Plight of an Ocean Predator: The Shark Conservation Act of 2010 and the Future of Shark Conservation Legislation in the United States

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"Shark populations are declining worldwide rapidly because of human activities. At best, we don't seem to really notice. And at worst, we don't seem to really care."[1]

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[1] Dr. Andrew P. Nosal, PhD, Birch Aquarium DeLaCoeur, Fellow in Ecology and Conservation at the Scripps Inst. Of Oceanography, lecture titled "*Shark Conservation: Safeguarding the Future of Our Oceans*" (July 8, 2012) (available at http://www.uctv.tv/shows/Shark-Conservation-Safeguarding-the-Future-of-Our-Ocean-25203, last visited October 7, 2014).

I. INTRODUCTION

Powerful. Deadly. Evil. Cold-blooded killers. These are only a few of the adjectives that typically come to mind when someone utters the word "shark." From the man-eating villain in the 1975 thriller "Jaws" to Bruce, the friendly vegetarian in the 2003 film "Finding Nemo,"[2] few animals capture the human

[2] Nicolas Jackson, *Shark Week: Remembering Bruce, the Mechanical Shark in 'Jaws'*, THE ATLANTIC (Aug. 3, 2011, 5:22 PM), http://www.theatlantic.com/technology/archive/2011/08/shark-

imagination in quite the same way. Yet these awe-inspiring creatures are disappearing from oceans all across the world at an alarming rate.[3] And as shark expert Dr. Andrew Nosal notes, society appears somewhat indifferent to the rapidly vanishing shark populations.

The United States began regulating shark fisheries in the 1990s. Despite this nascent step, insufficient scientific data and negative public attitudes toward sharks greatly hampered the effectiveness of these efforts.[4] Damaging media attention exacerbated these negative attitudes, as was perfectly illustrated in 2001 when a single shark attack off the southeastern coast of the United States sparked worldwide media coverage of other shark bites and sightings. Known as "The Summer of the Shark," sensationalized news coverage of the attacks fed the innate fear many humans have of these animals.[5] Fortunately, as society becomes better informed about sharks, the attitude of "the only good shark is a dead shark"[6] seems to change.[7] But despite this transforming outlook, fishermen still harvest sharks in unsustainable quantities resulting in the greatest level of shark exploitation in human history.[8]

The International Union for Conservation of Nature (IUCN), the oldest and largest global environmental organization to evaluate species' extinction risks,[9] lists over half of the known shark species as critically endangered, endangered, vulnerable, or near threatened.[10] Collaborative efforts between entities,

week-remembering-bruce-the-mechanical-shark-in-jaws/243026/; FINDING NEMO (Walt Disney Pictures and Pixar Animation 2003). Fun Fact: "Bruce" was also the name for the pneumatically powered stunt sharks used in the production of Jaws. The film prop was named so after Spielberg's long-time lawyer, Bruce Ramer.

[3] SHARK SAVERS, *Population Declines for Shark Species Prevalent in the Shark Fin Trade* (2012), http://www.sharksavers.org/files/7413/3046/2395/Shark_Declines-SFT_Species_Shark_Savers.pdf [hereinafter SHARK SAVERS - *Population Declines*] (citing >99% species decline for multiple species throughout the world, including but not limited to the oceanic whitetip shark, shortfin mako, and bull shark).

[4] GREG SKOMAL, THE SHARK HANDBOOK: THE ESSENTIAL GUIDE FOR UNDERSTANDING THE SHARKS OF THE WORLD 86-87 (2008).

[5] Jeordan Legon, *Survey: 'Shark summer' bred fear, not facts*, CNN, (Mar. 14, 2003, 6:32 AM), http://www.cnn.com/2003/TECH/science/03/13/shark.study/ (last visited Oct. 7, 2014).

[6] SKOMAL, *supra* note 4, at 87.

[7] *Id.* at 81.

[8] *Id.*

[9] *About IUCN, What is IUCN?*, INTERNATIONAL UNION FOR CONSERVATION OF NATURE, http://www.iucn.org/about/ (last visited Oct. 6, 2014).

[10] SHARK SAVERS, *IUCN Status of Shark Species*, https://www.sharksavers.org/files/8013/3702/5512/IUCN_Status_of_Shark_Species_Shark_Savers.pdf (last visited Oct. 28, 2014) [hereinafter SHARK SAVERS – *IUCN Status of Shark Species*]. 'Critically endangered' indicates that a species is "considered to be facing an extremely high risk of extinction in the wild." 'Endangered' indicates that a species is "considered to be facing a very high risk of extinction in the wild." 'Vulnerable' indicates that a species is "considered to be facing a high risk of extinction." Finally, 'near threatened' indicates that a species is "close to qualifying for or is likely to qualify for a threatened category in the near future." *Id.*

including governments and environmentalists, have attempted to reverse these declining population trends. As a result, significant strides in shark conservation efforts have emerged in both national and international arenas.[11] Several countries recently established shark sanctuaries forbidding commercial fishing operations from harvesting sharks within a specified area.[12] As of October 2014, nine U.S. states have passed legislation effectively banning the possession of shark fins within their borders.[13] In June 2013, the European Union ("EU") formally closed loopholes in the EU Shark Finning Regulation by adopting a policy that requires all EU vessels across the world to land sharks with their fins naturally attached.[14]

Truly comprehensive protections for sharks will undoubtedly require international participation, but individual nations can also make a difference by enacting laws specifically targeted at protecting sharks in waters under their jurisdiction.[15] This paper focuses on the Shark Conservation Act of 2010 ("SCA"),[16] the United States' most recent shark regulation legislation. The SCA contains provisions that affect international and national shark conservation efforts, but this paper limits its focus to the domestic aspects of the SCA.

Shark advocates and environmentalists have applauded the SCA as "a giant step forward for shark conservation."[17] This paper presents a critical analysis of the Shark Conservation Act of 2010 in light of the Act's stated purpose "to improve the conservation of sharks"[18] and suggests legislation to regulate the market for shark fins, not just the practice of finning itself. Part II explores the need for shark conservation, the role of the U.S. in the global shark fin trade, and the history of both federal and non-federal shark legislation. Part III analyzes the good, the bad, and the ugly aspects of the SCA. Part IV examines the shark legislation enacted by individual U.S. states and the impact of the SCA

[11] Andrew Nowell Porter, *Unraveling the Ocean from the Apex Down: The Role of the United States in Overcoming Obstacles to an International Shark Finning Moratorium*, 35 ENVIRONS ENVTL. L. & POL'Y J. 231, 267-69 (2012).

[12] *Enforcing Laws of the World's Shark Sanctuaries*, THE PEW CHARITABLE TRUSTS, (Feb. 5, 2013) http://www.pewtrusts.org/en/about/news-room/news/2013/02/05/enforcing-laws-of-the-worlds-shark-sanctuaries.

[13] *U.S. States with Shark Fin Trade Regulations & Penalties*, SHARKSTWEARDS.ORG, http://sharkstewards.org/fin-free-tool/us-states-with-shark-fin-trade-regulations-penalties/ (last visited Oct. 7, 2014).

[14] *Shark Policy*, SHARKTRUST.ORG, http://www.sharktrust.org/en/shark_policy (last visited Oct. 7, 2014).

[15] Porter, *supra* note 11 at 231.

[16] Shark Conservation Act, Pub. L. No. 111-348, 124 Stat. 3668-3671 (2011) (codified in scattered sections of 16 U.S.C.).

[17] Press Release, Animal Welfare Institute, President Obama Signs the Shark Conservation Act! (Jan. 4, 2011) https://awionline.org/content/president-obama-signs-shark-conservation-act-awi-applauds-law-end-shark-finning (last visited Oct. 7, 2014).

[18] Shark Conservation Act § 3668.

on these state laws. Part V proposes the next step in federal shark legislation.

II. BACKGROUND: THE FUNDAMENTALS OF SHARKS AND A BRIEF HISTORY OF SHARK CONSERVATION IN THE U.S.

Approximately 450 million year ago, an ancient cluster of fish appeared within the earth's primordial oceans.[19] As the earth experienced dramatic changes, this group of fish adapted, evolved, and survived when other species perished.[20] This remarkable collection of fish is the shark, a species that has transformed and improved to become a symbol of evolutionary perfection.[21] But today sharks face a new threat, unlike anything they have experienced before, and millions of years of evolution stand poised on the precipice of extinction.[22] The following section explains why sharks warrant protection, explores the role of the U.S. in the shark fin market, and provides an overview of the history of shark conservation laws in the United States.

A. The Nature of Sharks and Their Shrinking Numbers

Environmental organizations commonly use charming and magnetic species, known as "charismatic megafauna," to further conservation goals.[23] These species are often flagship animals that serve as "symbols and rallying points to stimulate conservation awareness and action."[24] Factors affecting charismatic appeal include the celebrity status of a species, the reputation of the species in human society, aesthetics (i.e. how cuddly the animal appears), and how interesting the animal seems to scientists and people in general.[25] Giant pandas, polar bears, tigers, dolphins, and whales are species that epitomize the classification of charismatic megafauna.[26] Sharks, however, do not.[27] Sharks

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[19] SKOMAL, *supra* note 4, at 10.

[20] *Id*.

[21] *Id*.

[22] *Id*.

[23] Nicholas Lund, *Don't Shoot the Charismatic Megafauna!*, SLATE'S ANIMAL BLOG (Dec. 17, 2013) http://www.slate.com/blogs/wild_things/2013/12/17/snowy_owl_east_coast_irruption_why_charismatic_megafauna_get_all_the_love.html.

[24] Frederic Ducarme, Gloria Luque & Franck Courchamp, *What are "charismatic species" for conservation biologists?* BIOSCIENCES MASTER REVIEWS 1 (July 2013), http://biologie.ens-lyon.fr/ressources/bibliographies/pdf/m1-11-12-biosci-reviews-ducarme-f-2c-m.pdf?lang=en (citing United Nations Environment Program, GLOBAL BIODIVERSITY ASSESSMENT (V.H. Heywood ed., Cambridge University Press 1995)).

[25] *Id*. at 2.

[26] *Id*. (citing Barbara Clucas et al., *Flagship species on covers of US conservation and nature magazines*, 17 BIODIVERSITY AND CONSERVATION 1517, 1522 (2008); Nigel Leader-Williams and Holly T. Dublin, *Charismatic megafauna as 'flagship species'*, *in* PRIORITIES FOR THE CONSERVATION OF MAMMALIAN DIVERSITY: HAS THE PANDA HAD ITS DAY? 53, 71 (Abigail Entwistle & Nigel Dunstone eds., Cambridge University Press 2000)).

[27] Erika J. Techera, *Fishing, Finning and Tourism: Trends in Pacific Shark Conservation and*

have a menacing charismatic appeal for humans in the way they captivate people and elicit feelings of wonderment, awe, and terror.[28] But fear still represents the overwhelming baseline human emotion regarding sharks.[29] Despite the trepidation felt towards these animals, sharks require protection. They serve "a critical role in the ocean environment," have historical significance to many cultures, are vulnerable to overexploitation, and are currently fished at unsustainable rates.[30]

1. Apex Predators Play a Vital Role in Balancing Marine Ecosystems

Healthy and balanced marine ecosystems depend on the preservation of apex predators.[31] Apex predators are animals that, in adulthood, have no natural predators within their ecosystems and are at the top of the food chain.[32] The popular perception that all sharks function as apex predators reflects a widespread misunderstanding of the true ecological roles of each individual species.[33] The world's oceans contain over 450 different shark species[34] and

Management, 27 INT'L J. MARINE & COASTAL L. 597, 599 (2012) [hereinafter Techera - *Fishing, Finning and Tourism*].

[28] Helen Tiffin, *Sharks and the Australian Imaginary*, *in* SOMETHING RICH AND STRANGE: SEA CHANGES, BEACHES AND THE LITTORAL IN THE ANTIPODES, 75 (Susan Hosking, Rick Hosking, Rebecca Pannell & Nena Bierbaum eds., 2009).

[29] *See, e.g.*, Pete Thomas, *After Hawaii's first fatal shark attack since 2004, what's next?*, PETE THOMAS OUTDOORS, (Aug. 22, 2013), http://www.petethomasoutdoors.com/2013/08/after-hawaiis-first-fatal-shark-attack-since-2004-whats-next.html.

Indeed, even in areas with special connections to sharks (like Hawaii) fear remains a commonly elicited emotion, especially in response to shark attacks. In the 1990s, Hawaii witnessed a series of shark attacks that prompted a state sanctioned shark cull resulting in the deaths of at least 50 tiger sharks. In an interview conducted in 1993 with reporter Pete Thomas, Stanley Hong, then-president of the Hawaii Visitors Bureau, said of the state policy, "Quite frankly, I think it is hysteria." Pete Thomas, *COLUMN ONE: Hawaii in the Jaws of a Dilemma: Oahu surfers say deadly sharks lurk beneath the waves, but state officials say it's just a wave of hysteria. Some residents want the sharks left alone, but no one wants tourists to go away*. LOS ANGELES TIMES (Aug. 3, 1993), http://articles.latimes.com/1993-08-03/news/mn-19737_1_tiger-shark.

[30] *See* Erika J. Techera, *Good Environmental Governance: Overcoming Fragmentation in International Law for Shark Conservation and Management*, 105 AM. SOC'Y INT'L L. PROC. 103 (2011) [hereinafter Techera – *Good Environmental Governance*].

[31] *See* Paula Walker, *Oceans in the Balance: As the Sharks Go, So Go We*, 17 ANIMAL L. 97, 100-01 (2010).

[32] *Apex Predators - their impact and importance*, THE GLOBAL SHARK CONSERVATION INITIATIVE, http://www.tgsci.org/index.php?option=com_content&view=article&id=141:apex-predators-their-impact-and-importance&catid=42:blog&Itemid=120 (last visited Oct. 28, 2014).

[33] *Id.* ("Smaller, sluggish shark species fall prey to larger, more rapid shark species. These in turn can be taken by an even larger individual of one of the bigger, more aggressive species. While the Great White Shark is an Apex predator in practically every coastal zone where it occurs, off the Californian coast and Farallone Islands, it is prey to the Orca, who roll it over using co-ordinated teamwork to exploit the sharks' natural 'tonic immobility.' They then devour its huge, oily, highly nutritious liver. Orcas are Apex predators in every region where they occur.").

[34] SKOMAL, *supra* note 4, at 16.

each species serves a unique role in their respective marine ecosystems.[35] Nonetheless, the majority of shark species do operate as hunters, not prey,[36] and marine ecosystems require the presence of these apex predators to retain balance.[37] In their role at the top of the food chain, these sharks help to regulate and maintain the marine ecosystem by removing weaker members of other species.[38] Most of the top predators also have varied diets, enabling these sharks to adapt their prey species when certain populations get low.[39]

Sharks also impact the ecosystem by preventing any single species from monopolizing resources.[40] Sharks use the threat of predation to cause other species to alter their distribution within the habitat and their use of habitat resources.[41] Predation allows sharks to influence the broader community structure and promote greater ecological diversity.[42] Studies show that areas with a higher presence of predatory shark species also have greater levels of biodiversity as compared to those areas with fewer sharks and unchecked lower predatory species.[43] Thus, sharks constitute an important component of a complex marine ecosystem and overfishing these species can result in a cascade of unintended consequences.[44]

2. Sharks Have Historical and Cultural Significance

In addition to an important ecological role, sharks also play an important historical and cultural role. In the U.S., this cultural relevance is particularly prominent in the State of Hawaii. Ancient Hawaiians featured sharks, or *manō*, in many aspects of culture, customs, and mythology.[45] Hawaii's first settlers

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[35] Telephone Interview with Dr. Greg Skomal, Senior Marine Fisheries Scientist, Mass. Dep't of Fish & Game (Feb. 24, 2014) [hereinafter Skomal Interview].

Different areas of the ocean can be classified as different types of marine ecosystems. An ecosystem is defined as 'a community and the interactions of living and nonliving things in an area.' Marine ecosystems have distinct organisms and characteristics that result from the unique combination of physical factors that create them. Marine ecosystems include: the abyssal plain (areas like deep sea coral, whale falls, and brine pools), polar regions such as the Antarctic and Arctic, coral reefs, the deep sea (such as the community found in the abyssal water column), hydrothermal vents, kelp forests, mangroves, the open ocean, rocky shores, salt marshes and mudflats, and sandy shores.

Julie Brown, *Marine Ecosystems*, NAT'L GEOGRAPHIC SOC'Y, http://education.nationalgeographic.com/education/media/marine-ecosystem-illustrations-grades-3-5/?ar_a=1 (last visited Oct. 28, 2014).

[36] SKOMAL, *supra* note 4, at 82.

[37] Techera - *Good Environmental Governance*, *supra* note 30.

[38] Techera - *Fishing, Finning and Tourism*, *supra* note 27, at 599.

[39] E. GRIFFIN, K.L. MILLER, B. FREITAS & M. HIRSCHFIELD, PREDATORS AS PREY: WHY HEALTHY OCEANS NEED SHARKS (2008).

[40] *Id*.

[41] *Id*.

[42] *Id*.

[43] *Id*.

[44] *Id*.

