

ARTICLE

COMBATTING IUU FISHING AND IMPROVING THE LONG-TERM CONSERVATION OF FISH STOCKS: INCREASING TRANSPARENCY IN REGIONAL FISHERIES MANAGEMENT ORGANIZATIONS

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The United Nations, INTERPOL, and others have urged the international community to increase transparency in fisheries management because illegal, unreported, and unregulated fishing (“IUU”) continues its pervasive and destructive influence on the long-term conservation of fish stocks. Yet, IUU fishers are abetted by the lack of transparency within regional fisheries management organizations (“RFMOs”). For example, none of the RFMOs assessed in this Article—the IATTC, ICCAT, NPFC, and WCPFC—require identification of the beneficial vessel owners, thus allowing vessel owners to hide behind the veil of shell corporations and making prosecution for fisheries offenses extremely difficult. None make vessel monitoring data publicly available, and only the WCPFC requires submission of operational data needed by fisheries managers in order to accurately assess fish stocks. None are transparent about compliance matters, making it impossible to verify whether deterrent-level penalties are assessed against vessels found to be in noncompliance with conservation and management measures. To combat IUU fishing, arrest the continuing decline of fish stocks, and enhance the long-term conservation of fish stocks, RFMOs must increase transparency and, given the current state of global fish stocks, accelerate the speed with which they develop more transparent processes. With

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greater transparency, the veils of secrecy that hide IUU fishing in Earth's vast oceans will begin to fall, bringing those fishers operating in the shadows into the light.

I. INTRODUCTION	968
II. FISHERIES MANAGEMENT BY RFMOS	973
A. IATTC	976
B. ICCAT	977
C. NPFC	979
D. WCPFC.....	981
III. THE IMPORTANCE OF TRANSPARENCY IN FISHERIES MANAGEMENT	984
IV. TRANSPARENCY IN RFMOS.....	988
A. Vessel Registration.....	989
1. The Need.....	989
2. The RFMO Rules	990
B. Vessel Monitoring Systems.....	995
1. The Need.....	995
2. The RFMO Rules	996
C. Vessel-Based Catch Landing Data	1000
1. The Need.....	1000
2. The RFMO Rules	1002
D. Compliance Monitoring	1008
1. The Need.....	1008
2. The RFMO Rules	1009
V. IMPROVING TRANSPARENCY TO MINIMIZE IUU FISHING AND ENSURE LONG-TERM SUSTAINABILITY OF FISH STOCKS.....	1015
A. Vessel Registration.....	1017
B. VMS	1019
C. Vessel-based Catch Landing Data.....	1020
D. Compliance Mechanisms.....	1022
VI. CONCLUSION.....	1025

I. INTRODUCTION

The global catch of fisheries resources is massive and continues to grow. Total production of fisheries resources rose

from 145.9 million tonnes in 2009 to 178.5 million tonnes in 2018,¹ with a total first sale value of US\$401 billion.² Global exports of fish products have also continued to grow at roughly 8% per year, and reached US\$164 billion in 2018.³ In the Western and Central Pacific Ocean, home to perhaps the most valuable fisheries in the world, fishers earned more than US\$5 billion, and the total catch retailed for more than \$22.68 billion in 2014.⁴ Fishing and aquaculture are also critical sources of food and livelihoods: 10% to 12% of the global population relies on fisheries resources for their livelihoods,⁵ and 3.3 billion people depend on fish products for nearly 20% of their intake of animal proteins.⁶ Global fisheries are clearly “among the most critical industries for food security, poverty relief and human prosperity worldwide.”⁷

Yet, the sustainability of the catch and food security for millions is undermined by pervasive illegal, unreported and unregulated (“IUU”) fishing. Researchers estimate that somewhere between US\$10 million and US\$23.5 billion is lost each year to IUU fishing,⁸ with some considering the US\$23.5 billion figure to be a conservative estimate.⁹ IUU fishers have preyed on the Pacific region, home to small island developing States that are dependent on fisheries resources; IUU fishing in

1. See FAO, STATE OF THE WORLD FISHERIES AND AQUACULTURE 2016, at 4, tbl. 1 (2016), <http://www.fao.org/publications/sofia/2016/en/> [https://perma.cc/N9S8-RK4B]; FAO, STATE OF THE WORLD FISHERIES AND AQUACULTURE 2020, at 3, tbl. 1 (2020), <http://www.fao.org/3/ca9229en/ca9229en.pdf> [https://perma.cc/52F7-SSKQ].

2. FAO 2020, *supra* note 1, at 2.

3. See *id.* at 8.

4. See *Netting Billions: A Valuation of Tuna in the Western and Central Pacific Ocean*, PEW CHARITABLE TRS. (Sept. 23, 2016), <https://www.pewtrusts.org/en/research-and-analysis/fact-sheets/2016/09/netting-billions-a-valuation-of-tuna-in-the-western-and-central-pacific-ocean> [https://perma.cc/7C46-GLNH].

5. FAO, THE STATE OF THE WORLD FISHERIES AND AQUACULTURE 2014, at 32 (2014), <http://www.fao.org/3/a-i3720e.pdf> [https://perma.cc/4HD5-W6T8].

6. FAO 2020, *supra* note 1, at 5.

7. NAFIG & INTERPOL, *Chasing Red Herrings: Flags of Convenience and the Impact on Fisheries Crime Law Enforcement*, at 14 (2017), <https://www.interpol.int/en/content/download/5146/file/Chasing%20Red%20Herrings%20Report.pdf> [https://perma.cc/U94Z-UTQT].

8. David J. Agnew et al., *Estimating the Worldwide Extent of Illegal Fishing*, PLOS ONE Feb. 25, 2009, at 1, 4, <https://doi.org/10.1371/journal.pone.0004570> [https://perma.cc/YE7C-PP9Q].

9. See, e.g., *Chasing Red Herrings*, *supra* note 7, at 13.

the tuna fisheries alone costs these small Pacific island nations approximately US\$600 million each year.¹⁰ An assessment of the Pacific Ocean's six major fishing areas indicates that roughly 24% of the total catch is unreported, with lost gross revenues of US\$4.3 billion to US\$8.3 billion per year.¹¹

IUU fishing destabilizes food security,¹² diminishes fisheries resources,¹³ and undermines monitoring, control, and surveillance ("MCS") regimes of regional fisheries management organizations ("RFMOs").¹⁴ Although concerns about IUU fishing typically focus on fishing by vessels flagged by non-member States, the vessels of RFMO members also engage in IUU fishing, all to the detriment of those fishing legally. For fisheries managers, IUU fishing of all types "adds pressure to already overexploited fish stocks, while simultaneously compromising efforts to rebuild them based on scientific advice."¹⁵

IUU fishers are abetted by the lack of transparency within RFMOs. For example, the Western and Central Pacific Fisheries Commission ("WCPFC") allows member States to include

10. See MRAG ASIA PACIFIC, TOWARDS THE QUANTIFICATION OF ILLEGAL, UNREPORTED AND UNREGULATED (IUU) FISHING IN THE PACIFIC ISLANDS REGION, § 3.1, 36 (2016), <https://www.ffa.int/files/FFA%20Quantifying%20IUU%20Report%20-%20Final.pdf> [<https://perma.cc/HC74-EMV2>] (estimating the total volume of IUU caught tuna in the Pacific region at 306,440t with an ex-vessel value of \$616.11 million).

11. See Manaswita Konar et al., *The Scale of Illicit Trade in Pacific Ocean Marine Resources 1* (Oct. 2019) (Working Paper: World Resources Institute), www.wri.org/publication/scale-illicittrade-pacific-ocean [<https://perma.cc/JAD9-KWM6>].

12. See Food and Agric. Org. United Nations [FAO], *Illegal, Unreported, and Unregulated Fishing*, 1 (2016), <http://www.fao.org/3/a-i6069e.pdf> [<https://perma.cc/5B78-RFCY>] ("IUU fishing therefore threatens livelihoods, exacerbates poverty, and augments food insecurity.").

13. *Id.* ("Fisheries resources available to bona fide fishers are poached in a ruthless manner by IUU fishing, often leading to the collapse of local fisheries, with small-scale fisheries in developing countries proving particularly vulnerable.").

14. See generally Food and Agric. Org. United Nations [FAO], *Implementation of the International Plan of Action to Deter, Prevent and Eliminate Illegal, Unreported and Unregulated Fishing*, §§ 7–8 FAO Technical Guideline for Responsible Fisheries 9 (2002), <http://www.fao.org/3/a-y3536e.pdf> [<https://perma.cc/S38T-9JGW>].

15. Environmental Justice Found. et al., *Achieving Transparency and Combating IUU Fishing in RFMOs, Reinforcing the EU's Multilateral Actions to Promote Best Practices*, 3 (May 2019), https://d2ouvy59p0dg6k.cloudfront.net/downloads/rfmo_report_en_may2019.pdf [<https://perma.cc/2M55-M6W4>].

fisheries data in a non-public portion of their annual reports.¹⁶ At the national level, some member States, including Japan, the Republic of Korea, and other Asian States, have argued that privacy laws prevent them from providing operational level data to the WCPFC.¹⁷ As a result of this lack of transparency, it is difficult to assess compliance with the WCPFC's conservation and management measures ("CMMs"), total catch levels, and the validity of any catch limits.¹⁸

For these reasons, this Article assesses the provisions of relevant RFMOs that may implicate transparency and privacy concerns: vessel registration, vessel monitoring systems ("VMS"), vessel-based catch landing data, and compliance monitoring.¹⁹ In particular, it describes the responsibilities of members of the Inter-American Tropical Tuna Commission ("IATTC"),²⁰

16. WCPFC, *Rules and Procedures for the Protection, Access to, and Dissemination of Data Compiled by the Commission*, ¶¶ 23–24, App. 2 (Dec. 2007), <https://www.wcpfc.int/file/300/download?token=FKgU-U7b> [<https://perma.cc/E9DA-C76>] (stating that Part 2 of the Annual Report is an example of non-public domain data).

17. See generally Chris Wold et al., *Bringing Pacific Bluefin Tuna Back from The Brink: Ensuring the Submission of Operational Data to The Western and Central Pacific Fisheries Commission*, 6 MICH. J. ENVTL. & ADMIN. L. 239 (2016), <https://repository.law.umich.edu/cgi/viewcontent.cgi?article=1059&context=mjæl> [<https://perma.cc/36VV-ZQMU>].

18. See *id.* at 245–47.

19. Other transparency issues have been discussed in other articles. See, e.g., Chris Wold & Alfred "Bubba" Cook, *Shining a Light on High Seas Transshipment: The Need to Strengthen Observer Reporting of Transshipments in the Western and Central Pacific Fisheries Commission*, 26 HASTINGS ENVTL. L. J. 183 (2020) (describing the need for onboard observers to monitor high seas transshipment of fish from a fishing vessel to a carrier vessel). In addition, it is well known that the placement of onboard observers on longline vessels is woefully inadequate. See, e.g., Greenpeace, *Briefing to TCC10, WCPFC-TCC10-2014-OP07*, <https://www.wcpfc.int/system/files/WCPFC-TCC10-2014-OP07%20Greenpeace%20briefing%20paper%20to%20TCC10.pdf> [<https://perma.cc/4LJH-QW7M>] (last visited Mar. 25, 2021) ("observer coverage on longline vessels, at only around 2%, is woefully inadequate.").

20. Inter-American Tropical Tuna Convention, Costa Rica-U.S., May 31, 1949, 80 U.S.T. 230, <http://www.iattc.org/> (entered into force Mar. 3, 1950) [hereinafter IATTC Convention]. The IATTC and its rules for fishing were updated in the Convention for Strengthening the Inter-American Tropical Tuna Convention, June 27, 2003, *available at* <https://www.iattc.org/IATTCdocumentationENG.htm> [<https://perma.cc/G4Y9-Z9PZ>] (entered into force on Aug. 27 2010) [hereinafter Antigua Convention]. China, Japan, the Republic of Korea and Chinese Taipei are IATTC members. Antigua Convention, IATTC, <https://www.iattc.org/IATTCdocumentationENG.htm> [<https://perma.cc/PL8R-W5TJ>] (last visited Feb. 27, 2021) (entered into force Mar. 3, 1950).

International Commission for the Conservation of Atlantic Tuna (“ICCAT”),²¹ North Pacific Fisheries Commission (“NPFC”),²² and WCPFC²³ because each of these RFMOs includes participation by the four major Asian fleets that often claim that privacy concerns prevent them from submitting such information.

Part II begins by describing the evolution of the rules relating to fisheries management under international law within the context of declining fish stocks, including through the four RMFOs assessed in this Article. Part III reviews the importance of transparency in fisheries management. Part IV describes the importance of transparency with respect to vessel registration, VMS, the provision of catch data, and compliance monitoring. It then describes how the provisions of the IATTC, ICCAT, NPFC, and WCPFC with respect to these issues take into account the need for transparency. Part V concludes that, even if RMFO members, such as the Republic of Korea and Chinese Taipei, are complying with their obligations to submit information and thereby overcoming whatever privacy issues they may have, the

21. International Convention for the Conservation of Atlantic Tunas art. III, May 14, 1966, 20 U.S.T. 2887, 673 U.N.T.S. 63, <http://www.iccat.es/Documents/Commission/BasicTexts.pdf> [<https://perma.cc/8SU5-L8SD>] (entered into force Mar. 21, 1969) [hereinafter ICCAT]. China, Japan, and the Republic of Korea are ICCAT members, and Chinese Taipei is a cooperating non-member. *Contracting Parties*, ICCAT, <https://www.iccat.int/en/contracting.html> [<https://perma.cc/8SU5-L8SD>] (last visited Feb. 27, 2021).

22. The NPFC North Pacific Fisheries Commission (“NPFC”) was established by the Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean. Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean, art. 5, Feb. 24, 2012, <https://www.npfc.int/system/files/2017-01/Convention%20Text.pdf> [<https://perma.cc/ZB4T-RE34>]. China, Japan, the Republic of Korea, and Chinese Taipei are all members. *About NPFC*, NPFC, https://www.npfc.int/about_npfc [<https://perma.cc/P4MX-GXG4>] (last visited Feb. 27, 2021) (entered into force July 19, 2015).

