide Fishing

The largest exporters of live tropical marine fish into the United States—Indonesia and the Philippines—are also the countries where cyanide fishing is most prevalent. Combined, Indonesia, the Philippines, and Sri Lanka supply as much as 85 percent of tropical fish destined

⁵³ Thornhill, *Ecological Impacts and Practices of the Coral Reef Wildlife Trade*, at 120; Peter J. Rubec et al., *Cyanide-Free, Net-Caught Fish for the Marine Aquarium Trade*, SPC Live Reef Fish Information Bulletin No. 7 28 (2000) (“Cyanide is known to impair enzyme systems, that facilitate oxygen metabolism . . . and other physiological functions in fish and invertebrates, and to damage the liver, spleen, heart, and brain of the fish.”).

⁵⁴ Colette Wabnitz et al., *From Ocean to Aquarium: The Global Trade in Marine Ornamental Species*, UNITED NATIONS ENVIRONMENT PROGRAMME 34 (2003); see also Clara Cartwright et al., *Saving Nemo: Mariculture and Market-Based Solutions to Reform the Marine Ornamental Trade*, OLAZUL 134-35 (2012) (estimating store daily mortality rate to be 1.6% on the first day in store, rising to 18.99% by the sixtieth day); *Winter 1996 Industry Practices Survey Results*, MARINELIFE DEALER (1997) (distributors self-reported over 9% losses within three days of receiving shipment).

⁵⁵ Marcella Vaz et al., *Excreted Thiocyanate Detects Live Reef Fishes Illegally Collected Using Cyanide—A Non-Invasive and Non-Destructive Testing Approach*, 4 PLoS ONE, at *1 (2012) [hereinafter Vaz et al., *Excreted Thiocyanate*].

⁵⁶ Fred Pearce, *Cyanide: an Easy but Deadly Way to Catch Fish*, WORLD WILDLIFE FUND GLOBAL (Jan. 29, 2003), http://wwf.panda.org/wwf_news/?5563/Cyanide-an-easy-but-deadly-way-to-catch-fish.

⁵⁷ Ross Jones, *Effects of Cyanide on Coral*, SPC LIVE REEF BULLETIN NO. 3 (Dec. 1997), available at http://www.spc.int/DigitalLibrary/Doc/FAME/InfoBull/LRF/3/LRF3_03_Jones.pdf; Peter J. Rubec et al., *Cyanide-Free, Net-Caught Fish for the Marine Aquarium Trade*, SPC Live Reef Fish Information Bulletin No. 7 28 (2000) (“The application of 5,204 mg/L of cyanide for 10, 20, or 30 minutes killed corals within seven days. Lower concentrations (520 mg/L) resulted in the loss of zooxanthellae and impaired photosynthesis, which may corals to die over longer time periods”); and *id.* (“Testing done by The Nature Conservancy on seized squirt bottles indicates that the dissolved HCN concentration leaving the squirt bottle is about 1500-2000 mg/L.”).

⁵⁸ Vaz, *Excreted Thiocyanate*, at *1; Peter J. Rubec et al., *Cyanide-Free, Net-Caught Fish for the Marine Aquarium Trade*, SPC Live Reef Fish Information Bulletin No. 7 28 (2000) (“A conservative analysis estimated that 150,000 kg of cyanide is spread on Philippine coral reefs each year.”).

for the aquarium trade, most of which are caught using cyanide.⁵⁹ In addition, “[c]oral reefs in Indonesia and the Philippines are currently the most at risk [in the world] (about 95% of existing reefs), due to the use of destructive fishing techniques.”⁶⁰ Indonesia and the Philippines also experience the highest supply-chain mortality rates—90 percent—due to effects of cyanide fishing, combined with complex, unregulated supply chains.⁶¹

2. The Largest Aquarium Fish Exporting Countries Ban Cyanide Fishing

Despite its prevalence, cyanide fishing is illegal in nearly all countries where it is used.⁶² Due to the severe environmental impacts related to cyanide fishing, this practice is almost universally outlawed in countries that export live tropical marine fish for the aquarium industry.