[45] ROWLAND B. REEVE, HAWAIIAN SHARK TRADITIONS, CONTRIBUTION TO SHARKS HAWAI'I

hunted sharks for food and materials to make tools and weapons.[46] They used the skin from a shark, which is thin but strong, to make large drums called *pahu* that were played during temple ceremonies and *hula* performances.[47] Shark teeth were mounted onto wooden handles for use as knives or other cutting tools.[48] Ancient Hawaiians also attached rows of shark teeth to wooden clubs to make fearsome weapons.[49]

Some ancient Hawaiians revered sharks not for their utility as a source for food or tools, but for their mythical and spiritual importance.[50] These Hawaiians believed sharks to be their *'aumākua*, or guardian spirits, whom the family members considered personal gods.[51] These *'aumākua* were thought to protect the extended family, or *'ohana*, and thus were treated as extended members of the family themselves, often cared for and presented with offerings.[52] According to Charles Kauluwehi Maxwell Sr., a Native Hawaiian cultural specialist, Hawaiians "conveyed spiritual importance to animal deities that were created to protect them and their lifestyle. The most important is the shark, which is still held in reverence by our people today. From all the animal deities, the shark is the greatest *'aumākua*."[53] Many other Pacific Island nations have similar historical and cultural connections to sharks including the Cook Islands, Samoa, Fiji, Papa New Guinea, and New Zealand.[54] The significance of sharks to these cultures remains alive and strong in modern times and provides another reason to protect these species.[55]

3. Biological Characteristics Render Sharks Vulnerable to Overexploitation

The biological characteristics of sharks leave the majority of species particularly vulnerable to overfishing and extinction.[56] Overfishing occurs when fishermen catch so many fish that there are not enough left to breed and replenish the population, ultimately depleting the fishery.[57] Most sharks do not

BY ARNOLD SUZUMOTO, 31 (1991).

[46] *Id.* at 32.

[47] *Id.*

[48] *Id.*

[49] *Id.*

[50] *Id.*

[51] *Id.* at 34.

[52] *Id.*

[53] Timothy Hurley, *Shark highly respected in Hawaiian culture*, HONOLULU ADVERTISER (Sept. 28, 2004), http://the.honoluluadvertiser.com/article/2004/Sep/28/il/il06a.html.

[54] *Sharks in Pacific Culture*, SHARK ALLIES, http://www.sharkallies.com/Shark-Info/Sharks-in-Pacific-Culture (last visited October 14, 2014).

[55] *Id.*

[56] SKOMAL, *supra* note 4, at 46.

[57] *Overfishing – A Global Disaster*, OVERFISHING.ORG, http://overfishing.org/pages/what_is_overfishing.php (last visited Oct. 14, 2014).

mature until the age of four or five years old and in some cases do not reach maturity until over twenty years of age.[58] The majority of shark species also have low reproduction rates, giving birth annually or only every two to three years.[59] When sharks do reproduce, they have relatively few offspring in comparison to other fish.[60] The number of baby sharks, called pups,[61] in a litter varies by species and ranges from two to over eighty.[62] Generally, most sharks produce less than twenty offspring per litter.[63] A long gestation period also contributes to the relatively low fecundity rate of most shark species.[64] The length of time a pup takes to develop, again, varies by species but the average period spans several months to two years.[65] The combination of these reproductive and development characteristics render the majority of shark species incapable of enduring high fishing pressures.[66]

Furthermore, sharks have not adapted to high natural mortality rates due to their status as apex predators and are thus even more susceptible to unsustainable fishing practices.[67] In the nineteenth and twentieth centuries, humans witnessed how some species could be more sensitive to fishing pressures than others.[68] Whales, possessing many of the same life history characteristics as sharks, were not able to withstand the tremendous hunting pressures of the time and fishermen nearly destroyed whale populations around the world.[69] Sharks currently face a similar fate and legislators must consider the vulnerability to overfishing exhibited by the majority of shark species when adopting shark conservation measures.[70]

4. Demand for Shark Fin Soup Has Decimated Global Shark Populations

Environmentalists, scientists, and regulating bodies alike frequently cite the demand for shark fin soup as one of the leading forces behind the global decline

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[58] SKOMAL, *supra* note 4, at 74.

[59] *Id.* at 45-46. The way shark reproduce also differs across the various species. Some sharks, such as the horn shark, catshark, and wobbegongs, lay eggs on the bottom of the ocean and their young hatch after the gestation period is complete. All other sharks reproduce with live births, producing fully developed pups. *Id.*

[60] *Id.* at 46.

[61] *Id.* at 45.

[62] *Id.* at 46.

[63] *Id.* at 46.

[64] *Id.* at 45.

[65] *Id.* at 45.

[66] *Id.* at 79.

[67] Lauren Latchford, Conservation or Culture? An analysis of Shark Finning in the United States 1, 9 (Apr. 26, 2013) (unpublished Master of Environmental Management (MEM) dissertation, Duke University) (on file at http://dukespace.lib.duke.edu/dspace/handle/10161/6890).

[68] SKOMAL, *supra* note 4, at 79.

[69] *Id.* at 79.

[70] *Id.* at 79.

in shark populations.[71] Shark fin soup, a Chinese delicacy that dates back to the Ming Dynasty,[72] consists of flavored broth (usually chicken stock) and processed shark fins.[73] Historically prepared as a dish for emperors, shark fin soup developed over time into a symbol of wealth and status.[74] This reputation persisted throughout China's history until the founder of the Communist Party of China, Mao Tse Tung, denounced the dish as an elitist practice.[75] Mao led the party until his death in 1976[76] and by the 1980s, when economic reforms allowed for the reintroduction of certain societal practices, shark fin soup regained favor.[77] The emergence of a robust bourgeois and upper class in China precipitated a surge in the popularity of shark fin soup.[78] The increase in demand for shark fin soup resulted in an exponential growth in the practice of finning that has continued into the twenty-first century.[79]

Shark finning is the cruel practice of cutting off the fins of a shark, usually while the animal is still alive, and throwing the rest of the body overboard.[80] Unable to swim or defend itself, the shark drowns, becomes prey, or starves to

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[71] *See* Latchford, *supra* note 67, at 4; *see also* U.S. DEP'T OF COMMERCE, NOAA (PREPARED BY THE NATIONAL MARINE FISHERIES SERVICE), 2012 SHARK FINNING REPORT TO CONGRESS 1-137, at 1, [hereinafter NOAA - *2012 Shark Finning Report*], *available at* http://www.nmfs.noaa.gov/sfa/domes_fish/ReportsToCongress/SharkFinningReport12.pdf; L. Biery & D. Pauly, *A global review of species-specific shark-fin-to-body-mass ratios and relevant legislation*, 80 J. FISH BIOLOGY 1643, 1643 (2012); *Stop Shark Finning, Shark Fin Soup - what's the scoop?*, http://www.stopsharkfinning.net/shark-fin-soup-whats-the-scoop/ (last visited Oct. 28, 2014).

[72] Shelly Clarke, E.J. Milner-Gulland & Trond Bjorndal Cemare, *Social, Economic, and Regulatory Drivers of the Shark Fin Trade*, 22 MARINE RES. ECON. 305, 307 (2007).

[73] *Stop Shark Finning*, *supra* note 71.

"The parts used in this dish are the fine, noodle-like fin rays or 'needles.' Processors must remove all meat, skin and cartilage from the fins to extract these valuable products. The translucent fin needles are then dried before sale, sometimes in the form of fin nets." Sarah Fowler and Bernard Séret, *Shark fins in Europe: Implications for reforming the EU finning ban*, EUROPEAN ELASMOBRANCH ASSOCIATION AND IUCN SHARK SPECIALIST GROUP 8 (November 2010), http://cmsdata.iucn.org/downloads/sharks_fins_in_europe_implications_for_reforming_the_eu_finning_ban.pdf.

Preparing fins for consumption is a lengthy and difficult process and most of the fins consumed in soup in the United States are not actually processed in the U.S. Instead, the raw fins harvested in U.S. waters are exported to other countries and the already-processed fins that are ready for consumption are imported from foreign nations (usually China) instead of being processed within the U.S. The reasoning for this could be because the Chinese are simply more familiar with the processing requirements and can then prepare the fins for consumption in a more economical fashion than Americans. Telephone Interview with Dr. Demian Chapman, Assistant Professor (School of Marine & Atmospheric Science), Assistant Science Director (Inst. for Ocean Conservation Science), Stony Brook Univ. (Feb. 21, 2014) [hereinafter Chapman Interview].

[74] Clarke et al., *supra* note 72, at 307.

[75] Latchford, *supra* note 67, at 6.

[76] *Mao Tse-tung*, BIOGRAPHY.COM, http://www.biography.com/people/mao-tse-tung-9398142 (last visited Sept. 9, 2014).

[77] Latchford, *supra* note 67, at 6.

[78] *Id.*

[79] See *id.* at 3-6.

[80] Techera - *Fishing, Finning and Tourism*, *supra* note 27, at 609.

death.[81] The high economic value of shark fins compared to the much lower value of shark meat motivates the practice of finning.[82] Shark fins are one of the highest priced food sources in the world, estimated to retail for up to USD $300 per pound.[83] The Florida Fish and Wildlife Conservation Commission's 2012 Annual Landing Summary reports that fishermen in the state of Florida were paid USD $18.76/pound for shark fins while receiving just USD $0.46/pound for shark meat.[84] This price disparity provides little economic incentive for fishermen to utilize valuable cargo space to store the less profitable shark meat.[85] Most shark species simply do not have the biological characteristics to sustain the high level of harvesting that shark finning enables fishermen to engage in.[86] Accordingly, global shark populations continue to rapidly decline.[87]

Although environmental degradation (such as habitat loss, pollution, and climate change) can also impact shark populations,[88] research indicates that overfishing and bycatch mortality in global fisheries are the primary contributors to the recent declines in shark populations.[89] Sharks are notoriously difficult to study, a fact that complicates research efforts to produce accurate species-specific population assessments.[90] The world's oceans contain over 450 shark species that display a wide variety of habits and occupied habitats.[91] These qualities make it extremely difficult to accurately count sharks.[92] As a result, scientific data evaluating population sizes are largely incomplete for many species.[93] Scientists rely on catch evaluations from fishermen,[94] but these statistics generally produce inadequate data to properly manage individual species.[95]

Despite the challenges facing adequate shark stock assessments, some scientific data are available regarding the population trends of certain species. In

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81 *Id*.

82 Latchford, *supra* note 67, at 4.

83 *Id*.

84 *2012 Annual Landings Summary, Statewide*, FLA. FISH AND WILDLIFE CONSERVATION COMMISSION, http://myfwc.com/media/2641818/sumstate_12.pdf (last visited Sept. 9, 2014).

85 Clarke et al., *supra* note 72, at 316.

86 *Id*. at 306.

87 *See id.*

88 Latchford, *supra* note 67, at 9.

89 *See* C.A. Ward-Page, D.M. Keith, B. Worm & H.K. Lotze, *Recovery potential and conservation options for elasmobranches*, 80 J. FISH BIOLOGY 1844, 1844 (2012).

90 Clarke et al., *supra* note 72, at 306; *see also* SKOMAL, *supra* note 4, at 93.

91 Erika J. Techera and Natalie Klein, *Fragmented Governance: Reconciling Legal Strategies for Shark Conservation and Management*, 35 MARINE POL'Y 73, 73 (2011); *see also* SHARK SAVERS - *IUCN Status of Shark Species*, *supra* note 10, at 3.

92 *See id.*

93 *Id*.

94 *See* SKOMAL, *supra* note 4, at 93.

95 Techera & Klein, *supra* note 91, at 73.

2006, Clarke et al. used molecular genetic identification to produce the first quantitative information on the shark fin trade market in Hong Kong.[96] The species most prevalent in the trade, in descending order, include: the blue shark, great hammerhead, scalloped hammerhead, smooth hammerhead, silky sharks, oceanic whitetip, thresher shark, sandbar shark, shortfin mako, bull shark, dusky shark, and tiger shark.[97] The IUCN classifies each one of these species as either Threatened or Near Threatened and reports that each of the above mentioned species exhibits declines in population size.[98] The Clarke study combined with the IUCN determinations support the proposition that the shark fin trade constitutes a major contributor to the decline in shark populations.

Although targeted shark fisheries present a significant threat to shark populations, the demand for shark fin soup has also produced a worrying increase in bycatch mortality.[99] Bycatch describes marine life unintentionally caught by fishermen while in pursuit of other fish.[100] Researchers estimate that bycatch is responsible for up to 50% of the estimated 26 to 73 million sharks that are killed every year to supply the demand for shark fin soup.[101] Previously, fishermen typically released non-targeted sharks in order to save cargo space for the intended catch.[102] The popularity of shark fin soup, however, has increased the number of bycatch sharks kept by fishermen solely for the fins.[103] In addition, the high value of fins provides little economic incentive for fleets to adopt simple gear changes proven to assist in reducing shark bycatch.[104]

Fishermen may argue that sharks caught as bycatch have little chance of survival and therefore retaining a shark for its fins does not impact overall bycatch mortality. But in 2006, a study conducted by Moyes et al. suggested that sharks enjoy a high probability of survival if released, attacking the fishermen's general assumptions.[105] The researchers assessed the survival of blue sharks, a species that accounts for a large portion of the bycatch of most pelagic

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[96] Shelly Clarke, Jennifer Magnussen, Debra Abercrombie, Murdoch McAllister & Mahmood Shivji, *Identification of Shark Species Composition and Proportion in the Hong Kong Shark Fin Market Based on Molecular Genetics and Trade Records*, 20 CONSERVATION BIOLOGY 201, 203 (2006).

[97] SHARK SAVERS - *Population Declines*, *supra* note 3.

[98] SHARK SAVERS - *IUCN Status of Shark Species*, *supra* note 10.

[99] *See* Techera - *Fishing, Finning and Tourism*, *supra* note 27, at 609.

[100] SHARK SAVERS, *Shark Fin Trade Myths and Truths: BYCATCH*, [hereinafter SHARK SAVERS - *BYCATCH*] (2011), http://www.sharksavers.org/files/1213/3702/5517/Shark_Bycatch_FACT_SHEET_Shark_Savers.pdf (last visited Oct. 28, 2014).

[101] Techera - *Fishing, Finning and Tourism*, *supra* note 27, at 601.

[102] *See* SHARK SAVERS - *BYCATCH*, *supra* note 100.

[103] *Id*.

[104] *Id*.

[105] Christopher Moyes, Nuno Fragoso, Michael Musyl & Richard Brill, *Predicting Post-Release Survival in Large Pelagic Fish*, 135 TRANSACTIONS AM. FISHERIES SOC'Y 1389, 1394 (2006).

fisheries[106] and constitutes the most prevalent species found in the shark fin trade.[107] They discovered that a staggering 95% of blue sharks retained "apparently healthy condition"[108] after being hoisted aboard fishing vessels and that 100% of the sampled and tagged sharks showed post-release survival.[109] The finding implies that a majority of sharks caught as bycatch have a good chance of survival if fishermen were to release them.[110] Thus, bycatch retention, propelled by the rise in popularity of shark fin soup, also contributes to declining shark populations.[111]

B. The Role of the United States in the Shark Fin Market

Fishermen around the world have commercially harvested sharks for centuries, but fisheries specifically targeting sharks did not take off until the 1980s when shark fin soup regained popularity in China.[112] With an estimated 50-85% share of the market, Hong Kong is the largest trader of shark fins in the world.[113] Other top purchasing nations include Malaysia, Taiwan, Indonesia, and Thailand.[114] Nations that are the primary suppliers for shark fins include Indonesia, India, Spain, and Taiwan.[115] Although the majority of shark fishing and fin consumption occurs outside of its borders, the United States still catches, eats, and trades in shark fins and plays a prominent role in the global shark fin market.

1. The Domestic Shark Fishery

Over the past few decades, evidence of overfishing has increased concern for the sustainability of shark stocks in fisheries around the world.[116] Despite international initiatives to better understand and conserve shark species in these

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106 *Id.* at 1390.

107 SHARK SAVERS - *Population Declines*, *supra* note 3, at 1.

108 Moyes et al., *supra* note 105, at 1389.

109 *Id.* at 1394. The researchers state, "In fact, only one tagged shark exhibited postrelease mortality; it was the first animal tagged and it is likely that this shark succumbed to our efforts to sample (unsuccessfully) and tag (successfully) the animal. After its release, a blood film was seen around the shark, suggesting it was harmed during handling." *Id.*

110 *Id.*

111 *See* SHARK SAVERS - *BYCATCH*, *supra* note 100.

112 SKOMAL, *supra* note 4, at 87.

113 S.C. Clarke, M.K. McAllister & C.G.J. Michielsens, *Estimates of Shark Species Composition and Numbers Associated with the Shark Fin Trade Based on Hong Kong Auction Data*, 35 J. NW. ATLANTIC FISHERIES SCIENCE 453, 453 (2004).

114 Techera - *Fishing, Finning and Tourism*, *supra* note 27, at 601.

115 Mary Lack & Glenn Sant, *The Future of Sharks: A Review of Action and Inaction*, TRAFFIC INTERNATIONAL AND THE PEW ENVIRONMENT GROUP 2 (January 2011), www.pewtrusts.org/~/media/legacy/uploadedfiles/peg/publications/report/The20Future20of20Sharkspdf.pdf.

