

The Role of Corporations in Solving the Illegal, Unregulated, and Unreported (IUU) Fishing Crisis

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THE PRESSING GLOBAL THREAT OF ILLEGAL, UNREPORTED, AND UNREGULATED (IUU) FISHING AND THE ROLE OF CORPORATIONS IN SOLVING IT

*Hunter Donovan**

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This article examines the current domestic and international legal framework that provides protections against the effects of IUU fishing as well as the social, economic, and environmental effects of those activities. Domestically, this article examines the Magnuson-Stevens Act for its lack of efficacy in managing IUU fishing in US-controlled waters. Internationally, this article examines a variety of UN resolutions and treaties that seek to manage this crisis but have a minimal effect. Additionally, this article proposes various ways policies could be amended or adopted to best serve the communities that are most impacted by the effects of IUU fishing. Finally, this article looks at the role of corporations in incorporating supply chain transparency and traceability initiatives to minimize supply chain disruptions and reputational risk impacts because of IUU activities through their suppliers.

INTRODUCTION

In January of 2016, the United Nations (UN) officially adopted seventeen Sustainable Development Goals (SDGs) to achieve by 2030. These goals included SDG 12 and SDG 14 which are goals for responsible consumption and production, and life below water, respectively. Within those two SDGs are twenty-one total targets to achieve the SDG 12 and SDG 14. The UN is hoping to “[b]y 2030, achieve the sustainable management and efficient use of natural resources,”¹ and “[b]y 2020, effectively . . . end overfishing, illegal, unreported and unregulated [IUU] fishing and destructive fishing practices . . . in order to restore fish stocks . . . that can produce maximum sustainable yield[,] . . .”² among other high-level goals. These are quite lofty, and neither goal was achieved by 2020. This paper aims to discuss the impact illegal, unregulated, and unreported (IUU) fishing has on the U.S. and global economy, what drives IUU fishing, what the current legal framework is for IUU fishing, and the role of corporations in eliminating it.

Seafood is a major component of many cultures’ diets; in the United States in 2018 the average American consumed 16.1 pounds of seafood while an average person in the Maldives consumed upwards of 366 pounds per year.³ The rates of global seafood consumption have been growing annually at a rate of 3.1%, which is significantly higher than global population growth at 1.6%, and higher than the increase of global meat consumption at 1.1% growth per annum.⁴ While the use of aquaculture has increased substantially in the past few decades, a fair percentage of fish

1. *Sustainable Development Goals, Target 12.2*, U.N., <https://sdgs.un.org/goals/goal12> [<https://perma.cc/MC4J-P439>] (last visited Apr. 4, 2023).

2. *Sustainable Development Goals, Target 14.4*, U.N., <https://sdgs.un.org/goals/goal14> [<https://perma.cc/E8KP-S4SX>] (last visited Apr. 4, 2023).

3. Madelyn Kearns, *US Seafood Consumption Rises to Highest Level Since 2007 but Falls Short of USDA Recommendations*, SEAFOOD SOURCE (Feb. 21, 2020), <https://www.seafoodsource.com/news/supply-trade/us-seafood-consumption-rises-to-the-highest-level-seen-since-2007-but-falls-short-of-usda-recommendations> [<https://perma.cc/9599-EFT8>]; *How Much Fish Do We Consume? First Global Seafood Consumption Footprint Published*, EU SCIENCE HUB, <https://ec.europa.eu/jrc/en/news/how-much-fish-do-we-consume-first-global-seafood-consumption-footprint-published> [<https://perma.cc/FV67-L9F6>] (last visited Apr. 4, 2023).

4. Jason Holland, *UN: The World is Producing and Consuming More Seafood but Overfishing Remains Rife* (June 9, 2020), <https://www.seafoodsource.com/news/supply-trade/un-the-world-is-producing-and-consuming-more-seafood-but-overfishing-remains-rife> [<https://perma.cc/YNH9-ULQP>] (last visited Apr. 4, 2023).

caught for global seafood production, whether that be for human consumption or other purposes, is caught through capture fisheries. Capture fishing is the harvesting of “naturally occurring living resources” and not aquatic resources developed through farming practices.⁵ Capture fishing takes place within the Exclusive Economic Zone⁶ (EEZ) or within the high seas⁷; the overexploitation of capture fisheries has led some scientists and economists to suggest closing the high seas to all fishing activities which may lead to positive economic benefits and an opportunity for the more sensitive deep-sea fish populations to replenish themselves.⁸ A country’s EEZ extends 200 nautical miles from its baseline and provides the country with jurisdiction over exploring, exploiting, conserving and managing natural resources and the protection and preservation of the marine environment.⁹

Global reliance on capture fisheries means that governments and international organizations have to diligently govern the acquisition of global aquatic resources to ensure no species devastation or significant environmental damage occurs. Approximately fifty percent of total fish from capture fisheries used for human consumption is harvested by small-scale fisheries.¹⁰ There is no uniform definition of what constitutes a small-scale fishery within UN or Food and Agriculture Organization (FAO) terminology, but they are traditional, or artisan, fisheries that rely on local catches and less modern technology. However, small-scale fisheries

5. *Capture Fishery*, GREENFACTS, <https://www.greenfacts.org/glossary/abc/capture-fishery.htm#:~:text=Capture%20fishery%20refers%20to%20all,both%20marine%20and%20freshwater%20environments.&text=More%3A,%2Dscale%2Fartisanal%20and%20recreational> [https://perma.cc/M8L6-U6KJ] (last visited Apr. 4, 2023).

6. *See* 16 U.S.C. § 7801(5) (“The term ‘exclusive economic zone’ means— (A) with respect to the United States, the zone established by Presidential Proclamation Numbered 5030 of March 10, 1983 . . . and (B) with respect to a foreign country, a designated zone similar to the zone referred to in subparagraph (A) for that country, consistent with international law.”); *see also* Proclamation 5030 of Mar. 10, 1983, <https://www.archives.gov/federal-register/codification/proclamations/05030.html> (last visited Apr. 4, 2023).

⁸ *See* 16 U. S. C. § 5502(3) (“The term ‘high seas’ means the waters beyond the territorial sea or exclusive economic zone . . . of any nation, to the extent that such territorial sea or exclusive economic zone . . . is recognized by the United States.”).

8. U. Rashid Sumalia et al., *Winners and Losers in a World Where the High Seas is Closed to Fishing* (Feb. 12, 2015), <https://www.nature.com/articles/srep08481> [https://perma.cc/29US-EF7P].

9. United Nations Convention on the Law of the Sea art. 56(1)(a) [hereinafter UNCLOS].

10. *Governance of Capture Fisheries*, FISHERIES AND AQUACULTURE DIV. OF FOOD AND AGRIC. ORGANIZATION OF THE U.N., <https://www.fao.org/fishery/governance/capture/en> [https://perma.cc/28QQ-773S] (last visited Apr. 4, 2023).

provide over three-quarters of the domestic fish supply in countries where they are prevalent and estimates hold that 50 million people globally are employed within this sector.¹¹ These fisheries are increasingly more difficult to govern and may be the venue for the global crisis known as IUU fishing. IUU fishing includes fishing activities in contravention of applicable national and international laws, activities that are not reported or misreported to relevant authorities or fisheries management organization, and activities in zones with no conservation or management regulations “inconsistent with State responsibilities for the conservation of living marine resources under international law.”¹² Common forms of IUU fishing includes fishing in an EEZ without a license, fishing above quota, operating a vessel with a false flag, fishing in a prohibited area, fishing with illegal gear, and not reporting catches, among other activities.¹³

In the past decades, there has been a growing awareness of human impact on the environment and the effects humans have on the ocean and its resources. This awareness creates both a risk and an incentive for companies who, inadvertently or not, rely on aquatic resources harvested using IUU practices. Relying on these resources creates a risk of impacting the marine supply chain and a risk of reputational impact; the incentive for corporations to manage their marine supply chain is the other side of that same coin. In the time of corporate social responsibility (CSR) and environmental, social, and governance (ESG) issues, it is prudent for corporations to invest in processes and technologies to eliminate illegal fishing from their supply chain. This paper will examine what regulations affecting the transfer of IUU caught fish in corporate supply chains may look like, what the incentives are for a corporation to limit their exposure to IUU fishing, as well as the technology and processes to be used to achieve this.

I. IMPACTS OF IUU FISHING

The effects of IUU fishing can be felt across the world by communities large and small; although it may not be as well-known as other maritime crimes, such as piracy, those effects can be felt globally by operators of non-IUU and IUU fishing vessels as well as consumers of fish worldwide.

11. *Id.*

12. *Understanding Illegal, Unreported, and Unregulated Fishing*, NOAA, <https://www.fisheries.noaa.gov/insight/understanding-illegal-unreported-and-unregulated-fishing#what-is-illegal.-unreported.-and-unregulated-fishing?> [<https://perma.cc/BPT3-BJ8K>] (last visited Apr. 4, 2023) [hereinafter NOAA].

13. National Intelligence Council, *Global Implications of Illegal, Unreported, and Unregulated (IUU) Fishing* at 6 (Sep. 19, 2016).

It “harms legitimate fishing activities and livelihoods, jeopardizes food and economic security, benefits transnational crime, distorts markets, contributes to human trafficking, . . . undermines ongoing efforts to implement sustainable fisheries[,] . . . and encourage[s] piracy. “¹⁴ IUU fishing leaves coastal communities the most vulnerable to losses felt from the activity; this has a disproportionate impact on developing nations by the coast who rely heavily on fishing, and related activities, for their livelihoods. ¹⁵ While the effects of IUU fishing seem far away for those living in developed countries, like the United States, the reverberations of IUU fishing can be seen and felt if examined closely enough. This section aims to illustrate the actual effects that IUU fishing has on the communities where it is practiced, the crew on the ships participating in IUU activities, and the effect on the world at large as well as what continues to drive IUU fishing despite its significant global impact.