23. The Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western Pacific Ocean (“WCPFC Convention”) establishes the Western and Central Pacific Fisheries Commission (“WCPFC”). Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean, Sept. 5, 2000, 2275 U.N.T.S. 40532, <https://www.wcpfc.int/system/files/text.pdf> [<https://perma.cc/F7P7-YE88>] [hereinafter WCPFC Convention] (entered into force June 19, 2004). China, Japan, the Republic of Korea, and Chinese Taipei are WCPFC members. *About WCPFC*, WCPFC, <https://www.wcpfc.int/about-wcpfc> [<https://perma.cc/XES6-JCWG>] (last visited Feb. 27, 2021).

RFMOs are not doing enough to ensure that fisheries information is publicly disclosed. This lack of transparency helps facilitate IUU fishing and undermines the long-term sustainability of the fish stocks these RFMOs pledged to conserve and manage.

II. FISHERIES MANAGEMENT BY RFMOS

As fishers have pulled more fish out of the marine environment, fish stocks have declined. The Food and Agriculture Organization of the United Nations (“FAO”) estimates that the percentage of stocks fished within biologically sustainable levels has decreased from 90% in 1974 to 65.8% in 2017.²⁴ At the same time, the percentage of overfished stocks—what the FAO describes as “stocks fished at biologically unsustainable levels”—has increased from 10% in 1974 to 34.2% in 2017.²⁵ The FAO estimates that 59.6% of stocks are fully exploited.²⁶

The United Nations Convention on the Law of the Sea (“UNCLOS”)²⁷ was intended to, among other things, arrest overfishing.²⁸ In the period following World War II, ever-larger fishing vessels with ever-larger fishing nets roamed the oceans unrestrained, depleting stocks in ways that Hugo Grotius could never have imagined when he declared the oceans and their bounty “limitless” and thus free for use by all subject to the “freedom of the seas.”²⁹

24. FAO 2020, *supra* note 1, at 47.

25. *Id.*

26. *Id.*

27. The United Nations Convention on the Law of the Sea art. 94, Dec. 10, 1982, 1833 U.N.T.S. 3, U.N. Doc. A/CONF.62/122, http://www.un.org/depts/los/convention_agreements/convention_overview_convention.htm [<https://perma.cc/F97T-89H5>] [hereinafter UNCLOS] (entered into force Nov. 16, 1994).

28. See *Oceans and the Law of the Sea*, UNITED NATIONS, <https://www.un.org/en/sections/issues-depth/oceans-and-law-sea/> [<https://perma.cc/YG85-QWKW>] (last visited Feb. 27, 2021) (noting that one motivation for negotiating UNCLOS was “a growing concern over the toll taken on coastal fish stocks by long-distance fishing fleets.”).

29. The Dutch scholar Hugo Grotius in 1609 in his book, *Mare Liberum*, argued that peaceful navigation and fishing on the high seas was a basic right of nations since natural law forbade ownership of the commons:

Among the innovations of UNCLOS was the extension of a coastal State's territorial seas from three to twelve nautical miles³⁰ from a coastal State's coastline within which it would have sovereignty.³¹ UNCLOS further allowed a coastal State to establish exclusive economic zones ("EEZs") up to 200 nautical miles from its coastline.³² Within its EEZs, the coastal State would have sovereign rights to explore, exploit, conserve, and manage living and non-living resources,³³ consistent with principles of maximum sustainable yield³⁴ and optimum utilization.³⁵

In so doing, UNCLOS brought 40% of the marine environment under the jurisdiction and control of coastal States.³⁶ Expanded territorial seas and sovereign rights in EEZs brought the vast majority of fish stocks within the management authority of coastal States; more than 90% of fish are caught within EEZs.³⁷ This should have led to improvements in the

The sea is common to all because it is so limitless that it cannot become a possession of one, and because it was adapted for the use of all, whether we consider it from the point of view of navigation or of fisheries.

HUGO GROTIUS, *MARE LIBERUM* 28 (1609). For a history of the negotiations of UNCLOS, see *The United Nations Convention on the Law of the Sea (A Historical Perspective)*, UNITED NATIONS (2012), https://www.un.org/Depts/los/convention_agreements/convention_historical_perspective.htm [<https://perma.cc/B5HX-4R23>].

30. UNCLOS, *supra* note 27, art. 3.

31. *Id.* art. 2.

32. *Id.* art. 57. UNCLOS defines an exclusive economic zone as the area up to 200 nautical miles from the baselines from which the breadth of the territorial sea is measured in which coastal States have, among other things, "sovereign rights for the purpose of exploring and exploiting, conserving[,] and managing the natural resources, whether living or non-living, of the waters superjacent to the sea-bed and of the sea-bed and its subsoil." *Id.* arts. 55-57.

33. *Id.* art. 56.

34. *Id.* art. 61(3).

35. *Id.* art. 62(1).

36. Sarika Cullis-Suzuki & Daniel Pauly, *Failing the High Seas: A Global Evaluation of Regional Fisheries Management Organizations*, 34 *MARINE POL'Y* 1036, 1036 (2010), <https://doi.org/10.1016/j.marpol.2010.03.002> [<https://perma.cc/43ND-JS3W>].

37. Nandini Ramesh, *The Small World of Global Marine Fisheries: The Cross-boundary Consequences of Larval Dispersal*, 364 *SCI.* 1192, 1192 (2019), <https://science.sciencemag.org/content/364/6446/1192.full> [<https://perma.cc/Q27C-HEZB>]. Another study found that:

Of the 1,406 taxa analyzed, 585 were caught both within EEZs and high seas, while 802 were caught only within EEZs and only 19 exclusively in the high seas. In other words, ~42% of the taxa can be considered "straddling", while only ~1.5% are exclusively high seas. The importance of straddling taxa

conservation status of fish stocks, because coastal States should have had an interest in the long-term conservation of the stocks.³⁸

For other stocks—“straddling stocks”³⁹ and “highly migratory fish stocks”⁴⁰—UNCLOS imposes on coastal States and States whose nationals fish for those stocks a duty to cooperate through appropriate RFMOs.⁴¹ Virtually all of the high seas are now covered by at least one RFMO.⁴² An important role of RFMOs is to develop CMMs for the sustainable management of straddling and highly migratory fish stocks, including through catch quotas, catch allocation, catch document schemes, vessel registration requirements, information exchange mechanisms, and monitoring and enforcement rules.⁴³ The four RFMOs assessed

increases greatly when viewed in terms of global catch amount (67%) and landed value (72%).

U. Rashid Sumaila et al., *Winners and Losers in a World Where the High Seas Is Closed to Fishing*, SCI. REP. (Feb. 2015), <https://www.nature.com/articles/srep08481> [<https://perma.cc/MXC9-EK8K>].

38. Annick van Houtte, *Legal Aspects of the Management of Shared Fish Stocks: A Review*, in PAPERS PRESENTED AT THE NORWAY-FAO EXPERT CONSULTATION ON THE MANAGEMENT OF SHARED FISH STOCKS - BERGEN, NORWAY, 7-10 OCTOBER 2002, FIPP/R695 (Suppl.) (2003), <http://www.fao.org/3/Y4652E/y4652e04.htm#bm04> [<https://perma.cc/36S3-SKAZ>] (“The coastal State, whether or not it is interested in the exploitation of the straddling fish stock on the high seas, has always an interest in the long term viability of the stock.”).

39. Straddling stocks are those that move between the EEZs of two or more states or from an EEZ onto the high seas. UNCLOS, *supra* note 27, art. 63.

40. Highly migratory fish stocks are identified in UNCLOS Annex I and include many tuna species, as well as many sharks and cetaceans, among other species. *Id.* art. 64.

41. *Id.* arts. 63, 64. These two articles refer to “appropriate subregional or regional organizations” for straddling stocks and “appropriate international organizations” for highly migratory fish stocks. The generic term for these types of bodies is regional fisheries management organization, or RFMO.

42. Cullis-Suzuki & Pauly, *supra* note 36, at 1036-37. For a pictorial illustration of the dozens of RFMOs, see MIKE BERGH ET AL., A REVIEW AND ASSESSMENT OF THE ECONOMIC, SOCIAL AND ENVIRONMENTAL IMPACT OF ILLEGAL, UNREPORTED AND UNREGULATED FISHING IN AFRICA 153, fig. 13.1 (2016), https://www.researchgate.net/profile/Philippe_Lallemand2/publication/308514276_A_review_and_assessment_of_the_economic_social_and_environmental_impact_of_illegal_unreported_and_unregulated_fishing_in_Africa/links/57fb59ce08ae8da3ce5e7b79/A-review-and-assessment-of-the-economic-social-and-environmental-impact-of-illegal-unreported-and-unregulated-fishing-in-Africa.pdf?origin=publication_detail [<https://perma.cc/4MV7-4MFN>].

43. *Illegal, Unreported, and Unregulated (IUU) Fishing, Regional Mechanisms*, FAO, <http://www.fao.org/iuu-fishing/regional-mechanisms/en/> [<https://perma.cc/F8FJ-3L2S>] (last visited Feb. 27, 2021).

in this Article have adopted a range of CMMs⁴⁴ to help ensure sustainable fish catches of straddling and highly migratory fish stocks.

A. IATTC

In 1949, the Inter-American Tropical Tuna Convention established the Inter-American Tropical Tuna Commission (“IATTC”) to manage tuna and tuna-bait species in the eastern Pacific Ocean.⁴⁵ In 2003, IATTC members updated its rules in the Convention for Strengthening the Inter-American Tropical Tuna Convention, more commonly referred to as the Antigua Convention.⁴⁶ The Antigua Convention applies to tuna, tuna-like species, and other species taken by vessels fishing for those species⁴⁷ in the IATTC convention area known informally as the Eastern Pacific Ocean.⁴⁸

The IATTC’s twenty-one members and four cooperating non-members⁴⁹ (collectively referred to as CPCs) must ensure the “long-term conservation and sustainable use” of fish stocks

44. The term “conservation and management measures”—CMMs—is both the generic term for binding rules to manage fish stocks and the specific term used in the NPFC and WCPFC. The IATTC, however, uses the term “Resolution” and ICCAT uses “Recommendation” to indicate a binding CMM. This Article uses CMM for consistency and simplicity.

45. IATTC Convention, *supra* note 20, art. II(1).

46. Antigua Convention, *supra* note 20, Introduction.

47. *Id.* art. I(1).

48. The convention area is defined as:

The area of application of the Convention (“the Convention Area”) comprises the area of the Pacific Ocean bounded by the coastline of North, Central, and South America and by the following lines:

- i. the 50°N parallel from the coast of North America to its intersection with the 150°W meridian;
- ii. the 150°W meridian to its intersection with the 50°S parallel; and
- iii. the 50°S parallel to its intersection with the coast of South America.

Id. art III.

49. IATTC, <http://www.iattc.org/HomeENG.htm> [https://perma.cc/5X4B-5HT8] (last visited Feb. 27, 2021). The 21 members are Belize, Canada, China, Colombia, Costa Rica, Ecuador, El Salvador, the European Union, France, Guatemala, Japan, Kiribati, the Republic of Korea, Mexico, Nicaragua, Panama, Peru, Chinese Taipei, the United States, Vanuatu, and Venezuela. four cooperating non-members are Bolivia, Chile, Honduras, Indonesia and Liberia. *Id.* “Fishing entities” like Chinese Taipei may become IATTC members. Antigua Convention, *supra* note 20, arts. XXI, XXVII.

covered by the convention in the convention area.⁵⁰ To achieve that goal, the IATTC is directed to adopt CMMs to prevent or eliminate over-fishing and excess fishing capacity⁵¹ by setting total allowable catches, allocating the catch, and determining a level of fishing effort.⁵² CPCs must also adopt CMMs “to prevent, deter and eliminate activities that undermine the effectiveness” of IATTC CMMs.⁵³ The IATTC has adopted a range of measures to combat IUU fishing, including CMMs concerning vessel registration,⁵⁴ VMS,⁵⁵ and other things.⁵⁶ Underpinning the fulfillment of these goals is the establishment of rules for the “collection, verification, and timely exchange and reporting of data” concerning the stocks covered by the Antigua Convention.⁵⁷

B. ICCAT

The International Convention for the Conservation of Atlantic Tunas establishes the International Commission for the Conservation of Atlantic Tuna (“ICCAT”)⁵⁸ to manage tuna and tuna-like species⁵⁹ in its convention area, defined as “all waters of

50. Antigua Convention, *supra* note 20, arts. II, VII(1)(c).

51. *Id.* art. VII(1)(h).

52. *Id.* art. VII(1)(l).

53. *Id.* art. VII(1)(v).

54. IATTC, *Regional Vessel Register*, Resolution C-18-06 (2018), http://www.iattc.org/PDFFiles/Resolutions/IATTC/_English/C-18-06-Active_Amends%20and%20replaces%20C-14-01%20Regional%20Vessel%20Register.pdf [<https://perma.cc/84J6-VGR8>].

55. IATTC, *Establishment of a Vessel Monitoring System*, Resolution C-14-02 (2014), http://www.iattc.org/PDFFiles/Resolutions/IATTC/_English/C-14-02-Active_Amends%20and%20replaces%20C-04-06%20Vessel%20Monitoring%20System.pdf [<https://perma.cc/55YY-9QMF>].

56. See generally *Active IATTC and AIDCP Resolutions and Recommendations*, IATTC, <http://www.iattc.org/ResolutionsActiveENG.htm> [<https://perma.cc/BJ4F-J5K6>] (last visited Feb. 27, 2021).

57. Antigua Convention, *supra* note 20, art. VII(1)(b)(i); IATTC, *Data Provision*, Resolution C-03-05 (2003), http://www.iattc.org/PDFFiles/Resolutions/IATTC/_English/C-03-05-Active_Provision%20of%20data.pdf [<https://perma.cc/BJ4F-J5K6>].

58. ICCAT, *supra* note 21, art. III(1).

59. The convention defines tuna and tuna-like species to mean “(Scombriformes with the exception of the families Trichiuridae and Gempylidae and the genus Scomber) and such other species of fishes exploited in tuna fishing.” *Id.*

the Atlantic Ocean, including the adjacent Seas.”⁶⁰ ICCAT now includes fifty-three members and six cooperating non-members⁶¹ (collectively referred to as CPCs) that have agreed to cooperate to manage covered fish stocks so as to “permit the maximum sustainable catch for food and other purposes.”⁶²

To fulfill that goal, ICCAT is directed to adopt CMMs designed to achieve the maximum sustainable catch.⁶³ CPCs also agree to take action to enforce the convention⁶⁴ and to provide “any available statistical, biological and other scientific information the Commission may need for purposes of this Convention.”⁶⁵ Also, the ICCAT convention does not speak directly to combatting IUU fishing. Nonetheless, ICCAT CMMs seek to prevent or eliminate IUU fishing in numerous ways, including by requiring VMS,⁶⁶ prohibiting landings by vessels not included in the ICCAT vessel record,⁶⁷ and establishing an observer program,⁶⁸ among many other things.

