Shark Fin Trade: Why it Should Be Banned in the United States



robertharding / Alamy Stock Photo

TABLE OF CONTENTS

- **1** Executive Summary
- 2 Background
- **5** Ecological Importance
- **6** Economic Importance
- 8 The State of Play in the US
- **10** A Call to Action
- **13** Appendix 1: US Legal History
- **15** References

AUTHORS

Patrick Mustain, Mariah Pfleger and Lora Snyder

ACKNOWLEDGEMENTS

The authors would like to thank the following individuals for their contributions during the development and review of this report: Eric Bilsky, Gib Brogan, Alicia Cate, Dustin Cranor, Dr. Kathryn Matthews, Jacqueline Savitz, Dr. Geoff Shester and Amelia Vorpahl. Oceana would also like to thank two anonymous individuals for reviewing an earlier draft of this report.

The fins from as many as 73 million sharks end up in the global shark fin trade every year

Sharks were swimming in our oceans before dinosaurs walked the earth. For hundreds of millions of years, they have played a vital role in maintaining healthy oceans, but unless we take the necessary steps to protect sharks, we may be on a path toward eliminating some of these amazing predators.

One of the greatest threats to sharks is finning - the act of cutting the fins off of a shark and discarding its body at sea, where it could drown, bleed to death, or be eaten alive by other fish. The demand for shark fins is primarily driven by the market for shark fin soup, a luxury item popular in some Asian cuisines. In fact, fins from as many as 73 million sharks end up in the global shark fin trade every year. This is particularly troubling since shark populations are especially vulnerable to exploitation. Many of the species targeted for their fins have long lifespans, mature slowly, and produce relatively few young, making them slow to recover from unsustainable fishing.

In 2010, to protect sharks and prevent loopholes in current law, Congress enacted the Shark Conservation Act, requiring that sharks landed in the United States must have their fins naturally attached to their bodies. This prohibits finning, as sharks must be brought to shore before fins may be removed. However, despite this positive step, shark fins continue to be bought and sold in the United States. Some of those fins may come from sharks legally caught for their meat in a managed U.S. fishery, but others are imported from abroad, where similar protections may not be in place.

Sharks have important ecological and economic value. Every year, shark watchers spend an estimated \$314 million on shark ecotourism, and researchers expect that number to more than double within the next 20 years. Ecologically, individual shark species play unique and diverse roles in structuring ocean food webs. This means that declines in shark populations can create a domino effect of unintended consequences, including the possibility of damaging populations of seafood that we like to eat.

A nationwide prohibition on the trade of shark fins would reduce the international fin trade, improve enforcement of the current finning ban, and perhaps most importantly, reinforce the status of the United States as a leader in shark conservation. A national ban would send a message to other countries that the United States recognizes shark finning as a cruel process that should not be allowed to continue. For all of these reasons, Congress should prohibit the sale and trade of all shark fins and shark fin products in the United States.

Between 63 and 273 million sharks are killed every year

Background



harks are among the oldest living vertebrate predators on the planet, originating around 420 million years ago,¹ almost 200 million years before dinosaurs walked the Earth. Despite surviving major mass-extinction events, more than one-quarter of all species in the class referred to as chondricthyans (sharks, rays and chimeras) are threatened with extinction² due to human activities such as overexploitation through targeted fisheries and incidental bycatch.³ In fact, between 63 and 273 million sharks are killed every year.4 Sharks are caught and killed faster than they can reproduce. Scientists estimate sharks are killed, on average, 30 percent faster than they can replace themselves,⁵ and some shark species are now absent where they were once common.6

Because some sharks reach sexual maturity late, grow slowly, and produce few offspring, they are particularly vulnerable to any added mortalities, such as those imposed by unsustainable fishing.7 Some open-ocean sharks take more than a decade to mature to an age at which they can reproduce and will only have one or two pups as infrequently as every three years.8 A comparison of 26 sharks to 151 other fish determined that sharks face twice the risk of extinction resulting from fishing pressure than do other fish.9 Extinction risk is also greater for larger-bodied, shallow-water species,¹⁰ some of the most common species that end up in the fin trade.11

Although some sharks are directly targeted for their meat, including in managed fisheries in the United States, one of the greatest threats facing sharks is the demand for their fins.¹² This demand has led to the wasteful and inhumane practice of shark finning - cutting the fins off of sharks and discarding their bodies at sea. Victims of finning often die a slow death. The sharks can drown (because they can no longer swim to move water through their gills), bleed to death or be eaten alive by other fish. In fact, fins from as many as 73 million sharks end up in the global shark fin trade every year,¹³ and once the fins have been detached from the body, it is impossible to tell whether they come from a shark that has been responsibly caught or from a shark that has been finned.



Many of these fins end up in shark fin soup, which is considered a delicacy in some Asian countries. Hong Kong is the historic center of the global shark fin trade and still represents the largest trader of shark fins,¹⁴ though in recent years that trade has shifted to Guangzhou, a city north of Hong Kong.¹⁵ Of the 14 most popular species in the Hong Kong fin trade, more than 70 percent face the threat of extinction.¹⁶

Fortunately, there is evidence of a downturn in the trade of shark fins through Hong Kong, which suggests the worldwide appetite for fins may be declining.¹⁷ These decreasing trends in the most booming fin trade countries are likely due to increased shark protections and consumer awareness.¹⁸ Despite this promising trend, the demand for shark fin soup is still high, and to meet this demand, millions of sharks continue to be killed every year.¹⁹ This is unacceptable, not only because of the brutal nature of shark finning, but also because of the other pressures facing shark populations throughout the world. Although the United States is not the top consumer of shark fins, shark fin soup does make its way onto menus in U.S. restaurants.²⁰ However, not all shark fins that enter the U.S. market come from sharks that were finned. In some cases, sharks that were targeted for their meat had their fins removed after being brought to port. Some countries do not have protections in place against finning though,²¹ so it is nearly impossible to determine whether a fin was removed from a shark that was caught for its meat or from a shark that was finned and then cast out to sea. This means that even though shark finning is illegal in U.S. waters, any given bowl of shark fin soup in the United States may contain imported fins from a country where shark finning is taking place. With a federal ban, the origin of a fin would not matter because there would be no fins entering the U.S. market, legally caught or otherwise.

