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GOVERNING A GLOBAL COMMONS: SHARKS IN THE HIGH SEAS

JARED R. WIGGINTON*

The purpose of this Article is to address the problem of shark population depletion in the high seas due to finning at an international level. This Article first offers an introduction to the problem of shark finning, distilling the fundamental issues the international community must address. Second, the Article explains the mechanics, strengths, and weaknesses of the United Nations Convention on the Law of the Sea (UNCLOS) and the Convention on International Trade in Endangered Species (CITES). Third, the Article provides several recommendations, first advocating for remedying the parts of the UNCLOS regime that are failing and against a general reliance on the CITES regime for shark protection. It then considers what a shark conservation treaty should look like, if one were adopted, and the need for a Global Fishery Management Organization (GFMO). And, finally, the Article advocates for increased and strategically focused diplomatic efforts with China to promote the full adoption and implementation of existing and potentially new international fishery laws pertaining to sharks.

Table of Contents

I. An Introduction to Shark Finning and the Overexploitation of Sharks ............................................ 432
II. Existing and Proposed International Solutions .... 436
   A. The UNCLOS Regime: UNCLOS, UNFSA, and RFMOs .................................................. 436
      1. Basic Mechanics of the UNCLOS Regime ........ 436
      2. Application, Strengths, and Weaknesses of the UNCLOS Regime ..................................... 440
   B. CITES Regime ........................................ 443
      1. Basic Mechanics of the CITES Regime ........... 443

* Judicial Law Clerk to the Honorable Michael L. Douglas of the Nevada Supreme Court (2013-15); King Hall Class of 2013. For my son, Remi — may you recognize the inherent and immeasurable value of this planet, and live your life protecting and appreciating it. Deepest love and gratitude for my wife Lauren. Thanks to Professors Al Lin and Rick Frank for their courses and counsel. Thanks also to King Hall for providing diverse courses and a wonderful learning environment.

(431)
On March 11, 2013, during the sixteenth meeting of the Conference of the Parties, members of CITES elected to list five new shark species in Appendix II of the Convention. An Appendix II listing requires that species only be traded with CITES permits and evidence that they are harvested sustainably and legally. All of the newly listed shark species are harvested primarily for their fins. Thus, this listing seemingly represents a victory for opponents to shark finning. Nevertheless, the effectiveness of CITES and other existing international law in combatting the depletion of shark populations due to finning and conservation is questionable.

Shark finning is the practice of cutting off the fins and tail of a live shark and throwing its living body back into the ocean to die either by suffocation, starvation, or from a predator. With the price of a single fin ranging from 100 to 10,000 dollars and mercury-


3. See id. (noting some of these species are also harvested for meat).

4. Id. (praising members of conference for taking steps to protect sharks). Past efforts to list the Porbeagle and other sharks have failed. Id.

laden shark meat priced below fifty-cents per pound,6 fishermen have a strong incentive to keep only the fins and throw the rest of the shark overboard. The high price of shark fins comes from the demand for shark fin soup, a Chinese delicacy symbolizing wealth, power, prestige, honor, and virility that dates back to the Ming Dynasty.7 This delicacy is now within the buying power of many more Chinese, as the country has an estimated population of over 1.3 billion people8 and a growing middle class of three hundred million people.9 Given these facts, the low-capital nature of shark finning, and an annual market value of 1.2 billion dollars,10 curbing the practice will be difficult.

As national waters and their respective economic exclusive zones (EEZ) are depleted of sharks, rational fishermen will work their way to the high seas. Alternatively, governments may strategically restrict shark fishing in their waters to encourage fishermen to access the resources in the high seas before other parties deplete them. The high seas, to the extent that they are unregulated, or regulated and unenforced, are global commons facing a familiar


The tragedy of the commons is the idea that shared and limited resources will be depleted because individuals will act independently and rationally in self-interest in the pursuit of maximizing their resources. Resource depletion will occur despite individuals' general understanding that depleting the common resource is contrary to their long-term best interests. Thus, although it is in the common interest to conserve fisheries, each fisher's immediate interest is best served by catching as many fish as possible. Shark species in the high seas are no exception to this tragedy. In 2008, of 591 shark species on the World Conservation Union (IUCN) Red List, 126 were listed as "globally threatened," 107 as "near threatened," and the status of 205 could not be determined because the data was deficient.

In attempting to find an international solution to shark depletion on the high seas, it is important to distill what is really at issue and the kind of approach that should be taken. Much of the discussion about shark finning, whether by the media or academics, frames it first as an issue of cruelty. The practice is cruel because the fins are hacked off sharks and their bodies are thrown back in the ocean to die. This cruelty is exacerbated by the perceived wastefulness of the process. While appeals to pathos have strengthened public support around the issue in nations that value animal welfare, these appeals have likely weakened chances of developing an international consensus regarding the overfishing of sharks because such appeals are culturally relative and detract from the real issue of shark sustainability.

To date, there is no international animal cruelty law against shark finning. But, even if there were such a law, the issue could be
solved by adopting a stun and quick kill procedure similar to that used in U.S. slaughterhouses. Further, the argument against waste could be addressed by the benefits shark carcasses will produce for scavenger marine species, including other sharks. Thus, focusing on cruelty, a culturally relative principle that can easily be remedied without addressing the real problem of shark sustainability, is unwise. At another level, explicitly or implicitly demonizing Asian cultures that consume shark fins to maintain their traditions is ethnocentric, while framing the issue as one of marine and economic sustainability is less so.

At its heart, then, the issue of shark finning is really about overfishing sharks and is problematic primarily because of its ecological and associated economic effects. From an ecological perspective, sharks are highly vulnerable to overexploitation because of their large size, late maturation, and low fecundity. Additionally, as apex predators, sharks are critical to maintaining, regulating, and balancing their ecosystems and food webs. Specifically, sharks help increase diversity in ecosystems by regulating their prey, providing food sources to scavengers, and maintaining a healthy spatial distribution of prey and community structures. Directly related to these ecological disruptions is their potential to cause economic harm to industries dependent on both shark and general marine fisheries. Scholars have estimated that economic activities

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17. See Chinatown Neighborhood Ass'n v. Brown, No. C 12-3759 PJH, 2013 WL 60919, at *3 (N.D. Cal. Jan. 2, 2013) (claiming California’s recent ban on sale, trade, and possession of shark fins specifically targets Chinese populations and is attempting to compel them to change their cultural practices).


20. Id. (detailing sharks’ various roles in maintaining ecosystem of oceans).

supported by marine fisheries amount to 240 billion dollars annually. In 2011, marine fisheries produced 78.9 million tons of fish. In 2008, marine fisheries directly employed thirty-four million people in fishing operations. In addition to economic importance, marine fisheries support food security, supplying more than 4.3 billion people with at least fifteen percent of their average animal protein intake. The potential ecological and economic chain reaction and other uncertainties associated with shark decimation suggest that the international community should be vigilant about protecting shark fisheries.

II. EXISTING AND PROPOSED INTERNATIONAL SOLUTIONS

A. The UNCLOS Regime: UNCLOS, UNFSA, and RFMOs

1. Basic Mechanics of the UNCLOS Regime

The UNCLOS and the United Nations Fish Stock Agreement (UNFSA) are two international treaties that are supposed to operate consistently with each other. Regional Fisheries Management

relates to general marine fishery health, it is also important to recognize that the FAO estimates that 8% of the world’s major fisheries are depleted, 19% are overexploited, and 52% are fully exploited, leaving just 20% of the world’s marine fish population under- or moderately-exploited. Id.; see also HUNTER ET AL., supra note 14, at 761.