116 NOAA - *2012 Shark Finning Report*, *supra* note 71, at 1.

fisheries, the available scientific data has yet to provide reliable estimates of the number or type of shark species caught in international fisheries.[117] This situation also holds true for stock assessments and sustainable catch rates for shark fisheries in the United States.[118] Thus, the U.S. must continue to address shark conservation issues within its domestic fisheries.

In 1976, Congress enacted the Magnuson-Stevens Fishery Conservation and Management Act ("MSA")[119] to govern all fisheries in the federal waters of the United States.[120] The MSA falls primarily under the jurisdiction of the National Oceanographic and Atmospheric Administration ("NOAA") and the National Marine Fishery Service ("NMFS").[121] NMFS is the division of NOAA responsible for monitoring all U.S. fisheries seaward of three miles out to 200 nautical miles.[122]

Congress enacted the MSA after finding that "[a] national program for the conservation and management of the fishery resources of the United States is necessary to prevent overfishing, to rebuild overfished stocks, to insure conservation, to facilitate long-term protection of essential fish habitats, and to realize the full potential of the Nation's fishery resources."[123] The MSA functions as the principal law governing the management of federal marine fisheries[124] and Congress intended for the statute to do so under the dual goals of conservation and optimal utilization.[125] Under the authority of MSA, the government established eight regional fishery management councils[126]

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117 *Id*.

118 *Id.* at 2 ("For 2011, in United States fisheries, four out of thirty-four stocks or stock complexes (12%) were subject to overfishing and five shark stocks (15%) were overfished[]. Twenty shark stocks or stock complexes (59%) had unknown or undefined status in terms of their overfishing status and nineteen shark stocks or stock complexes (56%) had an unknown or undefined status in terms of their overfished status[].").

119 Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C.A. §§ 1801-1884 (West 2007).

120 *Id.* at § 1801.

The MSA governs fisheries in federal waters while states retain jurisdiction over their coastal waters. 16 U.S.C.A. § 1856 (West 2014) - State jurisdiction, details states' rights with regards to jurisdiction over state registered vessels operating in federal fisheries. The separation of jurisdiction between state and federal waters becomes especially important when apparent conflicts between state and federal regulations arise, as is seen with the SCA and state shark legislation.

121 NOAA - *2012 Shark Finning Report*, *supra* note 71, at *vi*.

122 *See id.* at 7. Fisheries within three miles of a coastal State fall under the jurisdiction of that State and 200 nautical miles constitutes the outer boundary of the United States's exclusive economic zone. *See* Latchford, *supra* note 67, at 15. "The term 'exclusive economic zone' means the zone established by Proclamation Numbered 5030, dated March 10, 1983. For purposes of applying [the MSA], the inner boundary of that zone is a line coterminous with the seaward boundary of each of the coastal States." 16 U.S.C.A. § 1802(11) (West 2014).

123 16 U.S.C.A. § 1801(6) (West 2014).

124 Latchford, *supra* note 67, at 15.

125 16 U.S.C.A. § 1801(6) (West 2014).

126 *Regional Fishery Management Councils*, NOAA FISHERIES, http://www.nmfs.noaa.gov/sfa/

responsible for developing various fishery management plans ("FMP") for each region.[127] The Secretary of Commerce also has the authority to develop FMPs and governs the management of shark fisheries (excluding dogfishes) in the federal waters of the Atlantic Ocean, Gulf of Mexico, and Caribbean Sea.[128] In the Pacific, three regional councils utilize FMPs to govern shark fisheries: the Pacific Fishery Management Council, the North Pacific Fishery Management Council, and the Western Pacific Fishery Management Council.[129] Eleven different FMPs currently exist to manage shark fishing in federal waters.[130]

As the eighth largest shark fishing nation in the world, the U.S. has a notable shark fishing industry.[131] Targeted species include "spiny dogfish, sandbar, blacktip, Atlantic sharpnose, blacknose, finetooth, common thresher and the shortfin mako shark."[132] In a 2012 Shark Finning Report to Congress, NOAA stated that that 27% of shark stocks in U.S. fisheries were either overfished or subject to overfishing during the year 2011.[133] Under NOAA definitions, "overfished" signifies a stock that "has a biomass level below a biological threshold specified in its fishery management plan" and "subject to overfishing" denotes a stock that "has a fishing mortality (harvest) rate above the level that provides for the maximum sustainable yield."[134] Furthermore, 56% of shark stocks were unknown or undefined in terms of overfished status and 59% of shark stocks were unknown or undefined in terms of subject to overfishing status.[135] These numbers highlight the uncertainty of U.S. stock assessments for shark species. Thus, as a notable shark fishing nation, U.S. laws managing shark

management/councils/ (last visited Oct. 28, 2014).

Under the MSA, the regional fishery management councils are required to develop and amend FMPs, convene committees and advisory panels, conduct public meetings, develop research priorities, set annual catch limits based on best available science, and develop and implement rebuilding plans. The eight regional councils are: North Pacific Fishery Management Council, Pacific Fishery Management Council, Western Pacific Fishery Management Council, South Atlantic Fishery Management Council, Mid-Atlantic Fishery Management Council, New England Fishery Management Council, Gulf of Mexico Fishery Management Council, and Caribbean Fishery Management Council. *Id.*

127 NOAA - *2012 Shark Finning Report*, *supra* note 71, at 7.

128 *Id*.

129 *Id*.

130 *Id*. at *vi*.

131 *See* Lack & Sant, *supra* note 115, at 7. Lack and Sant determined rankings based on the average annual catch reported to the Food and Agriculture Organization of the United Nations (FAO) for the years 2000-2008. *Id.*

132 *Id.* at 33. *See generally* 50 C.F.R. § 600.1201 (2013) ("(b) Regulations pertaining to shark conservation and management for certain shark fisheries are also set forth in this subpart and in parts 635 (for Federal Atlantic Ocean, Gulf of Mexico, and Caribbean shark fisheries), 648 (for spiny dogfish fisheries), and 660 (for fisheries off West Coast states and in the western Pacific) of this chapter governing those fisheries.").

133 NOAA - *2012 Shark Finning Report*, *supra* note 71, at 2.

134 *Id*.

135 *Id*.

fishing in domestic waters will impact the survival of shark populations.

2. Demand for Shark Fin Soup in the United States

The consumption of shark fin soup in Asian countries is well documented but prevalence of the soup within the United States remains widely unpublicized.[136] Eight states currently ban the sale or possession of shark fin products, including shark fin soup: California, Delaware, Hawaii, Illinois, Maryland, Oregon, New York, and Washington.[137] Data for the sale of shark fin soup in restaurants does not exist for eighteen states and the District of Columbia.[138] The remaining twenty-five states all contain restaurants known to serve shark fin soup.[139] Therefore, although U.S. consumption of shark fin soup pales in comparison to that of Asian countries, a U.S. market for shark fins still exists and individual state legislation may not be sufficient to regulate this market.

The U.S. market for shark fin soup further endangers shark survival because some of the fins served in U.S. restaurants do not come from shark species with stable populations. A scientific analysis by Stony Brook University, the Field Museum in Chicago, and the Pew Environmental Group revealed that shark fin soup served in fourteen U.S. cities contained fins from at-risk species.[140] The researchers used DNA analysis with ecological data to identify shark DNA fragments that had deteriorated during the process of preparing and cooking fins. The study confirmed samples contained fins from scalloped hammerhead, smooth hammerheads, school sharks, spiny dogfish, bull sharks, and copper sharks.[141] The IUCN lists each of these species as either endangered, vulnerable with high risk of extinction, or near threatened.[142] Liz Karan, manager of

[136] *Restaurants Currently Offering Shark Fin Soup*, ANIMAL WELFARE INSTITUTE, https://awionline.org/content/restaurants-currently-offering-shark-fin-soup (last visited Oct. 28, 2014). AWI updates this list by individual restaurant and therefore does not have a date stating the last update for the entire page.

[137] *Id.* Three territories (Guam, American Samoa, and the North Mariana Islands) also prohibit the sale of shark fin products. *Id.*

[138] *Id.* (As of October 2014, the eighteen states for which no data are available are Alaska, Idaho, Montana, Wyoming, North Dakota, South Dakota, Nebraska, Iowa, Wisconsin, Kentucky, West Virginia, Mississippi, Alabama, South Carolina, Vermont, New Hampshire, Maine, and Rhode Island.).

[139] *Id.* (As of October 2014, the states with restaurants known to sell shark fin soup: Nevada, Utah, Arizona, Colorado, New Mexico, Kansas, Oklahoma, Texas, Indiana, Missouri, Arkansas, Louisiana, Florida, Georgia, Tennessee, Virginia, Michigan, Ohio, Pennsylvania, New Jersey, Connecticut, Massachusetts, Minnesota, Indiana, and North Carolina.).

[140] *New DNA Study Reveals Fins of Endangered Sharks in U.S. Soups*, INSTITUTE FOR OCEAN CONSERVATION SCIENCE (Aug. 8, 2012), http://www.oceanconservationscience.org/media/2012/nr_2012.08.08.shtml. Samples were collected in Albuquerque, Atlanta, Boston, Chicago, Denver, Fort Lauderdale, Houston, Las Vegas, Los Angeles, New York, Orlando, San Francisco, Seattle, and Washington, D.C. *Id.*

[141] *Id.*

[142] *Id.*; *see also* SHARK SAVERS - *Population Declines*, *supra* note 3.

Global Shark Conservation at Pew Environmental Group, stated, "This is further proof that shark fin soup here in the United States-not just in Asia-is contributing to the global decline of sharks."[143] Thus, the U.S. demand for shark fin soup, although small by global comparison, remains a noteworthy threat to shark survival.

3. The U.S. is a Center for Import/Export to Other Countries

Although the U.S. does not have the same level of shark fin soup consumption as other nations, the country still serves as a port for the international trade of shark fins. Data submitted by importers and exporters to U.S. Customs and Border Protection and to the U.S. Census Bureau provides a profile of U.S. shark fin importing and exporting activities.[144] NMFS compiled the data and prepared summaries of annual U.S. imports and exports of shark fins in its 2012 Shark Finning Report to Congress.[145] These summaries indicate that from 2007 to 2010, exports of shark fins exceeded imports in both weight and value.[146] As an exporting nation, the U.S. sells fins primarily to Hong Kong, China, Poland, and Canada.[147] Fins come into the U.S. through ports in California, Florida, Washington, and New York.[148] In 2011, NMFS reports an increase in volume of imports and a decrease in exports but notes that the value of exports per unit remained higher than that of imports.[149] This means that although the U.S. imported more fins than it exported in 2011, the overall value of selling the fins ($76,804 per metric ton)[150] was still greater than the price of purchasing them ($31,109 per metric ton).[151] These statistics support the view that the premium price of selling shark fins constitutes a strong motivator behind U.S. participation in the shark fin trade.

C. The History of Domestic Shark Conservation Laws

In 1994, Canada became the first country to enact domestic regulations on shark finning when the nation banned finning in Canadian waters and required

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143 *New DNA Study Reveals Fins of Endangered Sharks in U.S. Soups*, *supra* note 140.

144 NOAA - *2012 Shark Finning Report*, *supra* note 71, at 28.

145 *Id.* at 28.

146 *Id.*

147 *Id.*

148 *Id.* "Chicago, San Diego, Los Angeles, Honolulu, and San Francisco had served as significant import and export hubs for the international trade in shark fins. With the inclusion of NYC, the largest port on the East coast engaged in the trade of shark fins will be closed off." Edward Dorson, *The U.S. Shark Conservation Axe of 2013*, HUFFINGTON POST (July 25, 2013), http://www.huffingtonpost.com/edward-dorson/the-us-shark-conservation_b_3655154.html.

149 NOAA - *2012 Shark Finning Report*, *supra* note 71, at 28.

150 *Id.* at 31.

151 *Id.* at 30.

that landed shark fins not exceed a 5% fin-to-carcass weight ratio.[152] Since 1994, twenty-two other countries, including the United States, have followed suit and passed domestic regulations on shark finning.[153] The following section discusses the history of U.S. anti-finning regulations and the recent emergence of state-level shark conservation legislation.

1. Shark Finning Prohibition Act of 2000

Legislation enacted in the early 1990s restricted both recreational and commercial fishing[154] but it was not until 2000 that Congress passed the first comprehensive effort to ban shark finning within U.S. waters: the Shark Finning Prohibition Act ("SFPA").[155] Regulating bodies previously outlawed shark finning in federal waters of the Atlantic, Gulf of Mexico, and the Caribbean, as well as the waters of eleven coastal states.[156] Finning, however, remained largely unregulated in federal waters of the Pacific Ocean.[157] Congress enacted the SFPA, in part, to extend anti-finning regulation to cover these unprotected waters.[158]

Section 9 of the SFPA defines the term "shark finning" to mean "the taking of a shark, removing the fin or fins (whether or not including the tail) of a shark, and returning the remainder of the shark to the sea."[159] Note that shark finning is different from fin removal.[160] Shark finning is the specific act of removing the fins and throwing the carcass overboard.[161] Fin removal, although not expressly defined in NMFS regulations, describes the act of removing the fins at sea to allow for more efficient storage but retaining the remainder of the carcass so that fishermen land the entire shark carcass.[162] The SFPA amended MSA § 307(1)[163] to make it unlawful for any person:

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[152] *Laws Protecting Sharks - Bans on Shark Fishing*, SHARK SAVERS, http://www.sharksavers.org/en/our-programs/shark-sanctuaries/learn-more/laws-protecting-sharks/ (last visited Oct. 28, 2014).

[153] Caty Fairclough, *Shark Finning: Sharks Turned Prey*, SMITHSONIAN NATIONAL MUSEUM OF NATURAL HISTORY, OCEAN PORTAL, http://ocean.si.edu/ocean-news/shark-finning-sharks-turned-prey (last visited Oct. 28, 2014).

[154] SKOMAL, *supra* note 4, at 87.

[155] Porter, *supra* note 11, at 242.

[156] 146 CONG. REC. H11, 571 (daily ed. Oct. 30, 2000) (statement of Rep. Miller).

[157] *Id.*

[158] *See id.*

[159] Shark Finning Prohibition Act, Pub. L. 106-557, 114 Stat. 2772-2775 (2000) (codified at 16 U.S.C. § 1822).

[160] Skomal Interview, *supra* note 35.

[161] 50 C.F.R. § 600.1202(a) (2004).

[162] Skomal Interview, *supra* note 35.

[163] Shark Finning Prohibition Act.

> (P)(i) to remove any of the fins of a shark (including the tail) and discard the carcass of the shark at sea; (ii) to have custody, control, or possession of any such fin aboard a fishing vessel without the corresponding carcass; or (iii) to land any such fin without the corresponding carcass.
>
> (R) [. . .] 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.

The SFPA allowed fishermen to possess and land shark fins so long as the total weight of fins was less than 5 percent of the total weight of shark carcasses on board or landed.[164] In theory, the fin-to-carcass ratio allowed fishermen to remove the shark fins while at sea but ensured that they retained and landed the rest of the shark carcass. For reasons discussed further in this paper, the SFPA's amendments to the MSA provided many loopholes and allowed finning to continue in U.S. waters.[165]

2. Shark Conservation Act of 2010

The Shark Conservation Act of 2010 ("SCA") is the second, and most recent, comprehensive legislation relating to shark management.[166] Signed into law by President Barack Obama on January 2, 2011, the SCA, in part, replaces the SFPA's amendments to the MSA.[167] The SCA modifies MSA § 307(1)(P)[168] to

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164 NOAA - *2012 Shark Finning Report*, *supra* note 71, at 2.

165 Latchford, *supra* note 67, at 16.

166 In 2008, prior to the SCA, NMFS amended the regulations for Atlantic shark fisheries and enacted comprehensive measures for the protection of sharks in the U.S.'s Atlantic waters. The management measures include, but are not limited to: "revised quotas, retention limits, and authorized species for the commercial shark fishery; establishing a shark research fishery; limiting retention of sandbar sharks to participants in the shark research fishery; requiring that all sharks be landed with all fins naturally attached; revised authorized species for the recreational shark fishery; complementary time/area closures for bottom longline gear that were included in Amendment 14 to the Snapper Grouper Fishery Management plan and are being implemented by the South Atlantic Fishery Management Council; modified seasons and regions for the commercial shark fishery; updates to handling and release protocols for smalltooth sawfish; clarification of the definition of a 'first receiver' for shark dealers; and, modifications to the stock assessment schedule and timing of release for the annual Stock Assessment and Fishery Evaluation (SAFE) Report." *See generally*, U.S. DEP'T OF COMMERCE, NOAA (NMFS HIGHLY MIGRATORY SPECIES DIVISION), AMENDMENT 2 TO THE CONSOLIDATED ATLANTIC HIGHLY MIGRATORY SPECIES FISHERY MANAGEMENT PLAN (April 2008), *available at* http://www.nmfs.noaa.gov/sfa/hms/documents/fmp/am2/a2_feis/total.pdf.

167 The amendments to the High Seas Driftnet Fishing Moratorium Protection Act pertains to the U.S.'s role in shark conservation on an international level and are thus outside the focus of this paper. The NOAA - *2012 Shark Finning Report*, *supra* note 71, at 2 summarizes the changes to this Act as: "The Shark Conservation Act amended the High Seas Driftnet Fishing Moratorium Protection Act to require the Secretary of Commerce to identify in a biennial report to Congress a

make it unlawful for any person:

> (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.