60. *Id.* art. I. A visual depiction of the convention area can be found at *Convention Area*, ICCAT, <https://www.iccat.int/img/misc/ConvArea.jpg> [<https://perma.cc/5XP5-GFFU>] (last visited Feb. 27, 2021).

61. The list of 53 members can be found at *Contracting Parties*, ICCAT, <https://www.iccat.int/en/contracting.html> [<https://perma.cc/P8AF-Y8BU>] (last visited Feb. 27, 2021). The six cooperators are Bolivia, Chinese Taipei, Suriname, Guyana, Costa Rica, and Colombia. *Id.* Unlike the other RFMOs reviewed in this report, Chinese Taipei must apply annually to ICCAT to maintain its cooperating status. See ICCAT, *Criteria for Attaining the Status of Cooperating Non-contracting Party, Entity or Fishing Entity in ICCAT*, Recommendation 03-20, ¶ 6 (2003), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2003-20-e.pdf> [<https://perma.cc/6LPM-3F42>] (stating that “Cooperating non-Contracting Parties, Entities or Fishing Entity status shall be annually reviewed and renewed unless revoked by the Commission due to non-compliance with ICCAT conservation and management measures.”).

62. ICCAT Convention, *supra* note 21, preamble.

63. *Id.* art. VIII(1).

64. *Id.* art. IX(1).

65. *Id.* art. IX(2).

66. See, e.g., ICCAT, *Data Exchange Format and Protocol in Relation to the Vessel Monitoring System (VMS) for the Bluefin Tuna Fishery in the ICCAT Convention Area*, Recommendation 07-08 (2008), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2007-08-e.pdf> [<https://perma.cc/RV2K-Y9W7>].

67. ICCAT, *The Establishment of an ICCAT Record of Vessels 20 Metres in Length Overall or Greater Authorized to Operate in the Convention Area*, Recommendation 13-13, ¶ 7(a) (2014), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2013-13-e.pdf> [<https://perma.cc/2TQE-YL6X>].

68. ICCAT, *Minimum Standards for Fishing Vessel Scientific Observer Program*, Recommendation 16-14 (2017),

C. NPFC

In 2006, negotiations began to create a new RFMO to “bridge the gap” in the management of deep-sea species and the marine environment in the north Pacific.⁶⁹ These negotiations culminated in the Convention on the Conservation and Management of the High Seas Fisheries Resources in the North Pacific Ocean (“NPFC Convention”), which establishes the North Pacific Fisheries Commission (“NPFC”)⁷⁰ to manage bottom fisheries and other fisheries not managed by other RFMOs in the high seas areas of the North Pacific Ocean.⁷¹ The NPFC now manages squid, chub mackerel, and North Pacific armorhead, among other species.⁷² Although the NPFC does not manage tuna and other fish managed by the WCPFC and IATTC,⁷³ the area it

<https://www.iccat.int/Documents/Recs/compendiopdf-e/2016-14-e.pdf>
[<https://perma.cc/H4K4-CGQ3>].

69. *About NPFC*, NPFC, https://www.npfc.int/about_npfc
[<https://perma.cc/G9N4-9A9S>] (last visited Feb. 9, 2021).

70. NPFC Convention, *supra* note 22, art. 5. The members of the NPFC are Canada, China, Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America and Vanuatu. *The North Pacific Fisheries Commission (NPFC)*, NPFC, <https://www.npfc.int/> [<https://perma.cc/PKB2-YZ2F>] (last visited Feb. 9, 2021). It specifically includes provisions to allow non-States such as Chinese Taipei to participate as “fishing entities.” NPFC Convention, *supra* note 22, art. 5(2).

71. The NPFC Convention defines the Convention area as follows:

This Convention applies to the waters of the high seas area of the North Pacific Ocean, excluding the high seas areas of the Bering Sea and other high seas areas that are surrounded by the exclusive economic zone of a single State. The area of application is bounded to the south by a continuous line beginning at the seaward limit of waters under the jurisdiction of the United States of America around the Commonwealth of the Northern Mariana Islands at twenty (20) degrees North latitude, then proceeding East and connecting the following coordinates:

- 20°00’00”N, 180°00’00”E/W;
- 10°00’00”N, 180°00’00”E/W;
- 10°00’00”N, 140°00’00”W;
- 20°00’00”N, 140°00’00”W; and
- Thence East to the seaward limit of waters under the fisheries jurisdiction of Mexico.

NPFC Convention, *supra* note 22, art. 4(1).

72. *Fisheries Overview*, NPFC, <https://www.npfc.int/fisheries-overview>
[<https://perma.cc/R3ZF-92G8>] (last visited Jan. 26, 2021).

73. More precisely, the NPFC manages within the convention area “fisheries resources,” defined to include

all fish, mollusks, crustaceans and other marine species caught by fishing vessels within the Convention Area, excluding:

manages overlaps significantly with that of the WCPF Convention and Antigua Convention.⁷⁴

The eight NPFC members and one cooperating non-contracting party (collectively referred to as “members and CNCs”),⁷⁵ individually or collectively, must promote optimum utilization and ensure the long-term sustainability of fisheries resources in the convention area.⁷⁶ They must prevent or eliminate overfishing and excess fishing capacity,⁷⁷ as well as ensure that complete and accurate fisheries data is collected and shared.⁷⁸

Consistent with these and other obligations, the NPFC must adopt CMMs to ensure the long-term sustainability of fisheries resources in the convention area⁷⁹ and prevent, deter, and eliminate IUU fishing.⁸⁰ Such CMMs include total allowable catch and total allowable fishing effort,⁸¹ and protections for dependent and associated species.⁸² To prevent, deter, and eliminate IUU

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- (i) sedentary species insofar as they are subject to the sovereign rights of coastal States consistent with Article 77, article 4 of [UNCLOS] and indicator species of vulnerable marine ecosystems as listed in, or adopted pursuant to [the NPFC Convention];
 - (ii) catadromous species;
 - (iii) marine mammals, marine reptiles and seabirds; and
 - (iv) other marine species already covered by pre-existing international fisheries management instruments within the area of competence of such instruments.

Id. art. 1(h).

74. *Compare supra* note 71 (defining the NPFC Convention Area), *with infra* note 97 (defining the WCPF Convention Area), *and supra* note 48 (defining the IATTC Convention Area).

75. The NPFC members are Canada, China, Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America, and Vanuatu. Panama is the only cooperating non-Contracting Party. *About NPFC*, NPFC, https://www.npfc.int/about_npfc [<https://perma.cc/T6WX-3AC3>] (last visited Jan. 26, 2021).

76. NPFC Convention, *supra* note 22, art. 3(a).

77. *Id.* art. 3(f).

78. *Id.* art. 3(g).

79. *Id.* art. 7(1)(a).

80. *Id.* art. 7(2)(d).

81. *Id.* art. 7(1)(a)-(b).

82. *Id.* art. 7(1)(c).

fishing, the NPFC has adopted CMMs relating to vessel registration,⁸³ VMS,⁸⁴ and transshipment,⁸⁵ among others.⁸⁶

D. WCPFC

Nations created the WCPFC when the annual harvest of tuna species—yellowfin, bluefin, skipjack, bigeye, and albacore—in the Western and Central Pacific Ocean jumped from approximately 440,000 tonnes to 1.8 million tonnes between 1980 and 2000.⁸⁷ Despite this large and growing catch of valuable tuna species, the fishery was not managed under a single institution or agreement.⁸⁸ After six years of negotiations, negotiators adopted the WCPF Convention,⁸⁹ which establishes the WCPFC.⁹⁰

83. See NPFC, CONSERVATION AND MANAGEMENT MEASURE ON INFORMATION REQUIREMENTS FOR VESSEL REGISTRATION, CMM 2019-01 (2019), <https://www.npfc.int/cmm-2019-01-information-requirements-vessel-registration> [<https://perma.cc/7XJ2-8XX9>].

84. See NPFC, CONSERVATION AND MANAGEMENT MEASURE ON THE VESSEL MONITORING SYSTEM (VMS), CMM 2019-12 (2019), <https://www.npfc.int/cmm-2019-12-vessel-monitoring-system-vms> [<https://perma.cc/9T2J-T4PB>].

85. See NPFC, CONSERVATION AND MANAGEMENT MEASURE ON THE INTERIM TRANSSHIPMENT PROCEDURES FOR THE NORTH PACIFIC FISHERIES COMMISSION, CCM 2016-03 (2017), <https://www.npfc.int/cmm-2016-03-interim-transshipment-procedures-npfc> [<https://perma.cc/3ZEW-P57R>].

86. See generally NPFC, *Active CMMs*, <https://www.npfc.int/active-conservation-and-management-measures> [<https://perma.cc/8P5Z-D2TE>] (last visited Feb. 27, 2021).

87. WCPFC SECRETARIAT, REVIEW CONFERENCE ON THE 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 2 (2006), https://www.un.org/Depts/los/convention_agreements/reviewconf/wcpfc_reviewconference.pdf [<https://perma.cc/666S-F3XP>].

88. *Id.* at 2 (noting that fishing was conducted under a variety of bilateral and multilateral negotiated fisheries access arrangements).

89. *About WCPFC*, WCPFC, <http://www.wcpfc.int/about-wcpfc> [<https://perma.cc/6434-4WY4>] (last visited Jan. 26, 2021). The negotiating states were Australia, Canada, China, the Cook Islands, the Federated States of Micronesia, the Fiji Islands, France, Indonesia, Japan, the Republic of Kiribati, the Republic of the Marshall Islands, the Republic of Nauru, New Zealand, Niue, the Republic of Palau, the Independent State of Papua New Guinea, the Republic of the Philippines, the Republic of Korea, the Independent State of Samoa, the Solomon Islands, the Kingdom of Tonga, Tuvalu, the United Kingdom of Great Britain and Northern Ireland in respect of Pitcairn, Henderson, Ducie and the Oeno Islands, the United States of America, and the Republic of Vanuatu. WCPFC SECRETARIAT, *supra* note 87, at 2-3 n.2.

90. To fulfill its conservation and management goals, the WCPF Convention also establishes subsidiary bodies to provide scientific advice, make recommendations to the

The WCPF Convention sets an overall goal to “ensure, through effective management, the long-term conservation and sustainable use of highly migratory fish stocks in the [W]estern and [C]entral Pacific Ocean.”⁹¹ The WCPFC’s twenty-six members,⁹² seven participating territories⁹³ and eight cooperating non-members (collectively referred to as “CCMs”)⁹⁴ adopt CMMs⁹⁵ for all stocks of highly migratory fish, such as tunas, billfish, and other species except sauries,⁹⁶ found in the convention area.⁹⁷ The

WCPFC, and assist with implementation of the Convention. WCPF Convention, *supra* note 23, art. 9(2), Annex I.

91. *Id.* art. 2.

92. The members are Australia, Canada, China, the Cook Islands, the European Union, the Federated States of Micronesia, Fiji, France, Indonesia, Japan, Kiribati, the Republic of Korea, the Republic of Marshall Islands, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Philippines, Samoa, the Solomon Islands, Chinese Taipei, Tonga, Tuvalu, the United States of America, and Vanuatu. *About WCPFC*, *supra* note 89. The WCPF Convention allows “fishing entities”—non-States such as Chinese Taipei—to participate in the WCPFC. WCPF Convention, *supra* note 23, art. 9(2), Annex I.

93. The participating territories are American Samoa, the Commonwealth of the Northern Mariana Islands, French Polynesia, Guam, New Caledonia, Tokelau, and Wallis and Futuna. *About WCPFC*, *supra* note 89.

94. The cooperating non-members are Curacao, Ecuador, El Salvador, Nicaragua, Panama, Liberia, Thailand, Vietnam. *Id.*

95. WCPF Convention, *supra* note 23, art. 10(1)(a) (giving the WCPFC authority to adopt CMMs to ensure the long-term sustainability of such stocks.”).

96. WCPF Convention, *supra* note 23, art. 3(3). The Convention defines highly migratory fish as “all fish stocks of the species listed in Annex I of the 1982 Convention occurring in the Convention Area, and such other species of fish as the Commission may determine.” *Id.* art. 1(f).

97. *Id.* arts. 3(3), 9(1). The convention area covers almost twenty percent of Earth’s surface. WCPFC, *Frequently Asked Questions and Brochures*, <https://www.wcpfc.int/frequently-asked-questions-and-brochures> [<https://perma.cc/F6CC-X93J>] (last visited Feb. 27, 2021). It ranges from Australia and the East Asian seaboard—excluding the South China Sea—in the west, to east of Hawaii in the east. The southern boundary of the convention area borders the Southern Ocean at sixty degrees south latitude and the northern boundary reaches to Alaska and the Bering Sea. For a map of the convention area, see WCPFC, *Convention Area Map*, <https://www.wcpfc.int/doc/convention-area-map> [<https://perma.cc/H9PL-MBGE>] (last visited Feb. 27, 2021). Specifically, the Convention’s jurisdiction ranges:

From the south coast of Australia due south along the 141 [degree] meridian of east longitude to its intersection with the 55 [degree] parallel of south latitude; thence due east along the 55 [degree] parallel of south latitude to its intersection with the 150 [degree] meridian of east longitude; thence due south along the 150 [degree] meridian of east longitude to its intersection with the 60 [degree] parallel of south latitude; thence due east along the 60 [degree] parallel of south latitude to its intersection with the 130 [degree] meridian of west longitude; thence due north along the 13 [degree] meridian of west longitude to its intersection with the 4 [degree] parallel of south

WCPFC has used its authority to adopt a large number of CMMs relating to catch limits for various stocks,⁹⁸ bycatch of sea turtles,⁹⁹ marking of vessels,¹⁰⁰ and many other matters.¹⁰¹ Further, although the WCPF Convention does not expressly refer to IUU fishing, it directs the WCPFC to adopt “appropriate cooperative mechanisms for effective monitoring, control, surveillance and enforcement.”¹⁰² The WCPFC has responded by adopting CMMs for vessel registration,¹⁰³ VMS,¹⁰⁴ and an onboard observer program,¹⁰⁵ among other things.¹⁰⁶

latitude; thence due west along the 4 [degree] parallel of south latitude to its intersection with the 150 [degree] meridian of west longitude; thence due north along the 150 [degree] meridian of west longitude.

WCPF Convention, *supra* note 23, art. 3(1).