24. Id. (noting in 2008, fisheries industry provided livelihoods for 540 million people, or about eight percent of the world’s population); see also Oceans: Rio 2012 Issues Briefs, U.N. CONFERENCE ON SUSTAINABLE DEV., http://www.unccd2012.org/content/documents/216Issues%20Brief%20No%204%20Oceans_FINAL.pdf (providing overview of international efforts in oceans).

25. FAO, supra note 23, at 3-19 (explaining fisheries’ importance in feeding world’s population).

Organizations (RFMOs) are bodies born of these treaties.27 UNCLOS is the broader and more powerful of the two treaties, with 165 ratifying parties28 and claims that it constitutes international customary law and therefore binds even parties that have not ratified it.29 UNCLOS establishes ocean jurisdictional limits and associated rights that must be discussed to understand fishery laws. Of particular relevance are the limits of territorial waters, twelve nautical miles offshore from coastal States,30 and the EEZ, which extends two hundred nautical miles from a State’s coastline.31 Within their respective territorial waters, coastal States have exclusive fishing rights.32 However, within their respective EEZ, coastal States have only limited rights to explore and exploit natural resources, both mineral and living.33 These rights are limited by each coastal State’s duty to manage and conserve living marine resources and to allow other States to fish in the EEZ if the coastal nation lacks the capacity to harvest the optimum yield.34 Ocean area beyond the EEZ is considered the high seas35 and will be the jurisdictional focus of this Article.

Unlike those found in territorial waters or the EEZ, living marine resources in the high seas are open to exploitation by all States, whether coastal or landlocked, subject to several con-

30. UNCLOS, supra note 27, at art. 3(2) (noting limits of territorial waters).
31. Id. at art. 51 (establishing “exclusive economic zones”).
32. Id. at art. 193 (noting States’ sovereign rights to exploit marine resources).
33. Id. at art. 56 (listing States’ rights with respect to EEZ).
34. Id. at arts. 61-62 (providing general provisions relating to “high seas”).
35. UNCLOS, supra note 27, at art. 86 (providing general provisions relating to “high seas”).
First, all States’ fishing rights are subject to their other treaty obligations. Therefore, if a State signed a treaty prohibiting catching sharks in the high seas, that provision is binding upon the State. Second, all States have a duty to take or cooperate with other States in taking measures for regulating their respective nationals as necessary for conservation of the living resources of the high seas. And third, States are to cooperate in the conservation and management of living resources in the high seas by entering into regional fishery organizations focused on conservation where their nationals fish for the same living resources or in the same areas. As a part of this cooperation, States are to determine the total allowable catch (TAC) and establish other conservation measures based on the best scientific evidence available to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield. However, this duty to establish and adhere to TACs is qualified by “relevant environmental and economic factors, including . . . special requirements of developing States.” This would seem to suggest that a State might not fully exploit its TAC if certain environmental conditions are present, or might go beyond its TAC in the case of developing countries.

The UNFSA, as an appendage to UNCLOS, provides more specific obligations and recommendations for marine sustainability. The stated purpose of UNFSA is to ensure the long-term conservation of straddling and highly migratory fish stocks. Thus, UNFSA primarily regulates the high seas, but would not include shark stocks found only in the high seas. Like with UNCLOS, to achieve these goals, parties are to adopt measures based on the best scientific evidence available designed to maintain or restore stocks at

36. Id. at art. 87 (listing several freedoms associated with high seas).
37. Id. at art. 116 (noting States’ right to fish in high seas).
38. Id. at art. 117 (noting States’ duty to adopt necessary measures relating to conservation of high seas).
39. Id. at art. 118 (noting States’ duty to cooperate with each other in conservation efforts).
40. UNCLOS, supra note 27, at art. 119 (listing methods to determine total allowable catch).
41. Id. (noting certain qualifications in determining total allowable catch).
42. UNFSA, supra note 26, at art. 2 (providing agreement’s objective).
43. Id. at art. 3(1) (noting agreement’s application to fish stocks in high seas).

The treaty imposes duties on both coastal States and those States fishing the high seas, including adopting measures to ensure the long-term sustainability of straddling and highly migratory fish stocks. Straddling stocks include those fish found either within the EEZ of two or more States, or both within the EEZ of one State and the high seas. Highly migratory stocks are those species listed in Appendix I of UNCLOS.
levels capable of producing maximum sustainable yield.\textsuperscript{44} Maximum sustainable yield is the largest catch that can be taken from a species while maintaining its population's maximum growth rate.\textsuperscript{45} Also similar to UNCLOS, these requirements can be qualified based on environmental and economic factors.\textsuperscript{46} Other obligations under UNFSA include collecting and sharing fishing data, conducting appropriate scientific research, applying the precautionary principle, protecting marine diversity, and enforcing the measures adopted.\textsuperscript{47}

As suggested, the primary means for accomplishing the duties imposed by UNCLOS and UNFSA are RFMOs.\textsuperscript{48} To date, seventeen RFMOs have been established.\textsuperscript{49} RFMOs are composed of members that are fishing the high seas for a particular fish stock and relevant coastal States.\textsuperscript{50} Additionally, any State that has a "real interest" in the fisheries concerned may become a member of an RFMO.\textsuperscript{51} Interestingly, non-members are not precluded from being allocated TACs or other fishing rights if they accept the conservation and management measures adopted by the RFMO.\textsuperscript{52} Finally, RFMOs are charged to do the following: agree on conservation and management measures; agree on participatory rights and accommodation of interests of new members States; promote and conduct scientific assessments of stocks and impacts on non-target and associated species; obtain and evaluate scientific advice; compile and

\begin{enumerate}
\item Id. at art. 5(a)-(b) (providing agreement's general guiding principles).
\item UNFSA, \textit{supra} note 26, at art. 5(b) (noting parallel qualifications to best scientific evidence available method).
\item Id. art. 5(c), (g), (j)-(l) (listing various obligations under UNFSA).
\item Id., \textit{supra} note 26, at art. 8(3) (discussing participation in RFMOs).
\item Id. (noting States with "real interest" in fisheries may join RFMO). The meaning of "real interest" is unclear, but signifies an intention to restrict access to regional fisheries. Id. This ability to restrict access to regional fisheries would seem to allow for politics of exclusion, but article 8(3) requires that the terms of participation be applied in a non-discriminatory fashion. Id.
\item Id. at art. 8(4) (noting States may be given fishing access if they are RFMO members or if they comply with conservation measures established by such RFMO).
\end{enumerate}
disseminate statistical data from the fisheries; and establish mechanisms for monitoring, control, surveillance, and enforcement.\textsuperscript{53} Further, "[w]here an RFMO exists, parties are generally expected to implement the organization's measures into national law, and cooperate with the organization by having their fisheries enforcement agencies enforce the RFMO's measures."\textsuperscript{54}

In summary, both UNCLOS and UNFSA have provisions for maintaining sustainable fisheries on the high seas. Both require the setting of TACs after determining the maximum sustainable yield of the particular stock based on the best scientific evidence available. UNFSA goes into greater detail, constraining TAC determinations with the precautionary principle\textsuperscript{55} and concerns for maintaining biodiversity.\textsuperscript{56} Additionally, RFMOs have a right to exclude those seeking membership that do not have a legitimate, real interest in the fishery.\textsuperscript{57} And, finally, both treaties have an obligation to establish TACs using the best scientific evidence available for both members and non-members.\textsuperscript{58} Understanding the framework created by these international agreements and the structure of RFMOs, it is necessary to gauge their success in shark sustainability in the high seas.