The most valued fins used for soup are the dorsal and pectoral fins as well as the lower lobe of the caudal fin.²² Smaller fins are also collected, though they fetch a lower price.²³

Fins are boiled and dried, then bleached using hydrogen peroxide or sulphur to make them more appealing to customers.²⁴ They are most commonly prepared in chicken stock, which is necessary because of the fins' lack of flavor.²⁵

"Even though shark finning is illegal in the United States, any bowl of shark fin soup may contain imported fins from a country where shark finning is taking place." Jeff Litton

Sharks are Important to Ecosystems

harks occupy the upper tiers of many food chains and are often the sole predators of certain marine reptiles, marine mammals, seabirds and even other sharks.²⁶ Some species also help keep coral reefs healthy by cycling nutrients (via their waste), removing invasive species, and cleaning up the reef by scavenging.²⁷ Using models, some studies have predicted that a decrease in shark populations is not only potentially damaging to the ocean ecosystem, but could also hurt commercial fishers, as their target species become depleted due to the unchecked growth of mid-level predators.²⁸

Sharks directly impact ecosystems in their roles as predators, but their presence can even influence the distribution of other animals, which has important ecological consequences. For example, when

tiger sharks are present in Australian waters, large plant-eating species like dugongs and sea turtles will stick to feeding at the edges of seagrass beds, where it is easier to make an escape.²⁹ In a 2007 study, scientists found that when tiger sharks were absent, dugongs moved to the more nutritionally superior grasses at the interiors of the beds, putting those areas at greater risk of overgrazing. The researchers concluded that tiger sharks may exert a powerful indirect effect on the health of seagrass beds by alleviating foraging pressure on plants that would otherwise be heavily picked over by dugongs.³⁰ When foundational species such as seagrasses are overgrazed, the ocean's ability to cycle carbon may be impaired. This means that in an indirect but important way, sharks may have an impact on the planet's ability to regulate climate change.³¹

Sharks are Important to Tourism

hark finning, as a contributor to the global decline of sharks, can threaten ocean-based tourist economies. Shark ecotourism is a growing industry. People all over the world are recognizing the beauty and importance of these creatures, and are increasingly seeking out opportunities to interact with sharks through diving and snorkeling. Shark finning threatens the jobs and revenue produced by these activities. In the long run, sharks are simply more valuable alive and in the water, with all of their appendages attached.

A 2011 study identified 376 shark ecotour operations across 29 countries, including several in the United States, ³² and according to a 2013 study, shark watchers spent over \$314 million globally on shark ecotourism.³³ For example, in South Africa, some tourists reported that shark ecotourism was the only reason they traveled to the region, and that benefit extended to the local and provincial economies as well.³⁴ Tourists visiting Gansbaii, South Africa to view great white sharks made up 50 percent of all local business sales.³⁵ Fiji and the Maldives generate \$42.2 and \$38.6 million per year, respectively, from their shark diving industries.³⁶ In the Bahamas, a close neighbor to the United States, shark ecotourism is valued at an estimated \$78 million per year.³⁷ Researchers anticipate further growth and estimate that shark ecotourism could double in the next 20 years, generating more than \$780 million in tourist expenditures around the world.³⁸

Scuba divers and snorkelers participate in shark ecotourism on every U.S. coast.³⁹ A recent survey of U.S. scuba divers found that sharks were the top species they desired to see on a dive, and that divers are willing to pay an average of \$35 extra per dive to see sharks.⁴⁰ The ongoing economic value live sharks provide is a stark contrast to U.S. fin exports, which, on average, only generate \$3.4 million annually.⁴¹ Fr. Polynesia

Shark watchers spend an estimated \$314 million on shark ecotourism every year



While shark finning is illegal in US waters, fins are still bought and sold in the United States

Congress first began to tackle the issue of shark finning in 2000 with the Shark Finning Prohibition Act (SFPA), and then again with the Shark Conservation Act (SCA) in 2010. The SFPA banned shark finning and discarding the carcass at sea, and imposed a fin-to-carcass ratio requirement, meaning fins could be detached, but the weight of landed fins had to be within a certain ratio of the weight of the rest of landed shark carcasses.

In order to address the difficulty in enforcing the SFPA's ineffective fin-tocarcass ratio, and to close a loophole that allowed American vessels to deliver shark fins to a foreign port for resale (see Appendix 1), Congress passed the SCA in 2010. The SCA replaced the SFPA and made it illegal to remove any fins from a shark (including the tail) at sea, transfer any fin from one vessel to another vessel, or land any fin that is not naturally attached to the corresponding carcass.⁵⁴

The SCA supported shark conservation and reaffirmed the U.S.'s rejection of shark finning. However, the SCA, like the SFPA, still has issues that need to be remedied. For example, shark fins are still being sold in the United States, and many of those fins could have been removed using the very practice that is outlawed by the SCA.

A number of key issues need to be addressed pertaining to the conservation and protection of sharks in the United States. First, the United States continues to import shark fins from countries that

do not have regulations against shark finning.⁵⁵ Second, fins entering and leaving the United States may be from sharks that are threatened with extinction. and DNA tests have verified this.⁵⁶ Third, enforcing a single, nationwide shark fin trade ban would be the most efficient way to ensure finned sharks are not making it into the U.S. market. Fourth, to date, the federal government has not actually finalized the rule that is required in order to implement the domestic provisions of the SCA, initially proposed in May 2013.⁵⁷ Finally, the estimates of how many shark fins are entering and leaving the United States varies greatly depending on the source of the reporting⁵⁸ (Figs. 1 and 2).

Since 2010, the United States has imported fins from 11 countries,⁵⁹ five of which do not have any kind of prohibition on shark finning.⁶⁰ The remaining six countries employ either a fin-to-carcass ratio rule, or a "fins-naturally-attached" rule that is also used in the United States. This rule stipulates that all sharks must be brought to shore with their fins attached to the carcass.

Even countries employing the finsnaturally-attached rule cannot necessarily prevent shark finning in their waters. Practices like transferring illegal catch to other ships at sea or slipping illegal catch though poorly-monitored ports allow shark finners to dodge even the most well-meaning conservation practices. These activities — as well as the substitutions that can occur under the fin-to-carcass ratio rules and the fishing practices in countries The fin-to-carcass ratio method is widely known to be ineffective at actually preventing finning, primarily because it allows for the mixing of bodies and fins from different sizes or species of shark.⁵¹

For example, the meat of a tope shark is more valuable than the meat of a hammerhead.⁵² However, a hammerhead shark's fins are more valuable than the fins of a tope shark.⁵³ So while at sea, a vessel could fin a hammerhead shark and discard its carcass. and then land a tope shark, having discarded its fins before coming to port. Upon returning to port, if inspected, the fisher would be found to have complied with the ratio even if it had been finning.

that have no regulations in place at all — mean that fins entering the United States have quite possibly been removed in a manner that is illegal in U.S. waters.