A. *Environmental Impacts of IUU Fishing*

Across the world, we are facing various global threats. One that impacts both terrestrial and aquatic ecosystems is biodiversity exploitation and species devastation; IUU actors harvest potentially endangered species from the waters contributing to the species overall decline, furthermore, deep-sea fishers exploit fish species that live longer lives and are less populous, thereby greatly impacting the population.¹⁶ Climate change is causing ocean acidification because of an excess of carbon dioxide in the atmosphere being absorbed by the oceans; this has a tremendous effect on ocean living resources by impacting the ability of organisms such as corals and shell-organisms to survive leading to an impact down the food chain to fish commonly commodified by humans.¹⁷

Furthermore, IUU fishers do not report their catch to relevant enforcing authorities which leads to an inability to accurately estimate the size of fish populations.¹⁸ This may lead to a situation where properly

14. *Id.* at 3.

15. SJARIEF WIDJAJA ET AL., *ILLEGAL, UNREPORTED, AND UNREGULATED FISHING AND ASSOCIATED DRIVERS 2* (2020).

16. Jessica K. Ferrell, *Controlling Flags of Convenience: One Measure to Stop Overfishing of Collapsing Fish Stocks*, 35 ENV'T. L. 323, 340 (2005).

17. *Ocean Acidification*, NOAA, <https://www.noaa.gov/education/resource-collections/ocean-coasts/ocean-acidification> [<https://perma.cc/GK8Y-KL3E>] (last visited Apr. 4, 2023).

18. *Illegal, Unreported and Unregulated Fishing*, PEW CHARITABLE TRUSTS (Feb. 2, 2013), <https://www.pewtrusts.org/en/research-and-analysis/articles/2013/02/25/illegal->

permitted, and legal, commercial fishermen are overfishing certain fish stocks by taking their allotted volume of fish. This comes in conflict with the ecological and economic idea of maximum sustainable yield which is the “highest possible annual catch that can be sustained over time, by keeping the stock at the level producing maximum growth.”¹⁹

Additionally, these actors use gear to haul a significant number of fish that may impact non-fish species, such as seabirds or aquatic mammals, and they often leave behind gear which impacts remaining species in the ecosystem.²⁰ Illegal fishers do not only catch the species they intend to; various species, the most impacted including seabirds, sharks, turtles, and cetaceans, are caught as bycatch.²¹ Cetaceans, which is a family that includes dolphins and whales, are killed at a rate of about 300,000 per year as a result of incidental bycatch, which is the capture of non-target species that is often thrown back into the ocean either dead or dying.²² These non-target species can constitute up to forty percent of the global catch; this issue is exacerbated by the practices of IUU fishers which may include pair trawling, the use of monofilament nets, and driftnets.²³ IUU fishers, while using these methods in search of their target species, often catch

unreported-and-unregulated-fishing-frequently-asked-questions [https://perma.cc/5JJS-X9BT].

19. See generally WORLD WILDLIFE FOUNDATION, MORE FISH FOR HEALTHY SEAS (2011).

20. *Id.* at 341 (“Pirate catches using illegal longlining equipment kills tens of thousands of seabirds every year. For example, the wandering albatross, the largest flying bird in the world, goes after the bait, gets dragged underwater, and drowns.”); *Illegal Fishing is Threatening Wildlife*, WORLD ANIMAL PROT., <https://www.worldanimalprotection.org/illegal-fishing-threatens-wildlife> [https://perma.cc/Z5VE-78Y3] (last visited Apr. 4, 2023) (“Lost and abandoned fishing gear, known as ghost gear, is left behind by . . . illegal fishers A shocking 640,000 tonnes of ghost gear is left in the world’s oceans each year, which entangles and kills around 136,000 turtles, whales, seals, birds, and other sea animals.”).

21. WORLD WILDLIFE FOUNDATION, ILLEGAL, UNREPORTED AND UNREGULATED FISHING AND THE EUROPEAN GREEN DEAL 5 (2020).

22. *Catching Fish, Not Flukes and Flippers: A Global Effort to Reduce Whale and Dolphin Bycatch*, WORLD WILDLIFE FUND, https://wwf.panda.org/discover/knowledge_hub/endangered_species/cetaceans/threats/bycatch [https://perma.cc/K25B-D6L8] (last visited Apr. 4, 2023); see also *Understanding Bycatch*, NOAA FISHERIES, <https://www.fisheries.noaa.gov/node/251> [https://perma.cc/P5FE-4KYT] (last visited Apr. 4, 2023),

23. *Id.* (“Commonly used illegal fishing methods include pair trawling (in which two trawlers string a net between them and drag it through the water often causing indiscriminate destruction), 16/17 monofilament nets (below regulation sized nets that have high rates of bycatch) and driftnets (non-selective nets that hang vertically in the water).”).

these non-target species in their nets furthering species devastation to, what are usually, keystone marine species.²⁴

B. Social and Economic Impacts of IUU Fishing

IUU fishing also has far-reaching social and economic impacts. While illegal fishing brings short-term economic benefits (i.e., cheaper fish and more fish), an examination beyond the short-term shows impacts throughout the supply chain. It leads to “a reduction in fish stocks [which] leads to increased fishing costs, higher prices to consumers and economic losses to the tourism sector.”²⁵ These impacts have hard-hitting effects for families whose income is reliant on the fishing industry. For example, the IUU fishing industry in West Africa costs the region \$1.95 billion in economic losses every year with \$595 million lost in household annual income per year.²⁶ “IUU fishing can take fish from the waters of bona fide fishers, which can lead to the collapse of local fisheries, with small-scale fisheries in developing countries particularly vulnerable.”²⁷ Furthermore, IUU fishing threatens food security of usually developing and vulnerable countries.²⁸

Drug trafficking, arms trafficking, human trafficking, piracy and money laundering are some of the crimes commonly linked to the prevalence of IUU fishing.²⁹ Crime conducted in the context of illegal fishing poses a problem for enforcement because these crimes are often performed transnationally; tracing and identifying these crimes are often difficult because of financial havens, privacy laws and corporate structures.³⁰ One of the ways IUU fishing vessels avoid capture is through a “cat and mouse” system where vessels continuously change the flag

24. *Keystone Species 101*, NAT. RES. DEF. COUNCIL (Sep. 9, 2019), <https://www.nrdc.org/stories/keystone-species-101> [<https://perma.cc/B9SZ-YY5T>]. See also *Understanding Bycatch*, *supra* note 23.

25. WIDJAJA ET AL., *supra* note 15, at 19-20.

26. *Id.* at 20 (estimating the economic and household income losses to be \$21.1 billion and \$5.4 billion respectively for the Pacific Ocean per annum).

27. *Id.*

28. UNITED NATIONS OFFICE ON DRUGS AND CRIME (UNODC), FISHERIES CRIME 3 (2017).

29. *Id.* at 4 (explaining how “[f]isheries crime may take the form of illegal harvesting of abalone in exchange for precursors for methamphetamines . . . ; trafficking in explosives in connection with blast fishing . . . ; identity fraud and marine pollution in connection with illegal fishing on the high seas of the Southern Ocean . . . ; or murder and threats of grievous bodily harm in connection with possible corruption in the issuing of fishing licenses.”).

30. *Id.*

which they fly under and the name of the vessel to elude authorities.³¹ Furthermore, the IUU fishing industry is rife with human rights abuses and human trafficking. These vessels utilize migrant workers who are “deceived and coerced by brokers and recruitment agencies[,] . . . and forced to work on board vessels under the threat of force or by means of debt bondage.”³² Some examples of abuses experienced by laborers on IUU fishing vessels include sexual exploitation, forced drug use, limiting access to food, withholding [vital] documents, verbal and physical abuse, and murder.³³

An illustration of the abuse faced by crewmen of these vessels can be seen through recent case of a ship captain who was killed by six crew members after “experienc[ing] wide-ranging physical and verbal abuses at the hands of” the murdered captain.³⁴ The vessel was a Vanuatu-registered, Taiwanese-owned tuna fishing vessel; the crew members were sentenced to prison under the laws of Vanuatu, but there has been no known investigation by the Taiwanese into neither the operations of the vessel in the time leading up to the murder nor the vessel’s recruitment processes for crewmen.³⁵ The crewmembers were sentenced to eighteen years in prison by the Vanuatu Supreme Court.³⁶

A mechanism by which illegal fishing vessels can more easily participate in the aforementioned crimes is by a process called transshipment which is considered “one of the major missing links in understanding where illegally caught fish finds its way to the market and this is a key lack of transparency in global fisheries.”³⁷ Transshipment is a way for vessels to avoid coming to port for months, or even years, on end in order to maximize profits and avoid highly regulated ports; however,

31. *Id.* at 7 (describing the case of the boat *Thunder*, a toothfish poaching vessel, that took 110 days to find when the crew intentionally sunk the ship; it has been estimated this ship may have earned up to sixty million dollars from IUU activities in the less than ten years it was in operation.).

32. *Forced Labour and Human Trafficking in Fisheries*, INT’L LABOUR ORG., <https://www.ilo.org/global/topics/forced-labour/policy-areas/fisheries/lang--en/index.htm> [<https://perma.cc/384J-P8B3>] (last visited Apr. 4, 2023).

33. ENVIRONMENTAL JUSTICE FOUNDATION (EJF), *BLOOD AND WATER: HUMAN RIGHTS ABUSE IN THE GLOBAL SEAFOOD INDUSTRY 4* (2019).

34. *Id.* at 26.

35. *Id.*

36. *Id.*

37. *Transshipment*, STOP ILLEGAL FISHING, <https://stopillegalfishing.com/issues/transshipment> [<https://perma.cc/C8U3-AWUL>] (last visited Apr. 4, 2023).

this also does not allow crewmen on these vessels to see land or to get away from their abusers for a significant amount of time.³⁸

C. *Drivers of IUU Fishing*

Despite the aforementioned impacts of IUU fishing, this industry has grown to the point where, in some nations, it accounts for up to thirty percent of total fish taken from jurisdictional waters.³⁹ The growth in this industry is attributable to many economic and social drivers such as the accessibility of flags of convenience including flag state control, overcapacity, and lack of management and enforcement. A vessel flies a flag of convenience (FOC) when it flies a flag of a nation with lax vessel regulations as a means to avoid higher wages, better on-board conditions, stringent regulations, and expensive registration fees.⁴⁰ An FOC vessel is subject, under many circumstances, to the jurisdictional control of the Nation under whose flag it flies.⁴¹ There are over 4.6 million fishing vessels in the world; most of those are relatively small vessels with about 64,000 measuring over twenty-four meters and operating in marine waters.⁴² This abundance of ships can easily lead to excessive fishing activity in areas with already low fish abundance.