The SCA also modifies language in § 307(1)(R), the rebuttable presumption provision, which will be discussed in the analysis section, *infra* Part III(A).[169] Under the SCA, fishermen must land all sharks with their fins naturally attached.[170] Additionally, no fin may be possessed aboard any vessel unless naturally attached to the corresponding carcass.[171] For purposes of the SCA, the term "naturally attached" is defined as "to be attached to the corresponding shark carcass through some portion of uncut skin."[172] Experts generally regard the requirement that fishermen land their sharks with all fins naturally attached as "the only guaranteed method to avoid shark finning."[173] In a statement to Congress, Representative Madeline Bordallo, author of the SCA bill, indicated that the fins naturally attached language "reconfirms the original intent of

nation if fishing vessels of that nation have been engaged during the preceding calendar year in fishing activities or practices in waters beyond any national jurisdiction that target or incidentally catch sharks and the nation has not adopted a regulatory program to provide for the conservation of sharks, including measures to prohibit removal of shark fins at sea, that is comparable to that of the United States. The Shark Conservation Act also amends the High Seas Driftnet Fishing Moratorium Protection Act to direct the United States to urge international fishery management organizations to which the United States is a member to adopt shark conservation measures, including measures prohibiting removal of shark fins at sea, and seeking to enter into international agreements that require measures for the conservation of sharks, including measures prohibiting the removal of shark fins at sea."

168 16 U.S.C.A. § 1857(1)(P) (West 2014).

169 16 U.S.C.A. § 1857(1)(R) (West 2014): "For purposes of subparagraph (P), there shall be 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 subparagraph (P)(iii) or that if, after landing, the total weight of shark fins (including the tail) landed from any vessel exceeds five perfect of the totally weight of shark carcasses landed, such fins were taken, held, or landed in violation of subparagraph (P). In such subparagraph, the term "naturally attached", with respect to a shark fin, means attached to the corresponding carcass through some portion of uncut skin."

170 Techera - *Fishing, Finning and Tourism*, *supra* note 27, at 609.

171 *Id.*

172 Magnuson-Stevens Act Provisions; Implementation of the Shark Conservation Act of 2010, 78 Fed. Reg. 25685-01, 25686 (2013) [hereinafter NMFS Proposed Regulations].

173 Enric Cortes & Julie A. Neer, *Preliminary Reassessment of the Validity of the 5% Fin to Carcass Weight Ratio for Sharks*, INTERNATIONAL COMMISSION FOR THE CONSERVATION OF ATLANTIC TUNAS (ICCAT), 59(3) COLLECTIVE VOLUME OF SCIENTIFIC PAPERS 1025,1029 (2006).

Congress to prevent shark finning by prohibiting the removal of fins at sea."[174] Representative Bordallo characterized the provision as a "critical conservation measure and enforcement mechanism [that] will help to end the wasteful and abusive practice of shark finning and make us a world leader in shark conservation."[175] As suggested by Representative Bordallo, Congress may have shifted to a fins naturally attached policy in order to strengthen the position of the U.S. as a pioneer of conservation efforts.

In addition, the SCA prohibits the removal of shark fins while still at sea and the subsequent transference of unattached fins to another vessel.[176] The SCA also contains a savings clause that excludes these provisions from individuals engaged in commercial fishing for smooth dogfish.[177] This paper will explore both of these provisions in Parts III and IV.

3. State-Level Shark Conservation Legislation

The federal government is not the only regulating body in the U.S. to have enacted shark conservation legislation. Hawaii, California, Washington, Oregon, Illinois, Maryland, Delaware, New York, and most recently, Massachusetts (as well as the territories of Guam and Commonwealth of the Northern Mariana Islands) have all passed state-wide shark protection legislation.[178] Additionally, New Jersey, Pennsylvania, Florida, and Nebraska have introduced bills pertaining to shark conservation.[179]

In 2010, Hawaii became the first state to pass shark conservation legislation by prohibiting the possession of shark fins within the state. Hawaii was likely

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174 156 CONG. REC. H8791 (daily ed. Dec. 21, 2010) (statement of Rep. Bordallo).

175 *Id*.

176 Techera - *Fishing, Finning and Tourism*, *supra* note 27, at 609.

177 Shark Conservation Act, Pub. L. 111-348, 124 Stat. 3668-3671 (2011) (codified in scattered sections of 16 U.S.C.). "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." *Id.* at § 1857.

178 Latchford, *supra* note 67, at 18; *see also* SHARKSTWEARDS.ORG, *supra* note 13.

179 SHARKSTWEARDS.ORG, *supra* note 13.

Nebraska is the first landlocked state to introduce legislation pertaining to shark conservation. L.B. 921, introduced by Senator Jeremy Nordquist, would make it a misdemeanor to possess, sell, trade or distribute shark fins or shark fin products in the state of Nebraska. In an article on the Shark Research Institute website, Dean Hollist, a supporter of the bill, stated "By prohibiting these products our state is sending the message that we don't want to engage in any way in such cruel practices that indefinitely harm an ecosystem that benefits us all[.]" Nebraska's proposed bill indicates that the desire to support shark conservation efforts is not only of interest to coastal states with shark fisheries but also to landlocked states. SHARK RESEARCH INSTITUTE, *Nebraska Shark Fin Trade Bill* (Jan. 31, 2014), http://oceanlog.org/uncategorized/nebraska-shark-fin-trade-bill.

the first state to pass such a law because of the state's location in the middle of the Pacific Ocean and the tendency for Hawaiian ports to serve as a trading hub for shark fins.[180] Other states have followed the model created by Hawaii's legislators and drafted similar possession bans.[181] Each state varies slightly in the details, but in general, these laws aim to regulate the local shark fin trade. The table below summarizes the main provisions of each statute:

[180] *See, Relating to Shark Fins: Hearing on S.B. 2169 Before the S. Committee on Water, Land, Agriculture, and Hawaiian Culture,* 25th Leg., 2010 Sess., (Feb. 3, 2010) (statement of Marjorie Ziegler, Conservation Council for Hawai'i).

[181] Latchford, *supra* note 67, at 18.

	Hawaii	California	Maryland	Washington
	Haw. Rev. Stat. § 188-40.7	Cal. Fish & Game Code §§ 2021, 2021.5	MD. Code Ann. Nat. Res. § 4-747	Wash. Rev. Code Ann. § 77.15.770
"Shark fin" defined	NA	§ 2021(a) raw, dried, or otherwise processed detached fin or tail of an elasmobranch	(a)(3) raw, dried, or otherwise processed detached fin or tail of a shark	NA
Prohibited acts	(a) possess, sell, offer for sale, trade, or distribute shark fins	§ 2021(b) possess, sell, offer for sale, trade, or distribute a shark fin	(b)(1) possess, sell, offer for sale, trade, or distribute a shark fin	(1)(a) sell, offer for sale, purchase, offer to purchase, or otherwise exchange a shark fin or derivative product for com purposes; prepares or processes fin for human or animal consumption for commercial purposes
Allowed acts	(b) state permits for research/educational purposes	§ 2021(c) persons with state permits for scientific, educational, or propogation purposes; §2021(d) persons with state permits for recreational or commercial purposes; 2021.5(a) state permit for possession for consumption or taxidermic purposes	(b)(2) person holds the appropriate state or federal permit, the fin is taken from a shark that the person has taken or landed, and the fin is taken in a manner consistent with the permit; (b)(3) educational institutions may possess fins for display or research	NA
Species Exemptions	NA	NA	(a)(2)(ii) excludes smooth-hounds, spiny dogfish, or species in the superorder Batoidea	NA
Unique Clauses	(c) restaurants with permits may possess fins already in possession as of July 1, 2010	§ 2021(e) restaurants may possess fins already in possession as of January 1, 2012		(1)(b) unlawful to prepare or process fins for human or animal consumption or for commercial purposes

Figure 1

	Oregon	Illinois	Delaware	New York
	Or. Rev. Stat. Ann. § 509.160	515 Ill. Comp. Stat. 5/5-30	7 Del. Code Ann. § 928A	N.Y. Envtl. Conserv. § 13-0338
"Shark fin" defined	(1)(a) raw or dried fin or tail of a shark	(b) raw, dried, or otherwise processed detached fin or tail of a shark	(a)(2) raw, dried, or otherwise processed detached fin or tail of a shark	(1)(c) raw, dried or otherwise processed detached fin including the tail
Prohibited acts	(2) possess, sell or offer for sale, trade or distribute a shark fin in this state	(c) possess, sell, offer for sale, trade, or distribute a shark fin	(b) possess, sell, offer for sale, trade, or distribute a shark fin	(3) possess, sell, offer for sale, trade, or distribute a shark fin
Allowed acts	(3) does not apply to (a) legally harvested spiny dogfish, (b) persons with commercial permits and fins are harvested according to the terms of that permit, (c) permitted fish processors	NA	(c) persons who hold a state permit may possess, but not sell within Delaware, a shark fin taken or landed by that person; (d) any person holding a state permit, or those exempted from recreational permitting requirements, may possess a shark fin taken by that person for personal use; (e) permits for scientific purposes	(3)(b) fins may be posessed by any person with a recreational marine fihsing registration or a permit for scientific research or educational purposes
Species Exemptions	(3)(a) Spiny dogfish, defined as (1)(b) a shark belonging to the family Squalidae in the order Squaliformes that has two spines, one anterior to each dorsal fin, and that does not have an anal fin	NA	(a)(1) spiny dogfish & smooth dogfish	(3) spiny dogfish & smooth dogfish (but only if caught by licensed commercial fisherman)
Unique Clauses	(2) specifies prohibition "in this state"	(a) "shark" means any species of the subclass Elasmobranchii	(c) allows for possession and distribution of fins by licensees but prohibits the sale of fins within the state	(2) bans finning in the water of the marine and coastal district (with the apparent exclusion of species in the order Batoidei)

For the convenience of the reader, this chart does not quote sections verbatim but precise citations are included for ease of reference. Also, for the purposes of this chart, the word "permit" refers to both permits and licenses and treats the terms as having the same meaning.[182]

[182] Hawaii: Haw. Rev. Stat. § 188-40.7 (Effective July1, 2010); Washington: Wash. Rev. Code § 77.15.770 (Effective July 22, 2011) California: Cal. Fish & Game Code §§ 2021, 2021.5 (Effective

III. ANALYSIS PART ONE: THE GOOD, THE BAD, AND THE UGLY OF THE SCA.

The United States unquestionably ranks as a global leader in shark conservation efforts.[183] U.S. shark fisheries have been heavily scaled back and regulated and arguably represent the most sustainable shark fisheries in the world.[184] The SCA appears to dramatically upgrade U.S. shark conservation efforts, but the statute may not be the giant step forward that many conservationists tout it to be.[185] The following section will analyze how the SCA improves on the SFPA, where the SCA falls short, and how the SCA incorporates a legal loophole for continued shark finning in U.S. waters.

A. The Good: Closing an Unintended SFPA Loophole, Discarding the Fin-to-Carcass Ratio, and Retaining a Rebuttable Presumption Safeguard.

As the first comprehensive attempt to outlaw shark finning in all federal waters, the SFPA was a landmark, but ultimately flawed, piece of legislation.[186] The first time prosecutors brought a charge for violation of the SFPA, a significant loophole developed that effectively gutted the law's prohibition on the possession of fins without the corresponding carcass. Additionally, since the enactment of the SPFA, members of the scientific community have voiced concerns over the reliability of using a fin-to-carcass ratio.[187] The SCA strengthened shark conservation efforts by closing the SFPA loophole, discarding the fin-to-carcass ratio standard, and including a rebuttable presumption that adds an additional safeguard against finning.

1. Closing the "Fishing Vessel" Loophole

Congress designed the SFPA to not only ban the practice of shark finning but also to prohibit "the custody, control or possession of any such fin aboard a

Jan. 1, 2012); Oregon: Or. Rev. Stat. § 509.160 (Effective Jan. 1, 2012); Illinois: 515 Ill. Comp. Stat. § 5/5-30 (Effective Jan. 1, 2013); Maryland: MD. Code Ann. Nat. Res. § 4-747 (Effective Oct. 1, 2013); Delaware: 7 Del. Code. Ann. § 928A (Effective Jan. 1, 2014); New York: N.Y. Envtl. Conserv. § 13-0338 (Effective July 1, 2014).

183 Press Release, U.S. Dep't of Commerce, NOAA Fisheries, Media Statement: NOAA Fisheries and states of California, Maryland and Washington determine that their shark fin laws are consistent (Feb. 4, 2014), http://www.nmfs.noaa.gov/mediacenter/2014/02/04_02_sca_state_fed_consistent.html [hereinafter NOAA Press Release].

184 *Id.*; *see also* Chapman Interview, *supra* note 73.

185 Chapman Interview, *supra* note 73; Telephone Interview with Sonja Fordham, Founder and President, Shark Advocates Int'l. (Feb. 25, 2014) [hereinafter Fordham Interview]. Demian Chapman believes the U.S. is absolutely going in the right direction with the SCA; however, Sonja Fordham is concerned that the SCA may create more problems than it purports to fix.

186 Porter, *supra* note 11, at 242.

187 Shelly Clarke, *Population Trends in the Pacific Oceanic Sharks and the Utility of Regulations on Shark Finning*, 27 CONSERVATION BIOLOGY 197, 198 (2013).

fishing vessel without the corresponding carcass."[188] In 2008, a ruling by the Ninth Circuit Court of Appeals greatly restricted the class of vessels subject to the provisions and corresponding regulations of the SFPA.[189] *United States v. Approximately 64,695 Pounds of Shark Fins*[190] concerned the seizure of an estimated 32 tons of shark fins by the U.S. Coast Guard from the U.S.-flagged vessel King Diamond II ("KD II").[191] Tran & Yu, a Hawaii-based corporation, owned the KD II and originally registered the vessel with a "fishing endorsement."[192] The corporation later reregistered it as with a "registry endorsement."[193] The change in registration effectively made the vessel a cargo ship instead of a fishing vessel.[194] A foreign company with the orders to "meet foreign fishing vessels on the high seas, purchase shark fins from those vessels, and transport the fins to Guatemala" then chartered the KD II.[195] The Coast Guard intercepted the KD II en route to Guatemala, and after finding a cargo hold full of fins but no carcasses, the Coast Guard detained the KD II for violating the SFPA and escorted the vessel to San Diego for prosecution.[196]

The case against the KD II hinged on whether the vessel was a fishing vessel within the meaning of the MSA and therefore subject to the provisions of the SFPA. Under the MSA, a "fishing vessel" is defined as:

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188 146 CONG. REC. H11570 (daily ed. Oct. 30, 2000) (statement of Mr. Hansen) (emphasis added).

189 156 CONG. REC. H8791 (daily ed. Dec. 21, 2010) (statement from Mr. Faleomavaega) [hereinafter Statement from Mr. Faleomavaega].

190 United States v. Approx. 64,695 Pounds of Shark Fins, 520 F.3d 976 (9th Cir. 2007).

191 *Id.* at 977.

192 United States v. Approx. 64,695 Pounds of Shark Fins, 353 F. Supp. 2nd 1095, 1096 (S.D. Cal. 2005). *See* 46 C.F.R. § 67.21 (2009) for a definition of a fishery endorsement ("A fishery endorsement entitles a vessel to employment in the fisheries as defined in §67.3, subject to Federal and State laws regulating the fisheries, and in any other employment for which a registry or coastwise endorsement is not required. A fishery endorsement entitles a vessel to land its catch, wherever caught, in the United States."). *See also* 46 C.F.R. § 67.3 (2009) for a definition of fisheries ("Fisheries includes processing, storing, transporting (except in foreign commerce), planting, cultivating, catching, taking, or harvesting fish, shellfish, marine animals, pearls, shells, or marine vegetation in the navigable waters of the United States or in the Exclusive Economic Zone.").

193 *Approx. 65,695 Pounds of Shark Fins*, 353 F. Supp. 2nd at 1096. *See* 46 C.F.R. § 67.17 (2009) for the definition of a registry endorsement ("A registry endorsement entitles a vessel to employment in the foreign trade; trade with Guam, American Samoa, Wake, Midway, or Kingman Reef; and any other employment for which a coastwise or fishery endorsement is not required.").

194 *Approx. 64,695 Pounds of Shark Fins*, 520 F.3d at 978.

195 *Id.* at 977.

196 *Id.* at 979.