For instance, in the Philippines, Republic Act 8550, section 88 and Fisheries Administrative Order number 2001-206, section 2 prohibits the use, possession, or sale of toxic substances intended to collect reef fish.⁶³ In addition, Palawan Council for Sustainable Development Resolution Number 2002-197 and the Department of Interior and Local Government Memorandum Circular No. 2002-129 prohibit the use or possession of paraphernalia used for cyanide fishing, such as “hookahs” used for breathing underwater.⁶⁴

The Philippine Republic Act 8550, section 88(1) specifically states:⁶⁵

⁵⁹ Kessler, *New Initiatives to Clean Up the Global Aquarium Trade*; Charles Barber, *Sullied Seas: Strategies for Combating Cyanide Fishing in Southeast Asia and Beyond*, WORLD RES. INSTITUTE 2 (1997), available at http://pdf.wri.org/sulliedseas_bw.pdf (“Some 85 percent of aquarium fish are captured on the reefs of Indonesia and the Philippines”; “All evidence indicates . . . that the percentage [of fish caught using cyanide] is very high More than 90 percent of live fish vessels boarded at sea by enforcement authorities [in the Philippines] are found to be using cyanide.”); Andrew Rhyne et al., *Revealing the Appetite of the Marine Aquarium Fish Trade: The Volume and Biodiversity of Fish Imported into the United States*, PLoS ONE 7(5): e35808, at *4 (2012); Colette Wabnitz et al.; *From Ocean to Aquarium: The Global Trade in Marine Ornamental Species*, UNITED NATIONS ENVIRONMENT PROGRAMME 6-7 (2003) (“recent studies in the [Philippines] indicate that 70 percent of marine ornamental reef fish are caught with cyanide”). FWS data shows that nearly 80% (79.32%) of all imports of live tropical marine fish entering into the United States listed the Philippines, Indonesia, and Sri Lanka as the country of origin.

⁶⁰ Vaz, *Excreted Thiocyanate*, at *1

⁶¹ Thornhill, *Ecological Impacts and Practices of the Coral Reef Wildlife Trade*, at 107; Peter J. Rubec et al., *Cyanide-Free, Net-Caught Fish for the Marine Aquarium Trade*, SPC LIVE REEF FISH INFORMATION BULLETIN NO. 7 28 (2000) (“cyanide fishing is believed to contribute to the high delayed mortality (>80%) of marine aquarium fish being exported to other countries”).

⁶² See *Proceedings of the International Cyanide Detection Testing Workshop*, NAT’L OCEANIC AND ATMOSPHERIC ADMIN. 10 (2008), available at http://www.coris.noaa.gov/activities/cyanide/cyanide_rpt.pdf.

⁶³ Dante Dalabajan, *Fixing the Broken Net: Improving Enforcement of Laws Regulating Cyanide Fishing in the Calamianes Group of Islands, Philippines*, SPC LIVE REEF FISH INFO. BULLETIN NO. 15, at *5 (2005), available at http://www.spc.int/DigitalLibrary/Doc/FAME/InfoBull/LRF/15/LRF15_03_Dalabajan.pdf; Philippines Republic Act 8550 § 88; Fisheries Administrative Order No. 2001-206 § 2.

⁶⁴ Palawan Council for Sustainable Development Resolution No. 2002-197; REPUBLIC OF THE PHILIPPINES, National Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing 19 (2013), available at www.gov.ph/downloads/2013/12dec/20131206-EO-0154-Annex-A-BSA.pdf (discussing Department of Interior and Local Government Memorandum Circular No. 2002-129); Dalabajan, *Fixing the Broken Net*, at *5.

⁶⁵ The Philippine Fisheries Code of 1998, Philippines Republic Act No. 8550, §88(1); see also Philippines Presidential Decree No. 704, Ch. VI § 33, available at <http://faolex.fao.org/docs/pdf/phi2064.pdf> (1975) (stating the same).

It shall be unlawful for any person to catch, take or gather or cause to be caught, taken or gathered, fish or any fishery species in Philippine waters with the use of electricity, explosives, noxious or poisonous substance *such as sodium cyanide* in the Philippine fishery areas, which will kill, stupefy, disable or render unconscious fish or fishery species.

Indonesia's cyanide fishing prohibition is part of sweeping legislation designed to ensure the sustainability of Indonesia's fisheries. Article 12(1) of the Indonesian Fisheries Act provides: "Every person shall not do something, which will cause pollution and/or damage to fish resources and the environment thereof in the Indonesian fish cultivation territory."⁶⁶ The Indonesian "fish cultivation territory" is defined as any water within Indonesia's Exclusive Economic Zone, or within 200 miles of any Indonesian Coast.⁶⁷

Similarly, Sri Lanka's Fisheries and Aquatic Resource Act states:⁶⁸

No person shall (a) use or attempt to use any poisonous, explosive or stupefying substance (including dynamite) or other noxious or harmful material or substance in Sri Lanka Waters for the purpose of poisoning, killing, stunning or disabling any fish or other aquatic resources; (b) carry, or have in his possession any poisonous, explosive or stupefying substance (including dynamite) or other noxious or harmful material (not being a fishing net) or any substance for any purpose referred to in paragraph (a).