The United Nations Convention on the Law of the Sea (UNCLOS) states that “[e]very State, whether coastal or land-locked, has the right to sail ships flying its flag on the high seas[,]” and the “State shall fix the conditions for the grant of its nationality to ships in its territory, and for the right to fly its flag[,] [s]hips have the nationality of the State whose ships they are entitled to fly[,] [t]here must exist a *genuine link* between the State and the ship.”⁴³ The reason for limiting who has jurisdiction over

38. *Id.* (stating that “[a]ccording to a UNODC report, [transshipment] is also used as a means of trafficking drugs in West Africa.”); *see also* WEST AFRICA COMMISSION ON DRUGS, NOT JUST IN TRANSIT: DRUGS, THE STATE AND SOCIETY IN WEST AFRICA 8 (2014).

39. *Information Sharing is Key to Ending Illegal, Unreported, and Unregulated Fishing*, Pew Charitable Trusts (May 13, 2021), <https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2021/05/information-sharing-is-key-to-ending-illegal-unreported-and-unregulated-fishing> [<https://perma.cc/ZA9Y-4QGL>].

40. *Id.*

41. U.N. Convention on the Law of the Sea (UNCLOS), 21 I.L.M. 1261 art. 92 (1982), (stating that “[s]hips shall sail under the flag of one State only and save in exceptional cases expressly provided for in international treaties or in this Convention, shall be subject to its exclusive jurisdiction on the high seas”) [hereinafter UNCLOS].

42. *Enhancing Fishing Vessel Safety to Save Lives*, INT’L MAR. ORG., <https://www.imo.org/en/MediaCentre/HotTopics/Pages/Fishing.aspx> [<https://perma.cc/XWX2-QB5W>] (last accessed Apr. 4, 2023).

43. UNCLOS, *supra* note 24, at art. 90-91 (emphasis added).

a vessel outside of jurisdictional water is clear when the transnational effects of pollution or far-reaching ecological and economic effects of IUU fishing is considered.⁴⁴ The jurisprudence on what constitutes a genuine link between a vessel and its flag State has not been illustrative; the UNCLOS drafters pulled in the language of genuine link from the International Court of Justice case *Liechtenstein v. Guatemala*,⁴⁵ which held that an individual's citizenship is based on a genuine connection of existence, interests, and sentiments, together with the existence of reciprocal rights and duties.⁴⁶ The requirement of a genuine link, however, was undercut by the inclusion of language in UNCLOS that each State itself shall fix the conditions for the grant of nationality to ships.⁴⁷

There have been attempts to close the gap between the intent of UNCLOS, which is to have flag States take responsibility for their vessels, and the reality of nations not wanting to relinquish sovereignty over their decisions for who is able to fly their flag. The U.N. Convention on Conditions for Registration of Ships defined what is required to constitute a genuine link. It required that States either prescribe the level of national ownership participation or mandate that a satisfactory part of the officers and crews are nationals but did not define what a satisfactory part means.⁴⁸

Another driver of IUU fishing is the lack of management of high seas and migratory fish stocks. Many regions have a regional fishery management organization (RFMO), which regulates these high seas and migratory species within particular regions, whose members consist of governments and State actors, but many areas do not have RFMOs leading to the exploitation of regional resources.⁴⁹ The traditional notion of fishing on the high seas was that there was an unencumbered freedom to fish in areas not within the reach of an RFMO under Article 87 of UNCLOS.⁵⁰

44. See *Lauritzen v. Larsen*, 345 U.S. 571, 581 (1953) ([T]he virtue and utility of sea-borne commerce lies in its frequent and important contacts with more than one country. If, to serve some immediate interest, the courts of each were to exploit every such contact to the limit of its power, it is not difficult to see that a multiplicity of conflicting and overlapping burdens would blight international carriage by sea.”).

45. *Nottebohm Case (Liech. v. Guat.)*, 1955 I.C.J. 4 (Apr. 6), at 23.

46. Eric Powell, *Taming the Beast: How the International Legal Regime Creates and Contains Flags of Convenience*, 19 ANN. SURV. OF INT’L & COMPAR. L. 1, 33 (2013).

47. *Id.*

48. *Id.* at 34.

49. *Causes of IUU Fishing*, Fisheries and Oceans Canada (DFO), <https://www.dfo-mpo.gc.ca/international/isu-iuu-eng.htm> [<https://perma.cc/WPU4-PYJU>] (last accessed Apr. 4, 2023).

50. MICHAEL W. LODGE ET AL., RECOMMENDED BEST PRACTICES FOR REGIONAL FISHERIES MANAGEMENT ORGANIZATIONS 4 (2007); see UNCLOS, *supra* note 42, at art. 87 (“The high seas are open to all States, whether coastal or land-locked. Freedom of the

This notion does not realistically apply in a world where States must share exhaustible fish stocks; the limitations put on Article 87 of UNCLOS by Article 87 § 2 limits the freedom of fishing to fishing that does not avoid obligations to international treaties or violate the rights, duties and interests of other States.⁵¹

D. *Prevalence of IUU Fishing in U.S. Supply Chains*

Globally, anywhere between 20% to 40% of the fish used for human consumption is sourced from IUU activities; in the U.S. that number is significantly lower ranging from about 11%-13%.⁵² The total global catch from IUU fishing is thought to have an estimated value of \$23 billion per year.⁵³ It is hard to determine this number with more clarity because there is a lack of transparency and traceability within the industry. In order to get more clarity on the prevalence of IUU caught seafood in supply chains, an examination of a particular species is required.

The tuna industry is rife with IUU fishing, and many case studies of the impacts of IUU activities and strategies to solve them center on tuna populations. A “recent study reveals that IUU fishing in one Pacific Islands region represents \$616 million annually, with 276,000-338,000 tonnes of Pacific tuna illegally caught each year.”⁵⁴ There have been many

high . . . comprises . . . (e) freedom of fishing. (2) These freedoms shall be exercised by all States with due regard for the interests of other States in their exercise of the freedom of the high seas . . .”).

51. Lodge et al., *supra* note 49, at 69.

52. FAQ: Illegal, Unreported, and Unregulated Fishing, Pew Charitable Trusts, <https://www.pewtrusts.org/en/research-and-analysis/fact-sheets/2013/08/27/faq-illegal-unreported-and-unregulated-fishing> [<https://perma.cc/KK7L-2Y6M>] (last visited Apr. 4, 2023); Darryl Fears, *Seafood Study: Up to 32% imported to U. S. is caught illegally*, WASHINGTON POST (Feb. 20, 2014), https://www.washingtonpost.com/national/health-science/seafood-study-up-to-32-percent-imported-to-us-is-caught-illegally/2014/04/20/3ceeabe0-c04d-11e3-bceb71ee10e9bc3_story.html?noredirect=on&utm_term=.1fccdd5c0058 [<https://perma.cc/JVR3-3FBC>]; *see also* Letter from Richard E. Neal and Earl Blumenauer to David Johnson, Chairman of the Committee on Ways and Means (Dec. 19, 2019), https://usitc.gov/research_and_analysis/u.s._fisheries_request_letter_12_20_2019_10_03_57_107_508.pdf, *Illegal, Unreported, and Unregulated Fishing Accounts for More than \$2 Billion of U.S. Seafood Imports, Reports USITC*, U.S. Int’l Trade Comm’n (March 18, 2021), https://www.usitc.gov/press_room/news_release/2021/er031811740.htm [<https://perma.cc/A6US-TYSV>].

53. Neal, *supra* note 53.

54. WIDJAJA ET AL., *supra* note 15, at 4; *see also The Wealth of the Coral Triangle*, WORLD WILDLIFE FUND,

initiatives supported by governments, companies, and non-profit organizations to eliminate IUU caught fish from the seafood supply chain such as various voluntary traceability standards, catch documentation schemes and signed declarations. The World Economic Forum (WEF), in 2017, published a Tuna 2020 Traceability Declaration whose goal was to end overfishing and IUU fishing in tuna fisheries.⁵⁵ Upon its publishing, sixty-six companies signed the Declaration and substantial advancements have been made on its traceability commitments; the WEF, as of 2020, was still seeking governmental partnerships and assistance in monitoring the high seas.⁵⁶ While companies can, and have, taken their own steps to ensure traceability within their supply chains, it has not been enough to curb IUU fishing to a significant degree.⁵⁷

II. REGULATIONS IMPACTING IUU FISHING

The United States is the largest market for both fish and fish products, and, because of that, the U.S. has a great interest in mitigating the economic and ecological risks associated with IUU fishing.⁵⁸ The U.S. has enacted national legislation to promote sustainable fisheries such as The High Seas Driftnet Fishing Moratorium Protection Act and, primarily, the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The U.S. has also implemented actions that aid in the elimination of IUU fishing such as port restrictions, utilizing the Seafood Import Monitoring Program, and by supporting international measures aimed to mitigate IUU fishing risks such as the International Plan of Action to Prevent, Deter, and Eliminate IUU Fishing (IPOA-IUU), among others. While the U.S., among other nations, has promulgated legislation that seeks to curb IUU fishing, it is still very prevalent in certain areas of the world which begs

https://wwf.panda.org/discover/knowledge_hub/where_we_work/coraltriangle/solutions/fisheries/sustainable_tuna_fisheries_coraltriangle [<https://perma.cc/3WJP-NF5L>] (last visited Apr. 4, 2023).

55. STANFORD CENTER FOR OCEAN SOLUTIONS & THE STANFORD LAW SCHOOL LAW & POLICY LAB, THE OUTLAW OCEAN REPORT 10 (2020) [hereafter *Outlaw Ocean Report*].