98. See, e.g., WCPFC, CONSERVATION AND MANAGEMENT MEASURE FOR THE NORTH PACIFIC ALBACORE, CMM 2005–03 (2019), <https://www.wcpfc.int/doc/cmm-2019-03/conservation-and-management-measure-north-pacific-albacore> [<https://perma.cc/8Q9T-JJVK>].

99. See, e.g., WCPFC, CONSERVATION AND MANAGEMENT OF SEA TURTLES, CMM 2008–03 (2008), <https://www.wcpfc.int/doc/cmm-2008-03/conservation-and-management-sea-turtles> [<https://perma.cc/Q6F9-4WUD>].

100. See, e.g., WCPFC, SPECIFICATIONS FOR THE MARKING AND IDENTIFICATION OF FISHING VESSELS, CMM 2004–03 (2004), <https://www.wcpfc.int/doc/cmm-2004-03/specifications-marking-and-identification-fishing-vessels> [<https://perma.cc/2NFR-9CY6>].

101. See, e.g., WCPFC, *Conservation and Management Measures*, <http://www.wcpfc.int/conservation-and-management-measures> [<https://perma.cc/TVX8-Q7HK>] (last visited Feb. 13, 2021); WCPF Convention, *supra* note 23, arts. 9(5), 13(1), 22(5).

102. WCPF Convention, *supra* note 23, art. 10(1)(i).

103. See WCPFC, RECORD OF FISHING VESSELS AND AUTHORIZATION TO FISH, CMM 2018-06 (2018), <https://www.wcpfc.int/doc/cmm-2018-06/conservation-and-management-measure-wcpfc-record-fishing-vessels-and-authorisation> [<https://perma.cc/TVX8-Q7HK>].

104. See WCPFC, COMMISSION VESSEL MONITORING SYSTEM, CMM 2014-02 (2014), <https://www.wcpfc.int/doc/cmm-2014-02/conservation-and-management-measure-commission-vms> [<https://perma.cc/BW5T-BZAJ>]. For more on the WCPFC’s VMS, see *Vessel Monitoring System*, WCPFC <https://www.wcpfc.int/vessel-monitoring-system> [<https://perma.cc/JS5E-RJQ6>] (last visited Feb. 13, 2021).

105. See WCPF Convention, *supra* note 23, art. 28(1). This program involves the use of impartial observers and ensures that the WCPFC receives sufficient data on catch levels. *Id.* art. 28. For more on the WCPFC’s observer program, see *Regional Observer Programme*, WCPFC, <https://www.wcpfc.int/regional-observer-programme> [<https://perma.cc/T5HV-RJ9W>] (last visited Feb. 13, 2021).

106. See generally *Conservation and Management Measures*, WCPFC, <https://www.wcpfc.int/conservation-and-management-measures> [<https://perma.cc/LXE4-UME8>] (last visited Feb. 13, 2021).

III. THE IMPORTANCE OF TRANSPARENCY IN FISHERIES MANAGEMENT

Neither the extension of coastal State sovereign rights nor regional management through RFMOs has led to improvements in the conservation status of fish stocks. As noted above, FAO has reported a continuing decline in the conservation status of stocks globally.¹⁰⁷ Another study concluded that two-thirds of all stocks managed by RFMOs are depleted or being overfished.¹⁰⁸ Greed,¹⁰⁹ corruption,¹¹⁰ subsidies,¹¹¹ and IUU fishing¹¹² all conspire to undermine the development, implementation, and enforcement of sustainable catch quotas.

Because of these challenges, transparent decision-making processes are critical for achieving sustainable fisheries¹¹³ and sustainable development more broadly.¹¹⁴ Yet, the oceans themselves are notoriously nontransparent.¹¹⁵ Light rapidly

107. *See supra* notes 24-26 and accompanying text.

108. Cullis-Suzuki & Pauly, *supra* note 36, at 1041.

109. Donald Ludwig et al., *Uncertainty, Resource Exploitation, and Conservation: Lessons from History*, 260 *SCI.* 17, 36 (1993) (“The shortsightedness and greed of humans underlie difficulties in management of resources.”), <https://science.sciencemag.org/content/260/5104/17> [<https://perma.cc/BC2T-9JGU>].

110. Camilo Mora et al., *Management Effectiveness of the World’s Marine Fisheries*, 7 *PLOS BIOLOGY* 1, 3 (2009).

111. *Id.* at 7 (“We found that the probability of fisheries sustainability in nontransparent EEZs was reduced from 78% to 67% due to the effects of even modest subsidies.”).

112. *See supra* notes 8-11 and accompanying text.

113. Mora et al., *supra* note 110, at 1 (“[T]he conversion of scientific advice into policy, through a participatory and transparent process, is at the core of achieving fisheries sustainability, regardless of other attributes of the fisheries.”); Robert Costanza et al., *Rules for Sustainable Governance of the Oceans*, 281 *SCI.* 198, 199 (1998), https://science.sciencemag.org/content/sci/281/5374/198.full.pdf?casa_token=APW6eNjW0TgAAAAA:Wo7cDfvkhO3kIpsp09AvZYPoJUDRA5QOe4aeoTtoODOqNtsYhaAYuGEKlrpR8cPrnowfOyzlWA7 [<https://perma.cc/V9L7-LEUX>] (“The sustainable governance of the oceans will require an ongoing, participatory, and open process involving all the major stakeholder groups.”).

114. G.A. Res. 66/288, *The Future We Want* ¶ 10, U.N. Doc. A/RES/66/288 (Sept. 11, 2012), <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N11/476/10/PDF/N1147610.pdf?OpenElement> [<https://perma.cc/PJC3-EXM3>] (“[T]o achieve our sustainable development goals, we need institutions at all levels that are effective, transparent, accountable and democratic.”).

115. Cornelius Hammer, *Observer and Observer Data — What for? — A View from an ICES Perspective*, in *PROCEEDINGS OF THE 9TH INTERNATIONAL FISHERIES OBSERVER AND MONITORING CONFERENCE* 8, 8 (Steve Kennelly & Lisa Borges eds., 2018) (Oceans are

dissipates beyond a depth of 200 meters,¹¹⁶ hiding the valuable tuna, swordfish, and other marine fish stocks sought by a global fleet of 4.6 million vessels.¹¹⁷ The oceans also hide a multitude of sins, including IUU fishing, human rights violations, wildlife smuggling, and drug and gun smuggling.¹¹⁸ At the United Nations Security Council, transnational crime on the oceans has been linked to conflicts in Africa, millions of dollars of lost revenue, the spread of weapons, and drug and human trafficking.¹¹⁹

For these reasons, fisheries must become more transparent throughout the entire lifecycle of the fishing industry, including transshipment,¹²⁰ subsidies,¹²¹ the provision of operational data,¹²² traceability schemes, prosecution of fisheries crimes,¹²³ and much more.¹²⁴ In fact, the FAO has stated that the

“enormously wide, deep and nontransparent.”), <https://ifomcvigo.com/wp-content/uploads/2018/08/proceedings-9th-ifomc.pdf> [<https://perma.cc/KA3K-YCXD>].

116. See The Nat'l Oceanic & Atmospheric Admin., *How Far Does Light Travel in the Ocean?*, NAT'L OCEAN SERV., <https://oceanservice.noaa.gov/facts/lighttravel.html> [<https://perma.cc/M227-V2TM>] (last visited Dec. 4, 2020).

117. FAO, THE STATE OF WORLD FISHERIES AND AQUACULTURE: MEETING THE SUSTAINABLE DEVELOPMENT GOALS 5 (2018), <http://www.fao.org/3/i9540en/i9540en.pdf> [<https://perma.cc/M3NR-HWV9>].

118. See generally U.N. OFFICE ON DRUGS AND CRIME, TRANSNATIONAL ORGANIZED CRIME IN THE FISHING INDUSTRY: FOCUS ON TRAFFICKING IN PERSONS, SMUGGLING OF MIGRANTS, ILLICIT DRUGS TRAFFICKING (2011), <https://www.unodc.org/documents/human-trafficking/IssuePaper-TOCintheFishingIndustry.pdf> [<https://perma.cc/7FVU-REHS>].

119. Press Release, Security Council, High Seas Crime Becoming More Sophisticated, Endangering Lives, International Security, Speakers Tell Security Council, U.N. Press Release SC/13691 (Feb. 5, 2019), <https://www.un.org/press/en/2019/sc13691.doc.htm> [<https://perma.cc/8GL9-FHVW>].

120. See Wold & Cook, *supra* note 19.

121. See ARTHUR E. APPLETON, INT'L CTR. FOR TRADE & SUSTAINABLE DEV., OPTIONS FOR IMPROVING THE TRANSPARENCY OF FISHERIES SUBSIDIES (2017), <https://www.greengrowthknowledge.org/sites/default/files/downloads/resource/Options%20for%20Improving%20the%20Transparency%20of%20Fisheries%20Subsidies.pdf> [<https://perma.cc/NS9H-JMYB>].

122. Wold et al., *supra* note 17.

123. See *Chasing Red Herrings*, *supra* note 7, at 24.

124. See, e.g., *We Challenge EU's Lack of Transparency around Fishing Quotas*, CLIENTEARTH (Apr. 17, 2019), <https://www.clientearth.org/we-challenge-eus-lack-of-transparency-around-fishing-quotas/> [<https://perma.cc/2XB3-U8E3>]. See generally *Improving Transparency in Fisheries*, ENVTL. JUST. FOUND., <https://ejfoundation.org/what>

lack of basic transparency could be seen as an underlying facilitator of all the negative aspects of the global fisheries sector—IUU fishing, fleet overcapacity, overfishing, ill-directed subsidies, corruption, poor fisheries management decisions, etc. A more transparent sector would place a spotlight on such activities whenever they occur, making it harder for perpetrators to hide behind the current veil of secrecy and requiring immediate action to be taken to correct the wrong.¹²⁵

International agreements and declarations have also called for more transparent decision-making. The United Nations Fish Stocks Agreement specifically calls for States participating in RFMOs to establish transparent and participatory processes.¹²⁶ The 1992 Rio Declaration on Environment and Human Development provides that “States shall facilitate and encourage public awareness and participation by making information widely available.”¹²⁷ In 2019, the United Nations General Assembly called on States acting individually and through RFMOs “to improve transparency on fishing capacity, including by identifying, sharing and publicizing relevant information in this regard, subject to confidentiality requirements.”¹²⁸ It also urged

we-do/oceans/transparency [https://perma.cc/UV3V-JRXV] (last visited Feb. 13, 2021).

125. FAO, STATE OF WORLD FISHERIES AND AQUACULTURE 2010 105 (2010), <https://epdf.pub/state-of-world-fisheries-and-aquaculture-2010.html> [https://perma.cc/KZC9-4FP6].

126. 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 art. 12, Aug. 4, 1995, U.N. Doc. A/CONF.164/37 (entered into force Dec. 11, 2001), http://www.un.org/depts/los/convention_agreements/texts/fish_stocks_agreement/CONF164_37.htm [https://perma.cc/U22K-QTJ8] [hereinafter Fish Stocks Agreement].

127. U.N. Conference on Env’t and Dev., *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/26/ (Vol. I) (Aug. 12, 1992), https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.151_26_Vol.I_Declaration.pdf [https://perma.cc/J3AC-K8F3].

128. G.A. Res. 74/18, Sustainable Fisheries, including through the 1995 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, and Related Instruments ¶ 126, U.N. Doc. A/RES/74/18 (Dec. 19, 2019), <https://undocs.org/pdf?symbol=en/A/RES/74/18> [https://perma.cc/7828-TTHZ] [hereinafter *Sustainable Fisheries*]. Earlier, in 2012, the General Assembly “recognize[d]

RFMOs “to improve transparency and to ensure that their decision-making processes are fair and transparent and facilitate the adoption of conservation and management measures in a timely and effective manner.”¹²⁹ It further “recognize[d] the importance of ensuring transparency of reporting of fishing activities within [RFMOs] in order to facilitate efforts to combat illegal, unreported and unregulated fishing, as well as the importance of respecting the reporting obligations within those organizations.”¹³⁰

Transparency helps lead to sustainable outcomes in several ways. Transparency helps ensure that the chosen CMMs are credible;¹³¹ consequently, fishers are more likely to follow the rules.¹³² Another study concluded that “the conversion of scientific advice into policy, through a participatory and transparent process, is at the core of achieving fisheries sustainability, regardless of other attributes of the fisheries,”¹³³

the need for transparency and accountability in fisheries management by regional fisheries management organizations.” *The Future We Want*, *supra* note 114, ¶ 172.

129. *The Future We Want*, *supra* note 114, ¶ 171. The full paragraph reads as follows:

Urges regional fisheries management organizations and arrangements to improve transparency and to ensure that their decision-making processes are fair and transparent and facilitate the adoption of conservation and management measures in a timely and effective manner, including considering provisions for effective voting and objection procedures, where appropriate, to rely on the best scientific information available, incorporate the precautionary approach and ecosystem approaches, and address participatory rights, including through, inter alia, the development of transparent criteria for allocating fishing opportunities which reflects, where appropriate, the relevant provisions of the Agreement, taking due account, inter alia, of the status of the relevant stocks and the respective interests in the fishery

130. *Id.* ¶ 180.

131. See Ruth A. Davis & Quentin Hanich, *Transparency in Fisheries Conservation and Management Measures*, MARINE POL’Y 1, 2 (2020), <https://doi.org/10.1016/j.marpol.2020.104088> [<https://perma.cc/2N6F-VK46>] (“[T]ransparency can be important for maintaining the ongoing legitimacy of RFMO management and the approval of their activities by stakeholders and the broader community.”).

132. See Costanza et al., *supra* note 113, at 199. See also Juan A. Castilla & Omar Defeo, *Paradigm Shifts Needed in World Fisheries*, 309 SCI. 1324 (2005), <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N11/476/10/PDF/N1147610.pdf?OpenElement> [<https://perma.cc/K2L3-XWJ3>] (“In our view, legitimizing the participation of fishers in the planning and surveillance of management measures is a promising short-term solution to current artisanal fishery crises, promoting compliance with regulations.”).

133. Mora et al., *supra* note 110, at 2.

largely by promoting compliance.¹³⁴ Transparency can also improve equity “by mitigating power imbalances and enabling a more equitable distribution of conservation benefits and burdens.”¹³⁵

IV. TRANSPARENCY IN RFMOS

The conventions establishing the IATTC,¹³⁶ NPFC,¹³⁷ and WCPFC¹³⁸ all specifically call for transparency in the decision-making processes of the RFMOs, and several ICCAT CMMs also call for transparency.¹³⁹ These RFMOs have, to a certain extent, adopted CMMs that call for the submission of information in a transparent way in order to combat IUU fishing.¹⁴⁰ They have established rules relating to vessel registration, the use of VMS,

134. *Id.* at 7.