2. Application, Strengths, and Weaknesses of the UNCLOS Regime

Despite a reasonable structure and clear direction from international treaties and guidelines,\textsuperscript{59} many consider RFMOs to be "weak and ineffective," lacking institutional support and a global

\textsuperscript{53} Id. at art. 10 (listing RFMO's obligations under UNFSA).
\textsuperscript{55} See UNFSA, supra note 26, at art. 6 (explaining application of "precautionary approach"). UNFSA notes, "States shall be more cautious when information is uncertain, unreliable or inadequate." Id. at art. 6(2). It further states, "The absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures." Id.
\textsuperscript{57} Tore Henriksen, Law and Politics in Ocean Governance: The UN Fish Stocks Agreement and Regional Fisheries Management Regimes 20 (Martinus Nijhoff Publishers 2006) (discussing exclusion of RFMO membership).
\textsuperscript{58} See UNFSA, supra note 26, at art. 11 (discussing obligations relating to non-members under UNFSA).
body that oversees their operations.\textsuperscript{60} RFMOs are also considered unsuccessful in taking meaningful action to ensure sustainable shark stocks.\textsuperscript{61} Most RFMOs seem focused mainly on ensuring access rights to exploit fisheries instead of conserving them,\textsuperscript{62} suggesting they are not adhering to the precautionary principle by which they are bound under UNFSA.\textsuperscript{63}

RFMO failure can be attributed to a few pervasive problems: lack of data and insufficient enforcement related to illegal, unreported, and unregulated (IUU) fishing and flags of convenience (FOC). Article 117 of UNCLOS has been interpreted to require data collection.\textsuperscript{64} Similarly, the UNFSA specifically requires RFMOs to promote and conduct scientific assessment of fish stocks and to obtain and evaluate scientific advice on the status of stocks.\textsuperscript{65} This requirement makes sense because fishery conservation depends critically on accurate scientific data concerning the population size and age distribution to determine the status of a fish population, data that is often difficult to gather.\textsuperscript{66} For deep-water sharks living in the high seas, obtaining data is even more difficult.\textsuperscript{67} Measuring high seas stocks has been compared to flying over the Serengeti at night in a helicopter, dropping a net, and estimating the total zebra population from those caught in the net.\textsuperscript{68} Despite these shortcomings, the data available for sharks suggests most species are declining and none are increasing.\textsuperscript{69}

In total, IUU and FOC fishing constitute fifteen percent of the entire global fishery capture, and, in areas where large stocks of commercially valuable fish are found, the level exceeds this per-

\textsuperscript{60} Young, supra note 48, at 45 (outlining criticisms of RFMOs).
\textsuperscript{61} Osch, supra note 54, at 411 (noting various scholars comment on insufficiency of RFMO effort in protecting sharks).
\textsuperscript{62} Young, supra note 48, at 40 (finding that many RFMOs act as entities that misuse access rights).
\textsuperscript{63} UNFSA, supra note 26, at art. 6 (stating “precautionary approach” requirement under UNFSA).
\textsuperscript{64} Hunter et al., supra note 14, at 775 (clarifying article 117 of UNCLOS).
\textsuperscript{65} UNFSA, supra note 26, at art. 10(d),(g) (noting several functions of RFMOs).
\textsuperscript{66} Hunter et al., supra note 14, at 775 (outlining scientific data important for fishery conservation).
\textsuperscript{67} See Osch, supra note 54, at 412-13 (noting difficulty in obtaining data regarding deep-water sharks).
\textsuperscript{68} Hunter et al., supra note 14, at 775 n.4 (explaining issues in measuring number of sharks located in high seas).
\textsuperscript{69} Osch, supra note 54, at 413 (stating available data suggests that shark population is declining).
IUU fishing is a problem for several reasons. First, it interferes with RFMO-established TACs. If RFMOs are calculating the maximum sustainable yield and allocating all of it, any IUU catch would make the particular fishery unsustainable. Second, IUU fishing discourages non-member States from making efforts to cooperate with RFMOs because they can receive benefits without incurring costs. Third, IUU fishing often uses illegal gear and techniques that have detrimental effects on the ocean ecosystem. One study has shown that in terms of environmental degradation and bycatch, FOC vessels (engaged in IUU fishing) cause twenty times more harm than regulated vessels.

FOCs refer to the problem that arises from the ability of fishing vessels to register their ship in a jurisdiction with lax regulations, a complete inability to enforce their regulations, or tacit assent not to enforce their standards. Because the law of the flag State takes precedence over the law of the port State, vessels engaging in illegal activities can shield themselves behind their flag States. Flag States have little motivation to regulate these ships because overfishing in the high seas generally does not affect them and they receive the benefits of registration and tonnage fees for their lack of regulation. An exception to the deference to flag State jurisdiction occurs when a flag State has repeatedly disregarded its obligation to enforce international rules and standards effectively in respect to violations committed by its vessels. But proving a history of non-enforcement is difficult without access to a State’s enforcement pro-

70. See Darren S. Calley, Market Denial and International Regulation: The Targeted and Effective Use of Trade Measures Against the Flag of Convenience Fishing Industry 50 (2012) (explaining how global fishing average of fifteen percent is exceeded in some areas).
71. Id. at 51 (noting detrimental effects caused by IUU fishing). It is estimated that FOC longlines kill over 300,000 seabirds every year. The Threats, Royal Soc’y for the Prot. of Birds, https://www.rspb.org.uk/supporting/campaigns/ albatross/problem/threats.aspx (last visited Mar. 2, 2014). Additionally, high seas bottom trawling is another severe problem in its destruction of habitat; it has been labeled the world’s most destructive type of fishing. L.E. Morgan et al., Why the World Needs a Time-Out on High-Seas Bottom Trawling 4 (Deep Sea Conservation Coal. 2005).
72. Calley, supra note 70, at 53 (describing increased danger of FOC vessels).
73. See UNCLOS, supra note 27, at art. 94 (stating controlling law is decided by flag State).
74. Hunter et al., supra note 14, at 804 (explaining lack of regulation on behalf of flag State).
75. Id. at 808 (describing lack of regulation’s benefits).
76. UNCLOS, supra note 27, at art. 228 (discussing difficulties in proving history of non-enforcement).
ceedings.\textsuperscript{77} Thus, lack of data, IUU fishing, and FOC pose significant obstacles to overcome in protecting shark stocks under the UNCLOS regime.

B. CITES Regime

\textit{1. Basic Mechanics of the CITES Regime}

Recently, many scholars have emphasized using CITES as a means for protecting sharks from overfishing.\textsuperscript{78} As mentioned in the introduction, these efforts have arguably paid off with the recent addition of five sharks species to Appendix II of CITES.\textsuperscript{79} This section will examine the protections offered by CITES and assess its strengths and weaknesses as a means for protecting sharks.

CITES regulates the global trade in species that are threatened with extinction and currently has 178 member States, including China and the United States.\textsuperscript{80} CITES protection comes from its three appendices, which establish varying levels of permit requirements for the import and export of endangered and threatened species and the parts or specimens of species derived therefrom.\textsuperscript{81} Specimens are defined to include "any readily recognizable part or derivative" of a listed animal or plant.\textsuperscript{82} Under the agreement, each party is required to designate a management authority to issue permits for trade in species and a scientific authority to provide advice on imports and exports.\textsuperscript{83}

\textsuperscript{77} HUNTER ET AL., supra note 14, at 807 (stating difficulties in proving history of non-enforcement).