Due to the difficulty in identifying shark species based on detached and processed fins, it is easy for threatened species to end up in the shark fin market. Indeed, genetic tests of fins confiscated by the National Oceanic and Atmospheric Administration (NOAA) identified prohibited, endangered or protected species such as the scalloped hammerhead,⁶¹ the great white shark⁶² and the basking shark.⁶³

It doesn't help that there are estimate discrepancies on how many shark fins are entering and leaving the United States.66 (Figs. 1 and 2). According to the Food and Agriculture Organization of the United Nations (FAO), other countries reported exporting 1,012 metric tons of shark fins to the United States in 2007.⁶⁷ However, that same year, NOAA only reported 28.8 metric tons of shark fin imports.68 Similar discrepancies appear in U.S.-reported exports. In 2011, NOAA reported 38 metric tons of shark fin exports from the United States, yet according to the FAO, other countries reported importing 295 metric tons of shark fins from the United States.⁶⁹

Much of this confusion can be attributed to a complex array of labeling rules and commodity codes. The United States requires shark fins to be labeled as shark fins only if they are dried. So if shark fins are "wet"-fresh, frozen, on ice, or processed in any way other than being dried-the sellers or processors do not have to label them as "shark fins." This limited requirement has implications beyond the inconsistencies of import/ export data. Under current regulations, there is almost no way of knowing if a fin was removed from a managed fishery like the Australian gummy shark or the Atlantic blacktip, or from a species that is considered endangered or vulnerable by the International Union for Conservation of Nature and Natural Resources (IUCN), like a scalloped hammerhead, great white or whale shark.70

TABLE 1

14 Most Common Shark Species Involved in the Hong Kong Fin Trade⁶⁴

More than 70 percent of these species

are considered at high or very high risk of

extinction (endangered or vulnerable).65

Near Threatened Vulnerable Endangered Unknown Decreasing Unknown C

IUCN Red **IUCN** Common Name List Status Trend BLUE SHORTFIN MAKO SILKY DUSKY SANDBAR TIGER SCALLOPED HAMMERHEAD **SMOOTH HAMMERHEAD** Ω **GREAT HAMMERHEAD** COMMON THRESHER **BIGEYE THRESHER PELAGIC THRESHER** BULL **OCEANIC WHITETIP**

A Call to Action

Ricardo Roberto Fernández Martínez

Time to Act: Congress Should Ban the Buying and Selling of Shark Fins

TABLE 2

COUNTRIES WE

ILADODT FROM

In light of the deficiencies in shark fin trade data, the inconsistencies in regulations among countries, and the threatened nature of many shark species, the best way to ensure that the United States is not supporting shark finning would be an outright ban on the trade of shark fins in the United States.

Hawaii, Oregon, Washington, California, Illinois, Maryland, Delaware, New York, Massachusetts, Texas, American Samoa, the Commonwealth of Northern Mariana Islands and Guam have all already banned the sale or trade of most shark fins.71 The Chinese government has stopped serving shark fin soup at official government banquets.72 Private companies are also refusing to ship or sell shark fin products, including Amazon, GrubHub,73 many hotels and major airlines, Hong Kong Disneyland and multiple shipping companies.74 However, as companies and states close the door on the shark fin trade, other doors remain open, and the market shifts accordingly. For example, after California and Illinois enacted their bans, shark fin trade activity in the United States shifted primarily to Texas. Now that Texas is poised to implement its own shark fin trade ban, trade in shark fins has begun to move to Georgia.⁷⁵ A nationwide ban would eliminate the U.S. market entirely, and this game of shark fin ban whack-amole would end.

Right now, it is impossible to know if a shark fin in the United States is a product of finning. A national fin ban would remove that uncertainty. Even though the United States is not the main contributor to the global shark fin market, any reduction in the international trade of shark fins would likely benefit struggling shark populations. A national ban on shark fins would also reinforce the status of the United States as a leader in shark conservation, setting an example for the rest of the world. Shark finning is wasteful, inhumane and a threat to sharks. There's no place for shark fins

FINNING

in the United States, and it's time to make that official. The United States needs to join shark conservation leaders like the Bahamas, Marshall Islands and others, in banning the sale of shark fins and ending participation in this wasteful practice.

| | DAN. | |
|-----------------------------|------|--|
| China | No | |
| China, Hong Kong | No | |
| Indonesia | No | |
| Japan | No | |
| Thailand | No | |
| Australia | Yes | Some states/territories require Fins Naturally Attached |
| New Zealand | Yes | Fins Naturally Attached or Ratio species dependent |
| Spain | Yes | Fins Naturally Attached |
| India | Yes | Fins Naturally Attached |
| South Africa | Yes | Fins Naturally Attached |
| Taiwan Province of China | Yes | Fins Naturally Attached |

TVDE OF DAN

FAO's State of the Global Market for Shark Products and NOAA's 2014 Shark Finning Report to Congress

A Call to Action

Discrepancies in Shark Fin Data

FIGURE 1

Imports of Shark Fins Into the United States



FIGURE 2

Exports of Shark Fins from the United States





US Legal History

Congress enacted the Shark Finning Prohibition Act ("SFPA") in 2000⁷⁶ to ban shark finning (removal of fins and/or tail) and discarding the carcass at sea (the finning prohibition),⁷⁷ to bar the custody, control or possession of shark fins aboard fishing vessels without the corresponding carcass (the possession prohibition),⁷⁸ and to bar landing any shark fins without the corresponding carcass (the landing prohibition).79 The SFPA also imposed a fin-to-carcass ratio standard that prohibited any fishing vessel from landing at a U.S. port with shark fins whose weight exceeded 5 percent of the total weight of shark carcasses landed or on board.⁸⁰

During congressional debate on the SFPA, Congress stated its intent to "eliminate the wasteful and unsportsmanlike practice of shark finning" and noted that the "purpose of this Act is to eliminate shark-finning by addressing the problem comprehensively at both the national and international levels."81 The Congressional Budget Office noted that the SFPA "would impose a new mandate on the private sector by effectively prohibiting the transshipment of fins - the transfer of fins from foreign vessels outside the U.S. Exclusive Economic Zone to U.S.-based vessels for export from the United States."82 However, the delegate to the House of Representatives from American Samoa

warned that the language of the SFPA did not actually ban the transshipment of shark fins by all U.S.-flagged vessels.⁸³ To remedy this, the prohibitions on both possession and landing were added to the SFPA. In addition, the existing definition of "fishing vessel" under the Magnuson-Stevens Act, which included "aiding or assisting" fishing vessels with a broad range of activities including "transportation," was reviewed and considered sufficient to address transshipment concerns.⁸⁴

Despite congressional attempts to prohibit transshipment of shark fins by all U.S.-flagged vessels, the SFPA still contained a significant loophole, which was brought to light by the first case adjudicated under the statute.