135. Davis & Hanich, *supra* note 131, at 2.

136. Antigua Convention provides that:

“The Commission shall promote transparency in the implementation of this Convention in its decision-making processes and other activities, *inter alia*, through:

(a) the public dissemination of pertinent non-confidential information;

and

(b) as appropriate, facilitating consultations with, and the effective participation of, non-governmental organizations, representatives of the fishing industry, particularly the fishing fleet, and other interested bodies and individuals.”

Antigua Convention, *supra* note 20, art. XVI(1).

137. See NPFC Convention, *supra* note 22, art. 3(1) (calling for NPFC members to “apply[] this Convention in a fair, transparent and non-discriminatory manner, consistent with international law.”).

138. WCPF Convention, *supra* note 23, art. 21 (“The Commission shall promote transparency in its decision-making processes and other activities.”).

139. See, e.g., ICCAT, *General Outline of Integrated Monitoring Measures Adopted by ICCAT*, Doc. 02-31 (2002), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2002-31-e.pdf> [<https://perma.cc/X4TX-3BYR>] (“Effective monitoring measures should embody a number of principles, namely: . . . The general obligation to cooperate and a commitment to implement the following measures with transparency, taking into account requirements for confidentiality.”); ICCAT, *Establishing a Multi-Annual Management Plan for Bluefin Tuna in the Eastern Atlantic and the Mediterranean Sea*, Recommendation 18-02, ¶ 117 (2020), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2018-02-e.pdf> [<https://perma.cc/55JK-STND>]

(“In order to have greater transparency in implementing this Recommendation, the Secretariat shall elaborate bi-yearly a report on the implementation of this Recommendation.”).

140. Of course, these RFMOs can only be as transparent as the contracting governments allow them to be. RFMOs cannot be transparent if the contracting governments do not submit information necessary to ensure sustainable fisheries and compliance with CMMs.

the submission of vessel-specific catch data, and compliance monitoring—information that is published to the relevant secretariat’s website or otherwise submitted in annual reports and reviewed for compliance purposes. Yet, in each case, the RFMOs fall short of being fully transparent or fail to require submission of information needed to be fully transparent in order to prevent and deter IUU fishing and improve the long-term conservation of fish stocks.

A. Vessel Registration

1. The Need

The need for transparency begins at the initial stage of authorization of vessels to engage in fishing activities: vessel registration. As FAO notes, “[f]ishing vessel registration and the maintenance of a comprehensive record of fishing vessels are fundamental pillars for effective fisheries management and enforcement at the national level and essential for collaborative effort at the regional and global levels.”¹⁴¹

The list of vessels registered and authorized to fish in the relevant convention area is of obvious importance. With registration, RFMO members can determine which vessels are permitted to fish for covered stocks in the relevant convention area. If a vessel is not registered, then RFMO members can prioritize the boarding and inspection of those vessels.

However, more than vessel registration is needed to ensure effective enforcement and compliance with CMMs. Rules must require the identification of those individuals who actually enjoy the benefits of ownership—known as the beneficial owners—even though legal title to a vessel is in another name, because too frequently the beneficial owners hide behind a corporate veil by establishing shell corporations.¹⁴² In a comprehensive analysis of

141. FAO, STATE OF WORLD FISHERIES AND AQUACULTURE 2010 104 (2010), <https://dl.epdf.pub/download/state-of-world-fisheries-and-aquaculture-2010.html?hash=6a82bc00db80c642ad95570c905ff078&captcha=cc385d64b7d2cdf86e9dd0fb3eb01b> [https://perma.cc/K2WL-CQ3U].

142. A technical or legal definition of “beneficial owner” does not exist. The North Atlantic Fisheries Intelligence Group and INTERPOL describe the beneficial owner as the “key persons ultimately controlling a business entity—the ‘beneficial owners’ of the entity—or persons who are otherwise involved in the operation of a business venture.

the impact of flags of convenience on fisheries crime law enforcement, the North Atlantic Fisheries Intelligence Group and INTERPOL reported the following:

Without knowing the identity of persons involved in a criminal activity, investigators may be unable to determine whether they have jurisdiction to investigate a case and whether they should share information with other relevant authorities. They may also be prevented from turning intelligence into evidence through mutual legal assistance requests.¹⁴³

They also identified a number of reasons for needing the identity of the persons engaged in and controlling commercial activities. From a law enforcement perspective, knowing the identity of the beneficial owners and operators of vessels is, in most cases, critical to identifying, investigating, and prosecuting fisheries crime and tax evasion.¹⁴⁴ In other words, without the names of the beneficial owners, IUU fishing is likely to persist, thereby undermining the long-term conservation of fish stocks.

2. The RFMO Rules

All four of the RFMOs included in this Article require registration of vessels. Indeed, they all require members and

Importantly, in this context a ‘person’ refers to a natural person—a living, breathing human being—and not a ‘legal’ person, such as a company, partnership or a trust.” *Chasing Red Herrings*, *supra* note 7, at 24. The FAO, in its International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU) also distinguished between legal person in whose name the vessel is registered and the nationality of the natural or legal person with beneficial ownership of the vessel. *See* FAO, INTERNATIONAL PLAN OF ACTION TO PREVENT, DETER AND ELIMINATE ILLEGAL, UNREPORTED AND UNREGULATED FISHING ¶ 42 (2001), <http://www.fao.org/3/y1224e/Y1224E.pdf> [<https://perma.cc/4XD8-VWAW>].

143. *Chasing Red Herrings*, *supra* note 7, at 4.

144. *Id.* at 31. The authors of this report acknowledged that the flagging of foreign-owned vessels is not, in and of itself, a law enforcement problem. Instead:

it is the extent to which a flag state facilitates secrecy in beneficial vessel ownership. Secrecy is facilitated by open registers when they allow the registered owner of vessels on their ship register to be a local company owned by a foreign corporate vehicle without traceable beneficial ownership. These open registries become secrecy jurisdictions in their own right and provide ship owners with an added layer of secrecy over and beyond the protection already afforded them through the jurisdiction(s) where the corporate structure is situated.

Id. at 28.

cooperating non-members (collectively referred to now as “members” for simplicity¹⁴⁵) to submit a great deal of information concerning the vessel and vessel ownership. However, they do not specifically require submission of beneficial ownership.

The IATTC,¹⁴⁶ ICCAT,¹⁴⁷ NPFC,¹⁴⁸ and WCPFC¹⁴⁹ all require each member to maintain a record of vessels entitled to fly its flag and authorized to fish in the convention area for fish stocks covered by the relevant convention. Moreover, each of these four RFMOs defines “fishing vessel” broadly to include any vessel, including a vessel involved in the transshipment of fish from the vessel actually catching the fish to a larger, refrigerated carrier

145. Recall from Part II that these RFMOs refer to members and cooperating non-members differently. See *supra* Part II. The IATTC and ICCAT use “CPCs,” the WCPFC uses “CCMs” and the NPFC uses “members and CNCPs.” See *supra* Part II.

146. Antigua Convention, *supra* note 20, Annex I; IATTC Resolution C-18-06, *supra* note 54.

147. See ICCAT, *Multi-annual Conservation and Management Programme for Tropical Tunas* ¶ 31, Recommendation 16-01, <https://www.iccat.int/Documents/Recs/compendiopdf-e/2016-01-e.pdf> [<https://perma.cc/DRT9-M8G3>]. See also ICCAT, *Recommendation by ICCAT Amending Three Recommendations in Conformity with the 2009 Recommendation by ICCAT concerning the Establishment of an ICCAT Record of Vessels 20 meters in Length Overall or Greater Authorized to Operate in the Convention Area*, Recommendation 09-09 (2010), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2009-09-e.pdf> [<https://perma.cc/YD6W-DDR9>] (decreasing the size of vessels to which the Vessel Record applies from 24 meters to 20 meters in length overall).

148. NPFC Convention, *supra* note 22, art. 13(8); NPFC CMM 2019–01, *supra* note 83, ¶¶ 1-3.

149. WCPFC Convention, *supra* note 23, art. 24(4); ICCAT Recommendation 13-13, *supra* note 67, ¶ 1; WCPFC CMM 2018–06, *supra* note 103, ¶ 6; WCPFC Convention, *supra* note 23, art. 24(5) & Annex IV. Each member is also required to notify the WCPFC of any additions and deletions to the list. WCPFC Convention, *supra* note 23, art. 24(6); WCPFC CMM 2018–06, *supra* note 103, ¶ 7. See also WCPFC CMM 2004–03, *supra* note 100, §§ 2.1.1, 3.1.

vessel.¹⁵⁰ For certainty, perhaps, the IATTC adopted a separate resolution specifically for registration of carrier vessels.¹⁵¹

The Antigua Convention typifies the information that members must include in the vessel registry for each vessel. For each vessel, members must ensure that the following information is included in that record:

- a. name of vessel, registration number, previous names (if known), and port of registry
- b. a photograph of the vessel showing its registration number;
- c. previous flag (if known and if any);
- d. International Radio Call Sign (if any);
- e. name and address of owner or owners;
- f. where and when built;
- g. length, beam, and moulded depth;
- h. freezer type and freezer capacity, in cubic meters;
- i. number and capacity of fish holds, in cubic meters and, in the case of purse-seine vessels, capacity breakdown by fish hold if possible;
- j. name and address of operator(s) and/or manager(s) (if any);
- k. type of vessel;
- l. type of fishing method or methods;
- m. gross tonnage;

150. WCPF Convention, *supra* note 23, art. 1(e) (defining “fishing vessel” as “any vessel used or intended for use for the purpose of fishing, including support ships, carrier vessels and any other vessel directly involved in such operations.”). The NPFC Convention is identical. NPFC Convention, *supra* note 22, art. 1(n). The definition in the Antigua Convention is also identical except that the definition defines “vessel” rather than “fishing vessel.” Antigua Convention, *supra* note 20, art. I(1)(3). ICCAT operates slightly differently with a binding recommendation adopted specifically to create a vessel registry requirement for carrier vessels. ICCAT, *Recommendation by ICCAT on Transshipment*, Recommendation 16-15, ¶ 7 (2017), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2016-15-e.pdf> [<https://perma.cc/N3XC-AE6W>].

151. IATTC, *Establishing a Program for Transshipments by Large-scale Fishing Vessels*, Resolution C-12-07, ¶ 6, 7 (2012), https://www.iattc.org/PDFFiles/Resolutions/IATTC/_English/C-12-07-Active_Amendments%20and%20replaces%20C-11-09%20Transshipments.pdf [<https://perma.cc/76R6-YLGY>].

- n. power of main engine or engines;
- o. the nature of the authorization to fish granted by the flag CPC (such as main target species); and
- p. International Maritime Organization (“IMO”) or Lloyd’s Register (“LR”) number, if issued.¹⁵²

Members must “verify the existence and operational status of, and confirm the accuracy of the information on, its vessels.”¹⁵³ Perhaps one reason for the emphasis on vessel registration, and the inclusion of vessel registration requirements in multiple resolutions, is because the members consider any fishing by vessels not included in the Record to be “undermining IATTC management measures.”¹⁵⁴ The NPFC considers the vessel

152. IATTC Resolution C-18-06, *supra* note 54, ¶ 2; Antigua Convention, *supra* note 20, Annex 1, ¶ 1. CPCs must also notify the IATTC Secretariat of any additions or modifications to the record. *Id.* Annex 1, ¶ 2, 3. *See also* NPFC CMM 2019-01, *supra* note 83, Annex (enumerating similar but slightly more comprehensive information requirements for vessel registration in the NPFC); WCPFC CMM 2018-06, *supra* note 103, ¶ 6; WCPF Convention, *supra* note 23, art. 24(5) & Annex IV. Each member is also required to notify the WCPFC of any additions and deletions to the list. WCPF Convention, *supra* note 23, art. 24(6); WCPFC, CMM 2018-06, *supra* note 103, ¶ 7. *See also* WCPFC CMM 2004-03, *supra* note 100, §§ 2.1.1, 3.1 (enumerating the information requirements for the WPPFC). ICCAT has adopted its vessel registration in a more piecemeal fashion. *See* ICCAT Recommendation 13-13, *supra* note 67, ¶ 2; ICCAT Recommendation 16-15, *supra* note 150, ¶ 8. It also has several recommendations for vessel registration for those vessels in species-specific fisheries. *See, e.g.*, ICCAT, *Replacing the Recommendation [13-04] and Establishing a Multi-annual Recovery Plan for Mediterranean Swordfish*, Recommendation 16-05, ¶¶ 21, 27 (2017), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2016-05-e.pdf> [https://perma.cc/4MC6-RMT2]; ICCAT, *Amending the Recommendation for the Conservation of South Atlantic Swordfish*, Recommendation 17-03, ¶ 8 (2018), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2017-03-e.pdf> [https://perma.cc/LT6G-RXJ8]; ICCAT, *Southern Albacore Catch Limits for the Period 2017-2020*, Recommendation 16-07, ¶ 10 (2016), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2016-07-e.pdf> [https://perma.cc/XE3Z-JAR6]; ICCAT, *Multi-annual Conservation and Management Programme for North Atlantic Albacore*, Recommendation 16-06, ¶ 10 (2017), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2016-06-e.pdf> [https://perma.cc/CAD7-V4PK].

153. IATTC Resolution C-02-03, *Capacity of the Tuna Fleet Operating in the Eastern Pacific Ocean (Revised)*, at ¶ 5 (2002), http://www.iattc.org/PDFFiles/Resolutions/IATTC/_English/C-02-03-Active_Capacity%20of%20the%20tuna%20fleet%20operating%20in%20the%20EPO.pdf [https://perma.cc/6QNH-CHDA].

154. *Id.*

registry of authorized fishing vessels the “central pillar” of its compliance program.¹⁵⁵

The members directed the relevant secretariat to maintain a vessel registry based on information provided by members.¹⁵⁶ Members must notify the relevant secretariat of any modifications to the vessel registry,¹⁵⁷ and the secretariats must maintain and publicize the list, including by placing the vessel registry on the relevant convention’s website.¹⁵⁸ The NPFC must also maintain a publicly accessible vessel registry, “taking due account of the need to protect the confidentiality of personal information, consistent with the domestic practice” of each member and CNPC.¹⁵⁹ However, the NPFC does not explain what confidentiality issues may arise from the publication of the vessel registry. Similarly, the WCPFC’s Record of Fishing Vessels is publicly available¹⁶⁰ with the

155. *Compliance, Terms of Reference*, NPFC, <https://www.npfc.int/compliance> [<https://perma.cc/6H85-GQMZ>] (Feb. 27, 2021).