\textsuperscript{78} See generally CALLEY, supra note 70 (presenting method to protect sharks from overfishing); Osch, supra note 54 (finding CITES has "been active in shark conservation"); Walker, supra note 5 (finding CITES has "flexible framework"); YOUNG, supra note 48 (finding CITES attempts to prevent extinction of renowned animal species); Anderson, supra note 16 (stating CITES will result in reduction in shark finning); Kaitlin M. Wojnar, Note, \textit{Shark Laws with Teeth: How Deep Can U.S. Conservation Laws Cut into Global Trade Regulations}, 19 ANIMAL L. 185, 192 (2012) (stating CITES has goal of preventing "over-exploitation" of certain species).

\textsuperscript{79} 2013 \textit{Convention on International Trade in Endangered Species}, supra note 1 (adding five shark species).


\textsuperscript{82} \textit{Id.} at art. I (defining specimens).

\textsuperscript{83} \textit{Id.} at art. IX (requiring each party to designate management and scientific authority).
Under CITES, Appendix I includes all species threatened with extinction which are or may be affected by trade. Appendix II includes all species that may become threatened with extinction and other species that must be subject to regulation so that trade in its specimens may be brought under effective control. Finally, Appendix III includes all species that a party identifies as being subject to regulation within its jurisdiction for the purpose of preventing or restricting exploitation and needing cooperation of other parties to control its trade. In order to list a new species in either Appendix I or II, a two-thirds vote is required for those members present and voting. For proposed marine species, the CITES Secretariat (Secretariat) must consult with intergovernmental organizations to obtain scientific data and to ensure coordination with any existing conservation efforts organizations already have in place.

Permit requirements related to the species listed in Appendix I are the most stringent. First, the export of any specimen in this category requires a prior grant and presentation of an export permit. An export permit can only be granted after the Scientific Authority of the exporting State has determined that such an export will not be detrimental to the survival of that species. In addition, the Management Authority of the exporting State must be satisfied that the specimen was not obtained in contravention of laws of that State; that any living specimen be prepared and shipped so as to minimize the risk of injury, damage to health, or cruel treatment; and that an import permit has been granted for such a specimen. States also need an import permit to import Appendix I species. To obtain this permit, the Scientific Author-

84. Id. at art II(1) (requiring listing of all species threatened by extinction and potentially affected by trade).
85. Id. at art. II(2)(a)-(b) (requiring listing of species already subject to some form of regulation).
86. CITES, supra note 81, at art. II(3) (explaining which species are included in Appendix II).
87. Id. at art. XV(1)(b) (outlining voting requirements to add species to Appendix I or II). Abstentions are not counted in determining whether the two-thirds threshold has been satisfied. Id.
88. See id. at art. XV(2)(b) (noting inclusion of RFMOs).
89. Id. (discussing coordination with existing regulations).
90. Id. at art. III(2) (requiring prior grant and permit for Appendix I species).
91. CITES, supra note 81, at art. III(2)(a) (noting granting permit requires determination of Scientific Authority).
92. Id. at art. III(2)(b)-(d) (explaining State’s Management Authority requires satisfactory findings before permit can be issued).
93. Id. at art. III(3) (noting import permit must also be acquired for Appendix I species).
ity of the importing State must determine that the import will not be for purposes detrimental to the survival of the species and that the proposed recipient of living specimens is suitably equipped to house and care for it. 94 Finally, the importing State's Management Authority must be satisfied that the specimen is not to be used for primarily commercial purposes. 95 For Appendix II species, only the aforementioned export permit requirements must be satisfied. 96 Lastly, importing Appendix III listings require a certificate of origin for all trade in the species, and, if the species is from the listing State, a Management Authority export permit is also required. 97

The last, and arguably most important, provision of CITES pertains to enforcement. The treaty leaves enforcement of the provisions that prohibit trade to the parties. 98 Specifically, this enforcement is to include measures that penalize trade in or possession of specimens violating the treaty 99 and to provide for confiscation and return to the State of export of such specimens. 100

2. Application, Strengths, and Weaknesses of the CITES Regime

Having reviewed the mechanics of CITES, it is now necessary to consider CITES' application to the newly listed sharks and to gauge its likely success in curbing the problem of unsustainable shark fishing practices. Based on the provisions examined, using CITES to ensure sustainable shark fisheries will require sufficient data and a two-thirds consensus among parties of the Convention. While both of these tasks are daunting, the latter poses the greatest problem. Recall that the recent successful listing of five shark species in App-

94. Id. at art. III(5)(a)-(b) (outlining concerns Scientific Authority should resolve before issuing permit).

95. Id. at art. III(3)(c) (outlining Management Authority's requirements). For marine species taken from the high seas listed in Appendix I, an exporter is required to satisfy requirements similar to domestically captured Appendix I species. Id. at art. III(5). Similarly, for those listed in Appendix II, requirements are found in article IV(6). Id. at art. IV(6). Both provisions require certification that the introduction will not be detrimental to the survival of the species. Id. at arts. III(5), IV(6). Moreover, there are a series of exceptions to the general trade restriction provisions in article VII of the treaty. Id. at art. VII.

96. CITES, supra note 81, at art. IV (detailing requirements for granting of export permits).

97. Id. at art. V(2)-(3) (listing requirements for granting export or import of any specimen of species).

98. Id. at art. VIII(1) (enumerating measures to enforce CITES provisions).

99. Id. at art. VIII(1)(a) (requiring penalties for trade or possession of listed species).

100. Id. at art. VIII(1)(b) (requiring confiscation or return of species following exportation that violates CITES).
Appendix II of the Convention had failed twice before. Some might argue that the members of Convention are now prepared to protect sharks; however, this would be a premature assessment given the reluctance of major fishing nations to use CITES as a form of marine fishery protection. As a result of efforts to use CITES more for marine protection, multiple nations have made proposals to formalize the interaction between CITES and RFMOs. Japan, for example, has proposed requiring prior approval by the United Nation’s Food and Agriculture Organization (FAO) or its subsidiary bodies or RFMOs before any CITES listing could occur. Japan’s proposal, if adopted, threatens the viability of using CITES as a means of comprehensive shark conservation by slowing down and potentially stopping relevant proposed listings. Given Japan’s success in leveraging support for its proposals in the International Whaling Commission (IWC), it would not be surprising if it could muster similar support among members of CITES over time.

CITES does have several clear strengths. One of those is its enforcement, as CITES has the potential to punish and prevent the illegal trade of listed shark species. Market measures can have a great impact on the ability of IUU fishing and FOC fleets to profit from their actions, assuming the closed market is large enough. Thus, with sufficient application of the convention, sharks and parts of sharks caught illegally would hypothetically be impossible to land and sell, eliminating the primary incentive to harvest sharks for finning. In addition, CITES offers the potential for even broader protection of shark species in its “look-alike” provision. Under this provision, species that have a similar appearance to other species

101. CITES, supra note 81, at art. VIII(1)(b) (penalizing for trade of five shark species).
102. YOUNG, supra note 48, at 7 (noting fishing nations stance on CITES).
103. See id. at 154 (detailing proposals to change relationship between CITES and RFMOs).
104. Id. at 169 (discussing Japan’s requirements for CITES listing).
106. CALLEY, supra note 70, at 174 (describing impact of market measures on illegal trade in sharks).
107. CITES, supra note 81, at art. II(2)(b) (introducing “look alike” provision).
listed in Appendix I \textsuperscript{108} shall be included in Appendix II.\textsuperscript{109} Finally, CITES also allows for global enforcement, overcoming State claims of sovereignty in their own waters.\textsuperscript{110}

There are several significant weaknesses of CITES when it comes to protecting sharks. First, the restrictions only become legally applicable when a listed species enters the stream of international commerce.\textsuperscript{111} This means that fishermen from nations that have a high demand for sharks and shark fins can land their haul for domestic consumption without punishment. Another weakness is the need for a significant administrative structure to participate in and enforce the Convention’s provisions. States lacking the capacity and/or political will to establish such an administrative structure will not be able to implement the regime effectively.\textsuperscript{112} Therefore, where States lacking capacity and/or political will are on both the importing and exporting side of international trade in sharks, there will arguably be no meaningful enforcement, and thus no meaningful deterrence. Additionally, even where member States have administrative capacity, absent a significant effort to verify the authenticity of import and export permits, fraud can become a major problem.