On August 14, 2002, the U.S. Coast Guard boarded an American-flagged vessel, the King Diamond II ("KD II"), approximately 250 miles off the coast of Guatemala and seized, pursuant to the SFPA, over 64,000 pounds of shark fins without corresponding carcasses, stipulated to be worth over \$600,000.⁸⁵ A Hong Kong company, Tai Loong Hong Marine Products, Ltd. ("TLH"), had chartered the KD II trawler and ordered it to meet over 20 foreign fishing vessels on the high seas, engage in the at-sea purchase and transfer of shark fins from those vessels, and transport the fins to Guatemala where TLH would accept delivery.⁸⁶ In the civil forfeiture proceeding that followed, the United States argued that the shark fins were subject to forfeiture due to KD II's violation of the possession prohibition of the SFPA; this argument initially prevailed. The trial court found that KD II was a "fishing vessel"87 subject to the possession prohibition of the SFPA, because the KD II aided or assisted foreign vessels in fishing-related activities, including purchase, storage and transportation.88 TLH appealed and challenged the lower court's ruling on the basis that the KD II, while initially registered as a fishing vessel, had been re-registered as a cargo vessel prior to TLH's charter. Therefore, the KD II was not a "fishing vessel," and TLH had no notice that the prohibition on shark fin possession in the SFPA, which only applies to fishing vessels, would also apply to a cargo vessel. Following review of both the plain language of the SFPA and the implementing regulations,⁸⁹ in 2008, the federal appeals court held in favor of TLH and found that "KD II's purchase and delivery of shark fins to a foreign port for resale falls within the ambit of international trade," and "a vessel engaged in such trade has reason to believe that it is not subject to the possession prohibition as a fishing vessel."90 As a result of the court's ruling, a U.S.-flagged cargo vessel, which purchased shark fins on the high seas from a foreign

fishing vessel, could legally deliver shark fins to a foreign port without violating the SFPA, since neither the Act nor the regulations specifically prohibited the possession, sale or transfer of shark fins via U.S. cargo vessels.⁹¹

Yet another case illustrates the difficulties of enforcing the fin-to-carcass ratio in the SFPA. In April 2006, NOAA issued a Notice of Violation and Assessment of Administrative Penalty (NOVA) and a Notice of Permit Sanction (NOPS) to Mark Cordeiro and Willie Etheridge ("Respondents"), alleging 18 separate instances of landing shark fins that exceeded the SFPA's 5 percent fin-tocarcass ratio and recommending \$180,000 in fines as well as a 180-day permit suspension.92 With respect to each of the 18 counts, Respondents admitted that they possessed and offloaded shark fins with a fin-to-carcass ratio in excess of 5 percent,93 however, they argued that they should not be presumed to have engaged in shark finning. Respondents maintained that the fin-to-carcass ratio was not exceeded for lack of a shark carcass for a number of reasons, including that they had cut off all eight fins, (i.e., including the tail fins),⁹⁴ cut the fins "heavy," (leaving extra meat on the fin),⁹⁵ and soaked the fins in water and then froze them to make the fins as heavy as possible before selling to shark fin buyers.96 Following hearings in 2007, 2008 and 2009, as well as several rounds of pleadings along with the copious submission of evidence, in 2011, the administrative law judge adjudicating the matter recognized that the evidence did not allow either the Respondents or NOAA to actually examine or reconstruct the fins-to-carcasses in question, as it was not possible to match each fin to the landed carcass.97 Based on the evidence that was submitted, the administrative law judge found 13 violations of the SFPA and reduced Respondents' sanction to a fine of \$19,500 and a 60-day suspension of federal shark permits.98

In order to close the loophole uncovered by the case,⁹⁹ as well as to try to address the difficulty in enforcing the SFPA's ineffective fin-to-carcass ratio,¹⁰⁰ in 2008 and again in 2009, Congress introduced the Shark Conservation Act ("SCA").¹⁰¹ In December 2009, Congress successfully enacted the SCA, and President Obama signed it into law January 2010.¹⁰² The SCA replaced the SFPA and made the following activities illegal:

(i) to remove any of the fins of a shark (including the tail) at sea;

(ii) to have custody, control or possession of any such fin aboard a fishing vessel unless it is naturally attached to the corresponding carcass;

(iii) to transfer any such fin from one vessel to another vessel at sea, or to receive any such fin in such transfer, without the fin naturally attached to the corresponding carcass; or

(iv) to land any such fin that is not naturally attached to the corresponding carcass, or to land any shark carcass without such fins naturally attached.¹⁰³

In addition to adding the transfer prohibition, the SCA inserted "a rebuttable presumption that if any shark fin (including the tail) is found aboard a vessel other than a fishing vessel, without being naturally attached to the corresponding carcass, such fin was transferred in violation of [the transfer prohibition]."104 The fins-to-carcass ratio was superseded by the fins-naturallyattached rule, which appears throughout the SCA provisions.¹⁰⁵ The SCA defined the term "naturally attached" as "attached to the corresponding shark carcass through some portion of uncut skin."106 Finally, the SCA included an exception for commercial fishing of smooth dogfish.¹⁰⁷

¹ Ferretti, Francesco, Boris Worm, Gregory L. Britten, Michael R. Heithaus, and Heike K. Lotze. "Patterns and Ecosystem Consequences of Shark Declines in the Ocean: Ecosystem Consequences of Shark Declines." *Ecology Letters*, May 2010. doi:10.1111/j.1461-0248.2010.01489.x.

² Dulvy, Nicholas K., Sarah L. Fowler, John A. Musick, Rachel D. Cavanagh, Peter M. Kyne, Lucy R. Harrison, John K. Carlson, et al. "Extinction Risk and Conservation of the World's Sharks and Rays." *Elife* 3 (2014): e00590.

³ Ibid.

⁴ Worm, Boris, Brendal Davis, Lisa Kettemer, Christine A. Ward-Paige, Demian Chapman, Michael R. Heithaus, Steven T. Kessel, and Samuel H. Gruber. "Global Catches, Exploitation Rates, and Rebuilding Options for Sharks." *Marine Policy* 40 (July 2013): 194–204. doi:10.1016/j.marpol.2012.12.034.

⁵ Ibid.

⁶ Ward-Paige, Christine A, Camilo Mora, Heike K Lotze, Christy Pattengill-Semmens, Loren McClenachan, Ery Arias-Castro, and Ransom A Myers. "Large-Scale Absence of Sharks on Reefs in the Greater-Caribbean: A Footprint of Human Pressures." *PloS One* 5, no. 8 (2010): e11968.

⁷ Walker, Terence I. "Can Shark Resources Be Harvested Sustainably? A Question Revisited with a Review of Shark Fisheries." Marine and Freshwater Research 49, no. 7 (1998): 553-572.; Cortés, Enric. "Incorporating Uncertainty into Demographic Modeling: Application to Shark Populations and Their Conservation." Conservation Biology 16, no. 4 (2002): 1048-1062.; Cortés, Enric. "Comparative Life History and Demography of Pelagic Sharks." Sharks of the Open Ocean: Biology, Fisheries and Conservation, 2008, 309–322.; Smith, Susan E, David W Au, and Christina Show. "Intrinsic Rates of Increase in Pelagic Elasmobranchs." Sharks of the Open Ocean: Biology, Fisheries and Conservation, 2008, 288-297.; Simpfendorfer, Colin, Enric Cortés, Michelle Heupel, Elizabeth Brooks, Elizabeth Babcock, Julia Baum, Rory McAuley, et al. "An Integrated Approach to Determining the Risk of Overexploitation for Data-Poor Pelagic Atlantic Sharks." Expert Working Group Report, ICCAT, 2008. http://iotc.org/sites/default/ files/documents/proceedings/2011/wpeb/IOTC-2011-WPEB07-INF01.pdf.