56. *Id.*

57. *Id.* (discussing how Kwik'pak Fisheries run by the Yupik Nation, based in Alaska, pioneered consumer-facing traceability and was the first seafood company to earn recognition from the Fair-Trade Federation); see also *Trace My Catch*, BUMBLE BEE SEAFOODS, <https://www.bumblebee.com/tracemycatch> [<https://perma.cc/S6FV-H8CG>] (last visited Apr. 4, 2023) (Bumble Bee Seafood's internal response to IUU fishing; this tool enables consumers to look up where the fish they are eating was caught).

58. *Illegal, Unreported, and Unregulated Fishing*, U.S. DEPT. OF STATE, <https://www.state.gov/key-topics-office-of-marine-conservation/illegal-unreported-and-unregulated-fishing> [<https://perma.cc/GF9H-67LH>] (last visited on Apr. 4, 2023).

the question: why isn't the current national and international legislation enough? This section aims to illustrate the complexity of domestic and international maritime law, and its intersection with IUU fishing, and to discuss why current regulations are insufficient to deal with the current crisis.

A. *Current U.S. Law for IUU Fishing*

The MSA was enacted to end overfishing in U.S. waters, specifically in the U.S. Exclusive Economic Zone (EEZ) which extends up to two-hundred miles offshore. For years, before the enactment of the MSA there were virtually no regulations limiting the aquatic resources that could be captured by U.S. and foreign fishermen leading to severely depleted and overfished ecosystems.⁵⁹ In 1996, Congress amended the MSA through the enactment of the Sustainable Fisheries Act which aimed to further prevent overfishing and conserve fish habitats, among other goals because the commercial seafood industry needed support as well as recreational fishermen.⁶⁰

In 2006, MSA was renamed to Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (MSRA) to implement annual catch limits, which cannot exceed scientific recommendations, and accountability measures for regional councils to avoid exceeding prescribed annual catch limits.⁶¹ The enactment of the MSRA amended the High Seas Driftnet Fishing Moratorium (HFDSM) requiring the U.S. to “strengthen international fishery management organizations and address IUU fishing and bycatch of [protected living marine resources].”⁶² Furthermore, the National Oceanic and Atmospheric Administration (NOAA) has implemented various port restrictions, prohibiting vessels from entering U.S. ports, due to weak regulations of IUU fishing in other countries.⁶³ For example, NOAA recently announced that starting in February 2022 all Mexican fishing vessels fishing in the

59. *The Magnuson-Stevens Act: World's Leading Fisheries Management Under Threat*, OCEANA, <https://usa.oceana.org/magnuson-stevens-act-worlds-leading-fisheries-management-under-threat> [<https://perma.cc/EL4V-VERJ>] (last visited Apr. 4, 2023).

60. S. COMM. ON COM., SCI., AND TRANSP., SUSTAINABLE FISHERIES ACT, S. Rep. No. 104-276, at 2 (1996). <https://www.congress.gov/congressional-report/104th-congress/senate-report/276>.

61. *The Magnuson-Stevens Act: World's Leading Fisheries Management Under Threat*, *supra* note 60.

62. 50 C.F.R. § 300 (2011).

63. NOAA FISHERIES, IMPROVING INTERNATIONAL FISHERIES MANAGEMENT 2021 REPORT TO CONGRESS 15 (2021).

Gulf of Mexico are prohibited from entering U.S. ports because of a “negative certification in NOAA Fisheries’ 2021 Report to Congress on Improving International Fisheries for its continued failure to combat unauthorized fishing activities by small hulled vessels in U.S. waters.”⁶⁴

B. *Current International Law on IUU Fishing*

Internationally, there have been various types of actions taken to curb IUU fishing which include (1) “measures to enhance monitoring, control, and surveillance and to penalize non-compliance”; (2) “measures affecting IUU fishing markets and profitability”; (3) “measures to enhance flag State Control”; and (4) “other measures to combat IUU fishing.”⁶⁵ Actions taken to enhance monitoring, control and surveillance, and penalize non-compliance include, but are not limited to, enhancing domestic enforcement instruments (i.e., UN Fish Stocks Agreement⁶⁶), mandating vessel inspections, requiring vessel monitoring systems (VMS) on all registered vessels, and mandating criminal penalties and asset transfers for parties responsible for violating domestic or regional instruments relating to IUU fishing.⁶⁷ Actions that affect the profitability of IUU fishing may include blacklisting vessels that do not comply with regional conservation and management efforts which may involve sanctioning the vessels, implementing regulatory controls on the processing and storage of fish, or enforcing the documentation and certification of catches for all vessels.⁶⁸

All ships operating either within the EEZ of a country or the high seas must register their vessel with a flag State, that State then is held responsible for ensuring all registered vessels flying its flag act in accordance with international law.⁶⁹ There are flag States who provide what is known as “flags of non-compliance” or “flags of convenience” which provide fishing vessels engaging in illegal fishing a quick way to

64. *Id.*

65. Kevin Bray, *A Global Review of Illegal, Unreported and Unregulated (IUU) Fishing*, § 2.5.3, FAO, <https://www.fao.org/3/y3274e/y3274e08.htm> [<https://perma.cc/7P59-HCQW>] (last visited Apr. 4, 2023).

66. See U.N. Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks*, U.N. Doc. A/CONF.164/37 (Sept. 8, 1995).

67. Bray, *supra* note 66 at § 2.5.3.

68. *Id.*

69. *Flags of Non-Compliance*, STOP ILLEGAL FISHING, <https://stopillegalfishing.com/issues/flags-of-convenience> [<https://perma.cc/5Q98-FNW7>] (last visited Apr. 4, 2023).

register a vessel without a State inquiring about past fishing history, as well as other financial and labor advantages.⁷⁰ Measures to enhance State flag control may involve seeking the ratification of international IUU instruments by flag States (i.e., UN Fish Stocks Agreement, FAO Compliance Agreement and Code of Conduct), require fishing vessels to have a genuine connection with the respective flag State and be subject to specific regulations under the State's control, and by adopting more stringent port State control to incentivize more effective flag State control.⁷¹

Outside of any single jurisdiction, fishing on the high seas is subject to Articles 116-119 of UNCLOS.⁷² To date, 133 countries have become members of, and ratified, UNCLOS; the United States has not become a member of UNCLOS.⁷³ This section of UNCLOS relates to the conservation and management of the living resources of the high seas by declaring a right to fish on the high seas,⁷⁴ a duty of States to adopt measures for the conservation of the living resources of the high seas,⁷⁵ a need for cooperation of States in the conservation and management of living resources,⁷⁶ and a plan to determine the conservation measures needed to protect the living resources of the high seas.⁷⁷ The 1982

70. *Id.*

71. Bray, *supra* note 66 at § 2.5.3.

72. See U.N. Convention on the Law of the Sea, arts. 116-119, *opened for signature* Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter, UNCLOS].

73. *U.N. Convention of the Law of the Sea*, U.N. TREATY COLLECTION, https://treaties.un.org/pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXI-6&chapter=21&Temp=mtdsg3&clang=_en [https://perma.cc/X7QA-JVRR] (last visited Apr. 4, 2023).

74. UNCLOS, *supra* note 73, at art. 116 (“All States have the right for their nationals to engage in fishing on the high seas subject to: (a) their treaty obligations; (b) the rights and duties as well as the interests of coastal States; and (c) the provisions of this section.”).

75. *Id.* at art. 117 (“All States have the duty to take, or to cooperate with other States in taking, such measures for their respective nationals as may be necessary for the conservation of the living resources of the high seas.”).

76. *Id.* at art. 118 (“States shall cooperate with each other in the conservation and management of living resources in the areas of the high seas. States whose nationals exploit identical living resources, or different living resources in the same area, shall enter into negotiations with a view to taking the measures necessary for the conservation of the living resources concerned. They shall, as appropriate, cooperate to establish subregional or regional fisheries organizations to this end.”).

77. *Id.* at art. 119 (“(1) In determining the allowable catch and establishing other conservation measures for the living resources in the high seas, States shall: (a) take measures which are designed, on the best scientific evidence available to the States concerned, to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield, as qualified by relevant environmental and

UNCLOS provided provisions for dispute resolution by vessels, corporations, and States through the development of the International Tribunal on the Law of the Sea (ITLOS) which permitted “[a]ny State Party to the Convention or, in certain cases, another entity may refer a dispute related to the interpretation or application of the Convention . . . to an international tribunal to obtain a legally binding decision.”⁷⁸ ITLOS became operational in late 1994 once enough UN members accepted the 1982 UNCLOS.⁷⁹ The term “IUU fishing” does not appear within the text of UNCLOS; its first appearance was in the 16th annual meeting of the Commission for the Conservation of Antarctic Marine Living Resources in 1997.⁸⁰ This was the impetus for the FAO IPOA-IUU, discussed in more detail below.⁸¹ Article 73 of UNCLOS does not permit criminal prosecution of fishing offenses without an express agreement between two member states authorizing the persecution of these crimes, it only permits civil penalties; this makes it difficult for nations to hold international offenders accountable in the absence of such an agreement.⁸²

FAO is an agency within the UN that aims to “achieve food security for all and make sure that people have regular access to enough high-quality food to lead active, healthy lives.”⁸³ At the 1995 FAO conference, FAO members adopted the FAO Code of Conduct for Responsible Fisheries (CCRF) “to strengthen the international framework for more effective conservation, management, and sustainable exploitation and

economic factors, including the special requirements of developing States, and taking into account fishing patterns, the interdependence of stocks and any generally recommended international minimum standards . . . (b) take into consideration the effects on species associated with or dependent upon harvested species with a view to maintaining or restoring populations of such associated or dependent species above levels at which their reproduction may become seriously threatened. (2) Available scientific information, catch and fishing effort statistics, and other data relevant to the conservation of fish stocks shall be contributed and exchanged on a regular basis through competent international organizations . . . with participation by all States concerned. (3) States concerned shall ensure that conservation measures and their implementation do not discriminate in form or in fact against the fisherman of any State.”)

78. John E. Noyes, *The International Tribunal for the Law of the Sea*, 32 CORNELL INT’L L. J. 109, 113 (1999).

79. *Id.* at 116.