Illegal cyanide use in Vietnam, another major exporter to the U.S., is also widespread.⁶⁹ Article 6 of Vietnam's Law on Fisheries contains similarly sweeping prohibitions. Article 6 prohibits "illegally exploiting and destroying reefs, coral reefs, underwater flora grounds, submerged forests and other biotopes."⁷⁰ Additionally, Article 6 criminalizes "producing, circulating and using banned fishing gear; practicing the banned occupations to exploit aquatic resources; using explosives, *noxious substances*, electric surge and other methods of destructive

⁶⁶ Indonesian Fisheries Act, art. 12(1) (2004).

⁶⁷ Indonesian Fisheries Act, art. 5(1) (2004); *see also Proceedings of the International Cyanide Detection Testing Workshop*, NAT'L OCEANIC AND ATMOSPHERIC ADMIN. 143 (2008), available at http://www.coris.noaa.gov/activities/cyanide/cyanide_rpt.pdf ("the Fisheries Act No. 31/2004 which explicitly prohibits the industry from using chemical substances and pose sanction up to 10 years imprisonment and a fine of maximum Rp 2 billion. The Fishery Resources Conservation Decree No. 60/2007 regulates that "fish harvest must hold a license..." and "...licensing considers fishing techniques and gear." It is envisioned that MMAF will issue a Ministerial Regulation and Decrees which will include a cyanide-free certificate as a requirement for the legality of marine ornamental business and export.")

⁶⁸ Sri Lanka Fisheries and Aquatic Resource Act No. 2 of 1996 § 27(1), available at http://www.fisheriesdept.gov.lk/fisheries_beta/regulations/Fisheries%20and%20Aquatic%20Resources%20Act.pdf. In addition, the Fisheries and Aquatic Resource Act states, "[n]o person shall use or possess, or have on board any local fishing boat, any prohibited fishing gear or engage [in] any prohibited fishing method in any area of Sri Lanka Waters." Sri Lanka Fisheries and Aquatic Resource Act No. 2 of 1996 § 28.

⁶⁹ *Proceedings of the International Cyanide Detection Testing Workshop*, NAT'L OCEANIC AND ATMOSPHERIC ADMIN. 5 (2008), available at http://www.coris.noaa.gov/activities/cyanide/cyanide_rpt.pdf.

⁷⁰ Vietnam, Law on Fisheries No. 17/2003/QH11, Art. 6 § (6)(1).

nature.”⁷¹

Despite the existence of local laws, such as those in the Philippines, Indonesia, Sri Lanka and Vietnam, local enforcement of cyanide fishing laws is lax.⁷² “Enforcement of cyanide bans is often weak and corruption commonly confounds enforcement efforts; cyanide fishers sometimes pay off those responsible for enforcing anti-cyanide regulations.”⁷³ Thus, it is imperative for importing countries, such as the United States, to strictly enforce customs prohibitions to fill these enforcement gaps.

III. The Agencies Must Use Their Full Authority Under the Lacey Act to Stop Cyanide-Caught Fish from Entering into the United States

The Lacey Act compels the Agencies to deny entry into the United States of fish caught using cyanide, in violation of exporting nations’ domestic laws. To date, the Agencies have not done enough to regulate this illegal trade, despite the availability of effective enforcement methods. To comply with the Lacey Act and end cyanide fishing, the Agencies must require (1) all tropical fish caught in countries that ban the use of cyanide to undergo cyanide testing; (2) testing certification; (3) revocation of importing privileges; and (4) civil and criminal penalties for infractions of the Lacey Act.

A. Allowing Imports of Cyanide-Caught Fish Violates the Lacey Act

Allowing fish caught illegally with cyanide to enter into the U.S. violates the Lacey Act, and it is imperative that the Agencies take corrective action.

The Lacey Act strictly prohibits the “import . . . of any fish or wildlife taken, possessed, transported, or sold in violation of any law or regulation of any State or in violation of any foreign law.”⁷⁴ The majority of tropical fish caught using cyanide are collected in foreign jurisdictions that have outlawed these fishing practices.⁷⁵ As described above, the exporting countries of the Philippines, Indonesia, and Sri Lanka – which supply over 85 percent of tropical fish destined for the aquarium trade – have made it illegal to “catch, take or gather . . . fish . . . with the use of . . . noxious or poisonous substance[s] such as sodium cyanide” (Philippines),⁷⁶ to “cause pollution and/or damage to fish resources and the environment thereof” (Indonesia),⁷⁷ or use “poisonous, explosive or stupefying substance . . . or other noxious or harmful mat[t]er or substance . . . for the purpose of poisoning, killing, stunning or disabling any fish” (Sri Lanka).⁷⁸

⁷¹ Vietnam, Law on Fisheries No. 17/2003/QH11, Art. 6 § (6)(1) (emphasis added).