The provisions of CITES themselves are also problematic. First, they cannot combat habitat destruction associated with IUU fishing.\textsuperscript{113} Second, they offer no protection of species not being internationally traded.\textsuperscript{114} Third, because sharks are harvested primarily for their fins and not their meat, there is a risk that finning vessels will seek to change the physical properties of shark fins, perhaps by processing them on the ship, so as to make them un-

\begin{itemize}
  \item \textsuperscript{108} Hunter et al., supra note 14, at 1071 (explaining what species are common to Appendices I and II).
  \item \textsuperscript{109} Currently there are no sharks listed in Appendix I. However, if a species of shark was listed, then other species with similar looking fins could be protected under Appendix II. One way for fishermen to bypass this would be to take the sharks' whole carcass, but that would undermine their ability to maximize profit by filling their haul with shark fins.
  \item \textsuperscript{111} Hunter et al., supra note 14, at 1069 (listing restrictions when species enter international commerce).
  \item \textsuperscript{112} See Calley, supra note 70, at 172 (explaining how lack of administrative infrastructure hurts implementation).
  \item \textsuperscript{113} Id. at 201 (stating habitat destruction by IUU countries cannot be curtailed by CITES).
  \item \textsuperscript{114} Id. at 200 (stating CITES does not protect internationally-traded species).
\end{itemize}
recognizable to inspection agents. A fourth, the treaty’s introduction from the sea provisions provide little protection for species harvested from the high seas because it only requires that the CITES Scientific Authority of the State of introduction be satisfied that the introduction will not be detrimental to the survival of the species. A fifth problem with the convention is its reservation system, which allows any member to object to a proposed species listing. In the case that a party objects to an approved listing, that party will be treated as if it is not a member of the convention for the trade in that species. Finally, trade between non-member States, or between non-member States and member States not treated as a party for specific species, has the potential to undermine CITES.

Perhaps the greatest problem with CITES is that it is responsive and not preventative. CITES is not a convention that will guarantee sustainable shark fisheries because, by its own terms, it should not become effective until the species is threatened with extinction or is likely to be threatened with extinction. Thus, CITES members are obligated to wait until there is evidence that shark species are sufficiently threatened before they can make a proposal to list a relevant shark species. And then, members will face the task of garnering the necessary two-thirds vote required for listing the species accordingly. Thus, unlike the UNCLOS regime, CITES cannot reasonably be relied on as a means of protecting sharks in the first instance, but instead only in the last.

115. Under CITES article I(b)(iii), a specimen of a species means “any readily recognizable part or derivative thereof.” CITES, supra note 81, at art. I(b)(iii). While some have suggested the possibility of genetic testing where a species cannot be determined, such a requirement is likely politically and economically unfeasible for most members. Calley, supra note 70, at 186.

116. Willock, supra note 110, at 15 (stating CITES introduction of species is based only on whether introduction is detrimental to the species).

117. CITES, supra note 81, at art. XV(3) (allowing parties to notify in writing any reservations with respect to amendment). Note that the provisions for objections and reservations have been critical to the Convention’s success in gaining so many parties. See id.

118. Id. (explaining consequences for party who objects to approved listing).

119. Article X allows for parties of CITES to trade with non-parties where non-parties can produce comparable documentation from competent authorities substantially conforming to the requirements of the Convention. Id. at art. X.

120. Id. at arts. rt. II, III (containing definitions and fundamental principles that explain when CITES applies to certain species).

121. See UNFSA, supra note 26, at art. 6 (stating countries shall subject species to enhanced monitoring in order to review their status).
III. ENSURING A SUSTAINABLE SHARK FISHERY: SYNTHESIS, GAP-FILLING, AND DIPLOMACY

A. Regime Repair and Reconciling the Roles of UNCLOS and CITES

Recognizing that both UNCLOS and CITES have significant weaknesses in their ability to ensure sustainable shark fisheries, it is necessary to determine what the best solution would be. It would be unrealistic to ignore or work around these regimes given their entrenchment in international law. Therefore, the optimal solution will require recognizing and defining the role of the regimes, fixing their respective weaknesses, and then filling in the legal gaps with new international law.

The first question is what the role of each treaty regime should be to maximize the sustainability of shark populations. It is arguable that these regimes should operate completely independently to avoid even greater conflict, but such an approach would lead to inefficiency in resource use and shark protection. Thus, a better approach will include coordination and cooperation between these two regimes where they have common interests. For example, to determine whether to protect a shark species and how much protection the species' needs, both regimes will require sufficient data about the species' populations. Instead of investing their limited resources in two independent research studies, these two regimes should designate the responsibility to the regime that is in the best place to perform these studies. In this case, it would likely be the existing RFMOs that should perform these studies given their proximity to specific fisheries and the local knowledge they are bound to have. Because RFMOs will carry the burden and provide the benefits of research in such a case, the CITES regime should contribute to the costs. Note that there may be circumstances where this cannot work, such as where conflicts of interest arise and the integrity of the studies would be questionable.

At the same time, each regime must be free to operate independently to fulfill its mandates and perform its unique role. The UNCLOS regime imposes specific duties to ensure maximum sustainable yields of shark stocks by fixing appropriate TACs. In some cases, TACs may be based on allowing for the repopulation of a depleted shark stock. Thus, imagining a continuum for shark conservation, the UNCLOS regime would be more on the preventative side, though it arguably covers the entire scale, offering some remedial protection. CITES specifically focuses on protecting species...
both threatened with extinction and on the verge of being threatened with extinction if intervention does not occur. Therefore, CITES would fall mostly on the remedial side of the shark conservation continuum.

Understanding their respective purposes, it is now possible to identify and respond to each regime's most critical weaknesses regarding their roles in shark protection. As mentioned, the primary weaknesses for comprehensive shark conservation facing the UNCLOS regime include insufficient data, IUU fishing, and FOC. The fundamental weaknesses of CITES predominately include its presumption of administrative capacity and its constant need to overcome political conflicts to obtain new listings of sharks. Each of these weaknesses will be addressed.

The three guiding principles for fisheries law are harvest levels based on scientific data, regulation of the species through its whole range, and broad consideration of the relevant ecological factors affecting conservation of the species and its habitat. Thus, the first step is to obtain scientific data, in this case the best scientific evidence available. As mentioned above, data can be difficult to gather. Procuring this data will require a significant investment of resources from under-resourced entities. Ideally, this funding should be obtained regionally within RFMOs from their respective members. Funding for this research could also be obtained by penalties levied against those violating fishery laws, including TACs. This money should be focused on species exclusively found in the high seas because member nations will have incentives to contribute additional funds for straddling and highly migratory stocks seasonally found within their EEZs. With that money, research priorities should be set. As apex predators facing a rapid decline across the globe, shark species should be at the top of that research list. RFMOs might consider investing in regional monitoring stations to accomplish these goals. These stations could dually be used for enforcement efforts.