156. IATTC Resolution C-18-06, *supra* note 54, ¶ 1; Antigua Convention, *supra* note 20, art. XII(2)(k); WCPF Convention, *supra* note 23, art. 24(7).

157. ICCAT Recommendation 13-13, *supra* note 67, at ¶ 3; ICCAT Recommendation 16-01, *supra* note 147, ¶ 29; ICCAT Recommendation 16-15, *supra* note 150, ¶ 9; NPFC Convention, *supra* note 22, art. 13(9); NPFC CMM 2019-01, *supra* note 83, ¶¶ 2, 3; WCPF Convention, *supra* note 23, art. 24(6); WCPFC CMM 2018-06, *supra* note 103, ¶ 7.

158. ICCAT Recommendation 13-13, *supra* note 67, ¶ 4; ICCAT Recommendation 16-01, *supra* note 147, ¶ 31; ICCAT Recommendation 16-15, *supra* note 150, ¶ 10. The ICCAT Record of Vessels can be found at ICCAT, *Record of Vessels*, <https://www.iccat.int/en/VesselsRecord.asp> [<https://perma.cc/RK7Q-RGFX>] (last visited Feb. 27, 2021). The IATTC secretariat must make the transshipment vessel record public, including through its website. IATTC Resolution C-12-07, *supra* note 151, ¶ 9. The more general resolution applicable to all vessels, however, does not explicitly direct the Secretariat to make the Record public. *See generally* IATTC Resolution C-18-06, *supra* note 54. Nonetheless, the Secretariat has done so. *Vessel Database*, IATTC, <https://www.iattc.org/VesselRegister/VesselList.aspx?List=RegVessels&Lang=ENG> [<https://perma.cc/YC2D-49AR>] (last visited Mar. 25, 2021).

159. NPFC Convention, *supra* note 22, art. 13(10). The NPFC record of fishing vessels can be found at *Member/CNCP Flagged Vessels Register*, NPFC, <https://www.npfc.int/compliance/vessels> [<https://perma.cc/7W5W-HLCL>] (last visited Feb. 27, 2021).

160. WCPFC, STANDARDS, SPECIFICATIONS AND PROCEDURES FOR THE WESTERN AND CENTRAL PACIFIC FISHERIES COMMISSION RECORD OF FISHING VESSELS, CMM 2014-03 ¶¶ 1(b), 9 (2014), <https://www.wcpfc.int/doc/cmm-2014-03/standards-specifications-and-procedures-western-and-central-pacific-fisheries> [<https://perma.cc/T2XW-4J8X>]; WCPFC CMM 2018-06, *supra* note 103, ¶ 14. The Record of Fishing Vessels can be found on the WCPFC’s website at <https://www.wcpfc.int/vessels> [<https://perma.cc/9V7R-5UMY>].

exception of information considered to be non-public domain data.¹⁶¹

B. Vessel Monitoring Systems

1. The Need

Vessel Monitoring Systems (“VMS”) track the location of vessels and, consequently, they are a crucial component of monitoring, control, and surveillance programs of RFMOs and national fisheries agencies in the fight against IUU fishing.¹⁶² With VMS, on-board transceiver units known as automatic location communicators transmit vessel position, the vessel identifier, time, and date, at fixed or variable intervals, to satellites; vessels transmit that information to land-based fisheries monitoring centers.¹⁶³

Given pervasive IUU fishing, greater and more transparent use of VMS data is needed. Global Fishing Watch, a nongovernmental organization that uses various technologies to track vessels,¹⁶⁴ succinctly states:

Where countries publicly share their vessel data we can create a more complete and connected picture of global fishing activity. Law-abiding fishers are tracked easily and openly, demonstrating their compliance. Rogue operators stand out due to their patchy track record or suspicious behavior. Compliant fishers can be rewarded through faster, more efficient port entry and landings. Unauthorized vessels, and

161. WCPFC CMM 2014-03, *supra* note 160, ¶ 9; WCPFC CMM 2018-06, *supra* note 103, ¶ 36 (“For each [carrier and bunker] vessel, the Register will include all the information listed in paragraph 6, a copy of the written undertaking provided under paragraph 31, and the CCM(s) that requested inclusion of the vessel on the Register.”) (emphasis added).

162. *See generally* FAO, FISHING OPERATIONS: VESSEL MONITORING SYSTEMS 1-5 (FAO Technical Guidelines for Responsible Fisheries No. 1, Suppl. 1, 1998), <http://www.fao.org/3/a-w9633e.pdf>; *see* HOLLY KOEHLER, RFMO VESSEL MONITORING SYSTEMS: A COMPARATIVE ANALYSIS TO IDENTIFY BEST PRACTICES 7 (ISSF Technical Report 2020-08, 2020), [https://iss-foundation.org/downloads/19967/\[https://perma.cc/WQ2J-FBL5\]](https://iss-foundation.org/downloads/19967/[https://perma.cc/WQ2J-FBL5]).

163. KOEHLER, *supra* note 162, at 7; *see also* *Enforcement, Vessel Monitoring*, NOAA FISHERIES, <https://www.fisheries.noaa.gov/topic/enforcement#vessel-monitoring> [<https://perma.cc/RB4Z-4MK9>] (last visited Feb. 14, 2021).

164. *See* *About*, GLOB. FISHING WATCH, <https://globalfishingwatch.org/about-us/> [<https://perma.cc/H7WH-3DW7>] (last visited Feb. 14, 2021).

those with a history of non-compliance, can be prioritized for inspection or denied port entry.¹⁶⁵

Not only is VMS cost effective—costing as little as US\$ 1,000¹⁶⁶—but it also puts the burden on the fishing vessel to demonstrate compliance rather than on governments to prove non-compliance.¹⁶⁷ With continuous tracking, VMS can identify vessels legally fishing at all times and thus help ensure that vessels are fishing when and where they are authorized to fish.

2. The RFMO Rules

RFMOs recognize the critical importance of VMS. The NPFC, for example, has recognized VMS as a critical part of its efforts “to ensure compliance with, and enforcement of the provisions of the Convention and CMMs.”¹⁶⁸ The WCPFC has noted the importance of VMS “as a tool to effectively support the principles and measures for the conservation and management of highly migratory species within the Convention Area.”¹⁶⁹

The VMS regimes of these four RFMOs are essentially the same. Members must ensure that the vessels they flag operate VMS while fishing in the relevant convention area.¹⁷⁰ The vessels must transmit, as in the case of the IATTC, the vessel’s identification, speed and course, and geographical position (latitude and longitude) with an error of less than 100 meters at

165. *Ocean Sustainability through Transparency, Data-sharing and Collaboration*, GLOB. FISHING WATCH, <https://globalfishingwatch.org/vms-transparency/> [https://perma.cc/VCS5-PLJD] (last visited Feb. 14, 2021).

166. PEW CHARITABLE TRUSTS, TRACKING FISHING VESSELS AROUND THE GLOBE 10 (Apr. 2017), https://www.pewtrusts.org/-/media/assets/2017/04/illegal_fishing_tracking_fishing_vessels_around_the_globe.pdf [https://perma.cc/3RWV-DSEM].

167. *Ocean Sustainability through Transparency, Data-sharing and Collaboration*, *supra* note 165.

168. NPFC CMM 2019-12, *supra* note 84, ¶ 2.

169. WCPFC CMM 2014-02, *supra* note 104, at 1.

170. IATTC Resolution C-14-02, *supra* note 55, ¶ 1; ICCAT, *Minimum Standards for Vessel Monitoring Systems in the ICCAT Convention Area*, Recommendation 18-10, ¶ 1 (2019), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2018-10-e.pdf> [https://perma.cc/R5X9-RELW]; NPFC Convention, *supra* note 22, art. 13(4) (The NPFC Convention further directs the NPFC to develop standards for VMS. NPFC Convention, *supra* note 22, art. 7(2)(e)); WCPF Convention, *supra* note 23, art. 24(8)-(9); WCPFC CMM 2014-02, *supra* note 104, ¶ 6 (More information about the management of VMS by the WCPFC can be found at <https://www.wcpfc.int/vessel-monitoring-system> [https://perma.cc/TV57-A464]).

a confidence level of 98%; and the date and time of fixing the vessel's position.¹⁷¹ The provisions of ICCAT,¹⁷² the NPFC,¹⁷³ and the WCPFC¹⁷⁴ are similar. In addition, the information must be transmitted “automatically and independently of any intervention.”¹⁷⁵

They differ with respect to how frequently vessels must transmit VMS data. For example, the IATTC requires longliners to transmit VMS data every four hours and purse seiners and other vessels every two hours.¹⁷⁶ ICCAT requires purse seiners to transmit VMS data every hour and all other vessels at least two hours,¹⁷⁷ while the NPFC¹⁷⁸ and WCPFC require transmission every hour.¹⁷⁹

More critically for transparency purposes, these RFMOs differ as to whom vessels must transmit VMS data. The WCPFC requires vessels to transmit all VMS data directly to the WCPFC Secretariat.¹⁸⁰ This is the preferred mechanism as it bypasses the

171. IATTC Resolution C-14-02, *supra* note 55, ¶ 2.

172. The VMS must collect and transmit the vessel's identification and geographical position (longitude, latitude) with a margin of error lower than 500 meters, with a confidence interval of 99%, as well as the date and time. ICCAT Recommendation 18-10, *supra* note 170, ¶ 1(a)-(b). The format for communicating VMS data by fishing vessels is also provided. ICCAT, Recommendation 07-08, *supra* note 66, Annex 2. These VMS rules also apply to charter vessels. ICCAT, *Vessel Chartering*, Recommendation 13-14, ¶ 7 (2014), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2013-14-e.pdf> [<https://perma.cc/NX9T-2W77>]. They also apply to carrier vessels. ICCAT Recommendation 16-15, *supra* note 150, ¶ 11.

173. The vessel's VMS must transmit:

- (i) the vessel's unique identifier for the mobile transmitting unit;
- (ii) the vessel's current geographical position (latitude and longitude) accurate to within 100m; and,
- (iii) the date and time (expressed in Coordinated Universal Time (UTC)) of the fixing of the vessel's position.

NPFC CMM 2019-12, *supra* note 84, ¶ 1(k).

174. VMS must transmit the static unique identifier of the vessel's automatic location communicator, the vessel's current geographical position (latitude and longitude), and the date and time of the fixing of the vessel's geographic position. WCPFC CMM 2014-02, *supra* note 104, ¶ 7(a), Annex, ¶ 1.

175. *Id.*; NPFC CMM 2019-12, *supra* note 84, Annex, ¶ 1 (using the identical language); ICCAT, Recommendation 18-10, *supra* note 170, ¶ 1(a) (“continuously, automatically, and independent of any intervention by the vessel.”); IATTC, Resolution C-14-02, *supra* note 55, ¶ 2(c) (data transmission must be “fully automatic”).

176. IATTC Resolution C-14-02, *supra* note 55, ¶ 2(b).

177. ICCAT Recommendation 18-10, *supra* note 170, ¶ 3.

178. NPFC CMM 2019-12, *supra* note 84, ¶ 8.

179. WCPFC CMM 2014-02, *supra* note 104, Annex 1, ¶ 3.

180. *See id.* ¶ 7(a).

flag State and any possibility of interference in the submission of data.

ICCAT and the NPFC adopt hybrid models, of sorts. In the NPFC, the members must automatically transmit VMS data to the NPFC Secretariat¹⁸¹ or they may allow the vessel to send the VMS data directly to the Secretariat.¹⁸² In ICCAT, vessels transmit VMS data to the relevant flag State member.¹⁸³ Other recommendations of ICCAT impose stricter VMS requirements. With respect to bluefin tuna, members must require fishing vessels with a length equal to or greater than 15 meters to operate VMS.¹⁸⁴ This information is transmitted to the ICCAT Secretariat as well as the flag State.¹⁸⁵ The ICCAT Secretariat must make VMS data available to members with an active presence in the eastern Atlantic and Mediterranean and must notify members of any delay or non-receipt of such data.¹⁸⁶ Members must ensure that VMS data received from its fishing vessels “are recorded in computer readable form for a period of three years.”¹⁸⁷ Members must also verify VMS data submitted by covered bluefin tuna fishing vessels.¹⁸⁸

In the IATTC, vessels transmit VMS data to the flag State’s fisheries monitoring center (“FMC”).¹⁸⁹ The relevant VMS CMMs do not specifically require members to report their VMS data to the IATTC or the Secretariat. The Antigua Convention does require members to provide the IATTC with “all the information that may be required for the fulfilment of the objective of the Convention, including statistical and biological information concerning its fishing activities in the Convention Area.”¹⁹⁰ However, CPCs have not interpreted this provision to require submission of VMS data.¹⁹¹ The VMS used by applicable vessels should, “if practicable,” transmit to the IATTC Secretariat.¹⁹²

181. NPFC CMM 2019-12, *supra* note 84, ¶ 11.

182. *Id.* ¶ 10.

183. ICCAT Recommendation 18-10, *supra* note 170, ¶ 1.

184. ICCAT Recommendation 18-02, *supra* note 139, ¶ 105.

185. ICCAT Recommendation 07-08, *supra* note 66, ¶ 3 & Annex 1, ¶ 3.

186. ICCAT Recommendation 18-02, *supra* note 139, ¶ 105.

187. ICCAT Recommendation 07-08, *supra* note 66, Annex 1, ¶ 2.

188. ICCAT Recommendation 18-02, *supra* note 139, ¶ 76.

189. IATTC Resolution C-14-02, *supra* note 55, ¶ 2(b).

190. Antigua Convention, *supra* note 20, art. XVIII(2).

191. Personal Interview with Brad Wiley, IATTC Policy Officer (Aug. 26, 2020).

192. IATTC Resolution C-14-02, *supra* note 55, ¶ 4.

Finally, the VMS provisions of these four RFMOs are alike with respect to confidentiality. In the IATTC, any VMS data submitted to the Secretariat must be “maintained in strict accordance with the Commission’s rules and procedures on confidentiality.”¹⁹³ ICCAT Recommendation 18-10 makes clear that VMS data, and whether such data is confidential or publicly available, is a matter of domestic law.¹⁹⁴ Nonetheless, members “are encouraged” to share VMS data.¹⁹⁵ The NPFC considers VMS data received by the Secretariat to be confidential information, which may be used and shared only in accordance with the NPFC’s *Data-Sharing and Data-Security Protocols for Vessel Monitoring System (VMS) Data*.¹⁹⁶ The WCPFC considers fine resolution VMS data to be confidential,¹⁹⁷ but VMS data can be released for scientific purposes.¹⁹⁸

This is not surprising. Using encrypted data transmitted from the vessel to the receiver, the FMC, VMS is designed specifically so that the FMCs “are the *only ones* empowered to receive, validate, and distribute VMS data to whoever needs to know (RFMOs, coastal states, etc.).”¹⁹⁹ As a result, fishing companies and captains can be confident that national

193. *Id.* ¶ 7.