⁷² Thornhill, *Ecological Impacts and Practices of the Coral Reef Wildlife Trade*, at 118-19.

⁷³ Thornhill, *Ecological Impacts and Practices of the Coral Reef Wildlife Trade*, at 118-19 (citing Barber C. V., Pratt VR, *Poison and Profits: Cyanide Fishing in the Indo-Pacific*, 40 *Environment* 5–9, 28–34 (1998); see also *Proceedings of the International Cyanide Detection Testing Workshop*, NAT’L OCEANIC AND ATMOSPHERIC ADMIN. 139-142 (discussing the need for capacity building in the Philippines and Indonesia

⁷⁴ 16 U.S.C. § 3372(2)(a).

⁷⁵ See *infra*, Part III.E.2.

⁷⁶ The Philippine Fisheries Code of 1998, Philippines Republic Act No. 8550, §88(1).

⁷⁷ Indonesian Fisheries Act, art. 12(1).

⁷⁸ Sri Lanka Fisheries and Aquatic Resource Act No. 2 of 1996 § 27(1), available at http://www.fisheriesdept.gov.lk/fisheries_beta/regulations/Fisheries%20and%20Aquatic%20Resources%20Act.pdf. See also Vietnam, Law on Fisheries No. 17/2003/QH11, Art. 6 § (6)(1).

NOAA has recognized that “a large portion of the aquarium fish imported to the United States (an estimated 90%) are illegal under the Lacey Act.”⁷⁹ Other estimates range from 25 to 90 percent of aquarium fish entering into the United States have been captured using cyanide.⁸⁰ Regardless of the exact percentage of live tropical fish imported into the United States that are caught using cyanide each year, it is clear that a large percentage are, amounting to millions of fish illegally entering into the United States annually.⁸¹

The Agencies are required to ensure the proper enforcement of the Lacey Act.⁸² NOAA itself has expressed concern over the severe environmental impact cyanide fishing has on reef ecosystems in exporting countries.⁸³ NOAA recognized that the import of cyanide-caught fish is occurring in violation of the Lacey Act, and that millions of cyanide-caught fish enter into the United States every year without consequence.⁸⁴ Today, testing fish for cyanide exposure is now more feasible than ever.⁸⁵ We urge the Agencies to use their full authority and comply with their statutory duty to promptly address this rampant abuse of U.S. laws.

B. NMFS, USFWS, and U.S. Customs Must Use Their Authority to Prevent Violations of the Lacey Act

The Agencies must use their authority under the Lacey Act to ensure imports of live tropical marine fish caught using cyanide do not enter into the United States. In 2008, NOAA hosted an international cyanide detection workshop in an attempt to identify the best means by which the U.S. and other international actors could eliminate the use of cyanide to catch ornamental fish. The workshop findings called on NMFS, USFWS, and U.S. Customs to help eliminate these practices. Specifically, the workshop recommended that:⁸⁶

[The] Code of Federal Regulations could make U.S. imports of fish containing cyanide illegal, as well as clearly state standards for permissible imports (e.g.,

⁷⁹ *Proceedings of the International Cyanide Detection Testing Workshop*, NAT’L OCEANIC AND ATMOSPHERIC ADMIN. 7 (2008), available at http://www.coris.noaa.gov/activities/cyanide/cyanide_rpt.pdf.

⁸⁰ Thornhill, *Ecological Impacts and Practices of the Coral Reef Wildlife Trade*, at 118-19. Conservationist Rene Umberger has confirmed that, as of 2015, a large percentage of the fish from a major U.S. tropical fish seller have been exposed to cyanide.

⁸¹ Thornhill, *Ecological Impacts and Practices of the Coral Reef Wildlife Trade*, at 118-19; See *Coral Reef Wildlife Trafficking for the Aquarium Trade*, SEA SHEPHERD, <http://www.seashepherd.org/reef-defense/aquarium-trade.html> (last accessed Feb. 8, 2016); Kessler, *New Initiatives to Clean Up the Global Aquarium Trade*, ENVIRONMENT 360, http://e360.yale.edu/feature/new_initiatives_to_clean_up_the_global_aquarium_trade/2660/ (last accessed Feb. 8, 2016); Colette Wabnitz et al.; *From Ocean to Aquarium: The Global Trade in Marine Ornamental Species*, UNITED NATIONS ENVIRONMENT PROGRAMME 6-7 (2003) (“A total of 1,471 species of fish are traded worldwide with the best estimate of annual global trade ranging between 20 and 24 million individuals.”).

⁸² 16 U.S.C. §§ 3372(a), 3376(a).