When considering the relationship between data collection and policymaking, it is clear that the implementation of environmental law and policy often proceeds in the face of scientific uncer-

122. Hunter et al., supra note 14, at 768 (enumerating principles forming basis of fisheries law).
123. UNCLOS, supra note 26, at art. 5(b) (requiring countries ensure conservation measures are based on best scientific evidence available).
124. Hunter et al., supra note 14, at 775 (explaining difficulties in collecting scientific evidence).
Decision-makers are required to make value judgments and policy determinations on the information they have.\textsuperscript{125} Still, obtaining the best data possible is required to reduce risk and uncertainty. One of the main concerns related to gathering data about sharks and other marine life is the difficulty getting an accurate population count given the vastness of the seas and unfamiliar migratory patterns. While this problem is understandable, it cannot be used as an excuse for failing to make the best attempts possible. Tagging, tracking, and monitoring techniques in cooperation with other scientific organizations can provide a baseline from which to start — a baseline that can be modified as new information is discovered and advances are made in research methods. With this baseline data, techniques such as modeling that produce simulations of the real world based on limited information should be developed to determine populations of shark species.\textsuperscript{127} RFMOs and scientists should also look to the IWC's Scientific Committee and their Revised Management Procedure (RMP), which has developed the most rigorously tested management procedure for a natural resource yet.\textsuperscript{128} The RMP first establishes its catch limit based on an algorithm that is designed to account (1) for all variables affecting the stability of whale stock sizes and (2) for setting a catch limit that ensures sustainable whale populations.\textsuperscript{129} Second, it maintains an ongoing population assessment and monitoring program.\textsuperscript{130} And third, it implements an observer scheme to guarantee its success.\textsuperscript{131} While imperfect,\textsuperscript{132} the RMP is considered a successful model.

Acknowledging the significant limitations on available data regarding shark populations, the precautionary principle should be applied when adopting policies related to all sharks in the high seas.\textsuperscript{125, 126}
seas. Under UNFSA, State parties are legally bound to apply this principle to straddling and highly migratory shark stocks.\textsuperscript{138} Seemingly, this requirement would extend to RFMOs through their State members as they make policy determinations on fishing gear requirements, TACs, and other regulations. Assuming this extension, RFMOs would be required to improve decision-making by obtaining and sharing scientific data and establishing precautionary reference points.\textsuperscript{134} The precautionary reference points include a limit reference point and a target reference point. Limit reference points are to set the boundaries that will constrain the harvest of shark within safe biological limits within which the stocks can produce maximum sustainable yield.\textsuperscript{135} Target reference points are intended to meet management objectives.\textsuperscript{136} If this precautionary principle is applied correctly, where there are significant gaps of data, parties are to take “cautious conservation and management measures” until there is sufficient data.\textsuperscript{137} Therefore, the weakness of data collection in shark protection in the high seas can be overcome by increasing funding, establishing data baselines, adopting modeling techniques, prioritizing research, and meaningfully applying the precautionary principle.

The second step for ensuring fishery sustainability is regulating the lawful harvest limits established by the RFMOs as related to the other two weaknesses of the UNCLOS regime: IUU fishing and FOC. These problems are interrelated because IUU fishing continues due to lack of enforcement by port States and FOC. Additionally, “RFMOs . . . rely on member states to control their fleets, which are identified through the flags they fly,”\textsuperscript{138} but nationals of an RFMO State “can re-flag their vessels with non-member states to escape regulation.”\textsuperscript{139}

The first potential solution to this problem is found within UNFSA. First, parties to an RFMO are supposed to implement the organization’s regulations into national law and then assist the organization by enforcing those regulations.\textsuperscript{140} Additionally, the

\begin{itemize}
  \item \textsuperscript{133} UNFSA, \textit{supra} note 26, at art. 6 (stating application of precautionary approach).
  \item \textsuperscript{134} Id. at art. 6(3)(a)-(b) (stating States must share data).
  \item \textsuperscript{135} Id. at Appendix II(2) (explaining precautionary reference points in detail).
  \item \textsuperscript{136} Id. (defining target reference points).
  \item \textsuperscript{137} Id. at art 6(6) (discussing measures to be taken in new or exploratory measures).
  \item \textsuperscript{138} YOUNG, \textit{supra} note 48, at 40 (discussing how fleets are identified).
  \item \textsuperscript{139} Id. at 41 (explaining how those in RFMO State can escape regulation).
  \item \textsuperscript{140} Osch, \textit{supra} note 54, at 418 (discussing enforcement).
\end{itemize}
UNFSA requires parties to take measures to deter activities of non-party vessels undermining effective implementation of the agreement.\textsuperscript{141} Port States also have the authority to board a vessel and inspect documents, gear, and catches.\textsuperscript{142} And the UNFSA "extends port-state jurisdiction to disallow landings and transhipments where it has been established that the catch has been taken in a manner which undermines the subregional, regional or global conservation and management measures on the high seas."\textsuperscript{143} Some "RFMOs . . . have taken measures requiring their member states to do exactly [these things, including] . . . ban[ning] imports of some fish products caught illegally."\textsuperscript{144} These measures have reduced some IUU fishing, but there are currently no port State measures for shark protection.\textsuperscript{145} One potential incentive to increase enforcement would be to allow port States to confiscate and sell catches established to have been taken in contravention to existing laws. This creates an incentive to enforce for the port State and an incentive not to engage in IUU for fishermen. To the extent that the enforcement incentive would not be compromised, such revenue should be required to go to the RFMO to which the port State belongs.

Another way to increase accountability and efficient enforcement comes from advances in technology. For instance, vessel monitoring systems (VMS) are becoming more popular among RFMOs.\textsuperscript{146} These systems relay a vessel’s location back to their government who, at least within the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), then has the obligation to relay that message to the Secretariat.\textsuperscript{147} As vessels enter

\footnotesize{141. UNFSA, supra note 26, at art. 33 (discussing non-parties to agreement).
142. Id. at art. 23 (discussing enforcement mechanisms).
143. Young, supra note 48, at 42-43 (citation omitted) (internal quotation marks omitted) (outlining some requirements of UNFSA).
144. Osch, supra note 54, at 419 (noting other steps some States have taken according to RFMO).
145. Id. (noting RFMO measures’ effects on fish and sharks).
147. Comm’n for the Conservation of Antarctic Marine Living Resources, supra note 146 (discussing obligations to relay message).}
protected areas or demonstrate abnormal movements, governments are capable of sending enforcement teams out to verify the legality of their actions.\textsuperscript{148} Currently, VMS are costly to buy and to use,\textsuperscript{149} limiting their potential effectiveness. However, some fisheries and governments are subsidizing their adoption,\textsuperscript{150} and the organization Sea Shepard has had some success working with the Galapagos National Park Service to adopt VMS measures.\textsuperscript{151} Requiring that real time data be sent to respective RFMOs in addition to flag States will reduce FOC opportunity to undermine regulations.

Other methods for addressing IUU fishing under the UNCLOS regime include the use of observers, inspections, and catch documentation schemes (CDS). In areas of the high seas subject to the regulatory authority of an RFMO, inspectors of the member States may board and control vessels of other member States and non-members, provided both the inspecting and inspected States are parties to UNFSA.\textsuperscript{152} This authority allows member States to ensure proper gear is being used and no illegal fishing occurs. Observers are arguably a better tool. In theory, an observer on each boat would document catch and ensure the vessel was complying with applicable laws. The simple presence of an observer would also deter illegal fishing. This approach has several drawbacks. First, it has the potential to be very expensive. Second, there is a risk of improper influence by fishermen, or capture of the observers. Third, depending on the size of the vessel in question, observers' abilities to document everything that is happening could be limited. Another option for improving enforcement is CCAMLR’s CDS. The CDS is a certification system designed to distinguish between legal and illegal Patagonian Toothfish harvested and to track them through trade.\textsuperscript{153} Because CDS relies on issuance from flag States, the possibility of fraud or mistake remains a problem.