> 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 an activity relating to fishing, including, but not limited to, preparation, supply, storage, refrigeration, transportation, or processing.[197]

The district court ruled in favor of the government holding that the KD II was a fishing vessel under the MSA because it "aided or assisted fishing vessels at sea in the performance of activities related to fishing."[198]

The Court of Appeals did not find the reasoning provided by the district court persuasive and reversed the decision.[199] The Court of Appeals determined that a reasonable person would not have fair notice that the activities of the KD II would render the boat a fishing vessel.[200] Specifically, the Court noted, "While the text of the landing prohibition, 50 C.F.R. § 600.1204(c), explicitly provides that a cargo vessel that lands shark fins after an at-sea transfer is considered a fishing vessel, § 1204(b)—the prohibition on *possessing* shark fins—includes no such provision."[201] The Court held that the regulations implementing the SFPA did not provide sufficient notice that the statute prohibited cargo vessels from possessing fins for the purpose of making a delivery to a foreign port. The Court reasoned that applying the SFPA to the owners of the KDII's cargo violated due process under the circumstances of this case.[202] The decision by the Ninth Circuit created a gaping loophole in the law that allowed U.S. vessels to legally participate in the transport of fins harvested illegally under U.S. law.[203]

The SCA arose as a direct response to *United States v. Approximately 64,695 Pounds of Shark Fins*.[204] During her introduction of the SCA to Congress, Representative Madeline Bordallo explained:

> First, the bill eliminated an unexpected enforcement loophole related to the transport of shark fins by prohibiting vessels from having custody, control, or possession of shark fins which are not naturally attached to the corresponding carcass. This is intended to ensure that U.S.-flagged vessels are not traveling to the high seas and purchasing fins from fishermen engaged in shark finning and bringing them into U.S. waters in an attempt to skirt the finning prohibition.[205]

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197 16 U.S.C.A. § 1802(18) (West 2014).

198 *Approx. 64,695 Pounds of Shark Fins*, 520 F.3d at 979.

199 *Id.* at 981, 983.

200 *Id.* at 983.

201 *Id.* at 983 (emphasis added).

202 *Id.* at 983.

203 *See* Statement from Mr. Faleomavaega, *supra* note 189.

204 *Id.*

205 155 CONG. REC. E21 (daily ed. Jun. 6, 2009) (statement of Rep. Bordallo).

The SCA adds a new provision to the MSA that makes it unlawful "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."[206] By removing the specification of "fishing vessels," the SCA expands the scope of the prohibition to apply to all vessels. Thus, the SCA effectively prohibits any entity that constitutes a vessel from possessing or transferring unattached shark fins within U.S. waters and successfully closes the loophole in the SFPA created by the Ninth Circuit decision.

2. Discarding the Fin-to-Carcass Ratio

The SCA replaces the fin-to-carcass ratio established in the SFPA with a more reliable standard that requires fishermen to land their shark catch with the fins naturally attached to the shark carcass fins.[207] Many nations utilize a fin-to-carcass ratio to regulate and monitor their shark fisheries.[208] The ratio measures the weight of the fins of a shark in proportion to the rest of the body mass[209] in an attempt to ensure that fishermen land all fins with a body to match.[210] This standard allows fishermen to process shark carcasses, known as "logs,"[211] while at sea to better utilize precious cargo space and avoid the spoilage of shark meat before the catch can be offloaded.[212]

U.S. regulators established a standard of 5% wet fin-to-dressed carcass after a study of 27,000 sharks revealed a mean ratio of 4.9% for 28 shark species.[213] But the use of a uniform fin-to-carcass ratio as a management tool presents problems as the ratio of 5% may not be a realistic number for all shark species.[214] Species vary in size and proportion and so the corresponding fin-to-carcass ratio also varies by species.[215] A regulation incorporating a higher ratio than the real ratio for a given species creates a loophole that allows fishermen to

206 16 U.S.C.A. § 1857(1)(P)(iii) (West 2014).

207 16 U.S.C.A. § 1857(1)(P)(i)-(iv) (West 2014).

208 Biery & Pauly, *supra* note 71, at 1643.

209 *See id.* at 1644.

210 Miguel Neves dos Santos and Alexandra Garcia, *New Data on the Ratio Between Fin and Body Weights for Shark Species Caught by the Portuguese Surface Longline Fleet*, INTERNATIONAL COMMISSION FOR THE CONSERVATION OF ATLANTIC TUNAS (ICCAT), 62(5) COLLECTIVE VOLUME OF SCIENTIFIC PAPERS 1592, 1592 (2008).

211 Demian Chapman et al., *A streamlined, bi-organelle, multiplex PCR approach to species identification: Application to global conservation and trade monitoring of the great white shark*, Carcharodon carcharias, 4 CONSERVATION GENETICS 415, 416 (2003).

212 Biery & Pauly, *supra* note 71, at 1644.

213 *Id.* at 1644-45.

214 *Id.* at 1645.

215 *Id.* Ratios also vary by location: "ratio differences between locations are probably attributed to fin-cutting practices and typical fin-set composition, which vary between regions. Most countries harvest the primary fin set, which consists of the most valuable fins, including the first dorsal, two pectoral and lower caudal fins, but some countries harvest secondary fins as well." *Id.* at 1645.

harvest more fins than correspond to the required number of carcasses they must retain.[216]

The fin-to-ratio standard, and even species-specific ratios, also presents challenges for enforcement and data collection.[217] Observers and enforcement personnel would need to be proficient in the difficult task of accurately identifying shark carcasses by species, whether the fins remain attached or not.[218] Individuals would also need to be capable of doing the reverse and identifying what species a fin came from without the corresponding carcass.[219] Thus, the fin-to-carcass ratio drastically complicates enforcement of regulations that govern according to specific species and hampers data collection by hindering species identification.[220]

In addition to the variations in ratios resulting from differences in shark species, fin-to-carcass ratios also fluctuate depending on how fishermen remove the fins and process the carcass.[221] Fishermen often prefer to clean their catch by removing the head, internal organs, and other unwanted body parts from the shark while still at sea.[222] Known as "dressing,"[223] fishermen reduce shark carcasses to logs to reduce the chance of the meat spoiling prior to landing.[224] Processing methods differ from fisherman to fisherman, complicating the management and enforcement of regulations that incorporate the fin-to-carcass standard.[225]

Congress closed the complications associated with a fin-to-carcass ratio by implementing a fins naturally attached policy in the SCA.[226] With the sole exception of the smooth dogfish, the SCA disposes of the fin-to-carcass ratio and requires fishermen land all sharks with all fins naturally attached.[227] Advantages of keeping the fins naturally attached include reducing enforcement burdens (the fins and carcass no longer need to be weighed separately), eliminating the potential for high-grading (mixing carcasses and fins from different animals), and improving species-specific data collection and monitoring efforts.[228] Thus, the SCA improves the SFPA by replacing the

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216 *Id*.

217 *Id*.

218 *Id*.

219 *Id*.

220 *Id*.

221 Cortes & Neer, *supra* note 173, at 1026.

222 SHARKS - AN INQUIRY INTO BIOLOGY, BEHAVIOR, FISHERIES, AND USE: PROCEEDINGS OF THE CONFERENCE 188 (Sid Cook ed., OR. ST. U. EXT. SERV. 1987).

223 *Id*.

224 *Id*.

225 Cortes & Neer, *supra* note 173, at 1026.

226 16 U.S.C.A. § 1857(1)(P)(i)-(iv) (West 2014).

227 *Id*.

228 Fowler & Séret, *supra* note 73, at 13.

complicated and unreliable fin-to-carcass ratio and with the superior fins naturally attached policy.

3. Retention of a Modified 5% Fin-to-Carcass Rebuttable Presumption

Although the SCA largely disregards the fin-to-carcass ratio, the statute does retain this standard as part of a rebuttable presumption provision. The SFPA contained a rebuttable presumption that any shark fin landed or found on board a fishing vessel[229] would be presumed taken in violation of federal law if the total weight of shark fins exceeds 5% of the total weight of shark carcasses landed or found on board.[230] The rebuttable presumption in the SCA differs slightly from the language in the SFPA and reads, in part, "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]."[231]

The SCA's fins naturally attached policy seems to make a fin-to-carcass ratio rebuttable presumption appear unnecessary. But Congress may have included this provision to act as a safeguard against a potential loophole that emerges from the landing requirement. The SCA requires fishermen to land shark carcasses with the fins naturally attached (and vice versa - that any fins *landed* remain naturally attached to the carcass).[232] Regulations define "land or landing" to mean, "offloading fish, or causing fish to be offloaded, from a fishing vessel, either to another vessel or to a shoreside location or facility, *or arriving in port, or at a dock, berth, beach, seawall, or ramp to begin offloading fish*."[233] With this definition, the law creates a distinction between landing and offloading where the latter is not a requirement of the former. In other words, a fisherman does not have to offload his catch in order to legally land it. Simply arriving at a

[229] NMFS, in implementing regulations for SFPA, created a second rebuttable presumption to cover the possession of fins. 50 C.F.R. § 600.1203(b)(2)(2013) reads "For purposes of this section, it is a rebuttable presumption that shark fins *possessed* by a U.S. fishing vessel were taken and held in violation of this section if the total weight of the shark fins on board, or landed, exceeds 5 percent of the total dressed weight of shark carcasses on board or landed from the fishing vessel." This is the specific regulation that the U.S. failed to successfully prosecute the King Diamond II under in United States v. Approximately 64,695 Pounds of Shark Fins. *See* United States v. Approx. 64,695 Pounds of Shark Fins, 520 F.3d 976, 983 (9th Cir. 2007).

[230] Shark Finning Prohibition Act, Pub. L. No. 106-557, 114 Stat. 2772 (2000) (codified as amended at 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.").

[231] 16 U.S.C.A. § 1857(1)(R) (West 2014).

[232] 16 U.S.C.A. § 1857(1)(P)(iv) (West 2014) (emphasis added).

[233] 50 C.F.R. § 600.1202(a) (2013). This definition comes from the regulations promulgated by NMFS to implement the SFPA. In the proposed regulations for the SCA, NMFS does not alter the definition of "land or landing" other than to make a small typographical change to the word "shoreside" and separate it into two words. (emphasis added).

dock is sufficient. A grey area arises as to when a fisherman may begin the process of removing the fins from a shark after landing. Must he first offload the catch and remove the fins on land or can he remove the fins while still aboard the vessel? Authorities have yet to provide a clear answer for this question, thereby giving rise to a potential loophole in the fins naturally attached requirement.[234] Theoretically, a fisherman could fin a shark while at sea, hide the illegal fins somewhere on the vessel, land the rest of his catch with the fins naturally attached, remove those fins on the vessel before offloading, and then simply combine the illegal fins with the legal fins during offloading.

This scenario illustrates when the SCA's 5% fin-to-carcass ratio rebuttable presumption serves to benefit shark conservation efforts. Without this presumption, enforcement officials would have no way of distinguishing between legally and illegally harvested fins and no course of action to prosecute a vessel that appears to have more fins than corresponding carcasses. Requiring fishermen to offload their shark catch before removing the fins arguably stands as the most effective way to guard against illegal finning, but the rebuttable presumption at least provides enforcement personnel with another avenue to take action against fishermen for suspected SCA violations.

B. The Bad: Proposed Exclusion of Other Elasmobranch Species and the Potential for "Shark Spining"

The SCA does not address several issues aside from finning that also result in harm to shark populations. Bycatch and recreational fishing likewise contribute to the decline of shark populations and insufficient scientific data and stock assessments hinder the ability to ensure the sustainable management of these populations.[235] At first glance, failure by Congress to use the SCA to address these issues suggests a critical deficiency with the law. But Congress likely excluded these threats from the purview of the SCA on purpose since the various regional FMPs promulgated under the MSA already address many of these concerns at a regional level.[236] Regulating these issues under the SCA

[234] Phone and email interviews were conducted with several NOAA and NMFS employees from various divisions within the agencies. No individual appeared to know of an agency policy pertaining to the issue of when fishermen would be permitted to remove the fins or how enforcement personnel intend to handle this activity. Contacted agency personnel include: Scott Doyle (Supervisory Criminal Investigator, NMFS/Office of Administrative Appeals/Northeast Enforcement Division), John Longenecker (Assistant Director, NOAA Office of Law Enforcement), Paul Newman (Enforcement Officer, NMFS/Office of Administrative Appeals/Pacific Islands Enforcement Division), Charles Green (Deputy Section Chief, USEC/DGC1).

[235] Chapman Interview, *supra* note 73. Dr. Demian Chapman stated that the U.S. domestic shark fisheries are scaled back and heavily regulated. He maintains that the largest problem with shark conservation in U.S. waters is not the lack of addressing other threats but the ability to ensure that regulators have the science necessary to ensure U.S. fishing practices are indeed sustainable.

[236] *Id.*, *See generally* 50 C.F.R. § 635.71 (2013). The FMP for the Atlantic Highly Migratory Species serves as an example of a regulating body with rules to govern shark fisheries. This FMP

would be duplicative and unnecessary. The SCA does fall short, however, in its exclusion of other elasmobranch species and the lack of coverage for the exploitation of a new technique for shark finning.

1. Exclusion of Skates and Rays

Several shark experts agree that the SCA fails to protect other members of the subclass Elasmobranchii,[237] namely the skates and rays.[238] Skates and rays are close relatives of the shark and face many of the same threats, including value as part of the market for shark fin soup.[239] Fins from shark-like rays, such as the guitarfish and sawfish, are commonly used in the dish and yet few regulations exist to govern them.[240] Further, in 2003, NMFS designated the U.S. stock of smalltooth sawfish as a distinct population segment[241] and listed the group as endangered under the Endangered Species Act ("ESA").[242] The U.S. stock of

contains prohibitions on activities such as exceeding recreational and commercial quotas, fishing outside of designated seasons for particular species, using unauthorized gear, and retaining designated prohibited species.

[237] Merriam-Webster Online definition of "elasmobranch": "any of a subclass (Elasmobranchii) of cartilaginous fishes that have five to seven lateral to ventral gill openings on each side and that comprise the sharks, rays, skates, and extinct related fishes." Merriam-Webster Online Dictionary http://www.merriam-webster.com/dictionary/elasmobranch (last visited October 28, 2014).

[238] Dominique Mosbergen, 2*5 Percent of Sharks and Rays Face 'Alarming' Threat of Extinction: Study*, HUFFINGTON POST (Jan. 25, 2014), http://www.huffingtonpost.com/2014/01/22/shark-ray-extinction-iucn-study_n_4646028.html (quoting Sonja Fordham, "A lot of progress has been made, but we do need to pick up the pace," she said of shark and ray conservation efforts. "We need to expand the scope of our efforts and recognize that we need to do a better job in the employing of safeguards for the whole group -- the rays, as well as the sharks.").

[239] Fordham Interview, *supra* note 185; Sonja Fordham noted that there exists a whole different international market for skate wings and also a domestic market for skate and ray fins for use as lobster bait in New England. *See also* Mosbergen, *supra* note 238 (quoting Sonja Fordham, "[P]eople need to understand that the two groups of animals [sharks and rays] area actually closely related and face 'a lot of the same threats.'").

[240] Fordham Interview, *supra* note 185 (Sonja Fordham maintains that there is a need for more regulations to govern the "non-sexy" sharks (i.e., skates and rays).).

[241] 1996 Distinct Population Segment Policy, 61 Fed. Reg. 4722, at 4725 (Feb. 7, 1996) ("Three elements are considered in a decision regarding the status of a possible DPS as endangered or threatened under the [ESA]. These are applied similarly for addition to the lists of endangered and threatened wildlife and plans, reclassification, and removal from the lists: 1. Discreteness of the population segment in relation to the remainder of the species to which it belongs; 2. The significance of the population segment to the species to which it belongs; and 3. The population segment's conservation status in relation to the Act's standards for listing (i.e., is the population segment, when treated as if it were a species, endangered or threatened?).").

[242] NOAA FISHERIES, OFFICE OF PROTECTED RESOURCES, *Smalltooth Sawfish* (Pristis pectinata) http://www.nmfs.noaa.gov/pr/species/fish/smalltoothsawfish.htm (last visited Oct. 28, 2014).

The designation of the smalltooth sawfish as an endangered species marks the first elasmobranch species to be afforded protections under the ESA. On July 15, 2013, WildEarth Guardians petitioned NMFS to list as threatened or endangered under the ESA ten species of skates and rays. Endangered and Threatened Wildlife; 90-Day Finding on a Petition to List 10 Species of Skates and Rays and 15

smalltooth sawfish reside in the Atlantic Ocean and Gulf of Mexico but the current range exists primarily in the peninsula of Florida.[243] The Gulf of Mexico Fishery Management Council oversees the Florida peninsula and the FMP enacted to manage the area does not list the smalltooth sawfish as a species governed under current regulations.[244]

Given the deficiency in protections presently afforded to skates and rays, the SCA offered an important opportunity to extend the anti-finning policy to include these other targeted elasmobranch species. Not only does the language of the SCA fail to include skates and rays, but the proposed regulations implementing the statute explicitly limits application of the SCA to sharks and categorically excludes skates and rays.[245] If NMFS promulgates a final rule consistent with the proposed interpretation, then the SCA would not afford any protection for skates and rays and removing the fins while at sea and discarding the carcasses would remain legal. Such a regulation could result in fishermen finning smalltooth sawfish and enforcement officers having practically no way of knowing if the fins belonged to an endangered species. The proposed exclusion of skates and rays from the fins naturally attached policy fails to regulate other species commonly retained by fishermen for their value as part of the shark fin soup trade and opens the door to potential finning of an ESA listed species.