⁸ Cortés, E, A Domingo, P Miller, R Forselledo, F Mas, F Arocha, S Campana, et al. "Expanded Ecological Risk Assessment of Pelagic Sharks Caught in Atlantic Pelagic Longline Fisheries." *Collect. Vol. Sci. Pap. ICCAT* 71, no. 6 (2015): 2637–2688.

⁹ Myers, R. A., and B. Worm. "Extinction, Survival or Recovery of Large Predatory Fishes." *Philosophical Transactions of the Royal Society B: Biological Sciences* 360, no. 1453 (January 29, 2005): 13–20. doi:10.1098/ rstb.2004.1573.

¹⁰ Dulvy, Nicholas K., Sarah L. Fowler, John A. Musick, Rachel D. Cavanagh, Peter M. Kyne, Lucy R. Harrison, John K. Carlson, et al. "Extinction Risk and Conservation of the World's Sharks and Rays." *Elife* 3 (2014): e00590.

¹¹ Clarke, Shelley C, Jennifer E Magnussen, Debra L Abercrombie, Murdoch K McAllister, and Mahmood S Shivji. "Identification of Shark Species Composition and Proportion in the Hong Kong Shark Fin Market Based on Molecular Genetics and Trade Records." *Conservation Biology* 20, no. 1 (2006): 201–211.

¹² Clarke, Shelley, Eleanor J Milner-Gulland, and Trond Bjørndal. "Social, Economic, and Regulatory Drivers of the Shark Fin Trade." *Marine Resource Economics*, 2007, 305–327.

¹³ Clarke, Shelley C., Murdoch K. McAllister, E. J. Milner-Gulland, G. P. Kirkwood, Catherine G. J. Michielsens, David J. Agnew, Ellen K. Pikitch, Hideki Nakano, and Mahmood S. Shivji. "Global Estimates of Shark Catches Using Trade Records from Commercial Markets: Shark Catches from Trade Records." *Ecology Letters* 9, no. 10 (October 2006): 1115–26. doi:10.1111/ j.1461-0248.2006.00968.x.

¹⁴ Dent, Felix, and Shelley Clarke. "State of the Global Market for Shark Products." Food and Agriculture Organization of the United Nations. FAO Fisheries and Aquaculture Technical Paper. Rome, 2015.

¹⁵ WILDAID. "Evidence of Declines in Shark Fin Demand in China." WildAid, 2014.

¹⁶ Ibid.

¹⁷ Dent, Felix, and Shelley Clarke. "State of the Global Market for Shark Products." Food and Agriculture Organization of the United Nations. FAO Fisheries and Aquaculture Technical Paper. Rome, 2015.

18 Ibid.

¹⁹ Ibid.; Clarke, Shelley C., Murdoch K. McAllister, E. J. Milner-Gulland, G. P. Kirkwood, Catherine G. J. Michielsens, David J. Agnew, Ellen K. Pikitch, Hideki Nakano, and Mahmood S. Shivji. "Global Estimates of Shark Catches Using Trade Records from Commercial Markets: Shark Catches from Trade Records." *Ecology Letters* 9, no. 10 (October 2006): 1115–26. doi:10.1111/j.1461-0248.2006.00968.x.

²⁰ Fields, Andrew T., Debra L. Abercrombie, Rowena Eng, Kevin Feldheim, and Demian D. Chapman. "A Novel Mini-DNA Barcoding Assay to Identify Processed Fins from Internationally Protected Shark Species." Edited by Adam Stow. *PLOS ONE* 10, no. 2 (February 3, 2015): e0114844. doi:10.1371/journal. pone.0114844.

²¹ WILDAID. "Evidence of Declines in Shark Fin Demand in China." WildAid, 2014.

²² Musick, John A, and Ramón Bonfil. Management Techniques for Elasmobranch Fisheries. 474. Food & Agriculture Org., 2005.

²³ Ibid.

²⁴ Vannuccini, Stefania. *Shark Utilization, Marketing, and Trade*. 389. Food & Agriculture Org., 1999.

²⁵ "The End of the Line? Global Threats to Sharks." WildAid, 2007.

²⁶ Ferretti, Francesco, Boris Worm, Gregory L. Britten, Michael R. Heithaus, and Heike K. Lotze. "Patterns and Ecosystem Consequences of Shark Declines in the Ocean: Ecosystem Consequences of Shark Declines." *Ecology Letters*, May 2010. doi:10.1111/j.1461-0248.2010.01489.x.

²⁷ Roff, George, Christopher Doropoulos, Alice Rogers, Yves-Marie Bozec, Nils C Krueck, Eleanor Aurellado, Mark Priest, Chico Birrell, and Peter J Mumby. "The Ecological Role of Sharks on Coral Reefs." *Trends in Ecology & Evolution* 31, no. 5 (2016): 395–407. And citations within.

²⁸ Ferretti, Francesco, Boris Worm, Gregory L. Britten, Michael R. Heithaus, and Heike K. Lotze. "Patterns and Ecosystem Consequences of Shark Declines in the Ocean: Ecosystem Consequences of Shark Declines." *Ecology Letters*, May 2010. doi:10.1111/j.1461-0248.2010.01489.x.; Stevens, J. "The Effects of Fishing on Sharks, Rays, and Chimaeras (Chondrichthyans), and the Implications for Marine Ecosystems." *ICES Journal of Marine Science* 57, no. 3 (June 2000): 476–94. doi:10.1006/jmsc.2000.0724.; Okey, T. "A Trophic Model of a Galápagos Subtidal Rocky Reef for Evaluating Fisheries and Conservation Strategies." *Ecological Modelling* 172, no. 2–4 (March 1, 2004): 383–401. doi:10.1016/j.ecolmodel.2003.09.019.

²⁹ Wirsing, Aaron J, Michael R Heithaus, and Lawrence M Dill. "Living on the Edge: Dugongs Prefer to Forage in Microhabitats That Allow Escape from rather than Avoidance of Predators." *Animal Behaviour* 74, no. 1 (2007): 93–101.