\textsuperscript{149} Id. (noting that in addition to paying for equipment, there are additional fees for use of satellites to transfer data).

\textsuperscript{150} Vessel Monitoring System Reimbursement Program, supra note 146 (discussing reimbursement program for VMS given by PSMFC).

\textsuperscript{151} Vessel Monitoring System and Automatic Identification Systems, supra note 148 (describing Sea Shepard's work at Galapagos National Park Service).

\textsuperscript{152} UNFSA, supra note 26, at art. 21(1) (providing authority for member State party to board and inspect fishing vessels).

Unlike the UNCLOS regime, there is not much that can be done to cure the CITES regime problems of building political consensus for listing species and ensuring administrative capacity and enforcement among member States. One might argue that member States’ unilateral ability to list shark and other species in Appendix III offers meaningful protection. However, before a member State can list a species, it must currently protect that species under its domestic laws.\textsuperscript{154} Thus, this constraint shifts the political conflict to the domestic arena. In terms of its practical effect on protecting sharks, Appendix III listings require only a certificate of origin unless the species is being exported from the State that listed it. In that case, it needs an export permit. Because the sharks at issue here are being overfished on the high seas, in reality, only certification stating that the shark was caught on the high seas will be required. Such a requirement will likely have no practical impact in reducing fishing for those shark species.

Finally, it is unclear how the international community can address the lack of administrative and enforcement capacity among its members. The existing CITES Trust Fund providing support for developing country members is grossly underfinanced.\textsuperscript{155} Assuming that it was adequately financed to support developing country capacity in implementing the CITES, overcoming enforcement inertia and corruption would likely be an issue.\textsuperscript{156}

Based on their roles within the shark conservation continuum and their weaknesses, three things become clear about the UNCLOS and CITES regimes. First, the UNCLOS regime has the greatest breadth, flexibility, and capacity to protect shark populations despite the ineffectiveness of RMFOs, lack of data, and insufficient enforcement mechanisms. Second, CITES is limited in scope and is therefore nothing more than a supplemental tool in fighting the epidemic of shark depletion from finning. Third, even as a supplemental tool, CITES should not be relied upon for meaningful shark protection given the political and administrative barriers to
its effectiveness. Efforts should be invested in more productive approaches. This being the case, market-based solutions to shark depletion may have an important role in new treaties.

B. Filling in the Gaps by Treaty

The international community should consider developing a treaty specifically designed to protect shark fisheries from overexploitation. Such a treaty should generally focus on improving fishery management and developing standards that will be implemented by national governments, existing RFMOs, and the proposed Global Fisheries Management Organization (GFMO). The adoption of voluntary guidelines and other non-binding soft law instruments has been and will continue to be insufficient to address the problem of shark population depletion adequately. Soft law instruments provide little accountability among States and the international community and are unable to generate adequate funding necessary for addressing the overexploitation of sharks. Binding treaties are generally more difficult to accomplish because of political resistance. However, given the current popularity of sharks, jurisdictional gaps in fishery management, and limited provisions required for the Shark Conservation Treaty (SCT), a binding treaty's adoption would be more likely.

Like whales, sharks have arguably gained sufficient notoriety to be classified as megafauna in the international community and to merit their own treaty. For the SCT to be successful, it should avoid further fragmentation of international law and instead focus on complementing existing international law. Such an approach will avoid resource inefficiencies from overlap and potentially increase political will. Because there is no binding international treaty focused on sharks, taking such a specific approach will complement existing marine fishery laws. Additionally, the SCT should incorporate by reference all effective provisions and procedures of

157. See International Plan of Action for the Conservation and Management of Sharks, Food & Agric. Org. of the U.N., 1, 11 (1999) (describing international agreement responsible for management of compliance with Code of Conduct for Responsible Fisheries). The IPOA for sharks has been in place since 1999 and there is no clear evidence that it is helping curb the problem of overfishing sharks on the high seas. Id.

158. See generally Is Shark Finning Legal?, Shark Angels, http://www.sharkangels.com/index.php/issues-facing-sharks/laws-protecting-sharks/shark-finning (last visited Feb. 12, 2014) (discussing international laws that prohibit shark finning). For example, Discovery's Shark Week has been one of its top rated programs since airing in the summer of 1987. Id. Additionally, countries from all over the world have taken national measures against finning, including flat bans and landing requirements. Id.
UNCLOS. Incorporating by reference or adopting similar provisions and procedures should reduce the likelihood of political conflict in passing such a treaty since UNCLOS has already been adopted by 165 nation States.

The SCT should include provisions primarily for funding, scientific research, and the establishment of the GFMO to remedy current jurisdictional vacuums in the high seas. Specifically, the GFMO should have jurisdiction for establishing shark and other marine species protection measures in all areas of the high seas not yet governed by RFMOs, and it should work with existing RFMOs to improve their measures and enforcement. TACs established by the GFMO should be based on the best scientific evidence available and it should coordinate with all States and RFMOs for enforcement matters. In the event that new credible RFMOs can be and are established, the GFMO should concede jurisdiction and act only in an advisory capacity.

In addition to the GFMO, the SCT should establish a scientific body analogous to the IWC’s Scientific Committee. This committee should be funded according to provisions in the treaty and should focus its efforts on filling the gaps in scientific data about shark populations. Such a committee could overcome the fragmented research system that currently exists within RFMOs. Specifically, the committee should develop a set of universal research guidelines to be implemented by RFMOs and then should collect all RFMO data to establish a global picture on the state of shark populations, focusing on straddling, highly migratory, and high seas stocks.

For purposes of regulating shark fisheries, RFMOs should exclusively continue to govern straddling and highly migratory stocks in their regions. However, the GFMO should have jurisdiction to establish TACs and other regulations for all shark and other marine species in ungoverned high seas areas, including those straddling or highly migratory stocks not currently overseen by existing RFMOs. This jurisdiction will permit the GFMO to alter existing and develop new regulations over time. SCT member States should then implement those regulations. Similarly, RFMOs should adopt those regulations for their member States, including those not members of the SCT. Through this approach, the GFMO will not be an enforcement body, but will rely on flag and port States to enforce TACs and other regulations.

Currently, scholars who have considered the possibility of a shark conservation treaty have suggested that at least one ideal provision would be a requirement for member States to adopt provi-
sions of law stating that all shark fins landed must be attached to the full shark body or that there be a fin to body ratio requirement. A provision of this nature should not be included within the SCT for several reasons: First, this provision would almost certainly guarantee China’s refusal to join the SCT, as it would disproportionately affect its citizens. Those fishing for sharks, primarily Southeast Asian fishers, would lose most of their haul space to mercury-laden meat of little to no value. Second, such a provision would likely not curb catch and consumption of sharks. In the short term, it would reduce supply and increase the price of the fins. With the increase in price, it would ultimately drive more fishermen to harvest sharks for their fins, and Asia has over seventy-three percent of the world’s marine vessels. Thus, this regulation would only lead to greater inefficiency in resources and an increase in externalities associated with high seas fishing efforts. Third, a step in this direction would further polarize China from the international community and likely increase its chances of refusing to cooperate in other fishery-related international law. Fourth, States interested in adopting such measures can do so domestically or regionally with like-minded States. Finally, this provision would not solve the issue of FOC because fishers could land sharks in States with lax enforcement, package them, and ship them for trade to China.