⁸³ See *Proceedings of the International Cyanide Detection Testing Workshop*, NAT’L OCEANIC AND ATMOSPHERIC ADMIN. 1 (2008), available at http://www.coris.noaa.gov/activities/cyanide/cyanide_rpt.pdf.

⁸⁴ See *Proceedings of the International Cyanide Detection Testing Workshop*, NAT’L OCEANIC AND ATMOSPHERIC ADMIN. 1, 7 (2008), available at http://www.coris.noaa.gov/activities/cyanide/cyanide_rpt.pdf.

⁸⁵ See Vaz, *Excreted Thiocyanate*, at 1.

⁸⁶ See *Proceedings of the International Cyanide Detection Testing Workshop*, NAT’L OCEANIC AND ATMOSPHERIC ADMIN. 7 (2008), available at http://www.coris.noaa.gov/activities/cyanide/cyanide_rpt.pdf.

exporting partners must have testing system in place, species restrictions, habitat impact assessments and protection, etc.).

However, as of 2016, NMFS, USFWS, and U.S. Customs have yet to act on these recommendations.

The 2008 cyanide detection workshop report confirmed NMFS', USFWS', and U.S. Customs' authority under the Lacey Act to require cyanide testing, prevent the import of species that are known to primarily be captured using cyanide, and prosecute or hold civilly liable more egregious offenders.⁸⁷ The Agencies should use their authority to promulgate regulations and enforcement guidelines instructing U.S. Customs and NMFS officials to conduct or otherwise ensure adequate cyanide testing, and to seize or deny the entry of any imported fish that test positive for cyanide exposure.⁸⁸ Any combination of these enforcement techniques would act as a better deterrent to potential importers of fish collected using cyanide than the current regulatory regime.

C. New Rules under the Lacey Act Are Necessary to Prevent the Importation of Live Fish Caught Using Illegal Cyanide Fishing Practices

NMFS and USFWS must use the authority vested in them under the Lacey Act to promulgate a set of regulations and guidelines designed to ensure no fish entering into the U.S. have been caught using cyanide. Specifically, we urge NMFS and USFWS (1) mandate testing and certification of live tropical marine fish entering into the United States; (2) issue rules or guidelines affirmatively clarifying and directing that shipments of fish that test positive for cyanide exposure shall be seized or denied entry, licenses of tropical fish importers' will be revoked when shipments are found to contain contaminated fish; and that egregious offenders will be prosecuted. These rules are necessary to fulfill the intent and requirements of the Lacey Act, as well as the Agencies' duty to faithfully enforce the Lacey Act by ensuring aquarium fish entering into the U.S. have not been illegally caught using cyanide.

1. NMFS and U.S. Customs Should Require Testing of Live Tropical Fish for Cyanide Exposure and Implement a Cyanide-Free Certification Scheme

To adequately enforce the Lacey Act, NMFS and U.S. Customs must ensure imported live tropical fish have not been exposed to cyanide. Considering the prevalence of this fishing technique, NMFS and U.S. Customs should require reliable testing of tropical fish for cyanide through a testing and certification scheme.

There now exists proven, reliable testing methods to detect thiocyanate that has been excreted in the urine of tropical fish.⁸⁹ Thiocyanate is a metabolite of cyanide, and there is no other known explanation for the presence of thiocyanate in the urine of marine fish but for

⁸⁷ See *Proceedings of the International Cyanide Detection Testing Workshop*, NAT'L OCEANIC AND ATMOSPHERIC ADMIN. 7 (2008), available at http://www.coris.noaa.gov/activities/cyanide/cyanide_rpt.pdf.

⁸⁸ 16 U.S.C. § 3374(a)(1) (authorizing seizure of illegally imported goods).

⁸⁹ See Lurdes I. B. Silva et al., *Optical Fiber Based Methodology for Assessment of Thiocyanate in Seawater*, J. ENVIRON. MONIT. 1811, 1815 (2011) (comparing the results of thiocyanate tests from established HPLC-UV technology with new HPLC-OF technology).

exposure to cyanide.⁹⁰ Marcela Vaz et al. (2012) have proven that it is possible to detect thiocyanate as early as two days and possibly later than 28 days after exposure to high or medium concentrations of cyanide.⁹¹ One well-known, reliable, and currently available technology to test for thiocyanate in seawater is a high performance liquid chromatography system coupled to a UV detector (“HPLC-UV”).⁹² Newer, more rapid technology coupling a liquid chromatography system to an optical fiber has been tested and proven reliable, but this technology is in a comparably nascent stage of development.⁹³

Given the existence of widely used and proven methodologies to test whether tropical fish have been exposed to cyanide, the Agencies should institute a certification scheme where registered labs in the United States or abroad test fish for exposure to cyanide.⁹⁴ These labs can then certify that a shipment has tested negative for cyanide exposure. In order to import a shipment of live tropical fish, importers should be required to provide this certification upon their shipment’s arrival into the United States. Shipments without this certification should be denied entry.