2. The Potential for "Shark Spining" in U.S. Waters

On October 29, 2013, Interpol, "the world's largest international police organization,"[246] released a Purple Notice informing member states about the emergence of a new method of shark finning called "shark spining."[247] Shark

Species of Bony Fishes as Threatened or Endangered Under the Endangered Species Act, 79 Fed. Reg. 10,104 (Feb. 24, 2014). On February 24, 2014, NMFS published its 90-day finding for this petition and determined that five of the species (*Dasyatis margarita, Electrolux addisoni, Okamejei pita, Pastinachus solocriostris, and Trygonorrhina melaleuca*) did not warrant the proposed action for listing but that the remaining five proposed species may warrant action (*Bathyraja griseocauda, Raja undulate, Rhinobatos cemiculus, R. horkelii, and R. rhinobatos*). *Id.* NMFS will now undergo an evaluation for the five species that may warrant action to determine whether these species meet ESA listing criteria. *Id.*

243 NOAA FISHERIES, OFFICE OF PROTECTED RESOURCES, *supra* note 242.

244 GULF OF MEXICO FISHERY MANAGEMENT COUNCIL, *Species Listed in the Fishery Management Plans of the Gulf of Mexico Fishery Management Council* (May 31, 2012), http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/species%20managed.pdf.

245 NMFS Proposed Regulations, *supra* note 172, at 25,686.

246 INTERPOL, *About Interpol*: *Overview*, http://www.interpol.int/About-INTERPOL/Overview (last visited Oct. 28, 2014).

247 INTERPOL, *Purple Notice 139*: *Modus operandi* (Oct. 29, 2013), www.interpol.int/content/download/21890/206470/version/5/file/PN%20139%20EN%20(PUBLIC).pdf [hereinafter *Interpol Purple Notice*]. Interpol issues notices that function as "international requests for cooperation or alerts allowing police in member countries to share critical crime-related information." Notices are categorized by color and a Purple Notice is used "to seek or provide information on modi operandi,

spining involves cutting away all of the shark meat from the carcass while leaving the fins attached to the spine through thin strips of skin.[248] Kathy Tseng, a Taiwanese-Costa Rican businesswoman, devised the method in order to circumvent a Costa Rican law that requires shark fins to arrive naturally attached to the body.[249] Louis Dobles, the executive director of the Costa Rican Fisheries Institute ("Incopesca"), permitted Tseng to dock with the spined sharks explaining that, "This is not shark finning and the law does not say whether the shark body needs to have all of its meat."[250] A local prosecutor disagreed and ordered customs officials to destroy the spined sharks.[251] The prosecutor then filed finning violation charges against both Tseng and Dobles in the first-ever case involving shark spining.[252] On April 7, 2014, a Costa Rican court ruled in favor of Tseng, concluding that she had not broken the law because she did not offload and sell the spined sharks.[253]

The Costa Rican court ruling illuminates a potential loophole in the SCA that could allow fishermen to spine sharks in federal waters without facing charges. Theoretically, commercially licensed U.S. fishermen could spine sharks in U.S. waters and transfer these carcasses while at sea to foreign vessels. These foreign vessels could then land the spined sharks in countries with less restrictive or non-existent anti-finning regulations. Such an operation effectively allows all participating parties to avoid prosecution for violation of the SCA, which defines "naturally attached" to mean "attached to the corresponding shark carcass through some portion of uncut skin."[254] This explanation, when combined with the Costa Rican court's interpretation, has the potential to render shark spining legal in U.S. waters as the fins would, by definition, remain naturally attached during the at-sea transfer.

Congress cannot be faulted for failing to incorporate language in the SCA to safeguard against shark spining as this new technique emerged after the SCA's enactment. However, NMFS has an opportunity to incorporate anti-spining language in the regulations implementing the SCA. Interpol issued the Purple Notice on October 29, 2013,[255] approximately seven months after NMFS

objects, devices and concealment methods used by criminals." INTERPOL, *About Interpol*: *Notices*, http://www.interpol.int/INTERPOL-expertise/Notices (last visited Oct. 28, 2014).

248 Lindsey Fendt, *Judge's ruling opens the door to legalized shark finning in Costa Rica, conservation groups say*, TICO TIMES (Apr. 8, 2014), http://www.ticotimes.net/2014/04/08/judges-ruling-opens-the-door-to-legalized-shark-finning-in-costa-rica-conservation-groups-say.

249 *Id*.

250 *Id*.

251 *Id*.

252 *Id*.

253 *Id*.

254 16 U.S.C.A. § 1857(1)(R) (West 2014).

255 *Interpol Purple Notice*, *supra* note 247.

published the proposed SCA regulations on May 2, 2013,[256] leaving NMFS with no opportunity to consider the issue during the initial drafting of the proposed regulations. But NMFS should now be aware of the Interpol notice that gives warning to "those member countries which have laws governing shark-finning activities [to] be alerted to this new technique used by certain criminals who claim that, since the shark fins remain 'naturally attached to the body', they are not breaking the law."[257] Whether or not NMFS decides to heed Interpol's warning remains to be seen. If NMFS decides not to include anti-spining language, the agency risks allowing this activity to legally occur in U.S. waters. The SCA would be substantially stronger if the implementing regulations included language to eliminate the possibility of circumventing these provisions by engaging in shark spining.

C. The Ugly: Legal Finning Under the Smooth Dogfish Savings Clause

The perplexing savings clause for the continued finning of one particular shark species arguably constitutes the most distressing aspect of the SCA. This savings clause exempts commercial fishermen harvesting smooth dogfish within 50 miles of a state from the provisions of the new fins attached policy:

> 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.[258]

The Atlantic-based shark fisheries target the smooth dogfish, also known as smooth hounds, and landings of this species has more than doubled between 2000 and 2011.[259] Smooth dogfish grow faster than a majority of other species,

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[256] NMFS Proposed Regulations, *supra* note 172, at 25,689-90.

[257] *Interpol Purple Notice*, *supra* note 247.

[258] Shark Conservation Act, Pub. L. 111-348, 124 Stat. 3670 § 103(b)(1) (2011) (codified at 16 U.S.C. § 1857).

Note: "Smooth dogfish" represents the common name of this species. U.S. fisheries also commonly catch spiny dogfish, which has resulted in some level of confusion when distinguishing between the two similar names. Accordingly, smooth dogfish is "now officially called smoothhound sharks by managers to avoid confusion with spiny dogfish." Chuck Bangley, *Shark Regulation Updates*, SOUTHERN FRIED SCIENCE (Aug. 13, 2013), http://www.southernfriedscience.com/?p=15306. This paper, however, will use the name smooth dogfish to refer to this species as this is the name utilized in the SCA.

[259] Press Release, Shark Advocates International & Wildlife Conservation Society, Shark Finning Loopholes Widened by Atlantic States Commission (May 22, 2013),

with males attaining maturity at two to three years old and females at four to five years old.[260] Smooth dogfish also have a gestation period of ten to eleven months and produce from four to twenty pups per litter.[261] Proponents of the smooth dogfish fishery often cite these biological characteristics to support the notion that this species of shark is capable of sustaining a targeted fishery.[262] Yet, the Atlantic fisheries for smooth dogfish presently operate with no stock assessments. As recently as June 2013, the Interstate FMP for Atlantic Coastal Sharks acknowledged that there were no available smooth dogfish stock evaluations and identified such assessments as a top research need.[263]

Even if the smooth dogfish are better suited to withstand higher fishing pressures than most shark species, the savings clause exempting this species from the fins naturally attached requirement weakens the SCA for three reasons: (1) the clause provides the opportunity for fishermen to engage in high-grading, (2) scientific studies do not conclusively support the higher fin-to-carcass ratio of 12%, and (3) nothing in the SCA or the legislative history explains why the clause is necessary.

1. Fishermen Can Use This Loophole to High Grade Their Catch

The savings clause, as a ratio based regulation, creates a loophole in the SCA by providing an opportunity for fishermen to engage in high grading, a practice whereby fishermen mix the carcasses and fins from different animals in order to maximize profit.[264] Although there appears to be no evidence that high grading currently occurs in the smooth dogfish fishery, the potential remains for fishermen to remove fins of higher value from a shark protected under the SCA and pass them off as belonging to a smooth dogfish upon landing.[265] Once reduced to finless logs, the carcasses from species such as blacknose and sharpnose sharks could readily pass for smooth dogfish.[266] The complications associated with fin-to-carcass ratios and species identification has already been

http://www.wcs.org/press/press-releases/shark-finning-loopholes.aspx.

260 Cathleen Bester, *Education Biological Profiles - Smooth Dogfish*, FLORIDA MUSEUM OF NATURAL HISTORY, https://www.flmnh.ufl.edu/fish/Gallery/Descript/Smoothdogfish/SmoothDogfish.html (last visited Oct. 28, 2014).

261 *Id*.

262 Skomal Interview, *supra* note 35.

263 ATLANTIC STATES MARINE FISHERIES COMMISSION, COMMISSIONER MANUAL, INTERSTATE FISHERIES MANAGEMENT PROGRAM OVERVIEW – COASTAL SHARKS (June 2013).

264 *See* Biery & Pauly, *supra* note 71, at 1645.

265 Chapman Interview, *supra* note 73. Demian Chapman stated that he believed high-grading in the smooth dogfish fishery to be entirely possible and that North Carolina waters contain a wide variety of shark species. *Id*. He notes that baring DNA processing, which is an expensive technique, enforcement agents would have a difficult time determining which species any given detached fin belongs to. *Id.*

266 Chuck Bangley, *Of Fin-Body Ratios and Smooth Dogfish-UPDATED*, SOUTHERN FRIED SCIENCE (Mar. 27, 2013), http://www.southernfriedscience.com/?p=14616.

examined, *supra*, in Part III(A)(2).[267] In essence, the savings clause provides the opportunity for fishermen to illegally fin other species under the guise of harvesting smooth dogfish.[268]

2. The Value of 12% Stands on Shaky Scientific Ground

Congress's decision to set the fin-to-carcass ratio at an unprecedented value of 12% marks the most bewildering aspect of the smooth dogfish savings clause.[269] This figure more than doubles the standard utilized in the SFPA and constitutes the highest fin-to-carcass ratio found anywhere in the world.[270] Even more distressing, however, is the lack of scientific research pre-dating Congress's enactment of the SCA that supports 12% as a reasonable value to apply to the smooth dogfish.[271]

In 2012, researchers at the University of British Columbia Fisheries Centre conducted a global review of species-specific shark fin-to-body mass ratios.[272] The researchers created a database of observed ratios from a collection of scientific papers, NGO reports, private government studies, and unpublished sources relating to observed shark-fin-to-carcass ratios.[273] In total, the review incorporated literature from 17 sources for 50 species spanning 12 countries.[274] The researchers compared wet fins, which weigh more than dry fins, to the whole shark carcass[275] and reported an average fin-to-carcass ratio of 1.69% for the smooth dogfish.[276] Although this ratio derives from calculating fin-to-*whole*

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[267] Biery & Pauly, *supra* note 71 at 1645.

[268] *Id.*

[269] Chapman Interview, *supra* note 73. Demian Chapman believes the 12% to be an arbitrary number and far too high for the smooth dogfish. *Id.* He stated that he knew of no shark species with a fin-to-carcass ratio that high and that the smooth dogfish has relatively small fins and therefore should have a much smaller ratio. He summarized by saying that the 12% ratio "seems fishy." *Id.*

[270] Letter from Sonja Fordham (Shark Advocates International), John F. Calvelli (Wildlife Conservation Society), Ania Budziak (Project AWARE) & Sharon Young (Humane Society United States & Humane Society International) to Marin Hawk, Coastal Shark Coordinator at the Atlantic States Marine Fisheries Commission (ASMFC) (Mar. 28, 2013) (on file with author). This letter is a comment on the draft addendum to the ASMFC Interstate Fishery Management Plan for Atlantic Coastal Sharks.

As a note, state waters currently regulate the smooth dogfish fisheries at a ratio of 5%. A more lenient federal standard is significant because the ASMFC has since issued a proposal to amend applicable state regulations to incorporate the 12% standard set by the SCA "to ensure consistency with" federal laws. Thus, this seemingly arbitrary value is poised to apply not only to federal waters but state waters as well. ASMFC COASTAL SHARKS TECHNICAL COMMITTEE, SMOOTH DOGFISH (MUSTELUS CANIS) FIN-TO-CARCASS RATIO PROJECT at 2 (Feb. 2014) [hereinafter ASMFC REPORT].

[271] ASMFC REPORT, *supra* note 270, at 1.

[272] Biery & Pauly *supra* note 71.

[273] *Id.* at 1646.

[274] *Id.*

[275] *Id.* at 1645-46.

[276] *Id.* at 1648.

carcass measurements, which is not how fishermen in the U.S. typically land smooth dogfish,[277] Cortes and Neer published a separate study in 2006 reporting an average fin-to-*dressed* carcass ratio of 3.71% for the smooth dogfish.[278] The sample size for the Cortes and Neer study, however, was very small and involved a mere six specimens.[279] The small number of sampled sharks may account for why Congress apparently ignored this research when setting the savings clause ratio at 12%.[280]

In 2012, The Atlantic States Marine Fisheries Commission ("ASMFC") conducted the most recent study to evaluate the smooth dogfish fin-to-carcass ratio.[281] ASMFC researchers collected a total of 77 samples of smooth dogfish from fisheries in New Jersey and North Carolina.[282] The researchers recorded the following metrics for each shark: length, sex, whole weight, dressed weight, the weight of each individual fin (first dorsal, second dorsal, pectoral, and caudal), and the total weight of all fins together.[283] In the report, ASMFC declares that an appropriate fin-to-carcass ratio for the smooth dogfish can range from 7.76% to 13.94%, depending on the fin set evaluated.[284] The mean fin weight to dressed carcass for fin sets including the caudal fin is the highest at 13.94%.[285] 7.76% represents the mean fin to dressed carcass for fin sets containing only the first dorsal and the pectoral fin.[286] AMSFC notes that fin sets kept in the two states differ and that "the fin set harvesting practices can change depending on market demands."[287]

Elements of the ASMFC project raise a few concerns regarding the usefulness of this study to support the 12% value. First, the smooth dogfish samples collected from New Jersey were smaller than the sharks typically retained by commercial fishermen.[288] ASMFC's report acknowledges that the sharks from the New Jersey study were smaller "than the marketable fish retained in commercial fisheries" but states that there was no relationship between the size of the fish and the fin-to-carcass ratio "when comparing the two data sets mean

277 Bangley, *supra* note 266.

278 Cortes & Neer, *supra* note 173, at 1033.

279 *Id.*

280 Skomal Interview, *supra* note 35. Dr. Skomal stated that he was hesitant to rely on a study with a sample size of only six when developing fishery management measures. *Id.* In addition, the ASMFC also declines to rely on the Cortes and Neer study when establishing a fin-to-carcass ratio for the Atlantic smooth dogfish fisheries. ASMFC REPORT, *supra* note 270, at 1.

281 ASMFC REPORT, *supra* note 270, at 1.

282 *Id.* at 4.

283 *Id.*

284 *Id.* at 5.

285 *Id.*

286 *Id.*

287 *Id.*

288 *Id.* at 5.

percent fin weight to dressed carcass weight."[289] However, the sharks from New Jersey constituted 52 of the 77 samples collected for this study, which raises the question of how well these sharks truly represent the smooth dogfish typically retained by this fishery.[290]

A second area of concern lies in the fact that the ASMFC did not initiate the smooth dogfish fin-to-carcass ratio project until 2012, a full two years after Congress enacted the SCA.[291] This study not only fails to support the decision to include the savings clause in the SCA (as it pre-dates the SCA's development), but critics of this study also question whether the results could be an example of shaping the data to fit the conclusion.[292]

The global review of scientific literature conducted by the University of British Columbia Fisheries Centre, Cortes and Neer's 2006 study, and the 2012 ASMFC smooth dogfish project constitutes most of the available research pertaining to the fin-to-carcass ratio of the smooth dogfish. Given the significant lack of solid data evaluating the fin-to-carcass ratio of the smooth dogfish, in conjunction with even less data supporting the questionable value of 12%, Congress appears to have enacted the SCA's savings clause on indiscernible scientific ground.

3. Congress Provides No Explanation for the Savings Clause

The final reason why the smooth dogfish savings clause constitutes an "ugly" aspect of the SCA is because Congress did not provide any justification for the decision to include the provision in the first place. The available scientific evidence did not support this large ratio for the smooth dogfish fishery and the SFPA did not contain any similar exception for this species. The question then becomes "Where did this clause come from?"

An examination of the congressional records for H.R. 81,[293] the bill that became the SCA, reveals little insight into the origins of the savings clause. The clause was not part of the original bill introduced by Representative Madeleine Bordallo[294] but instead was added as a Senate amendment.[295] The Library of Congress does not have any senate committee records for H.R. 81 that indicate which senator introduced the savings clause or what reasons were provided for

289 *Id.*

290 *Id.*

291 *Id.* at 2.

292 Fordham Interview, *supra* note 185 (Sonja Fordham cautions against using the ASMFC's new study to support the 12% ratio for smooth dogfish. She points out that the study was initiated *after* the inclusion of 12% in the SCA and questions the validity of its findings).

293 H.R. Res. 81, 111th Cong. (2009) (enacted).

294 150 CONG. REC. H2879-80 (Mar. 2, 2009) available at http://www.gpo.gov/fdsys/pkg/CREC-2009-03-02/pdf/CREC-2009-03-02-pt1-PgH2879.pdf.

295 156 CONG. REC. H8791 (daily ed. Dec. 21, 2010) (Testimony from Rep. Bordallo).

its introduction.[296] In all likelihood, the exemption came about based on precedent set in North Carolina. Since at least 2009, regulations governing the shark fisheries in North Carolina utilized a fins naturally attached policy for all shark species, except for the smooth dogfish.[297] The desire to maintain this method of fishing for the smooth dogfish in North Carolina may have prompted the inclusion of the savings clause in the SCA.