³⁰ Ibid.; Burkholder, Derek A., Michael R. Heithaus, James W. Fourqurean, Aaron Wirsing, and Lawrence M. Dill. "Patterns of Top-down Control in a Seagrass Ecosystem: Could a Roving Apex Predator Induce a Behaviour-Mediated Trophic Cascade?" Edited by Peter Hambäck. *Journal of Animal Ecology* 82, no. 6 (November 2013): 1192–1202. doi:10.1111/1365-2656.12097.; Heithaus, Michael. R., A. J. Wirsing, and L. M. Dill. "The Ecological Importance of Intact Top-Predator Populations: A Synthesis of 15 Years of Research in a Seagrass Ecosystem." *Marine and Freshwater Research* 63, no. 11 (2012): 1039. doi:10.1071/ MF12024.

³¹ Atwood, Trisha B., Rod M. Connolly, Euan G. Ritchie, Catherine E. Lovelock, Michael R. Heithaus, Graeme C. Hays, James W. Fourqurean, and Peter I. Macreadie. "Predators Help Protect Carbon Stocks in Blue Carbon Ecosystems." *Nature Climate Change* 5, no. 12 (September 28, 2015): 1038–45. doi:10.1038/ nclimate2763.

³² Gallagher, Austin J., and Neil Hammerschlag. "Global Shark Currency: The Distribution, Frequency, and Economic Value of Shark Ecotourism." *Current Issues in Tourism* 14, no. 8 (November 2011): 797–812. doi:10.10 80/13683500.2011.585227.

³³ Cisneros-Montemayor, Andrés M., Michele Barnes-Mauthe, Dalal Al-Abdulrazzak, Estrella Navarro-Holm, and U. Rashid Sumaila. "Global Economic Value of Shark Ecotourism: Implications for Conservation." *Oryx* 47, no. 3 (July 2013): 381–88. doi:10.1017/ S0030605312001718.

³⁴ Dicken, M L, and S G Hosking. "Socio-Economic Aspects of the Tiger Shark Diving Industry within the Aliwal Shoal Marine Protected Area, South Africa." *African Journal of Marine Science* 31, no. 2 (August 2009): 227–32. doi:10.2989/AJMS.2009.31.2.10.882.

³⁵ Hara, Mafaniso, Irma Maharaj, and Linda Pithers. "Marine-Based Tourism in Gansbaai: A Socio-Economic Study." *Final Report for the Department of Environmental Affairs and Tourism (DEAT), South Africa.* 55pp, 2003.

References

³⁶ Vianna, GMS, JJ Meeuwig, D Pannell, H Sykes, and MG Meekan. "The Socioeconomic Value of the Shark-Diving Industry in Fiji." *Perth: University of Western Australia.* 26p, 2011.; Martin, RA, and AAA Hakeem. "Development of a Sustainable Shark Diving Ecotourism Industry in the Maldives: Challenges and Opportunities." *Maldives Marine Research Bulletin* 8 (2006): 1–53.

³⁷ Cline, W. "Shark Diving Overview for the Islands of the Bahamas." *Economic Report Prepared for the Bahamas Dive Association and the Ministry of Tourism. P* 36 (2008).

³⁸ Cisneros-Montemayor, Andrés M., Michele Barnes-Mauthe, Dalal Al-Abdulrazzak, Estrella Navarro-Holm, and U. Rashid Sumaila. "Global Economic Value of Shark Ecotourism: Implications for Conservation." *Oryx* 47, no. 3 (July 2013): 381–88. doi:10.1017/ S0030605312001718.

³⁹ Gallagher, Austin J., and Neil Hammerschlag. "Global Shark Currency: The Distribution, Frequency, and Economic Value of Shark Ecotourism." Current Issues in Tourism 14, no. 8 (November 2011): 797–812. doi:10 .1080/13683500.2011.585227.

⁴⁰ Snyderman, Marty. "Sea the Value: Quantifying the Value of Marine Life to Divers." Oceana, n.d. http:// oceana.org/sites/default/files/reports/SeaTheValue_ Final_web1.pdf.

⁴¹ Dent, Felix, and Shelley Clarke. "State of the Global Market for Shark Products." Food and Agriculture Organization of the United Nations. FAO Fisheries and Aquaculture Technical Paper. Rome, 2015.

⁴² Vianna, GMS, JJ Meeuwig, D Pannell, H Sykes, and MG Meekan. "The Socioeconomic Value of the Shark-Diving Industry in Fiji." *Perth: University of Western Australia.* 26p, 2011.

⁴³ Clua, E., Buray, N., Legendre, P., Mourier, J., Planes, S., 2011. Business partner or simple catch? The economic value of the sicklefin lemon shark in French Polynesia. In: Marine and Freshwater Research, 2011, 62, 764-770.

⁴⁴ Martin, RA, and AAA Hakeem. "Development of a Sustainable Shark Diving Ecotourism Industry in the Maldives: Challenges and Opportunities." *Maldives Marine Research Bulletin* 8 (2006): 1–53.

⁴⁵ Vianna, G.M.S., M.G. Meekan, D.J. Pannell, S.P. Marsh, and J.J. Meeuwig. "Socio-Economic Value and Community Benefits from Shark-Diving Tourism in Palau: A Sustainable Use of Reef Shark Populations." *Biological Conservation* 145, no. 1 (January 2012): 267–77. doi:10.1016/j.biocon.2011.11.022.

⁴⁶ Topelko, K.N., and Dearden, P. 2005. The shark watching industry and its potential contribution to shark conservation. Journal of Ecotourism, 4(2): 108-128.

⁴⁷ Rowat D, and Engelhardt U. 2007. Seychelles: A case study of community involvement in the development of whale shark ecotourism and its socio-economic impact. *Fisheries Research* 84: 109–113.

⁴⁸ Dicken, M L, and S G Hosking. "Socio-Economic Aspects of the Tiger Shark Diving Industry within the Aliwal Shoal Marine Protected Area, South Africa." *African Journal of Marine Science* 31, no. 2 (August 2009): 227–32. doi:10.2989/AJMS.2009.31.2.10.882. ⁴⁹ Hara, Mafaniso, Irma Maharaj, and Linda Pithers. "Marine-Based Tourism in Gansbaai: A Socio-Economic Study." *Final Report for the Department of Environmental Affairs and Tourism (DEAT), South Africa.* 55pp, 2003.

⁵⁰ Jones T, Wood D, Catlin J, Norman B (2009) Expenditure and ecotourism: predictors of expenditure for whale shark tour participants. Journal of Ecotourism 8(1): 32–50.

⁵¹ Fowler, Sarah, Bernard Séret, and Shelley Clarke. Shark Fins in Europe: *Implications for Reforming the EU Finning Ban*. Simon Fraser University, IUCN Shark Specialist Group c/o Department of Biology, 2010.

⁵² Dent, Felix, and Shelley Clarke. "State of the Global Market for Shark Products." Food and Agriculture Organization of the United Nations. FAO Fisheries and Aquaculture Technical Paper. Rome, 2015.

⁵³ Ibid.