To ensure faithful test results, NMFS, USFWS, and U.S. Customs should also conduct random, humane, non-lethal testing at federal laboratories as a means of quality control, and to prevent any potential abuse of false “cyanide-free” certifications. The Agencies should require that enforcement personnel test at least one percent of all live tropical marine fish entering into the United States for exposure to cyanide. The Agencies can defray the cost of any testing by collecting import fees from tropical fish importers.⁹⁵

2. The Agencies Should Direct Enforcement Personnel to Seize Cyanide Caught Fish, Revoke Importers’ Licenses for Importing Cyanide-Caught Fish

In addition to testing and certification, the Agencies should issue rules affirmatively directing that enforcement personnel seize fish testing positive for cyanide and revoke the licenses of importers who fail to ensure imported fish are free from cyanide exposure.

Specifically, the Lacey Act provides the Agencies broad authority to stop cyanide-caught fish from entering into the U.S. and to penalize those that import these fish. The Agencies can cause the forfeiture of *all* illegally caught “fish or wildlife . . . imported” in violation of the Lacey Act “notwithstanding any culpability requirements for civil penalty assessment or criminal

⁹⁰ See *Proceedings of the International Cyanide Detection Testing Workshop*, NAT’L OCEANIC AND ATMOSPHERIC ADMIN. 10 (2008), available at http://www.coris.noaa.gov/activities/cyanide/cyanide_rpt.pdf; see also Vaz, *Excreted Thiocyanate*, at *2 (“The major pathway for cyanide metabolism is the conversion of cyanide (CN⁻) to thiocyanate (SCN⁻)”).

⁹¹ Vaz et al., *Excreted Thiocyanate*, at *1, *5.

⁹² See Lurdes I. B. Silva et al., *Optical Fiber Based Methodology for Assessment of Thiocyanate in Seawater*, J. ENVIRON. MONIT. 1811, 1815 (2011).

⁹³ See Lurdes I. B. Silva et al., *Optical Fiber Based Methodology for Assessment of Thiocyanate in Seawater*, J. ENVIRON. MONIT. 1811, 1811 (2011); Vaz et al., *Excreted Thiocyanate*, at *1.

⁹⁴ See *Proceedings of the International Cyanide Detection Testing Workshop*, NAT’L OCEANIC AND ATMOSPHERIC ADMIN. 2 (2008), available at http://www.coris.noaa.gov/activities/cyanide/cyanide_rpt.pdf.

⁹⁵ See, e.g., 50 C.F.R. § 13.11(d)(4).

prosecution included in section 3373” of the Lacey Act.⁹⁶ This means that, unlike the criminal and civil provisions of the Lacey Act, the Agencies can seize illegally imported tropical fish regardless of the intent of the importer.

Additionally, USFWS regulations, which apply to tropical fish importers, require all importers to obtain licenses to import fish and wildlife if they are “animal dealer[s], animal broker[s], [and] pet dealer[s].”⁹⁷ Furthermore, the Lacey Act provides the Agencies the authority to “suspend, modify, or cancel any Federal . . . license or permit authorizing a person to import or export fish or wildlife . . . to any person who is convicted of [violating] any regulation” promulgated under the Lacey Act.⁹⁸

One important license condition states that “[a]ny live wildlife possessed under a permit must be maintained under humane and healthful conditions.”⁹⁹ Fish that have been exposed to cyanide during their capture have not been “maintained under humane and healthful conditions.”¹⁰⁰ Cyanide causes severe damage to the brains, hearts, livers, kidneys, and intestinal tracts of fish that survive the initial exposure to cyanide.¹⁰¹ Many fish stout enough to survive their initial exposure to cyanide die shortly after their arrival to the United States.

Furthermore, the import license requires license holders to “comply with . . . all applicable laws and regulations governing the permitted activity.”¹⁰² As described throughout this petition, the vast majority of fish caught using cyanide and imported to the United States arrive from countries where cyanide fishing is illegal.¹⁰³ Because these fish are taken “in violation of [] foreign law[s],” importers of these fish have failed to comply with the Lacey Act.¹⁰⁴ This is also grounds for import license revocation.