80. Tsung-Han Tai, et al., *International Soft Laws against IUU fishing for Sustainable Marine Resources: Adoption of the Voluntary Guidelines for Flag State Performance and Challenges for Taiwan*, 12 SUSTAINABILITY 6013, 6013 (2020).

81. *Id.*

82. UNCLOS, *supra* note 73, at art. 73.

83. *About FAO*, FAO, <https://www.fao.org/about/en> [<https://perma.cc/E7YL-8PGK>] (last visited Apr. 4, 2023).

production of living aquatic resources.”⁸⁴ The CCRF requires FAO members to develop international plans of action (IPOA) regarding the reduction of incidental catch of seabirds in longline fisheries (IPOA-Seabirds), the conservation and management of sharks (IPOA-Sharks), and the management of fishing capacity (IPOA-Capacity).⁸⁵

The IPOA-Capacity is a “a voluntary instrument that applies to all States whose fishermen engage in capture fisheries” and describes mechanisms to promote the implementation of urgent actions such as assessing and monitoring of fish capacity and the implementation of national plans.⁸⁶ The goal of IPOA-Capacity was for States and regional fisheries “to achieve . . . by 2003, but not later than 2005, an efficient, equitable and transparent management of fishing capacity.”⁸⁷ To further the goals of the IPOAs, States should submit a national plan of action to describe domestic efforts to achieve the high-level goals within the IPOA.⁸⁸ Only two nations have submitted plans under IPOA-Capacity: the United States and Namibia.⁸⁹

The IPOA-Capacity did not create an efficient, equitable, or transparent management of fishing capacity by 2005; States are still struggling to balance diminishing fish stocks and economic need for fishing industries in the high seas and in coastal States. The FAO published in 2001 another IPOA under the CCFR: the IPOA-IUU. The goal of IPOA-IUU is to provide all States with “comprehensive, effective and transparent measures by which to act, including through appropriate regional fisheries management organizations established in accordance with international law.”⁹⁰ Many more countries have developed national plans of action in accordance with the IPOA-IUU than compared with the IPOA-Capacity.

84. *Code of Conduct for Responsible Fisheries*, FAO, <https://www.fao.org/fishery/en/code> [<https://perma.cc/4M5F-H5LN>] (last visited Apr. 4, 2023).

85. FAO, INTERNATIONAL PLAN OF ACTION FOR REDUCING INCIDENTAL CATCH OF SEABIRDS IN LONGLINE FISHERIES[,] INTERNATIONAL PLAN OF ACTION FOR THE CONSERVATION AND MANAGEMENT OF SHARKS[,] INTERNATIONAL PLAN OF ACTION FOR THE MANAGEMENT OF FISHING CAPACITY (1999)

86. *Id.* at iv.

87. *Id.*

88. Margaret A. Young, *Fragmentation or Interaction: the WTO, Fisheries Subsidies, and International Law*, 8 *WORLD TRADE REV.* 477, 484 (2009).

89. *Id.*

90. FAO, INTERNATIONAL PLAN OF ACTION TO PREVENT, DETER AND ELIMINATE ILLEGAL, UNREPORTED AND UNREGULATED FISHING 4 (2001).

C. *Successes and Failures of the Current IUU Regulation Regime*

Many countries and regions have enacted legislation to attempt and prevent, or deter, illegal fishing within their waters, or to prevent the importation of illegally caught fish into the supply chain. In 2010, an EU regulation came into effect that aims to prevent, deter, and eliminate IUU fishing and the import of those products into the EU market by creating a scheme made up of three components, which includes a catch certification scheme, a third-country carding process, and penalties for EU nationals.⁹¹

The catch certification scheme applies to all vessels with EU flags or third-country vessels who participate in landings or transshipments in EU ports as well as the trade of any and all marine fishery products. This part of the regulation mandates that applicable vessels that export seafood to the EU certify where the fish products were caught as well as the legality of those products. Since this process results in a significant number of certificates annually, the enforcing authorities implement a risk-based approach to verify catch certificates as needed.⁹²

Under the third-party carding process the European Commission issues a yellow card to another nation if they are not complying with efforts to deter IUU fishing. If the nation continues to not comply with EU standards, the nation will be issued a red card and labeled as non-cooperating at which point fishery products from that country will be banned from the EU market.⁹³ The European Commission, when evaluating the efficacy of a third-country's strategy to combat IUU fishing, examines,

- (1) the compliance of a third-country's legal framework with international fisheries management and conservation requirements,
- (2) the ratification of international instruments and participation in regional and multilateral cooperation, including membership of RFMOs and compliance with RFMO conservation and management measures, and

91. ENV'T JUST. FOUND. ET AL., THE EU IUU REGULATION 6 (2016).

92. *Id.* at 7.

93. *EU Rules to Combat IUU Fishing*, EU COMM'N, https://ec.europa.eu/oceans-and-fisheries/fisheries/rules/illegal-fishing_en [<https://perma.cc/N7PM-DPH4>] (last visited Apr. 4, 2023); see also *New Analysis Highlights Common Failures in Fight Against Illegal Fishing*, THE PEW CHARITABLE TRUST (Jun. 23, 2016), <https://www.pewtrusts.org/en/research-and-analysis/articles/2016/06/23/new-analysis-highlights-common-failures-in-managing-illegal-fishing> [<https://perma.cc/ZC4W-ZAXN>].

(3) the implementation of appropriate fisheries and conservation measures, allocation of adequate resources, and establishment of systems necessary to ensure control, inspection, and enforcement of fishing activities both within and beyond sovereign waters.⁹⁴

Finally, the last component of the EU regulation is penalties for EU nationals and operators who have “been involved in IUU fishing and related trade.”⁹⁵ This component does not take into account the flag of the vessel at issue; if an EU national is engaging in IUU fishing under any vessel, they shall be charged a maximum sanction “of at least five times the value of the fishery products obtained through committing the offen[s]e, and eight times the value of the fishery products in case of a repeated infringement within a five-year period.”⁹⁶

An analysis of the EU IUU fishing regulation shows that there have been over 1.1 million catch certificates received by EU member states between 2010 and 2013 with over 4,000 requests for verification to determine the legality of fish imports.⁹⁷ While there is some inconsistency between EU member states in how this data is collected, especially the top six importers of fishery products, the data analyzed by Oceana shows that this regulation is working in some areas of the EU, and in other areas needs to be enhanced with further action.⁹⁸ While the EU IUU fishing regulation is certainly a step in the right direction, there are additional measures that may be implemented by the EU Commission and by EU member states that will help to further enhance methods to deter IUU fishing, which can also be implemented in other Nations around the world.

Some recommended steps by Oceana, the organization who completed an in-depth analysis of the efficacy of the EU IUU fishing regulation, include measures to be taken by the EU Commission like modernizing the catch certificate system, standardizing risk analysis for third-country carding, and taking enforcement action against member states who have not implemented the regulation, among others.⁹⁹ Oceana also recommends that EU member states support the establishment of a digital catch certificate database, supporting a standardized risk assessment modal, and

94. ENV'T JUST. FOUND. ET AL., *supra* note 92, at 8. *See id.* for examples of countries that have transitioned from yellow or red card status to green card status.

95. ENV'T JUST. FOUND. ET AL., *supra* note 92, at 10.

96. *Id.*

97. *Id.*

98. *Id.*

99. *Id.* at 18.

putting in place effective enforcement mechanisms to ensure that no EU national is engaging in, or supporting, IUU fishing operations.¹⁰⁰

D. Current Regulations are not Sufficient to Deal with the IUU Crisis

The current international IUU fishing framework has certainly limited the number of IUU caught fish that make their way into the domestic and international markets; however, the current legal foundation is not yet enough to fully solve the issue of IUU fishing and the impacts it brings to economies and communities. The best way to further deter, and eventually eliminate, IUU fishing would be to utilize current technology to promote, incentivize, and regulate transparency for IUU fishing activities throughout corporate supply chains. Illustrating that a reputational, environmental, and economic risk exists for companies who engage in this, even through its supply chain, will create sufficient market pressure to lessen the impact IUU fishing has on local and global economies.

III. POTENTIAL IUU REGULATIONS

The current framework for managing and mitigating IUU fishing is not sustainable if States want to ensure the availability of sustainable fisheries into the future; the system is not strong enough to fully rebalance the short-term economic benefits of IUU fishing and the longer-term economic and environmental disincentives. The Ocean Panel is pushing for three high-level opportunities for action to respond to the global threat of IUU fishing which include (1) adopting global transparency in fisheries, (2) ratifying and implementing the FAO's Port State Measures Agreement, and (3) enhancing regional cooperation.¹⁰¹

The directive to adopt global transparency in fisheries aims to shift away from an enforcement-based model and focuses on rewarding good behavior and compliance with applicable rules, regulations, and practices.¹⁰² Examples of what this global transparency would look like include: requiring flag or coastal States to make VMS data available for the public; requiring coastal States to publish lists of fishing licenses and vessel registries; requiring business, industry and finance institutions to make fisheries transparency and traceability conditions within their contracts; improve transshipment activities through electronic monitoring

100. *Id.*

101. WIDJAJA ET AL., *supra* note 15, at 38-39.

102. *Id.*

systems; and State publicly publishing arrests and sanctions imposed for IUU fishing activities.¹⁰³

The Port State Measures Agreement (PSMA) is a binding international agreement that places tighter controls on foreign-flagged ships using a parties' ports. The PSMA seeks to minimize IUU fishing by allowing port states to deny entry to vessels known to have engaged in IUU fishing, allowing vessels into port for inspection if they are suspected of partaking in IUU fishing, and by encouraging information sharing to assist in enforcement.¹⁰⁴

Finally, the Ocean Panel argues that a more cooperative regional regime among governments, civil society, science, industry, and the private sector to enforce a coherent and consistent system.¹⁰⁵ Examples falling under this directive include: holding an international forum to address the non-uniformity of RFMO regulations, improved coordination and data transparency among the RFMOs, adoption of sanctions for flag states for performing enforcement measures, and the creation of an international body that would oversee the performance of each RFMO, among others.¹⁰⁶ This section will examine the multiple regulatory avenues that may be utilized to assist in the mitigation of IUU fishing activities both domestically and internationally.