⁵⁴ Shark Conservation Act, Pub. L. No. 111-348, § 103(a)(1), 124 Stat. 3668, 3670 (2010), as codified at 16 U.S.C. § 1857.

⁵⁵ The Magnuson-Stevens Act includes an Equivalent Conservation Measures provision that could potentially be used to address differences in conservation regulations, especially in relation to bycatch of sharks. 16 U.S.C. § 1826k.

⁵⁶ Fields, Andrew T., Debra L. Abercrombie, Rowena Eng, Kevin Feldheim, and Demian D. Chapman. "A Novel Mini-DNA Barcoding Assay to Identify Processed Fins from Internationally Protected Shark Species." Edited by Adam Stow. PLOS ONE 10, no. 2 (February 3, 2015): e0114844. doi:10.1371/journal. pone.0114844.; Abercrombie, Debra L., Shelley C. Clarke, and Mahmood S. Shivji. "Global-Scale Genetic Identification of Hammerhead Sharks: Application to Assessment of the International Fin Trade and Law Enforcement." Conservation Genetics 6, no. 5 (September 2005): 775-88. doi:10.1007/s10592-005-9036-2.: Shivii. Mahmood S., Demian D. Chapman, Ellen K. Pikitch, and Paul W. Raymond. "Genetic Profiling Reveals Illegal International Trade in Fins of the Great White Shark, Carcharodon Carcharias." Conservation Genetics 6, no. 6 (February 20, 2006): 1035-39. doi:10.1007/ s10592-005-9082-9.; Magnussen, J. E., E. K. Pikitch, S. C. Clarke, C. Nicholson, A. R. Hoelzel, and M. S. Shivji. "Genetic Tracking of Basking Shark Products in International Trade." Animal Conservation 10, no. 2 (May 2007): 199-207. doi:10.1111/j.1469-1795.2006.00088.x.

⁵⁷ Magnuson-Stevens Act Provisions; Implementation of the Shark Conservation Act, 78 Fed. Reg. 25685 (May 2, 2013).

⁵⁸ Dent, Felix, and Shelley Clarke. "State of the Global Market for Shark Products." Food and Agriculture Organization of the United Nations. FAO Fisheries and Aquaculture Technical Paper. Rome, 2015.

⁵⁹ NOAA, "2014 Shark Finning Report to Congress"; Dent and Clarke, "State of the Global Market for Shark Products."

⁶⁰ Humane Society International, "National Laws, Multi-Lateral Agreements, Regional and Global Regulations on Shark Protection and Shark Finning," n.d., http://www.hsi.org/assets/pdfs/shark_finning_ regs_2014.pdf. ⁶¹ Debra L. Abercrombie, Shelley C. Clarke, and Mahmood S. Shivji, "Global-Scale Genetic Identification of Hammerhead Sharks: Application to Assessment of the International Fin Trade and Law Enforcement," Conservation Genetics 6, no. 5 (September 2005): 775–88, doi:10.1007/s10592-005-9036-2.

⁶² Shivji, Mahmood S., Demian D. Chapman, Ellen K. Pikitch, and Paul W. Raymond. "Genetic Profiling Reveals Illegal International Trade in Fins of the Great White Shark, Carcharodon Carcharias." Conservation Genetics 6, no. 6 (February 20, 2006): 1035–39. doi:10.1007/s10592-005-9082-9.

⁶³ Magnussen, J. E., E. K. Pikitch, S. C. Clarke, C. Nicholson, A. R. Hoelzel, and M. S. Shivji. "Genetic Tracking of Basking Shark Products in International Trade." *Animal Conservation* 10, no. 2 (May 2007): 199–207. doi:10.1111/j.1469-1795.2006.00088.x.

⁶⁴ Clarke, Shelley C, Jennifer E Magnussen, Debra L Abercrombie, Murdoch K McAllister, and Mahmood S Shivji. "Identification of Shark Species Composition and Proportion in the Hong Kong Shark Fin Market Based on Molecular Genetics and Trade Records." *Conservation Biology* 20, no. 1 (2006): 201–211.

⁶⁵ WILDAID. "Evidence of Declines in Shark Fin Demand in China." WildAid, 2014.

⁶⁶ Dent, Felix, and Shelley Clarke. "State of the Global Market for Shark Products." Food and Agriculture Organization of the United Nations. FAO Fisheries and Aquaculture Technical Paper. Rome, 2015

⁶⁷ Dent, Felix, and Shelley Clarke. "State of the Global Market for Shark Products." Food and Agriculture Organization of the United Nations. FAO Fisheries and Aquaculture Technical Paper. Rome, 2015

⁶⁸ NOAA, "2014 Shark Finning Report to Congress."

⁶⁹ Dent, Felix, and Shelley Clarke. "State of the Global Market for Shark Products." Food and Agriculture Organization of the United Nations. FAO Fisheries and Aquaculture Technical Paper. Rome, 2015

⁷⁰IUCN, "IUCN Red List of Threatened Species," 2016, http://www.iucnredlist.org.

⁷¹ Humane Society International, "National Laws, Multi-Lateral Agreements, Regional and Global Regulations on Shark Protection and Shark Finning."

⁷² WILDAID. "Evidence of Declines in Shark Fin Demand in China." WildAid, 2014.

⁷³Oceana, "GrubHub to Ban Sake of Shark Fin Products" http://usa.oceana.org/press-releases/grubhub-ban-saleshark-fin-products

⁷⁴ Animal Welfare Institute, "International Shark Finning Bans and Policies," n.d., https://awionline.org/ content/international-shark-finning-bans-and-policies.

⁷⁵NOAA Office of Science and Technology, "Commercial Fisheries Statistics," n.d.

⁷⁶ Shark Finning Prohibition Act, Pub.L. No. 106–557, 114 Stat. 2771 (2000), codified at 16 U.S.C. § 1857.

⁷⁷ 16 U.S.C. § 1857(1)(P)(i).

78 16 U.S.C. § 1857(1)(P)(ii).

79 16 U.S.C. § 1857(1)(P)(iii).

References

80 16 U.S.C. § 1857:

For purposes of subparagraph (P) there is a rebuttable presumption that any shark fins landed from a fishing vessel or found on board a fishing vessel were taken, held, or landed in violation of subparagraph (P) if the total weight of shark fins landed or found on board exceeds 5 percent of the total weight of shark carcasses landed or found on board.

⁸¹H.R. 5461, 106th Cong., 114 Stat. 2772 (2000).

⁸²H.R. Rep. No. 106-650 at 5 (2000).

⁸³ H.R. Report No. 110-740 at 3 (2008) (noting that Eni F. H. Faleomavaega (D–AS) expressed this concern, stating, "Many shark fins never make it to port, but are transshipped at sea to foreign fishing vessels. The volume and value of these transshipments are poorly documented * * * I am forced to ask: How are we ever going to eliminate the practice of shark finning if we allow transshipments to take place under our noses * * *?").