Another position that potentially justifies the inclusion of the smooth dogfish savings clause comes from an assertion made by the shark fishermen themselves. Fishermen frequently claim that sharks must be bled and iced down as soon as possible to maintain the quality of the shark meat.[298] Smooth dogfish allegedly spoil faster than most shark species and the ASMFC has stated that "requiring the fins to remain attached is simply incompatible with the nature of the commercial dogfish fishery."[299] Although not evidenced by congressional records, this allegation could be the basis for why Congress exempted this one fishery from the SCA.

The word "allegation" appears appropriate as very little scientific evidence supports the claim that fishermen must clean smooth dogfish almost immediately after landing (within 15-20 minutes) in order to avoid spoilage.[300] A short study conducted by John Waters, a Masters student at Duke University Marine Lab, even contradicts this claim.[301] Waters found that fishermen can process smooth dogfish while maintaining all fins naturally attached and, if cleaned sufficiently, can store the meat for several hours without spoilage.[302] Although only non-peer reviewed "gray literature,"[303] this study suggests that

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[296] Telephone call with a Congressional Law Librarian (Apr. 8, 2014). The librarian explained that committees are not required to produce reports of the debates or keep minutes so it is possible that no congressional records are available to illustrate how the savings clause came to be.

[297] DR. LOUIS B. DANIEL, DIRECTOR OF N.C. DIVISION OF MARINE FISHERIES, PROCLAMATION FF-72-2009, RE: COMMERCIAL AND RECREATIONAL SHARK HARVEST - ALL STATE WATERS (Dec. 19, 2009), www.ncfisheries.net/procs/procs2k9/FF-72-2009.html.

[298] Chuck Bangley, *The Dags of War: Basic Science in the Debate on Shark Finning*, SOUTHERN FRIED SCIENCE, (Nov. 15, 2010), http://yalikedags.southernfriedscience.com/the-dags-of-war-basic-science-in-the-debate-on-shark-finning/ ("Sharks in general need to be cleaned and bled out immediately after capture in order to prevent the urea that naturally occurs in their tissues for osmoregulation from breaking down into ammonia, which obviously ruins the meat." (emphasis added)).

[299] ASMFC COASTAL SHARKS ADVISORY PANEL, *Conference Call Summary* (June 30, 2009), available at http://www.asmfc.org/uploads/file/june09CoastalSharksAPconfCall.pdf (last visited Oct. 28, 2014).

[300] John Waters, *A Preliminary Investigation of Smooth Dogfish (*Mustelus canis*) At-Sea Processing Techniques* at 2, available at http://yalikedags.southernfriedscience.com/wp-content/uploads/2010/11/Waters_Smooth_dogfish_Final.pdf (last visited Oct. 28, 2014).

[301] *Id.* Waters tested the hypothesis that requiring fishermen to keep the fins naturally attached will not impact the quality of smooth dogfish mean prior to offloading. *Id.*

[302] *Id.* at 1.

[303] Andrew David Thaler, *Shades of Gray: Gray Literature, Peer-Review, and the Struggle for Data in Fisheries Management*, SOUTHERN FRIED SCIENCE (Nov. 10, 2010),

the argument to prevent spoilage may be invalid and thusly fails to justify the inclusion of the savings clause.

Although the SCA improves previous federal shark legislation by closing loopholes in the SFPA, instituting a fins-naturally-attached policy, and retaining a modified 5% fin-to-carcass rebuttable presumption, other elements of the SCA weaken its overall effectiveness. The exclusion of other elasmobranch species, the lack of safeguards against a new finning technique, and the legal finning of smooth dogfish under a questionable fin-to-carcass ratio serve to reduce the protections afforded by the SCA. Fisherman can exploit these loopholes to engage in illegal shark finning with little risk of facing any consequences. .

IV. ANALYSIS PART TWO: COMPARING THE SCA AND STATE SHARK LEGISLATION

Shark management in the United States reflects a joint responsibility of the federal government and the coastal states.[304] The potential for conflict emerges any time two separate powers share a common interest in managing one resource. The interaction between the SCA and recently enacted state shark legislation is no exception. The following section explores the approaches U.S. states have taken to shark conservation, the issue of federal preemption, and how California, Maryland, and Washington have avoided preemption.

A. The States' Approach to Shark Conservation Legislation

At the time of writing, eight states have enacted local shark conservation legislation. The Non-Federal Shark Legislation by State chart (Figure 1) provides a comprehensive summary of the legislation from these eight states in a reader-friendly format that allows for easy comparison of the various state provisions.[305] Every statement of law in the following analysis derives from Figure 1 unless otherwise indicated.

The individual state laws may vary in the details, but generally they share many of the same features. Specifically, a majority of the state laws contain provisions that define "shark fin," prohibit the sale, trade, or distribution of shark fins, and allow for possession of fins in certain situations. Two states, Hawaii and Washington, do not contain definitions for "shark fin" but the remaining states have similarly worded definitions. In general, a "shark fin" under these laws means the raw, dried, or otherwise processed detached fin or tail of a shark. State legislators probably included the term "processed" fins to cover products previously processed and ready for consumption in shark fin

http://www.southernfriedscience.com/?p=8641; Bangley, *supra* note 266.

304 SKOMAL, *supra* note 4, at 96.

305 *See* Figure 1, *supra* p. 89-90.

soup. Oregon, however, specifies only the raw or dried fin or tail of a shark and leaves out other processed fins. California is unique in that the language of its statute specifies the "fin or tail of an elasmobranch." This seemingly expands the term to include skates and rays as well as sharks. As NMFS has proposed to interpret the SCA as excluding skates and rays, California's statute may create a conflict of laws if state regulators read the law as banning possession of fins from any elasmobranch species.[306]

The provisions detailing prohibited acts also reflect a common goal of regulating the local shark fin market. Indeed, seven of the eight state laws include virtually identical language to make the possession, sale, offer of sale, trade, or distribution of a shark fin an unlawful activity.[307] Washington similarly prohibits selling, offering to sell, purchasing, or other exchanges of shark fins but does not include the word "possess." Excluding this term may have been a simple oversight by the drafters. On the other hand, state legislators may have intentionally left the word out so that individuals could possess fins for personal use. Oregon contains the same language as the majority of states but includes a qualifier that makes these activities illegal "in this state." Despite the subtle differences in language, the basic purpose behind each of these state laws reflects intent to regulate trade in shark fins.

A majority of the state shark legislations provide for possession of fins under certain circumstances. Only Washington and Illinois contain express and complete bans on any shark fin or shark fin product. Some of other state laws most commonly allow for possession of fins from spiny dogfish and/or smooth dogfish. Maryland, Delaware, and New York do not prohibit the possession of fins from either species, likely because these states have commercial fisheries for both types of shark.[308] Oregon allows for possession of fins from only the spiny dogfish, probably because the state has a notable population of spiny dogfish along its coast.[309] Hawaii, California, and Maryland allow for the possession of fins for research or educational purposes, provided that individuals also possess the necessary state-issued permits or licenses. California, Maryland, Oregon, and Delaware legislation contain broad exemptions for individuals who hold state or federal licenses/permits and harvest the sharks in accordance with the terms of those permits. Thus, the majority of these state shark laws appear to strike a balance between furthering shark conservation efforts through regulation of fin trade and recognizing the economic importance of commercial shark

306 NMFS Proposed Regulations, *supra* note 172, at 25,686.

307 *See* Figure 1, *supra* p. 89-90. These states are Hawaii, California, Maryland, Oregon, Illinois, Delaware, and New York.

308 *See* Waters, *supra* note 300, at 2; ASMFC, *Spiny Dogfish species information page*, http://www.asmfc.org/species/spiny-dogfish (last visited Oct. 28, 2014).

309 *See* Figure 1, *supra* p. 89-90. *See generally* Richard Brodeur, et al., *Summer Distribution and Feeding of Spiny Dogfish off the Washington and Oregon Coasts*, BIOLOGY AND MANAGEMENT OF DOGFISH SHARKS 36-51(American Fisheries Society 2009).

fisheries.

Finally, several of these state laws include unique clauses that create interesting restrictions on the possession of shark fins. For example, Hawaii and California expressly prohibit restaurants from possessing fins. These restaurant bans expands the prohibition on individual possession and directly impacts the commercial aspect of shark fin soup consumption. In addition, California allows for possession of fins for taxidermy and propagation purposes. Washington specifically bans the actual act of processing shark fins for consumption, a provision not seen in any other state or federal shark regulations. Other state and federal shark laws probably do not address processing because fins are rarely prepared for consumption in the U.S.[310] Delaware allows individuals with appropriate licenses to possess and distribute shark fins but not *sell* the fins within the state. Such a provision is interesting as it appears to allow fishermen to still engage in the shark fin trade but not profit from it, at least within the boarders of Delaware. Finally, New York stands as the only state to include a provision expressly banning the act of finning, something not addressed by the other state laws as it is a duplication of existing federal law.

The existing state shark legislation vary in the specifics, but the laws generally target the same problem threatening shark populations: the shark fin trade. The SCA, by contrast, specifically targets the practice of shark finning. Although the SCA and these state laws share the common goal of protecting sharks, the two bodies of law reflect different approaches to achieving this objective.

B. The Issue of Federal Preemption

Although the state laws regulate something entirely different from the federal statute, these state laws currently face possible preemption by the SCA. On May 2, 2013, NMFS issued a notice in the Federal Register proposing to amend their MSA implementing regulations for the purpose of bringing their regulations into compliance with the SCA.[311] NMFS's proposed regulations introduce a potential problem for states with shark legislation because under the Supremacy Clause, the MSA has the authority to preempt any state law that "interferes with accomplishing the purposes and objectives of the Magnuson-Stevens Act."[312]

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[310] *See* Stop Shark Finning, *supra* note 71; Chapman Interview, *supra* note 73. Preparing fins for shark fin soup is a lengthy and difficult process; thus, most fins are exported to Asian countries with processing facilities and then imported back into the U.S. once the fins are ready for consumption.

[311] NMFS Proposed Regulations, *supra* note 172, at 25,689-90.

[312] *Id.* at 25,687.

The MSA does provide for limited circumstances under which a State may regulate vessels in federal waters. *See generally* 16 U.S.C.A. § 1856 (West 2014). (State jurisdiction "(a) In general, (3) A State may regulate a fishing vessel outside the boundaries of the State in the following circumstances: (A) The fishing vessel is registered under the law of that State, and (i) there is no

Preemption was not a concern when implementing the SFPA because no state shark legislation existed to conflict with the federal law. With the SCA, however, questions abound over the express proposal by NMFS to preempt state shark laws that conflict with federal conservation objectives.

At the core of the discussion lies the issue of how the more restrictive state regulations will impact federally licensed shark fishermen.[313] In the federal notice, NMFS conveyed concern that state regulations with blanket bans on fin possession could interfere with the ability of federally licensed fishermen to profit from fins legally harvested in federal waters: "State prohibitions on possession, landing, transfer, or sale of sharks or shark fins lawfully harvested seaward of state boundaries constrain the ability of federal fishery participants to make use of those sharks for commercial and other purposes."[314] NMFS goes on to say, "State or territorial shark fin laws are preempted if they are inconsistent with the Magnuson-Stevens Act as amended by the SCA, implementing regulations for the statutes, or applicable federal fishery management plans or regulations."[315] In essence, a state must construe its shark legislation in a manner consistent with federal law to avoid preemption. NMFS supports this understanding by explaining "if a state law prohibiting the possession, landing, or sale of shark fins is interpreted not to apply to sharks legally harvested in federal waters, the law would not be preempted. On the other hand, a state law that interferes with accomplishing the purposes and objectives of the Magnuson-

fishery management plan or other applicable Federal fishing regulations for the fishery in which the vessel is operating; or (ii) the State's laws and regulations are consistent with the fishery management plan and applicable Federal fishing regulations for the fishery in which the vessel is operating. (B) The fishery management plan for the fishery in which the fishing vessel is operating delegates management of the fishery to a State and the State's laws and regulations are consistent with such fishery management plan. If at any time the Secretary determines that a State law or regulation applicable to a fishing vessel under this circumstance is not consistent with the fishery management plan, the Secretary shall promptly notify the State and the appropriate Council of such determination and provide an opportunity for the State to correct any inconsistencies identified in the notification. If, after notice and opportunity for corrective action, the State does not correct the inconsistencies identified by the Secretary, the authority granted to the State under this subparagraph shall not apply until the Secretary and the appropriate Council find that the State has corrected the inconsistencies. For a fishery for which there was a fishery management plan in place on August 1, 1996 that did not delegate management of the fishery to a State as of that date, the authority provided by this subparagraph applies only if the Council approves the delegation of management of the fishery to the State by a three-quarters majority vote of the voting members of the Council. (C) The fishing vessel is not registered under the law of the State of Alaska and is operating in a fishery in the exclusive economic zone off Alaska for which there was no fishery management plan in place on August 1, 1996, and the Secretary and the North Pacific Council find that there is a legitimate interest of the State of Alaska in the conservation and management of such fishery. The authority provided under this subparagraph shall terminate when a fishery management plan under this chapter is approved and implemented for such fishery.").

313 NMFS Proposed Regulations, *supra* note 172, at 25,686.

314 *Id.*

315 *Id.* at 25,687.

Stevens Act would be preempted."[316] Thus, NMFS expresses a clear intent on behalf of the federal government to overrule state shark conservation legislation that conflicts with the SCA.

The underlying justification for the decision by NMFS to include the preemption clause likely stems from the agency's interpretation of Congressional intent regarding the SCA. In the federal notice publishing the proposed regulations, NMFS states:

> Neither the SFPA nor the SCA suggest that Congress intended to amend the Magnuson-Stevens Act to prohibit the possession or sale of shark fins. Rather, Congress chose to prohibit discarding shark carcasses at sea [. . .] The SCA therefore reflects a balance between addressing the wasteful practice of shark finning and preserving opportunities to land and sell sharks harvested consistent with the Magnuson-Stevens Act.[317]

The proposed amendments to the MSA implementing regulations appear to strive to mirror this balance and NMFS makes clear in no uncertain terms that federal law will preempt any state legislation seen to interfere with this objective.

C. California, Maryland, and Washington Avoid Preemption

On February 4, 2014, NOAA Fisheries released a media statement announcing that NOAA and the states of California, Maryland, and Washington came to an agreement regarding the SCA and the shark legislation enacted by these states.[318] Each state has interpreted their legislation in different and sometimes intriguing ways in an effort to comply with federal regulations and avoid preemption.[319] The particulars of these agreements may set a precedent for

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316 *Id.*

317 *Id.* at 25,686.

318 NOAA Press Release, *supra* note 183.

319 *See generally* Letter from Charlton H. Bonham, Director, Cal. Dep't of Fish and Wildlife, to Eileen Sobeck, Assistant Adm'r for Fisheries, NOAA (Feb. 3, 2014), http://www.nmfs.noaa.gov/stories/2014/02/docs/california.pdf [hereinafter Letter from Bonham to Sobeck]; Letter from Eileen Sobeck, Assistant Adm'r for Fisheries, NOAA, to Charlton H. Bonham, Director, Cal. Dep't of Fish and Wildlife (Feb. 3, 2014), http://www.nmfs.noaa.gov/stories/2014/02/docs/california.pdf [hereinafter Letter from Sobeck to Bonham]; Letter from Michele Culver, Regional Director, Wash. Dep't of Fish and Wildlife, to Samuel Rauch, Acting Assistant Adm'r for Fisheries, NOAA (Dec. 12, 2013), http://www.nmfs.noaa.gov/stories/2014/02/docs/washington.pdf [hereinafter Letter from Culver to Rauch]; Letter from Eileen Sobeck, Assistant Adm'r for Fisheries, NOAA, to Michele Culver, Regional Director, Wash. Dep't of Fish and Wildlife (Feb. 3, 2014), http://www.nmfs.noaa.gov/stories/2014/02/docs/washington.pdf [hereinafter Letter from Sobeck to Culver]; Letter from Frank Dawson, Deputy Secretary, Md. Dep't of Nat. Res., to Samuel Rauch, Acting Assistant Administrator for Fisheries, NOAA (Sept. 27, 2013), http://www.nmfs.noaa.gov/stories/2014/02/docs/maryland.pdf [hereinafter Letter from Dawson to Rauch]; Letter from Eileen Sobeck, Assistant Adm'r for Fisheries, NOAA, to Frank Dawson, Deputy Secretary, Md. Dep't of Nat. Res. (Feb. 3, 2014), http://www.nmfs.noaa.gov/stories/2014/02/docs/maryland.pdf [hereinafter Letter from

resolving the preemption concerns of the remaining states.