159. See Walker, supra note 5, at 158 (advocating for ban on finning through a mandatory fins-attached provision until offloaded for processing); see also Anderson, supra note 16, at 556 (advocating for ban on finning, which would necessarily require landing sharks with fins attached); Osch, supra note 54, at 415, 428 (suggesting both “full utilization” provisions, requiring that most of shark be landed with fins at first landing and use of trade measures to implement ban on finning).

160. See FAO, supra note 23, at 10 (describing fishery industry, its locations, and job creation). Of the 4.36 million vessels in existence, 3.18 million are in Asia. Id.

161. See id. (discussing fishing industry, regulation successes and failures). Externalities affected by such regulation would include pollution, bycatch, and habitat destruction. Id.

162. See Shark Finning Prohibition Act, Pub. L. No. 106–557, 114 Stat 2772 (2000) (codified as amended at 16 U.S.C. § 1822 (2012)) (describing international fishery agreements). The United States adopted the Shark Finning Prohibition Act in 2000. Id. The Act requires that all shark fins must be landed with their corresponding carcasses and includes a rebuttable presumption of violation where the shark fins landed constitute more than five percent of the total shark carcasses’ weight. Id. A domestic action such as this is much different than attempting to compel another country to adopt such provisions through forms of international pressure and coercion. Id. For a list of other States that have adopted similar measures, see SHARK ANGELS, supra note 158 (cataloguing regulations and laws prohibiting shark finning).
Several scholars have also suggested the adoption of trade measures.\textsuperscript{163} One suggestion involves the use of unilateral trade measures, referencing the potential of restricting importation of tuna that has not been caught in a shark-safe way by nations without finning bans. It is important to note that such a restriction would likely only address issues of bycatch of sharks and not targeted shark fishing. Such a suggestion relies on a World Trade Organization Appellate Body Report upholding the United States' ban on imports of shrimp harvested without turtle excluder devices (TEDs).\textsuperscript{164} Scholarly reliance on this case, however, is misguided. The decision finding that the U.S. requirement did not violate the General Agreement on Tariffs and Trade (GATT) depended on the finding of a sufficient nexus between the migratory and endangered marine populations involved and the United States.\textsuperscript{165} Thus, trade restrictions for species that lack a sufficient nexus to the implementing State will likely violate GATT. A sufficient nexus requirement would seemingly preclude all non-highly-migratory sharks in the high seas and potentially all non-endangered species. Despite this limitation, the value of a trade-related system would be useful and should be considered by the GFMO and RFMOs to the extent that it will not violate GATT. To that end, these organizations should look toward the CDS system adopted by CCAMLR for protecting Patagonian Toothfish.\textsuperscript{166}

\textsuperscript{163} See Anderson, supra note 16, at 536 (recommending trade measures as part of enforcement structure); see generally Calley, supra note 70 (identifying market denial as means to crack down on illegal, unreported, and unregulated fishing outside national jurisdictions); see also Osch, supra note 54, at 402 (discussing international trade regimes through World Trade Organization as possible regulatory response); Walker, supra note 5, at 154 (discussing business and trade restrictions generally).


\textsuperscript{166} For more information about this system, see Willock, supra note 110, at 7-13 (describing purposes and goals of CDS as attempts to create paper trails of toothfish from vessels to importation). Under the CDS system, flag States issue vessels a catch document with a unique catch document number. \textit{Id.} The flag State then issues a confirmation number prior to the catch being landed, verifying the landing is not in violation of existing toothfish fishery laws. \textit{Id.} The flag State then electronically transmits this data to the CCAMLR secretariat. \textit{Id.} Alterna-
One final provision that should be included in the SCT is a strong version of the precautionary principle. The purpose of this principle would be to ensure that fishing that poses a threat to shark populations is prevented from adversely affecting the stock, even without conclusive scientific proof. The provision adopted should direct the GFMO and RFMOs to recognize the reality of IUU fishing and FOC for sharks and require them to incorporate these factors into any determinations of TACs for specific shark species. In this manner, shark populations would receive greater protection.

Having addressed the most relevant provisions that should be included in the SCT, it is important to note that the SCT would likely still have several weaknesses. These weaknesses include the inability to muster enough political support to make such a treaty meaningful, the difficulty of ensuring adequate funding from member nations for research efforts, and the potential for intergovernmental organization conflict, specifically between RFMOs and the GFMO, over the jurisdiction and regulation of marine species. The suggested provisions of the SCT have been specifically crafted to avoid these weaknesses as much as possible. The weaknesses that this treaty would not be able to address fully without the support of China are IUU fishing and FOC. For this reason, it is imperative for scholars and the international community to reprioritize their efforts toward diplomatic compromises concerning the regulation of shark fisheries with relevant States, especially China.

C. The International Community and China: Diplomacy is Not Dead

Ockham's razor is a principle used in problem solving stating that among competing solutions, the one that is the simplest should be selected. With that principle in mind, an international treaty dependent on the compliance of over two hundred nations designed to pressure a single nation into compliance with shark protection provisions will be less effective than that single nation
enforcing domestic laws to the same end. This idea begs the question of how the international community should approach China.

The first step to building consensus with China and reaching a compromise on shark fishery regulation would be for the international community to stop blaming China for its culture of eating shark fin soup. As mentioned, such an approach is ethnocentric and decreases the likelihood of China's cooperation. Instead, the problem should be recognized as a complex one that includes multiple nations, IUU fishing, FOC, and the fundamental failures of existing marine fishery governance.

The second step would be to acknowledge and praise China's progress. For example, although slow going, China is making progress with shark conservation, including a ban on the dish for government banquets. A Gallup poll in 2011 showed that more than half of Chinese people believe the environment should take precedence over the economy. Furthermore, in Article 20 of its Marine Protection law, China states that efforts shall be made to restore and renovate marine ecosystems of important economic and social value. By recognizing these successes and appealing to China to adopt national laws regulating the shark fishery and importation of fins, the international community will likely have greater success in addressing shark population depletion. However, it must be recognized that, at this moment, China is facing many other domestic environmental challenges that its government is likely prioritizing, including air pollution, water pollution, and desertification.


The third step would be to choose diplomatic efforts with China and the environment wisely. It is clear that China is very hostile to international governance when claims to its territorial sovereignty are challenged.\textsuperscript{173} Thus, environmental issues that do not implicate that issue would be an ideal starting point.

The fourth and final step would be to leverage China’s obvious interests. China has an incentive to cooperate in maintaining sustainable shark fisheries. Since 2012, China has been by far the leading fish exporter, contributing almost twelve percent of the 2010 world exports of fish and fishery products, or about 13.3 billion dollars, and increasing to 17.1 billion dollars in 2011.\textsuperscript{174} China is also the third-largest importer of fishery products.\textsuperscript{175} In addition, China accounts for more than sixty percent of the world’s aquaculture.\textsuperscript{176} Thus, China has a vested interest in ensuring shark sustainability. To ensure sustainable shark populations, the international community should increase its diplomatic efforts with China and consider adopting the aforementioned steps.

\textbf{IV. Conclusion}

In the words of one Guardian reporter, “[I]t’s time to end China-bashing on the environment” and to refocus efforts on diplomacy.\textsuperscript{177} Adherence to international law is based on active manage-
ment by parties and other actors rather than coercion.\textsuperscript{178} To the extent that non-coercive approaches are possible, they should be taken. In that regard, diplomacy should be a top priority for shark and other marine conservation, followed by the repair of the UNCLOS regime and adoption of the SCT. Though these efforts will inevitably require some time to accomplish, when it comes to governing such a vast global commons as the high seas, there are no quick fixes.

\textsuperscript{178} See Young, \textit{supra} note 48, at 185 (concluding coercion does not ensure adherence to international law).