⁸⁴ Id.

⁸⁵ United States v. Approximately 64,695 Pounds of Shark Fins, 520 F.3d 976, 979 (9th Cir. 2008).

⁸⁶ Id.

⁸⁷ The Magnuson-Stevens Act defines "fishing vessel" as "any vessel, boat, ship, or other craft which is used for, equipped to be used for, or of a type which is normally used for – (A) fishing; or (B) aiding or assisting one or more vessels at sea in the performance of any activity relating to fishing, including, but not limited to, preparation, supply, storage, refrigeration, transportation or processing." 16 U.S.C. § 1802(18).

⁸⁸ United States v. Approximately 64,695 Pounds of Shark Fins, 353 F. Supp. 2d 1095, 1102 (S.D. Cal. 2005)

Selling the fish at sea saves the storage, transportation and landing expenses necessary to bring the fish to market, thereby increasing the profitability of the voyage. By going from ship to ship purchasing a total of 64,695 pounds of shark fins for resale in the wholesale market, the KD II aided and assisted an activity related to fishing within the plain meaning of the statute and became a "fishing vessel" as that term is defined in 16 U.S.C. § 1802(17)(B).

ld. at 1106 (finding that TLH "as a corporation regularly dealing in shark fins, 'should at least have been aware of the strong possibility' that the KD II may have constituted a fishing vessel and thus subject to the SFPA").

⁸⁹ The SFPA implementing regulations includes mention of cargo vessels in the landing prohibition but only mentions fishing vessels in the possession prohibition. *Compare* 50 C.F.R § 600.1204(c) (landing prohibition) with 50 C.F.R. § 600.1204(b) (possession prohibition).

⁹⁰ United States v. Approximately 64,695 Pounds of Shark Fins, 520 F.3d 976, 982 (9th Cir. 2008).

⁹¹ See United States v. Approximately 64,695 Pounds of Shark Fins, 520 F.3d 976 (9th Cir. 2008) (holding that a U.S. flag vessel is not prohibited from at-sea purchases and possession of shark fins for the purpose of resale and delivery to a foreign port).

⁹² In the Matter of: Mark Cordeiro and Willie Etheridge III, Respondents, 2001 NOAA LEXIS 1, 7 (Jan. 5, 2011).

93 Id. at 15.

⁹⁴ The SFPA's fins-to-carcass ratio was based on an average ratio for all sharks in the mixed Atlantic shark fishery and included only the four primary fins and not the additional secondary fins, so Respondents argued that their fin-to-carcass ratio was higher because of the extra four fins. *Id.* at 68-72.

95 Id. at 19, 71-77.

⁹⁶ Id. at 19-20, 77-78.

97 Id. at 44-45.

⁹⁸ *Id.* at 117.

99 H.R. Report No. 110-740 at 3-4 (2008).

First, the bill would eliminate an enforcement loophole related to the transport of shark fins by prohibiting the transfer of shark fins from one vessel to another at sea without the corresponding carcass. This loophole was brought to light when the Ninth Circuit Court of Appeals ruled that a U.S. vessel, which had purchased fins from several fishing vessels engaged in finning on the high seas to transport them to Guatemala, was not considered a fishing vessel under the definition of such vessels found in Magnuson (despite what Congress had assumed when they passed the bill in 2000) and therefore not subject to the prohibition on transporting fins without the corresponding carcasses. H.R. 5741. therefore, adds the new prohibition regarding the transfer of fins from one vessel to another at sea without the corresponding carcass. This would preclude a vessel from circumventing the ban on finning by going out and purchasing the illegally harvested fins on the high seas and then transporting them back to U.S. ports or elsewhere. It would not preclude container vessels or other vessels from transporting fins that were harvested legally and then brought to shore.

¹⁰⁰ *Id.* at 4.

Second, the bill would address the difficulty that has become apparent in enforcing the statute's percentage-based standard. It would delete the rebuttable presumption that any shark fins landed were taken, held, or landed in violation of the law if the total weight of shark fins landed or found on board exceeds five percent of the total weight of shark carcasses. This "fin to carcass" ratio was intended to provide a mechanism for enforcing the finning prohibition by ensuring that the amount of fins landed is proportional to the amount of bodies. However, it has proven very difficult to determine whether a given set of fins belong to a particular dressed carcass. Agency law enforcement personnel have reported incidents of fishermen mixing fins and carcasses for maximum profit and continuing to discard less desirable, finned sharks at sea. As an alternative to the rebuttable presumption, H.R. 5741 would require that sharks be landed with fins naturally attached. This "fins attached" requirement also applies to the custody, transfer of fins at sea from one vessel to another, and to the landing of shark fins.

¹⁰¹ Delegate Madeline Bordallo of Guam introduced H.R. 5741, the Shark Conservation Act of 2008, in the 110th Congress in May 2008, and it passed the House in July 2008 but then languished and died in the Senate. See H.R. 5741, Bill Summary & Status, http://thomas. loc.gov/cgi-bin/bdquery/z?d110:HR05741:@@@R (last visited May 3, 2016). Delegate Bordallo reintroduced the bill as H.R. 81 in January 2009. H.R. 81, Bill Summary & Status, http://thomas.loc.gov/cgi-bin/ bdquery/z?d111:HR00081:@@@R (last visited May 3, 2016).

¹⁰² H.R. 81, Bill Summary & Status, http://thomas.loc. gov/cgi-bin/bdquery/z?d111:HR00081:@@@R (last visited May 3, 2016).

¹⁰³ Shark Conservation Act, Pub. L. No. 111-348, §
103(a)(1), 124 Stat. 3668, 3670 (2010), as codified at 16
U.S.C. § 1857.

¹⁰⁴ Id.

¹⁰⁵ While the rebuttable presumption language from the SFPA related to the fins-to-carcass rule was not deleted as planned, i.e., the SCA still contains the following language: "if, after landing, the total weight of shark fins (including the tail) landed from any vessel exceeds five percent of the total weight of shark carcasses landed, such fins were taken, held, or landed in violation [of the SCA]," the language is superfluous as it has been superseded by the fins naturally attached rule found in sections 1857(P)(ii)-(iv) and the first rebuttable presumption related to the transfer prohibition. *Id.*

¹⁰⁶ Id.

¹⁰⁷ Id. at § 103(b):

The amendments made by subsection (a) do not apply to an individual engaged in commercial fishing for smooth dogfish (Mustelus canis) in that area of the waters of the United States located shoreward of a line drawn in such a manner that each point on it is 50 nautical miles from the baseline of a State from which the territorial sea is measured, if the individual holds a valid State commercial fishing license, unless the total weight of smooth dogfish fins landed or found on board a vessel to which this subsection applies exceeds 12 percent of the total weight of smooth dogfish carcasses landed or found on board.