194. ICCAT Recommendation 18-10, *supra* note 170, ¶ 8 (“CPCs are encouraged to cooperate, as appropriate and in accordance with their domestic laws, by sharing data reported under paragraph 1b to support Monitoring Control and Surveillance (‘MCS’) activities.”).

195. *Id.*

196. NPFC CMM 2019-12, *supra* note 84, ¶¶ 14, 16.

197. WCPFC, *Rules and Procedures for the Protection, Access to, and Dissemination of Data Compiled by the Commission*, *supra* note 16, paras. 23-24, Appendix 2; WCPFC, *Rules and Procedures for the Protection, Access to, and Dissemination of High Seas Non-Public Domain Data and Information Compiled by the Commission for the Purpose of Monitoring, Control or Surveillance (MCS) Activities and the Access to and Dissemination of High Seas VMS Data for Scientific Purposes*, para. 3 (2009), <https://www.wcpfc.int/file/518/download?token=B6mW5ex9> [https://perma.cc/R976-AHD2]. See also WCPFC, *Standards, Specifications and Procedures (SSP) for the Fishing Vessel Monitoring System (VMS) of the Western and Central Pacific Fisheries Commission (WCPFC)*, at §§ 6.6–6.8 (as amended through 2018), <https://www.wcpfc.int/file/232703/download?token=wXsUrRdS> [https://perma.cc/Y57R-EKXA].

198. WCPFC, *Rules and Procedures for the Protection, Access to, and Dissemination of High Seas Non-Public Domain Data and Information*, *supra* note 197, paras. 1, 31-39.

199. *VMS or AIS for Sustainable Fisheries Management?*, COLLECTE LOCALISATION SATELLITES (July 3, 2020), <https://fisheries.groupcls.com/vms-ais-sustainable-fisheries/> [https://perma.cc/NU45-YARW] (emphasis in original).

authorities or RFMO secretariats do not publicly disclose the vessel's market-sensitive information, such as catch data and vessel location.²⁰⁰ Nonetheless, this lack of transparency undermines efforts to prevent IUU fishing.

C. Vessel-Based Catch Landing Data

1. The Need

Sustainable fisheries are critical to maintaining the long-term survival of the target species, to ensure a long-term food supply, and to protect valuable economic resources.²⁰¹ This is particularly true for developing countries where fish may be the major source of animal protein and where fisheries generate significant economic benefits for both local and national economies.²⁰² To ensure sustainable fisheries, fisheries managers need timely, complete, and reliable statistics on catch and fishing effort.²⁰³ In addition, the data necessary for informed decision-making must be broad, vessel-specific, and collected over a period of time.²⁰⁴

200. *Id.*

201. The FAO has written that “[t]he aim of many data collection programmes is to monitor and assess the status of the stocks that are being exploited.” FAO, GUIDELINES FOR THE ROUTINE COLLECTION OF CAPTURE FISHERY DATA 7 (1998) [hereinafter FAO, GUIDELINES FOR ROUTINE COLLECTION]. The Code of Conduct for Responsible Fisheries provides that “[t]he right to fish carries with it the obligation to do so in a responsible manner so as to ensure effective conservation and management of living aquatic resources.” FAO, CODE OF CONDUCT FOR RESPONSIBLE FISHERIES art. 6.1 (2011) [hereinafter FAO, *Code of Conduct*].

202. Henrike Seidel & Padma N. Lal, *Economic Value of the Pacific Ocean to the Pacific Island Countries and Territories*, § 4.2.2.2 (2010), https://www.iucn.org/sites/dev/files/import/downloads/economic_value_of_the_pacific_ocean_to_the_pacific_island_countries_and_territories_p.pdf [https://perma.cc/X93C-6WCH]; FAO, GUIDELINES FOR ROUTINE COLLECTION, *supra* note 201, at 3.

203. Code of Conduct for Responsible Fisheries provides that:

States should ensure that timely, complete and reliable statistics on catch and fishing effort are collected and maintained in accordance with applicable international standards and practices and in sufficient detail to allow sound statistical analysis. Such data should be updated regularly and verified through an appropriate system.

FAO, CODE OF CONDUCT, *supra* note 201, art. 7.4.4.

204. *See* FAO, TECHNICAL GUIDELINES FOR RESPONSIBLE FISHERIES 4: FISHERIES MANAGEMENT § 2(i) (1997) (stating that “[t]he collection of data is not an end in itself, but is essential for informed decision making.”).

Fisheries managers need a broad range of data because the sustainability or unsustainability of the catch can be determined in different ways. As FAO explains:

Increasing overexploitation of resources may often be detected by a combination of falling catch per unit effort, falling total landings, decreasing mean weight of fish or changes in the fish population age structure or species composition. By maintaining a time series of catch per unit effort and total landings by fleets (e.g. gear or boat category), by commercial species group, fishing area and fishing season, overfishing should be detectable . . .

Sophisticated methods, such as cohort analysis, based on more detailed biological data may also be used. Data for these methods usually comprise size, age, sex and maturity of fish sampled from the catch. These data, routinely collected over a long period, together with other scientific information on fish growth and mortality, can produce accurate estimates of the current state of the stock. Results from such stock assessments should form the scientific foundation for advice on conservation measures.

. . . Monitoring species, age and size composition, mean lengths of species caught, habitat, by-catches (in particular discards) allows management to assess the wider impacts of fishing on the ecosystem.²⁰⁵

In particular, vessel-specific catch and effort data—data frequently referred to as operational level data—are critical to construct the most important indicators in most fisheries.²⁰⁶ In fact, FAO explains that:

data should always be collected at the level of the most detailed stratum, as it is always possible to aggregate, but impossible to disaggregate data. For example, if fish length-frequency data were collected aggregated over each landing day instead of trip, it may turn out later that on different trips vessels were exploiting different stocks. As the length frequency cannot be linked to particular trips, it would no longer be possible to know from which stock they originated

205. FAO, GUIDELINES FOR ROUTINE COLLECTION, *supra* note 201, at 8.

206. *Id.* at 12.

and stock assessment work using these data would be unreliable.²⁰⁷

These vessel-specific operational data are absolutely essential for effective fisheries management to develop indices of abundance for stock assessments and determine more precisely the distribution spatial of the catch.²⁰⁸

Lastly, fisheries managers have long recognized the importance to sustainable fisheries management of having data collected consistently and routinely over a long period of time.²⁰⁹ With such data, for example, the WCPFC would have a better understanding of declines in longline bigeye tuna.²¹⁰ Without these data, the FAO has reported that fisheries stakeholders are forced to make assessments of fish stocks based on subjective judgment and anecdotal information.²¹¹

2. The RFMO Rules

For all these reasons, it is critical that RFMO members submit such vessel-specific data to the relevant RFMO consistent with that RFMO's requirements. Yet, not all of these RFMOs require members to submit operational level data, and in any case the data are not publicly disclosed.

207. *Id.* at 14.

208. The Oceanic Fisheries Programme of the Secretariat of the Pacific Community (SPC) has noted that operational data “are required for the development of indices of abundance used in WCPFC stock assessments” and “to determine the spatial distribution of the catch in relation to [exclusive economic zones (EEZs)], the high seas areas and other management-related areas.” Peter Williams, *Scientific Data Available to the Western and Central Pacific Fisheries Commission*, WCPFC-SC9-2013/ST WP-1, para. 29 (2013) [hereinafter, *Data Gaps 2013*]. The SPC is the WCPFC's scientific service provider. The WCPFC's Memorandum of Understanding (“MoU”) with the SPC calls on the SPC to provide scientific services, including data management services, to the WCPFC. Revised Memorandum of Understanding between the Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean and the Secretariat of the Pacific Community, 3 (Dec. 7-11, 2009) [hereinafter WCPFC-SPC MoU].

209. FAO, GUIDELINES FOR ROUTINE COLLECTION, *supra* note 201, at 12 (stating that “it is imperative to have long time series of data collected consistently and routinely in order to evaluate trends in the behaviour of a variable.”).

210. *Data Gaps 2013*, *supra* note 208, para. 34.

211. *Id.* In addition, enforcement of fisheries conservation measures is more difficult without these data. *See id.* (stating that “[e]nforcement may be assisted by using data collected as an audit trail, from harvesting through processing to export or consumption.”).

The IATTC's scientific staff must collect statistical and other data from members,²¹² and members must submit data to the IATTC.²¹³ The IATTC only requires its members to submit fishing data “by species and fishing gear, where practical, via vessel logbooks and unloading records, and otherwise *in aggregated form*” over a 5° longitude by 5° latitude area.²¹⁴ The relevant CMM provides that members may submit set-by-set data over a 1° by 1° area—that is, the kind of operational data necessary for effective long-term conservation of fish stocks—“whenever possible.”²¹⁵

As with VMS data, catch information submitted to the IATTC Secretariat must be “maintained in strict accordance with the Commission’s rules and procedures on confidentiality.”²¹⁶ IATTC’s resolution on confidentiality of catch statistics provides:

A resolution was adopted requiring that catch statistics of individual boats, records of individual company operations, and all other records obtained by the staff of the Commission regarding individual persons, companies or enterprises shall be kept completely confidential and shall be available only to those members of the staff requiring access to them in the course of the scientific investigations.²¹⁷

Notwithstanding this resolution on confidentiality, members must submit the required data, and the IATTC Secretariat must report annual catches of species covered by the convention, “by flag and gear,” although the Secretariat must pool catches from companies of fewer than three vessels.²¹⁸ Prior to any release of catch, effort, and length-frequency data, however, the Secretariat must group the data by 5° longitude 5° latitude by month by flag

212. Antigua Convention, *supra* note 20, art. XIII(g).

213. IATTC, *Resolution on Data Provision*, Resolution C-03-05, para. 2 (2003), https://www.iattc.org/PDFFiles/Resolutions/IATTC/_English/C-03-05-Active_Provision%20of%20data.pdf [<https://perma.cc/SJP6-JKL9>].

214. *Id.* ¶ 2, 3 (emphasis added).

215. *Id.*

216. *Id.* ¶ 7.

217. IATTC, *Resolution on Confidentiality*, Resolution C-51-01 (1951), https://www.iattc.org/PDFFiles/Resolutions/IATTC/_English/C-51-01-Active_Resolution%20on%20Confidentiality.pdf [<https://perma.cc/F4LK-BCKW>].

218. IATTC, *Resolution on Catch Reporting*, Resolution C-04-10 (2004), https://www.iattc.org/PDFFiles/Resolutions/IATTC/_English/C-04-10-Active_Catch%20reporting.pdf [<https://perma.cc/EWH6-SE7T>].

State.²¹⁹ If an individual vessel, company, or individual can be identified, then the Secretariat must aggregate data by time, area, or flag to avoid such identification; only then can the Secretariat release and place in the public domain such data.²²⁰ The release of data at a finer level of time-area stratification requires the written authorization of the source of the data and the express permission of the IATTC Director.²²¹ Only IATTC staff have access to logbook and observer data, and only if their official duties require access to such data.²²² Nonetheless, catch data can be found on the IATTC website.²²³

The ICCAT Convention directs ICCAT to collect and analyze statistical data concerning the stocks it manages.²²⁴ The convention also directs members to submit “any available scientific, biological, and other scientific information.”²²⁵ ICCAT CMMs do not specify precisely how members are to report their data. Nonetheless, they do refine somewhat the obligation imposed by the convention. For example, members have agreed “that it is essential that all countries fishing these Atlantic tuna resources should collect adequate statistics on catch and fishing effort and the necessary biological data, and make available for publication the statistical and related economic data.”²²⁶ Members provide this information in annual reports: Part I contains information on fisheries, research, and statistics (including total catches, effort, catch per unit of effort, and size-frequency data), while Part II includes information on implementation and compliance with CMMs and other related

219. IATTC, *Amendment to Resolution C-13-05 on Data Confidentiality Policy and Procedures*, Resolution C-15-07, para. 1 (2015), https://www.iattc.org/PDFFiles/Resolutions/IATTC/_English/C-15-07-Active_Amendments%20and%20replaces%20C-13-05%20Procedures%20for%20confidential%20data.pdf [https://perma.cc/FBB2-QTL8].

220. *Id.*

221. *Id.* ¶ 2.

222. *Id.* ¶ 4.

223. *Catch Reports, Data, Tagging and other Reports*, IATTC, <https://www.iattc.org/CatchReportsDataENG.htm> [https://perma.cc/2XE8-EURL] (last visited Feb. 27, 2021).

224. ICCAT Convention, *supra* note 21, art. IV(2).

225. *Id.* art. IX(2)(a).

226. ICCAT, *Collection of Statistics on the Atlantic Tuna Fisheries*, Resolution 66-01 (1966), <https://www.iccat.int/Documents/Recs/compendiopdf-e/1966-01-e.pdf> [https://perma.cc/XF72-3R99].

activities.²²⁷ If a member cannot submit data by the relevant deadline, then it should submit preliminary statistics.²²⁸ Members should report and justify all revisions of historical scientific data.²²⁹

Despite these requirements, it is clear that ICCAT does not require members to submit vessel-specific operational data to ICCAT. The ICCAT Secretariat has reported the following:

The level of fisheries data and their resolution requirements, also varied in function of the gear type and target species. In general for longline fleets they should submit information on catch and effort by month with a 5x5 degrees [latitude-longitude] resolution, but for purse-seines it requires 1x1 degree spatial resolution. Operational data of each vessel[], e.g. logbook records are normally collected by the Flag states and summary/aggregated information is submitted to the ICCAT Secretariat. Vessel-specific/trip-specific fisheries data is not available at the Secretariat.²³⁰

NPFC Convention requires each member to submit annual reports to the NPFC,²³¹ and CMMs impose some data requirements for specific species. For example, members must divide data on chub mackerel catches by the convention area and areas under national jurisdiction adjacent to the convention

227. ICCAT, *Revised Guidelines for the Preparation of Annual Reports*, Reference 12-13 (2012), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2012-13-e.pdf> [<https://perma.cc/W8U8-UMG8>] (last visited Mar. 25, 2021).