Accordingly, we request that NMFS, USFWS, and U.S. Customs publish regulations directing enforcement personnel to seize tropical fish caught with cyanide and revoke licenses of importers of cyanide-caught fish. By publishing this direction in the agency’s regulations, tropical fish importers will be put on notice that the import of live fish caught using cyanide will cause them to lose their importer’s license. These regulations would help fulfill the international

⁹⁶ 16 U.S.C. § 3374(a)(1). Petitioners request that the Agencies forge strategic partnerships with marine aquaria accredited by the Association of Zoos and Aquariums that are capable of housing specimens from seized shipments as a means of ensuring seized specimens are treated humanely post-seizure.

⁹⁷ 50 C.F.R. § 14.91(c).

⁹⁸ 16 U.S.C. § 3373(e); *see also Federal Fish and Wildlife Permit Application Form: Import/Export License, Form 3-200-3*, U.S. FISH & WILDLIFE SERV. (2013). Form 3-200-3 requires the applicant to certify s/he has “read and [is] familiar with the regulations contained in Title 50, Part 13 of the Code of Federal Regulations,” which contains relevant license conditions.

⁹⁹ 50 C.F.R. § 13.41.

¹⁰⁰ 50 C.F.R. § 13.41.

¹⁰¹ *Id.*; Peter J. Rubec et al., *Cyanide-Free, Net-Caught Fish for the Marine Aquarium Trade*, SPC Live Reef Fish Information Bulletin No. 7 28 (2000) (“Cyanide is known to impair enzyme systems, that facilitate oxygen metabolism . . . and other physiological functions in fish and invertebrates, and to damage the liver, spleen, heart, and brain of the fish.”).

¹⁰² 50 C.F.R. § 13.48.

¹⁰³ *See supra* Part III.C.2.

¹⁰⁴ 16 U.S.C. § 3372(a)(2)(A); 50 C.F.R. § 13.48.

cyanide detection workshop’s recommendation that “[i]mport countries should create clear requirements for shipments, make the policies available to exporting countries so they can comply, and make them understandable.”¹⁰⁵

IV. Proposed Regulatory Language

The Agencies should promulgate joint regulations to more effectively enforce the provisions of the Lacey Act against tropical fish importers who violate its provisions. These regulations should (1) require testing of live tropical marine fish for cyanide exposure and certification of testing results, and (2) put importers on notice that enforcement personnel has the authority to seize illegal shipments, revoke importers’ licenses, and seek civil and criminal penalties.

Analogous regulations that extensively detail inspection, sampling, licensing, and license revocation requirements can be found at 50 C.F.R. Part 260, Subpart A—Inspection and Certification of Establishments and Fishery Products for Human Consumption.¹⁰⁶ Similar regulations enacted under the injurious species provisions of the Lacey Act can be found under 50 C.F.R., section 16.13—Importation of Live or Dead Fish, Mollusks, and Crustaceans, or Their Eggs.¹⁰⁷ In order to conform cyanide-testing regulations to this well-established regulatory precedent, example regulatory language is provided, below.

The Center proposes that 50 C.F.R., Part 14, Subpart L, be added as follows:

(a) Import of Live Tropical Marine Fish Illegally Caught with Cyanide Prohibited

Live tropical marine fish harvested from countries that prohibit the practice of cyanide fishing are prohibited entry into the United States unless accompanied by a certification that the shipment has been sampled and found free from exposure to cyanide.

Upon an exporter filing a written declaration with the District Director of Customs at the port of entry as required under 50 C.F.R. § 14.61, shipments of live tropical marine fish may be imported, transported, sold, received, acquired, or purchased, subject to the following conditions:

(1) Testing of Fish for Exposure to Cyanide

Imports of live tropical marine fish must be humanely tested for exposure to cyanide prior to their entry into the United States. This humane testing must

¹⁰⁵ See *Proceedings of the International Cyanide Detection Testing Workshop*, NAT’L OCEANIC AND ATMOSPHERIC ADMIN. 7, at 29 (2008), available at http://www.coris.noaa.gov/activities/cyanide/cyanide_rpt.pdf.

¹⁰⁶ 50 C.F.R. §§ 260.1-260.93. A PDF of these regulations can be found at <http://www.seafood.nmfs.noaa.gov/pdfs/50cfr260-261.pdf>.

¹⁰⁷ See 50 C.F.R. § 16.13(b), (e). A PDF of these regulations can be found at <https://www.gpo.gov/fdsys/pkg/CFR-2007-title50-vol1/pdf/CFR-2007-title50-vol1-sec16-13.pdf>; see also *Federal Aquaculture Regulatory Fact Sheet Series: The Lacey Act*, U.S. FISH & WILDLIFE SERV., available at http://www.nmfs.noaa.gov/aquaculture/docs/policy/agency_fact_sheets/usfws_aq_regulatory_fact_sheet.pdf (last accessed Jan. 22, 2016) (summarizing the Lacey Act and, specifically, 50 C.F.R. § 16.13).

be done under approved conditions that produce reliable test results from a testing laboratory registered by the National Marine Fisheries Service (NMFS) or the United States Fish and Wildlife Service (USFWS) to conduct cyanide exposure testing. Such laboratories must be reviewed for compliance with these provisions once every five years.