A. The Pathway for IUU Elimination within the U.S.

In September 2020, the U.S. Coast Guard published a strategy outlining its role in combatting IUU fishing, the lines of efforts to be enforced by the Coast Guard, and how to ensure long-term success for combatting IUU fishing and managing fisheries sustainably.¹⁰⁷ The Coast Guard is uniquely qualified to handle the enforcement of more stringent IUU rules and regulations because it is the lead agency for "at-sea enforcement of living marine resource laws for more than 150 years."¹⁰⁸ The Coast Guard, out of the relevant U.S. agencies, is best positioned to deploy needed resources to areas of the exclusive economic zone (EEZ) and the high seas that may need observation and that may benefit from enforcement through physical presence.

103. *Id.*

104. *Id.*

105. *Id.*

106. *Id.* at 39-40.

107. U.S. COAST GUARD, ILLEGAL, UNREPORTED, AND UNREGULATED FISHING STRATEGIC OUTLOOK 1 (2020).

108. *Id.* at 19.

The Coast Guard has determined that IUU fishing poses the greatest maritime security threat, surpassing piracy, especially in a time where climate change is deteriorating coastal states and increasing geo-political tensions and instability across the globe.¹⁰⁹ The Coast Guard is aiming to fight global IUU fishing through a three-prong approach which includes: (1) promoting targeted, effective, intelligence-driven enforcement operations; (2) countering predatory and irresponsible State behavior; and (3) expanding multilateral fisheries enforcement cooperation.¹¹⁰

Another method to hold the owners of a ship responsible for the activities of the vessel through domestic jurisdiction is by lifting the corporate veil. Courts have inconsistently used this legal doctrine if a ship's flag poorly reflects its activities.¹¹¹ Piercing the veil is a judicially enforced doctrine where courts will set aside a corporation's limited liability and hold a corporation's shareholders or directors personally liable for the corporation's actions if the corporation engages in activities such as abuse of corporate funds, intermingling of assets, or undercapitalization at the time of incorporation.¹¹² In the United States, courts use a multi-factor test laid out in *Lauritzen v. Larsen* to determine if domestic jurisdiction applies to foreign vessels which includes, but is not limited to, the place of the wrongful act, the flag, the victim's domicile, the offender's domicile, the place of contract, the accessibility of a foreign forum, and the law of the forum.¹¹³ This test has continually guided the field of maritime choice of law.¹¹⁴ This process, as previously mentioned, has been sparingly used because courts are reluctant to impose U.S. jurisdiction on foreign vessels. "The current state of the *Lauritzen* . . . analysis can unnecessarily subject shipowners and maritime employers to unpredictable litigation outcomes, despite cautiously crafted contracts that seek to settle decisions about the law to be utilized in dispute resolution."¹¹⁵ To better effectuate change domestically and globally in IUU fishing, courts should develop a bright line test that removes

109. *Id.* at 2.

110. *Id.* at 4.

111. Powell, *supra* note 46.

112. *Piercing the Corporate Veil*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/piercing_the_corporate_veil [<https://perma.cc/ED4J-UDDK>] (last visited Apr. 4, 2023).

113. Powell, *supra* note 46; *see* *Lauritzen*, *supra* note 44 (holding a tort action by a Danish seaman's suit against a Danish vessel did not have proper jurisdiction in U.S. Courts).

114. *Id.*

115. Marcus R. Bach-Armas & Jordan A. Dresnick, *Laws Adrift: Anchoring Choice of Law Provisions in Admiralty Torts*, 17 U. MIAMI INT'L & COMPAR. L. REV. 43, 65 (2009).

subjectivity from the equation when determining if the United States is the correct forum to hear maritime tort or criminal cases.¹¹⁶

However, there has been a push domestically to hold those who profit from IUU activities accountable. The rationale behind this is that to effectively minimize or eliminate IUU fishing, the people and corporations who are funding those activities must be negatively impacted, either through judicial action or sanctions, to disincentivize these activities. Piercing the corporate veil would allow an enforcing country to “ascertain who the beneficial owner of a vessel is if they are to prosecute a case that might deter future IUU fishing behavior.”¹¹⁷

Additionally, the U.S. may consider enacting a similar regulation to the EU’s IUU fishing regulation requiring individual states to implement components of the regulation that would aim to deter IUU fishing in a cooperative federalism regime where states must implement the regulation but may create more stringent requirements and ensure compliance with minimum federal guidelines.

B. *The Pathway for IUU Fishing Elimination Internationally*

Global fisheries are an illustrative example of the pervasive environmental issue of the tragedy of the commons, first introduced by American ecologist Garrett Hardin, which is an economic situation where individuals with access to a shared resource will act in their own self-interest and ultimately deplete the common resource. Hardin once noted that “the inherent logic of the commons remorselessly generates tragedy.”¹¹⁸ The limited ability to regulate fishing on the high seas and enforce sustainable fishing in a nation’s EEZ means that many fishermen are fighting for a limited product and are incentivized to catch as much as they can. This is without due regard for the ecosystem, and most often leaves a fish population below what may be considered sustainable.

In order to properly begin to deal with the IUU fishing crisis, there needs to be stronger international cooperation between regions as well as support for nations attempting to develop modern strategies to handle this issue, or sanctions for those who choose to blatantly continue IUU fishing

116. *Id.*

117. Anastasia Telesetsky, *Laundering Fish in the Global Undercurrents: Illegal, Unreported, and Unregulated Fishing and Transnational Organized Crime*, 41 *ECOLOGY L. Q.* 939, 987 (2014).

118. TERESA SCHARE, *EUROPE AND THE “TRAGEDY OF THE COMMONS”*: A DETAILED ANALYSIS OF THE EUROPEAN COMMON FISHERIES POLICY (CFP) 1 (Institut européen de l’Université de Genève 2006) (quoting Garrett Hardin (1968)), <https://www.unige.ch/gsi/files/1114/0351/6367/schare.pdf>.

practices. Internationally, China has the largest, and farthest-reaching, fishing fleet in the world and vessels flying the Chinese flag have one of the highest proportional instances of IUU activity as compared to other countries.¹¹⁹ According to the IUU Fishing Index, China ranks number 1 out of 152 countries in IUU fishing activities.¹²⁰ One of the core issues that must be addressed to begin to lessen the prevalence of IUU fishing internationally is to demand that China begin to enforce stricter flag state control over vessels flying its flag.

C. *Tools to Eliminate IUU Fishing*

One of the ways to effectively begin to eliminate IUU fishing is through corporations and their supply chains. Many companies purchase seafood, process seafood, engage in shipping activities that may implicate IUU fishing, or finance companies whose supply chains engage in these activities. “[M]ajor public-facing companies that buy seafood, such as retailers and processors, are an untapped pressure point to target IUU fishing.”¹²¹ As this paper has illustrated, the landscape for global IUU fishing regulations is complicated and it is more likely a substantial shift in global consumption of IUU fishing products would occur if there were more market pressure on corporations to change their supplier’s habits. This section will discuss various methods that governments, or companies themselves, may implement to understand the prevalence of IUU fishing and minimize it.

1. Risk Assessment Tools

The current method to determine sources of IUU activity is through various vessel lists that identify vessels that commonly engage in such activities through numerous RFMOs and combined by various organizations for ease of access. That method is imperfect because a corporation may be inadvertently engaging in IUU activity down the supply chain and may not be fully aware that its source is engaging in these illegal activities. The current framework for IUU risk assessment

119. *Id.* at 9. See also CONGRESSIONAL RESEARCH SERVICE, CHINA’S ROLE IN THE EXPLOITATION OF GLOBAL FISHERIES: ISSUES FOR CONGRESS (2022).

120. IUU Fishing Index ranks countries on several factors including coastal activities, flag state activities, port activities, and general factors. *China*, IUU FISHING INDEX, <https://www.iuufishingindex.net/profile/china> [<https://perma.cc/H3VJ-JQU3>] (last visited Apr. 4, 2023).

121. Outlaw Ocean Report, *supra* note 55, at 4.

processes varies among different companies from internal mechanisms to outsourced risk assessments.¹²²

The Stanford Center for Ocean Solutions and the Stanford Law School Law and Policy Lab conducted an audit of various IUU risk assessment tools utilized by companies and found that there was only one example of an IUU risk assessment that “holistically address[ed] supply chain risk.”¹²³ The Publicly Available Specification (PAS) 1550:2017 aims to provide guidance to exercise due diligence in establishing the legal origin of seafood products and marine ingredients.¹²⁴ This guideline is aimed at seafood processors and importers and

gives recommendations on: the considerations within a due diligence system in order to minimize the risk of IUU seafood in the supply chain; the considerations to minimize the risk of a lack of decent conditions at work in the supply chain; and what traceability systems are used to deliver the ability to verify the claim.¹²⁵

Other guidelines published are limited to examining IUU risk on selected levels such as risk on a country level, but the PAS 1550:2017 “asks companies to go deep into the supply chain and address hundreds of guidelines.”¹²⁶

The PAS 1550:2017, and other risk assessment tools, are important in the fight against IUU fishing because they are methods for corporate suppliers to verify their status as organizations who do not utilize IUU resources. The PAS 1550:2017 is a lengthy, and holistic, tool that corporations may use to impose a mandate on supplier conduct in order to become a validated supplier. A similar process is found in climate change disclosures like those of CDP (formerly known as Carbon Disclosure Project) in which corporate suppliers are mandated to set emissions

122. *Id.* at 14 (providing examples of corporate IUU risk assessment processes such as Kingfisher, a seafood company, who utilizes the Marine Catch Purchasing Document stipulating that all port owners and fish buyers document seafood transactions and ISSA, who requires suppliers to meet 27 conservation measures annually).

123. *Id.*

124. British Standards Institution, *PAS 1550:2017 Exercising Due Diligence in Establishing the Legal Origin of Seafood Products & Marine Ingredients*, SEAFISH, <https://www.seafish.org/responsible-sourcing/tools-for-ethical-seafood-sourcing/records/pas-1550-2017-exercising-due-diligence-in-establishing-the-legal-origin-of-seafood-products-marine-ingredients> [<https://perma.cc/5E3L-A3MS>] (last visited Apr. 4, 2023).