California's law generally prohibits the possession, sale, trade, and distribution of detached shark fins within the State.[320] As previously mentioned, the statute expressly exempts persons with valid state licenses or permits from these prohibitions.[321] In a letter to NOAA Fisheries, Department of Fish and Wildlife in California indicates the statute will also allow for federally licensed fishermen to land sharks in California with the fins attached, as required by the SCA.[322] The Department further explained that the number of sharks landed in California equals such a small number that "as a practical matter, the California Shark Fin Prohibition has no meaningful effect on fishing behavior or 'optimum yield.'"[323] NOAA agreed with California's interpretation of the state law and declared, "it is our position, based on the information that you have provide, that California's Shark Fin Prohibition law is not preempted by the Magnuson-Stevens Act, as amended."[324] Thus, California has avoided preemption by virtue of a relatively small shark fishery and by exempting federally licensed fishermen lawfully harvesting sharks in the exclusive economic zone (EEZ) from the State statute.

Maryland avoided federal preemption in a similar way to California by exempting federally licensed fishermen from state possession bans. Unlike the statute in California, however, Maryland's law already included language expressly exempting individuals with federal permits.[325] Maryland also expressly allows for the possession of fins from smooth dogfish, which aligns with the savings clause included in the SCA.[326] In a letter to NOAA Fisheries, Maryland's Department of Natural Resources explained:

> Under the new law, state or federally permitted commercial shark fishermen may continue to catch, and, and after landing, remove the fins of all species of shark in accordance with already existing and applicable laws and regulations. The new legislation has no impact on the harvest, possession, or sale of fins and carcasses from lawfully caught Smoothhounds [aka. smooth dogfish] and Spiny Dogfish."[327]

Sobeck to Dawson].

320 CAL. FISH & GAME CODE §§ 2021, 2021.5 (2012).

321 *Id.* at § 2021(c)(d).

322 Letter from Bonham to Sobeck, *supra* note 319 ("With respect to your concern regarding the ability of fishers to possess fins (from sharks caught in the EEZ), pursuant to California Fish and Game Code sections 2021(d) and 2021.5(a)(1), properly-licensed fishers are exempt from the ban on possession.").

323 *Id.*

324 Letter from Sobeck to Bonham, *supra* note 319.

325 MD. CODE ANN. NAT. RES. § 4-747(b)(2) (2013).

326 *Id.* at § 4-747(a)(2)(ii).

327 Letter from Dawson to Rauch, *supra* note 319.

Interestingly, the letter goes on to state that the law permits the fishing, landing, and finning after landing of other shark species and that the fishermen can sell these carcasses and retain the fins for themselves.[328] The letter also clarifies that the state law "prohibits fins from those shark species from being sold, offered for sale, trade, or distributed *in the State of Maryland, but nothing prohibits the commercial licensee from selling lawfully taken fins outside the State*."[329] Thus, federally licensed fishermen can retain the fins from any lawfully harvested shark and possess that fin within Maryland's borders but may only commercially profit from such fins outside of Maryland. NOAA Fisheries agreed that this interpretation was consistent with federal law and determined that the MSA, as amended by the SCA, will not preempt Maryland's statute.[330]

Washington presents an interesting interpretation of compliance between the state and federal statutes. In a letter to NOAA Fisheries, Washington's Department of Fish and Wildlife explained that the state law, "does not prohibit the landing of sharks, but rather regulates the commercial sale and processing of shark fins. Specifically, the law prohibits the commercial trade or processing of shark fins standing alone as a product."[331] NOAA responded with, "We thus understand that federal fishermen can land a shark with fins naturally attached and sell the non-fin parts of the shark in Washington. In effect, federal fishermen can legally possess a detached shark fin, but cannot sell that fin."[332] Neither letter specifies whether or not the Washington law would prohibit fishermen from selling the fin outside of the state. If NOAA determines that a state can prevent its residents from selling fins, even outside the state, then this could have interesting implications for the SCA and state authority to interfere with the profitability of commercial shark products.

Both federal and state legislation have approached the problem of effective shark conservation from two different angles. NOAA and state agencies in California, Maryland, and Washington, have demonstrated the possibility of interpreting shark legislation in order to allow for both methods of regulation to exist. The state laws complement the SCA by governing an aspect of shark conservation not addressed by the SCA. Other regulators could improve U.S. shark protections by reaching agreements to avoid federal preemption of state regulations.[333]

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328 *Id.*

329 *Id.* (emphasis added).

330 Letter from Sobeck to Dawson, *supra* note 319.

331 Letter from Culver to Rauch, *supra* note 319.

332 Letter from Sobeck to Culver, *supra* note 319.

333 *See* Press Release, Office of the Governor of the State of Hawaii, Governor's Statement Regarding the Federal Shark Conservation Act (June 28, 2013), http://governor.hawaii.gov/blog/governors-statement-regarding-the-federal-shark-conservation-act/ (illustrating Hawaii Governor Niel Abercrombie's position that Hawaii's shark fin prohibition law should not be preempted by the federal government). Given Hawaii's strong anti-preemption stance, it will be interesting to see how

V. PROPOSAL: APPLYING STATE METHODS ON A NATIONAL LEVEL

Unlike state shark legislation, U.S. federal law fails to regulate any aspect of the shark fin trade that occurs on land.[334] Once a shark is lawfully landed, federal control over the corresponding fins comes to an end. Federal legislators should look at the methods utilized by U.S. states attempting to control the fin trade within their jurisdiction and adapt these measures to make them suitable for application on a national scale.

Simply following the states' method and implementing a national ban on the possession, sale, or trade of shark fins does not reflect a practical option for Congress. Other federal law, such as the Sustainable Fisheries Act, mandates the reduction in wasteful fishing practices.[335] A federal ban on the possession of shark fins would violate this policy as it would require fishermen to throw away fins upon landing.[336] A more feasible course of action for Congress lies in specifying precisely what fins may be possessed in the United States. This article proposes that Congress enact legislation that allows for the possession of shark fins harvested in federal waters in compliance with the SCA and of shark fins imported from foreign nations with sustainable shark fishing practices. Such legislation would allow U.S. fishermen to profit from domestic shark fisheries while simultaneously encouraging other nations to adopt more sustainable shark fishing practices.

Allowing for the possession of lawfully harvested shark fins in the U.S. gives rise to various pros and cons. The benefit to such a design lies in the fact that it would allow federal fishermen take advantage of the economic rights afforded them under the MSA. In other words, fishermen would be able to profit from commercial fishing in federal waters. Provided that the sharks are harvested in accordance with the SCA, fishermen would be entitled to sell all parts of such sharks, including the fins. The negative to unregulated exporting is that such a system does not actively reduce shark mortality. People will still consume shark fin soup, fishermen will continue to sell fins, and sharks will still die.

Pros and cons also exist for U.S. legislation that restricts shark fin imports and bans the possession of fins harvested from countries with unsustainable shark fishing practices. The benefit to restricted imports that it ensures any fins purchased and consumed within the U.S. have come from a sustainable fishery, or at least a moderately regulated fishery. By restricting the import and possession of fins from only these nations, the U.S. lessens the market options for other nations that allow their fishermen to engage in shark finning and other

the state and NOAA officials solve this conflict.

[334] Rebecca Tatum, *Chapter 524: The Ecology and Controversy of Shark-Fin Soup*, 43 MCGEORGE L. REV. 667, 673 (2012).

[335] Sustainable Fisheries Act, 16 U.S.C.A. §§ 1801-1844 (West 1996).

[336] Email from Dr. Greg Skomal, Senior Marine Fisheries Scientist, Mass. Dep't of Fish & Game, to author (Apr. 15, 2014).

unsustainable fishing methods. Selective participation in the shark fin market also serves to encourage other nations to implement appropriate shark fishing regulations to make their product acceptable for the U.S. market. Although the U.S. demand for fins pales in comparison to other Asian nations, the U.S. is still a viable consumer of shark fin soup. In addition, the position of the United States as a world leader provides a model that may inspire countries with higher soup consumption rates to adopt similar import restrictions. The downside to limited imports is that regulations of this nature are difficult to implement because international shark fishing is a largely unregulated industry.[337] The SCA already lays the groundwork for import restrictions through its amendment to the High Seas Driftnet Fishing Moratorium Act, which enables the U.S. to impose import prohibitions on nations that fail to adopt shark conservation measures equivalent to those of the United States.[338] The important step is for the U.S. to actually enforce these provisions on offending nations.

Congress cannot use federal legislation to address the cultural practices that drive the demand for shark fin soup; however, Congress can legislate how the U.S. choses to participate in the resulting shark fin trade. Any law passed by Congress that stands to impact foreign trade relations must conform to the various international agreements that govern international trade.[339] The General Agreement on Tariffs and Trade ("GATT") imposed a series of basic obligations on signatory members with the goal of encouraging nations to promote principles of free trade.[340] GATT governed international trade from 1947 until 1994 when a round of GATT negotiations established the World Trade Organization ("WTO").[341] The WTO functions as a forum for governments to negotiate trade agreements and develop documents to provide the legal ground-rules for international commerce.[342] The U.S. became a member of the WTO on January 1, 1995, and therefore must comply with these provisions of international law.[343] GATT and the WTO institute numerous policies and principles but, in essence, the international rules governing trade require that

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[337] Nicholas K. Dulvy et al., *Extinction risk and conservation of the world's sharks and rays*, ELIFE 2 (Jan. 21, 2014), http://elife.elifesciences.org/content/elife/3/e00590.full.pdf ("Whether targeted or caught by boats fishing for other species, sharks and rays are used to supply a market that is largely unmonitored and unregulated.").

[338] Shark Conservation Act, Pub. L. No. 111-348, 124 Stat. 3668-69 (2011) (codified in scattered sections of 16 U.S.C.).

[339] *From GATT to the WTO and Beyond Research Guide*, GEO. L. LIBR. (2007), http://www.law.georgetown.edu/library/research/guides/FromtheGATTtotheWTO.cfm.

[340] Dale Arthur Oesterle, *Just Say "I Don't Know": A Recommendation for WTO Panels Dealing with Environmental Regulations*, 3 ENV. L. REV. 113, 114 (2001).

[341] *Id.* at 115.

[342] WORLD TRADE ORGANIZATION INFORMATION AND EXTERNAL RELATIONS DIVISION, UNDERSTANDING THE WTO, 9 (5th ed. 2011).

[343] *Understanding the WTO: The Organization Members and Observers*, WTO (Jun. 26, 2014), http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm.

nations treat similar products equally, with no discrimination, regardless of the product's country of origin.[344]

With that said, both GATT and the WTO provide for generous leeway when nations enact measures that address environmental concerns.[345] Indeed, the preamble of the WTO states that "GATT members are committed to the protection and preservation of the environment."[346] GATT Article XX puts forth the general exceptions that provide for exemption from the GATT provisions.[347] Article XX(g) is particularly relevant to shark fins because it excludes measures "relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption." The laws governing international trade include provisions that could make import restrictions on shark fin products a feasible option for Congress.

Furthermore, implementing import trade restrictions to promote an environmental agenda is something that Congress has done before. In 1989, Congress enacted legislation that, among other things, prohibited the import of shrimp harvested with technology that was likely to adversely affect specific species of endangered sea turtles.[348] The underlying purpose of the ban was to protect the sea turtles by requiring other nations to impose the use of turtle excluder devices (TEDs) on their shrimp fisheries.[349] U.S. shrimping vessels were required to use TEDs and Congress adopted the import ban to force other nations to implement the same policy if they wanted to sell their shrimp product

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344 *WTO rules and environmental policies: introduction*, WTO (2014), http://www.wto.org/english/tratop_e/envir_e/envt_rules_intro_e.htm. Although an official WTO website, the page includes a disclaimer that reads as follows: "Note: This webpage is prepared by the Secretariat under its own responsibility and is intended only to provide a general explanation of the subject matter it addresses. It is in no way intended to provide legal guidance with respect to, or an authoritative legal interpretation of, the provisions of any WTO agreement. Moreover, nothing in this note affects, nor is intended to affect, WTO members' rights and obligations in any way."

345 *Id*.

346 Oesterle, *supra* note 340, at 115.

347 General Agreement on Tariffs and Trade art.20, Oct. 30, 1947, 1867 U.N.T.S. 187 ("Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures: (a) necessary to protect public morals; (b) necessary to protect human, animal or plant life or health; (g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption; [(c)-(f), (h)-(j) not included for lack of relevance to present subject matter].").

348 Pub. L. No. 101-162, § 609, 103 Stat. 988 (1989); *India etc versus US: 'shrimp-turtle'*, WORLD TRADE ORGANIZATION, http://www.wto.org/english/tratop_e/envir_e/edis08_e.htm (last visited Nov. 2, 2014) [hereinafter *WTO Shrimp-Turtle Case*].

349 Appellate Body Report, *United States-Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/AB/RW, 3 (Oct. 22, 2001) [hereinafter WTO Appellate Body Report].

to the United States.[350] Malaysia filed a complaint with the WTO alleging that the ban violated international trade provisions.[351] The Appellate Body ruled that countries have the right to take trade action to protect the environment and the measures enacted by the U.S. to protect the sea turtles were legitimate under GATT Article XX.[352] The U.S. ultimately lost the case but not because the measures themselves violated international law.[353] The Body ruled that the U.S. discriminated against WTO members in how the U.S. implemented the import ban.[354] The U.S. offered financial assistance and longer gear transition times to certain countries in the western hemisphere but did not give the same advantages to other WTO members.[355] Thus, this case suggests that the WTO may validate a ban on importing shark fins from nations with unsustainable fishing practices, provided that the U.S. applies the ban uniformly for all member nations.

A recent ruling by the WTO offers further possible validation of environmental measures even if such measures discriminate against member nations. In November 2013, a WTO panel decided that a ban on imports of seal products enacted by the European Union (EU) was valid despite violating WTO anti-discrimination rules.[356] In 2009, the EU enacted a ban on trade in seal products within the EU and cited the interest of the European public in protecting seals as justification for the regulation.[357] The ban exempted hunts for indigenous and marine resource management purposes.[358] In 2010, Canada and Norway challenged this regulation at the WTO.[359] The WTO ruled that the EU ban violated key international trade obligations by restricting international trade in a discriminatory manner.[360] Nonetheless, the WTO upheld the ban as valid under the public morals exception provided for in GATT Article XX(a).[361] The WTO panel decided that the ban was valid because it fulfilled the EU's objective of protecting the public's moral concerns on seal welfare.[362] An article in the Animal Welfare Institute Winter 2014 Quarterly summarizes the importance of this case as, "the fact that the panel upheld a flawed ban on the basis that its objective was to address the moral position of the general public

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350 *Id*.

351 WTO Appellate Body Report, *supra* note 349. Australia, European Communities, Hong Kong, India, Japan, Mexico, and China were included in the suit as Third Participants.

352 *Id*.

353 *Id*.

354 *Id*.

355 *Id*.

356 *WTO Weighs Seal Product Ban*, 63 ANIMAL WELFARE INSTITUTE QUARTERLY 10, 10-11 (2014), *available at* https://awionline.org/sites/default/files/articles/14WinterQ-FinalWeb.pdf.

357 *Id*.

358 *Id*.

359 *Id*.

360 *Id*.

361 *Id*.

362 *Id*.

could be groundbreaking for animal welfare advocates."[363] This ruling could have dramatic implications and may pave the way for Congressional action on strict and country-specific shark fin import restrictions in the name of protecting U.S. public concerns for the welfare of sharks.

A national ban on the trade or possession of all shark fin products does not reflect a realistic option for Congress as it may interfere with other federal laws. However, regulations restricting the import of shark fins to nations with sustainable shark fishing practices are indeed a feasible option for Congress and must be the next step for U.S. shark conservation legislation.

VI. CONCLUSION

Sharks have ruled the oceans for hundreds of millions of years. They have survived where other species have died out, evolving and adapting to endure an environment that is constantly changing. But today, sharks are no longer kings of the watery world and face a new challenge that they are woefully incapable of surviving. Humans now dominate Earth, both land and sea, and have developed remarkably efficient methods of harvesting natural resources. Fishing techniques have advanced over the years into devastatingly effective mechanisms. Fish all across the world's oceans face tremendous pressures and sharks are no exception. The evolution of sharks as top predators, however, has rendered these animals particularly ill-suited to withstand high levels of harvesting

Without comprehensive conservation efforts, both on a national and international scale, sharks will simply cease to exist. The U.S. has taken great strides towards acknowledging this issue and serves as a world leader in efforts to protect sharks. The SFPA initiated comprehensive shark legislation and Congress further improved U.S. protections by enacting the SCA. The SCA tightens previous legislation by requiring fishermen to land all sharks with the fins naturally attached, albeit with the bewildering exception of the smooth dogfish, and by closing the loophole that resulted from the Ninth Circuit's decision in *United States v. Approximately 64,695 Pounds of Shark Fins*.

The SCA's regulation of shark finning, when combined with the various other shark fishery measures implemented through the regional FMPs, results in fairly controlled circumstances under which sharks may be legally harvested in U.S. waters. Several states have even enacted legislation to afford greater protection for sharks beyond the realm of fishery management. By prohibiting the possession of shark fin products, states such as Hawaii and California have paved the way for addressing one of the key underlying threats to sharks: the trade in shark fins. The SCA fails to tackle this issue on a national scale. Thus, future federal shark legislation must focus on the shark fin trade that provides

[363] *Id.*

the incentive to catch the sharks in the first place. Although U.S. import restrictions will not solve all of the threats facing sharks, such measures represent the best way for the U.S. to influence the parts of the world where shark fishing attitudes and methods need the greatest transformation. Only through U.S. leadership in changing the global legal regime will the plight of this astonishing ocean predator come to an end.