One percent of live tropical fish entering the United States must be sampled at random by a registered facility. U.S. Customs or NMFS may order the sampling of any specimen from any shipment. For shipments larger than one hundred specimens, U.S. Customs or NMFS must order the sampling of at least one fish for every one hundred contained in the shipment. For shipments of one hundred fish or fewer, testing will not be conducted on a per-shipment basis; however, at least one tropical marine fish of every one hundred brought to all U.S. ports must be tested for cyanide exposure.¹⁰⁸

(2) Cyanide-Free Certification

Prior to the entry of any live tropical marine fish into the United States, the importer must provide written proof that no cyanide has been detected in any samples from the importer's shipment. For this certification to be valid, the importer must provide (1) proof that the importer has a current, valid importer's license (USFWS Form 3-200-3), and (2) certification that no fish contained in the importer's shipment has tested positive for cyanide. This certification shall be obtained from the laboratory that has tested the importer's shipment. Shipments that contain fewer than 100 live tropical marine fish that are not selected for random testing must obtain certification from U.S. Customs that no fish contained in their shipment was selected for testing.

(3) Periodic Testing by NMFS and U.S. Customs

In addition to random testing conducted by registered labs, NMFS and U.S. Customs shall periodically independently test live tropical marine fish shipments for cyanide exposure using federal laboratories. This testing may occur in addition to mandatory random testing.

(b) Seizure of Non-Certified Shipments and Importer's License Revocation for Shipments Testing Positive for Exposure to Cyanide

NMFS and U.S. Customs will seize or deny entry to any shipment of live tropical marine fish that tests positive for cyanide exposure or that otherwise does not have current or valid cyanide-free certification.¹⁰⁹ Consistent with 50 C.F.R. § 14.93, an importer's license (USFWS form 3-200-3) will be revoked for a minimum of one year if any three fish samples associated with that

¹⁰⁸ For example, if there are five shipments from five different importers containing twenty fish each, at least one fish must be tested among those five shipments.

¹⁰⁹ See 50 C.F.R. § 14.55(b); 16 U.S.C. §§ 3374, 3375(b) (authority to seize and refuse entry of shipments); see also 50 C.F.R., Part 14, Subpart J (live specimens must be imported in healthy conditions).

importer's license test positive for cyanide in any one-year period.¹¹⁰ If an importer attempts to sell or transport any live tropical marine fish from a shipment that has not been certified or that has tested positive for exposure to cyanide, this will be considered a knowing violation of the Lacey Act, punishable by civil and criminal penalties.¹¹¹

(c) Severability

The provisions of this regulation are severable. If any part of this regulation is declared invalid or unconstitutional, that declaration shall not affect the part which remains.

When reviewing this petition, please consider the provisions of this Petition to be severable. If any provision of this Petition is found to be invalid or unenforceable, the invalidity or lack of legal obligation shall not affect other provisions of the Petition.

V. Conclusion

Cyanide fishing is a major cause of tropical fish mortality and reef degradation in countries with some of the largest in-tact reef systems in the world. Marine fish are illegally caught with cyanide to fuel the demand for tropical fish in the U.S. aquarium industry. These fish enter unchecked into the U.S. in violation of the Lacey Act, which serves to perpetuate and incentivize this destructive, illegal trade. We strongly urge NMFS and USFWS to vigorously investigate and pursue aggressive enforcement action against any entity importing illegally-taken fish.

Further, we urge NMFS, USFWS, and U.S. Customs to enact robust regulations to ensure no fish caught using cyanide enters into the United States. Specifically, the Center requests that the Agencies issue regulations (1) banning import of live tropical fish unless the shipment is accompanied by a certification that the shipment has been tested for cyanide exposure; (2) directing enforcement officials and notifying importers of the Agencies' authority to seize shipments containing cyanide, revoke or suspend importers' licenses when their shipments are found to contain cyanide-exposed fish, and to utilize the civil and criminal provisions of the Lacey Act.

Thank you for considering our petition. We look forward to your prompt response. If you have any questions, please do not hesitate to contact us using the contact information, below.

¹¹⁰ See generally 50 C.F.R., Part 14, Subpart I (license conditions); see also 50 C.F.R. § 14.93(d)(3) (authorizing license revocation).

¹¹¹ See 16 U.S.C. § 3372 (outlining civil and criminal penalties).

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