125. *Id.*

126. Outlaw Ocean Report, *supra* note 55, at 14.

reductions targets in order to remain as a supplier.¹²⁷ Pressuring suppliers in this manner may be an effective method to deter, and eliminate, IUU fishing because it puts significant economic pressure on suppliers to “pass” the PAS 1550:2017 risk assessment analysis or risk revenue from their downstream consumers.

2. Mandatory Disclosures

One of the most effective ways to keep corporations accountable for their actions that harm the environment is through mandatory disclosures. These disclosures are regulated by the U.S. Securities and Exchange Commission (SEC) because that is the independent agency in charge of promulgating regulations against market manipulation created in the wake of the Wall Street crash of 1929 and the promulgation of the Securities Exchange Act of 1934.¹²⁸ An illustrative example of the effectiveness of SEC mandatory disclosures is through the implementation of conflict minerals disclosure under the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), which applies to companies if conflict minerals “are necessary to the functionality or production of a product manufactured by the company or contracted by the company to be manufactured.”¹²⁹ A company who is required to disclosure under this regulation must file a Conflict Minerals Report (CMR) and exercise due diligence on the source and chain of custody of the conflict minerals it uses; furthermore, the due diligence methods must conform to a recognized due diligence framework.¹³⁰

A study examining the effects of the CMR requirement of the Dodd-Frank Act questioned “whether CM[R]s nudge companies to take real actions to source conflict-free minerals”¹³¹ The study found evidence

127. *See generally* CDP, ENGAGING THE CHAIN: DRIVING SPEED AND SCALE CDP GLOBAL SUPPLY CHAIN REPORT 2021 (2022).

128. *About the SEC*, U.S. SECS. & EXCH. COMM’N, <https://www.sec.gov/strategic-plan/about> [<https://perma.cc/3HZ9-4748>] (last visited Apr. 4, 2023).

129. *Conflict Minerals Disclosure*, U.S. SEC. & EXCH. COMMISSION, <https://www.sec.gov/info/smallbus/secg/conflict-minerals-disclosure-small-entity-compliance-guide.htm> [<https://perma.cc/Q229-5YR3>]. Companies must certify their supply chains are free of any and all tin, tantalum, tungsten, and gold originating from the eastern Democratic Republic of the Congo (DRC). *See The Unintended Consequences of Dodd-Frank’s Conflict Minerals Provision: Hearing Before the Subcomm. on Monetary Policy and Trade of the H. Comm. on Fin. Serv.*, 113th Cong. (2013) [hereinafter *Hearing*].

130. *Id.*

131. BOK BAIK ET AL., THE REAL EFFECTS OF CONFLICT MINERALS DISCLOSURE 3 (2022).

that suggested an increase in the percentage of conflict-free smelters after the promulgation of the Dodd-Frank Act CMR requirement. The authors posit that “[i]ncreased public awareness of conflict minerals in firms’ supply chains offers a likely explanation for the observed trend toward responsible sourcing.”¹³² An unintended consequence of the Dodd-Frank Act is the “*de facto* embargo on all minerals originating from the DRC and from surrounding areas.”¹³³ Approximately seventeen percent of the DRC rely on the mineral mining industry for their livelihoods, and this regulation essentially barred export of minerals from the DRC due to regulatory, shareholder, and consumer pressure faced by corporations.¹³⁴

While the *de facto* embargo of minerals from the DRC was an unintended consequence of the Dodd-Frank Act, the spirit of the Act may serve as a guiding post to promulgating regulations for U.S. corporations that require them to certify that their supply chain does not engage in IUU fishing activities and to conduct an analysis of the chain of custody of the marine resources it utilizes to ensure that is accurate. The regulations would not be directed at any single nation and would apply to U.S. corporations who have operations domestically or globally, like how the Dodd-Frank Act was enacted to face issues of conflict minerals in the DRC, and, because of that, the issue of a *de facto* embargo is not as great. Every nation needs marine living resources, and if these corporate disclosures were not solely focused on one nation or one region, government regulation may be the driving force for a global shift away from our current IUU fishing regime.

3. Blockchain Technology

Blockchain technology has made its way into the mainstream in the last few years with an emphasis on blockchain for investment assets like non-fungible tokens (NFTs). Blockchain “is a shared, immutable ledger that facilitates the process of recording transactions and tracking assets.”¹³⁵ A blockchain ledger can store various types “of data such as when, where, and how a product was produced; when and how it moved from origin to consumer; and information relating to social or environmental

132. *Id.*

133. *Hearing, supra* note 129.

134. *Id.*

135. *What is Blockchain Technology?*, IBM, <https://www.ibm.com/topics/what-is-blockchain> [<https://perma.cc/6MUT-34DM>] (last visited Apr. 4, 2023).

credentials.”¹³⁶ Blockchain may be utilized to solve one of the most pervasive issues when it comes to IUU fishing: traceability.

In the context of IUU fishing, blockchain technology may be utilized the moment a fish is caught at sea so the end consumer would have relevant data to ensure they are not consuming seafood from IUU sources. OpenSC is an impact venture whose mission is to drive responsible production and consumption through supply-chain traceability and transparency technology. The OpenSC IUU fishing program is focusing its initial efforts on blockchain technology for the Patagonian Toothfish, one of the most overfished species in the world. The first step is to attach an RFID tag to the toothfish at its catch location, then machine learning and GPS location is used to verify that the fish was legally caught, when the fish reached its processing location the RFID tag is converted to a scannable QR code, and finally end consumers may scan the QR code to see the journey of the fish they are purchasing.¹³⁷

If blockchain technology were wholly utilized and implemented throughout corporate supply chains, it would be virtually impossible for fish caught using IUU methods to enter the market.¹³⁸ However, there are barriers to the full implementation of blockchain technology for corporations to track the source of their seafood supply. Large companies, whose supply chains are incredibly complex and whose suppliers utilize convoluting corporate structures, will have a difficult time implementing blockchain technology because it may be difficult to track the boats from which their supply emanates from.¹³⁹ Ideally, this technology would be implemented after an extensive supply chain audit and mapping exercise where there is full visibility on where a company is sourcing its fish from. Furthermore, a barrier to implementation is that all supply chain actors should participate in the implementation of blockchain and agree to use it consistently. One way to ensure full supply chain coverage is to “identify

136. *WWF-Australia and OpenSC*, WORLD WILDLIFE FUND, <https://www.wwf.org.au/get-involved/panda-labs/opensc#gs.x3zxmi> [https://perma.cc/298B-MGUR] (last visited Apr. 4, 2023). A partnership was launched between World Wildlife Fund and a blockchain technology company to use blockchain to track food and help people make informed decisions about where they source their food. *Id.*

137. *Id.*

138. Kate Whiting, *Blockchain Could Police the Fishing Industry – Here’s How* WORLD ECON. FORUM (Feb. 12, 2020), <https://www.weforum.org/agenda/2020/02/blockchain-tuna-sustainability-fisheries-food-security> [https://perma.cc/ZM2G-Y69A].

139. See BUBBA COOK, ET AL., *BLOCKCHAIN: TRANSFORMING THE SEAFOOD SUPPLY CHAIN* 29 (2022).

and promote” incentives that would promote the use of blockchain such as potential rate increases for fish that are source verified.¹⁴⁰

IV. CORPORATE BENEFITS OF CURBING IUU FISHING

The former CEO of Unilever once said, “[c]orporate social responsibility is a hard-edged business decision[;] [n]ot because it is nice to do or because people are forcing us to do it, . . . but because it is good for our business.”¹⁴¹ There has been mounting pressure on corporations to shift their focus to business strategies that further environmental and social goals because shareholders have realized the long-term return on investments in sustainable organizations. Large investment organizations have begun implementing restrictions on their funds to ensure the companies they are investing are sustainable in the long run.¹⁴² While the reasons behind why a company may want to shift its focus on more sustainable long-term strategies are not necessarily altruistic, there has been no better time to show companies why staying away from IUU fishing and its related activities is the best choice for their long-term growth. This section aims to discuss the importance of ESG and CSR in today’s market and how a socially conscious organization will benefit from investing in digital or physical infrastructure that would help them avoid risks associated with IUU activities, even if no regulatory regime exists that requires corporations to disclose this information publicly. This section of the paper will be discussing the importance of corporate social responsibility and environmental, social, and governance factors to an organization as well as investor and insurer risk for working with companies who partake in IUU activities.

A. Importance of ESG and CSR to a Corporation

Corporate social responsibility (CSR) and environmental, social, and governance (ESG) concepts have been in the corporate realm for quite some time; however, with more public awareness and understanding of

140. *Id.*

141. Larry Eliot, *Cleaning Agent Interview with Niall FitzGerald*, THE GUARDIAN (July 4, 2003), <https://www.theguardian.com/business/2003/jul/05/unilever1> [<https://perma.cc/H382-DQ5R>].

142. See Larry Fink, *Larry Fink’s 2020 Letter to CEOs: A Fundamental Reshaping of Finance*, BLACKROCK, <https://www.blackrock.com/americas-offshore/en/larry-fink-ceo-letter> [<https://perma.cc/Q7MR-M5KH>] (last visited Apr. 4, 2023). BlackRock, a large investing firm, announced it is placing sustainability in the center of their investment approach and calls for greater ESG and CSR disclosure for shareholders. *Id.*

climate change, and anthropogenic effects on the Earth in general, corporations and asset managers have put more emphasis on internal ESG and CSR measures within corporations. Many asset managers have signed onto the United Nations Principles for Responsible Investment (PRI) which aims to support an international network of signatories to incorporate ESG factors into investment and ownership decisions;¹⁴³ this is one example of how CSR and ESG have permeated the corporate field. There is a growing understanding that failing to incorporate ESG and CSR into short-, medium-, and long-term business planning and strategy will lead to reputational risks for the organization, lack of investment from prospective investors or partners, and a lack of longevity.¹⁴⁴ This is by no means a trend that is just taking hold within the corporate sector; ESG and CSR have been living in the ether for decades. However, with the noticeable effect climate change is having on the climate, it is becoming increasingly more important for companies to consider the risks and opportunities they face from climate-related issues.

Not every corporation within every sector in the commercial world is at risk of being exposed to corporate risks for IUU fishing. The United Nation's Principles for Sustainable Insurance show that the agriculture/fishing, finance and transport/shipping sectors are more prone to these risks.¹⁴⁵ The inclusion of companies within the agriculture/fishing sector makes sense on a first glance; companies who deal in seafood harvesting and production are more likely to be impacted by illegal fishing, directly or indirectly through their supply chain. The inclusion of the financial industry may initially come as a surprise. However, the financial sector has a significant role to play in every industry because corporations who participate in IUU fishing, firsthand or not, use bank accounts, fund and asset managers, insurance companies and other services which are furnished by financial services companies.¹⁴⁶ The

143. *About the PRI*, PRINCIPLES FOR RESPONSIBLE INV., <https://www.unpri.org/pri/about-the-pri> [<https://perma.cc/CXU2-BRBG>] (last visited Apr. 4, 2023).

144. Carl Hung, *Three Reasons Why CSR and ESG Matter to Businesses*, <https://www.forbes.com/sites/forbesbusinesscouncil/2021/09/23/three-reasons-why-csr-and-esg-matter-to-businesses/?sh=18e7b3ff39b9> [<https://perma.cc/6J7W-WZ3E>] (last visited Apr. 4, 2023).

145. See U.N. ENVIRONMENTAL PROGRAMME & PRINCIPLES FOR SUSTAINABLE INSURANCE, UNDERWRITING ENVIRONMENTAL, SOCIAL AND GOVERNANCE RISKS IN NON-LIFE INSURANCE BUSINESS 19 (2019).

146. Huw Thomas, *To Fight Illegal Fishing, Follow the Money*, PEW CHARITABLE TRUSTS (Jun. 19, 2018), <https://www.pewtrusts.org/en/research-and-analysis/articles/2018/06/19/to-fight-illegal-fishing-follow-the-money> [<https://perma.cc/X4KB-MVX2>].

financial companies with stakes in corporations who participate in IUU fishing within their supply chain are cautious of the risk these activities place on their assets and investments, creating a potential avenue for change within the IUU sector.¹⁴⁷

B. Investor and Insurer Perspectives on the Risk of IUU Fishing within the Supply Chain

As discussed above we are living in an age where investors want companies to prove they are maximizing their profit by considering environmental, social, and governance issues. This is especially true of institutional investors, who invest assets on behalf of various clients and members. The existence of IUU fishing in a corporate supply chain gets to the heart of the issues investors want to avoid: risk to their investment. There is a very real financial hazard for companies who, knowingly or not, engage in these activities. For example, the non-profit financial think tank, Planet Tracker, published the names of some listed companies who have engaged in IUU fishing: Dongwon Industries Co. Ltd., Rongcheng Xinlong Aquatic Products Co. Ltd., CNFC Overseas Fisheries C. Ltd., and Pingtan Marine Enterprise, which is listed in the U.S.¹⁴⁸ The result of this public shaming had a very real effect on these companies, especially Pingtan, whose “stock has lagged the S&P 500 by 93%.”¹⁴⁹ Furthermore, after publishing the names of these companies who are engaging in IUU fishing, Planet Tracker created an online questionnaire that allows investors to determine their exposure to risks from IUU fishing activities.¹⁵⁰

147. *Id.*

148. Katy Askew, *Illegal, Unreported and Unregulated Fishing: ‘Companies Exploit the Weakness of the System’*, FOOD NAVIGATOR EURO. (Dec. 3, 2021), <https://www.foodnavigator.com/Article/2021/12/03/Illegal-unreported-and-unregulated-fishing-Companies-exploit-the-weakness-of-the-system> [<https://perma.cc/K3DA-SXP8>]. Dongwon Industries is the parent company of the well-known brand Starkist. *Starkist Parent Dongwon Accused of IUU fishing*, STOP ILLEGAL FISHING (Mar. 15, 2013), <https://stopillegalfishing.com/press-links/starkist-parent-dongwon-accused-of-iuu-fishing-fraud> [<https://perma.cc/J6SD-AV2C>].

149. *Id.*

150. See *Planet Tracker Questionnaire*, PLANET TRACKER, <https://planet-tracker.typeform.com/IUUFishing?typeform-source=planet-tracker.org> [<https://perma.cc/CYB8-BGPE>]. The questionnaire asks investors if a company has been publicly accused of IUU fishing or other fisheries-related crimes; it also asks about the transparency of vessel ownership, if a vessel has changed their flags several times, and if they have an IMO number. *Id.*

In 2017, Oceana, alongside the UN Environment's Principles for Sustainable Insurance Initiative published a statement for insurance companies to signal their support for reducing and eliminating IUU fishing by encouraging reduction measures and by encouraging "appropriate risk management protocols and effective due diligence procedures to help reduce the risk of insuring vessels or companies that are acting contrary to agreed international governance frameworks and international law covering IUU fishing."¹⁵¹ This statement was created because "[i]nsuring IUU fishing activities may expose insurers to prosecution that, upon conviction, may result in financial or custodial penalties."¹⁵² Insurance companies that, knowingly or not, insure vessels that engage in IUU fishing activities expose themselves to various risks that include: increased likelihood of claims, increased possibility of association with other crimes, increased exposure to fraud, increased exposure to legal liabilities, and increased possibility of losses due to reputation damage.¹⁵³ For the insurance company faced with the decision to insure a vessel that has been accused of IUU fishing, or a company who knowingly or unknowingly engages in IUU fishing, the decision to deny insurance coverage to these entities would completely eliminate the risk of liability for the insurance company. Other risk control options for insurance companies include consulting risk assessment checklists while conducting due diligence measures, excluding coverage to IUU fishing vessels, "incentivizing policy and regulatory alignment with international standards on responsible and sustainable fisheries management," and promoting "transparency within global maritime industries."¹⁵⁴

CONCLUSION

The current regulatory regime is not enough to mitigate the effects of illegal fishing on the global economy, and the economies of developed and developing nations. Various regulations and declarations have been published, beginning in the 1970s, that have aimed to deter actors from engaging in IUU fishing activities. Those have, to a certain extent, been largely unsuccessful due to the complexity of promulgating regulations on the high seas, the complexity of jurisdiction for vessels flying FOCs, and

151. Oceana Assisting Ocean Stewardship Through Marine Insurance: The Insurance Industry's Statement Against Illegal Unreported and Unregulated (IUU Fishing) (2019).

152. UNEP FINANCE INITIATIVE, ET AL., RISK ASSESSMENT AND CONTROL OF IUU FISHING FOR THE MARINE INSURANCE INDUSTRY 2 (2019).

153. *Id.* at 3-5.

154. *Id.* at 7.

because of short-term incentives to procure a cheaper fish supply through illegal, unreported, or unregulated methods. These complexities drive the continued existence of IUU fishing in communities that rely on the continued availability of marine resources for survival. IUU activities endanger the stability of small, and large, populations as well as individual families whose income stems from small-scale fishing activities.

To further actionable change, corporations must take charge to better track their supply of marine resources to ensure that their suppliers are not sourcing materials from IUU sources. The United States may consider promulgating legislation that would mandate the disclosure of corporate risks from illegal fishing for companies who are known to engage in those practices through third-party suppliers. This would disincentivize the capture of fish from illegal sources because of potential impact to the corporation's reputation and economic stability. Furthermore, it would help to promote sustainable fisheries creating more supply chain stability for corporations.

The COVID-19 pandemic has illustrated, globally, the effect an unstable supply chain can have on national stability and the national, and global, economy.¹⁵⁵ With the increasing effects of climate change, this instability will continue to become an ever-present force in the lives of people around the world and will impact how corporations do business; ensuring a sustainable source of marine living organisms can minimize the impact this instability of resources may have on communities that depend on them and may minimize the impact on corporations who rely on a steady stream of marine living resources to function.

Corporations must take charge of their own practices that help to perpetuate IUU fishing even in the absence of applicable regulation, or lax regulation. This does not require any reinvention of the wheel; there are various tools and processes in place that corporations use in other aspects of their operations, whether regulated or not, that would further the transparency of their operations impacting marine resources through IUU fishing. While regulatory requirements such as risk disclosure requirements do require an affirmative act on the part of an executive agency, corporations may begin to utilize blockchain technology to track where their supply of marine resources are coming from or risk assessments to determine their own liability from exposure to IUU fishing activities. Furthermore, conducting supply chain audits to examine

155. See Susan Helper & Evan Soltas, *Why the Pandemic Has Disrupted Supply Chains*, WHITE HOUSE (June 17, 2021), <https://www.whitehouse.gov/cea/written-materials/2021/06/17/why-the-pandemic-has-disrupted-supply-chains> [https://perma.cc/QD45-5VZP].

corporate risks from a corporation's supply chain may help to elucidate a corporation's activities that may impact efforts to prevent and deter IUU fishing.

The world is facing a tipping point regarding the issue of climate change; the latest Intergovernmental Panel on Climate Change (IPCC) Working Group Report, published in early 2022, laid out the various risks faced by the global community if climate change is not addressed immediately.¹⁵⁶ There is an intrinsic link between climate change and the health of our oceans, as described above.¹⁵⁷ An already observed impact from climate change is “substantial damages, and increasingly irreversible losses, in terrestrial, freshwater and coastal and open ocean marine ecosystems.”¹⁵⁸ If regulations around IUU fishing do not become more enforceable, more far-reaching and more disincentivizing than global fishery populations will be fighting a losing battle between the effects of climate change and the overfishing of their waters. The effects of IUU fishing affects everyone globally and should be addressed in the public and private sector with more force by world leaders.

156. IPCC, CLIMATE CHANGE 2022 IMPACTS, ADAPTATION AND VULNERABILITY: SUMMARY FOR POLICYMAKERS 16 (2022).

157. *Infra* Part II-A.

158. IPCC, *supra*, note 156, at 11.