228. ICCAT, *Deadlines & Procedures for Data Submission*, ICCAT Resolution 01-16, para. 1 (2002), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2001-16-e.pdf> [<https://perma.cc/GMH5-HHVE>] [hereinafter ICCAT, *Deadlines & Procedures*]. See also ICCAT, *Compliance with Statistical Reporting Obligations*, Recommendation 05-09 (2006), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2005-09-e.pdf> [<https://perma.cc/5LK2-EPDV>] [hereinafter ICCAT, *Compliance with Statistical Reporting Obligations*] (requiring the Secretariat to prepare, as part of its report, a list of data lacking for each stock, requiring CPCs to explain its reporting deficiencies, and directing ICCAT's Compliance Committee or Permanent Working Group for the Improvement of ICCAT Statistics and Conservation Measures (PWG) to recommend action vis-à-vis a CPC's missing data).

229. ICCAT, *Deadlines & Procedures*, *supra* note 228, para. 3.

230. Email from Mauricio Ortiz, Head Research and Statistics Dept., ICCAT Secretariat, to Chris Wold, Professor, Lewis & Clark Law School (Dec. 9, 2020) (on file with author).

231. NPFC Convention, *supra* note 22, art. 13(11).

area.²³² The most recent NPFC annual report describes a need for additional data and data rules²³³ and indicates that the NPFC is developing rules for data management. At its fifth annual meeting, the NPFC endorsed the Interim Regulations for Management of Scientific Data and Information²³⁴ developed and adopted by its Scientific Committee,²³⁵ which establish a default rule of public access to annual reports, working papers, and other documents of the NPFC and its subsidiary bodies.²³⁶ The interim regulations state, for example, that “[s]cientific data (e.g., catch amount, number of vessels, number of fishing days and so on) included in Members’ Annual Reports should be uploaded to the public section of the NPFC website for public access and use.”²³⁷ However, the NPFC imposes “no requirements for NPFC members to submit vessel-specific catch data” to the NPFC Secretariat or the NPFC.²³⁸ Instead, members submit aggregated data.²³⁹

The WCPF Convention, as with the other RFMOs reviewed, provides that, “to conserve and manage highly migratory fish stocks in the Convention Area,” each member must “collect and share, in a timely manner, complete and accurate data concerning fishing activities on, *inter alia*, vessel position, catch of target and non-target species and fishing effort”²⁴⁰ In addition, the WCPF Convention has used its broad discretion to require

232. NPFC, *Chub Mackerel*, CMM 2019-07, para. 6 (2019), <https://www.npfc.int/system/files/2019-11/CMM%202019-07%20FOR%20CHUB%20MACKEREL.pdf> [<https://perma.cc/DJU6-A9GM>].

233. NPFC, *Report of the Fifth Commission Meeting*, NPFC-2019-COM05-Final Report, para. 69(q) (2019) (stating that members must “[s]hare more data of Pacific saury (e.g. size-at-maturity measurements, catch-at-size data and catch-at-age data, etc.) for improving the current stock assessment and developing future stock assessments after the SSC PS agrees upon the type and resolution of data.”), <https://www.npfc.int/sites/default/files/2019-10/NPFC-2019-COM05-Final%20Report.pdf> [<https://perma.cc/4SEU-4KD8>].

234. See NPFC, *Interim Regulations for Management of Scientific Data and Information*, NPFC-2019-COM05-WP08, in NPFC, *supra* note 232, at 82, Annex J.

235. NPFC CMM 2019-07, *supra* note 232, paras. 39–40.

236. *Id.* at 82–83.

237. *Id.* at 82. The NPFC does post this country-specific fisheries catch data on its website. See *Statistics*, NPFC, <https://www.npfc.int/statistics> [<https://perma.cc/M6ZR-7QVV>] (last visited Feb. 18, 2021).

238. Email from Dr. Alex Zavolokin, NPFC Sci. Manager, to Chris Wold, Professor, Lewis & Clark Law Sch. (Dec. 23, 2020) (on file with author).

239. *Id.*

240. WCPF Convention, *supra* note 23, art. 5(i).

members to submit “such data and information as the Commission may require”²⁴¹ by requiring members to provide data in accordance with the Scientific Committee’s document *Scientific Data to Be Provided to the Commission* (“*Scientific Data Document*”).²⁴² The *Scientific Data Document* details, among other things, the requirements for the submission of “operational level catch and effort data.”²⁴³ These data include “individual sets by longliners and purse seiners, and individual days fished by pole-and-line vessels and trollers.”²⁴⁴ It further specifies that members “shall” report vessel trip information, including the time a vessel left port to transit to a fishing area or recommences fishing after transshipping part or all of the catch at sea.²⁴⁵ Members must also report the port and date of departure,²⁴⁶ as well as a range of other information indicating that members must submit vessel-specific and trip-specific data.²⁴⁷

The *Scientific Data Document* includes an exception to the submission of operational data for those members that have “domestic legal constraints” that prevent them from submitting operational data.²⁴⁸ Until recently, the Asian fleets used this exception to submit only aggregated data.²⁴⁹ Even so, the WCPFC’s *Rules and Procedures for the Protection, Access to, and Dissemination of Data Compiled by the Commission (Rules and Procedures)* clearly identify operational data as confidential non-

241. *Id.* art. 23(2)(a).

242. WCPFC, *Scientific Data to be Provided to the Commission*, WCPFC13 § 1 (2016), <https://www.wcpfc.int/file/115986/download?token=fww6OtHi> [<https://perma.cc/B8J2-L46R>] [hereinafter *Scientific Data Document*].

243. *Id.* § 3.

244. *Id.*

245. *Id.* Annex 1, § 1.2.

246. *Id.*

247. *Id.* Annex 1, §§ 1.3-1.6 (requiring, e.g., CCMs to report information for each vessel each day, “from the start of the trip to the end of the trip,” the weight of fish caught each day for a variety of species, and even the vessel’s noon position). *See generally* Wold et al., *supra* note 17.

248. The provision reads in full:

It is recognized that certain members and cooperating non-members of the Commission may be subject to domestic legal constraints, such that they may not be able to provide operational data to the Commission until such constraints are overcome. Until such constraints are overcome, aggregated catch and effort data and size composition data, as described in (4) and (5) below, shall be provided.

Scientific Data Document, *supra* note 242, § 3.

249. *See* Wold et al., *supra* note 17, at 247-56.

public domain data.²⁵⁰ In contrast, these *Rules and Procedures* characterize annual catch estimates stratified by gear, flag, and species, as public domain data.²⁵¹ Nonetheless, even if the public is unable to obtain operational level data, the members must submit them, and the science providers to the commission are able to access them to provide advice for the long-term conservation of the stocks.²⁵²

D. Compliance Monitoring

1. The Need

Deterring IUU fishing and achieving the long-term conservation of fish stocks require effective compliance procedures; without effective compliance, fishers have no disincentive to engage in IUU fishing. Transparency has an important role in relation to compliance and enforcement data, not only for assessing the effectiveness of CMMs, but also for maintaining the reputation and legitimacy of the RFMOs themselves.

ICCAT has specifically linked its compliance regime to IUU fishing and a need for greater transparency. In the preamble to one of its compliance CMMs, it notes that IUU fishing “compromises the objectives” of the ICCAT Convention and undermines the effectiveness of ICCAT CMMs.²⁵³ In a separate compliance CMM, ICCAT has noted that, “in a responsible, open, transparent and non-discriminatory manner, the Commission should be made aware of any and all available information that may be relevant to the work of the Commission in identifying and holding accountable instances of non-compliance with management measures.”²⁵⁴

250. WCPFC, *Rules and Procedures for the Protection, Access to, and Dissemination of Data Compiled by the Commission*, *supra* note 16, Appx. 2, para. 1.

251. *See id.* Appx. 4, para. 2.

252. *See id.* para. 34.3.

253. ICCAT, *Promote Compliance by Nations of Contracting Parties, Cooperating Non-contracting Parties, Entities, or Fishing Entities with ICCAT Conservation and Management Measures*, Recommendation 06-14 (2007), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2006-14-e.pdf> [https://perma.cc/Q5CS-A8JB].

254. *See* ICCAT, *Establish a Process for the Review and Reporting of Compliance Information*, Recommendation 08-09 (2009),

While not expressly linking its compliance mechanism to the prevention of IUU fishing or the long-term conservation of fish stocks, the WCPFC acknowledges that “in a responsible, open, transparent and non-discriminatory manner,” making compliance information available will assist “in identifying and holding accountable instances of non-compliance” by members.²⁵⁵ The IATTC has specifically linked the need for improved compliance to the long-term conservation and sustainable use of the fish stocks covered by the Convention.²⁵⁶

2. The RFMO Rules

Compliance monitoring has two distinct components to it within these four RFMOs. The first component relates to a member’s implementation of the relevant convention and CMMs. The second relates to a member’s enforcement of the convention and CMMs against the vessels it flags.

With respect to implementation, each of the four RFMOs has clear rules that require each member to take the measures necessary to ensure the implementation of and compliance with the convention and CMMs.²⁵⁷ To ensure that members are, in fact, complying, these RFMOs requires each member to submit catch statistics, legal and administrative provisions, and other information to demonstrate implementation and compliance with the relevant convention and CMMs.²⁵⁸ As a general rule,

<https://www.iccat.int/Documents/Recs/compendiopdf-e/2008-09-e.pdf>
[<https://perma.cc/RN2Q-B6LK>].

255. See WCPFC, *Compliance Monitoring Scheme*, CMM 2019-06 (2019), https://www.wcpfc.int/file/391422/download?token=_FXgivFw
[<https://perma.cc/4X8T-LD5H>].

256. See IATTC, *Process for Improved Compliance of Resolutions Adopted by the Commission*, Resolution C-11-07, 1 (2011), http://www.iattc.org/PDFFiles/Resolutions/IATTC/_English/C-11-07-Active_Compliance.pdf [<https://perma.cc/8Y2S-LAEJ>].

257. Antigua Convention, *supra* note 20, art. XVIII(1). Although Article XVIII technically only applies to Antigua Convention contracting parties, Article XIX applies Article XVIII, *mutatis mutandis*, to fishing entities that are members of the Commission. ICCAT Convention, *supra* note 21, art. IX(1); NPFC, *supra* note 22, arts. 13, 16(3); WCPFC Convention, *supra* note 23, art. 5(j).

258. Antigua Convention, for example, provides that members must submit “all the information that may be required for the fulfillment of the objective of this Convention, including statistical and biological information and information concerning its fishing activities in the convention area, and shall provide to the Commission information regarding actions taken to implement the measures adopted in accordance with this

members provide this information to the relevant commission in an annual report.²⁵⁹

Members of these RFMOs are also specifically directed to ensure that the vessels they flag comply with the provisions of the convention and CMMs.²⁶⁰ Members frequently task onboard observers with monitoring vessel compliance with the convention and CMMs.²⁶¹

To facilitate compliance, these RFMOs have all established compliance mechanisms. For the IATTC's Implementation Committee, each member must, subject to any applicable rules of confidentiality, authorize the use and release of relevant information from on-board observers.²⁶² Moreover, each member must ensure that vessel owners and/or captains allow the IATTC to collect and analyze information necessary for carrying out the

Convention." Antigua Convention, *supra* note 20, art. XVIII(3). In addition, each must submit to the IATTC:

- (a) legal and administrative provisions, including those regarding infractions and sanctions, applicable to compliance with conservation and management measures adopted by the Commission;
- (b) actions taken to ensure compliance with conservation and management measures adopted by the Commission, including, if appropriate, an analysis of individual cases and the final decision taken."

Id. art. XVIII(3). *See also* WCPF Convention, *supra* note 23, art. 23 (including provisions similar to those of the Antigua Convention).

259. *See, e.g.*, Antigua Convention, *supra* note 20, art. XVIII(4)(c); NPFC, *supra* note 22, art. 16(3); WCPF Convention, *supra* note 23, art. 23(2)(a). As an example of the language use, the WCPF Convention provides:

Each member of the Commission shall take such measures as may be necessary to ensure that:

- (a) fishing vessels flying its flag comply with the provisions of this Convention and the conservation and management measures adopted pursuant hereto and that such vessels do not engage in any activity which undermine the effectiveness of such measures; and
- (b) fishing vessels flying its flag do not conduct unauthorized fishing within areas under the national jurisdiction of any Contracting Party.

WCPF Convention, *supra* note 23, art. 23(2).

260. *See* Antigua Convention, *supra* note 20, art. XVIII(4)(c); NPFC, *supra* note 22, art. 13; WCPF Convention, *supra* note 23, arts. 24, 25(2), 25(4); *see also* ICCAT Recommendation 06-14, *supra* note 253. ICCAT's provisions on flag State enforcement are scattered among many different recommendations. For example, para. 1 directs members to take "appropriate measures" to investigate any natural or legal person subject to their jurisdiction alleged to have engaged in IUU fishing, as defined by Recommendation 18-08, and take appropriate action if that person has done so.

261. *See, e.g.*, NPFC, *supra* note 22, art. 13(6); WCPF Convention, *supra* note 23, art. 28.

262. Antigua Convention, *supra* note 20, art. XVIII(4)(a).

functions of the Implementation Committee.²⁶³ Each member must also submit a report every six months on the activities of its fishing vessels for evaluation by the Committee.²⁶⁴ In the event of a finding of non-compliance by a vessel, the flag State member must impose “sanctions of sufficient gravity as to be effective in securing compliance” with the relevant CMM or Convention provision and “deprive offenders of the benefits accruing from their illegal activities, including, as appropriate, refusal, suspension or withdrawal of the authorization to fish.”²⁶⁵ Consistent with the reporting obligations of the Antigua Convention described above,²⁶⁶ any sanctions applied must be reported to the Implementation Committee. In addition, the Secretariat prepares a questionnaire on compliance with relevant IATTC resolutions that members complete as part of the review process.²⁶⁷ The Implementation Committee reviews this information and prepares a compliance record for each member for review by the IATTC.²⁶⁸ The Implementation Committee’s recommendations may include sanctions and incentives to improve compliance.²⁶⁹

ICCAT has established a Compliance Committee that reviews and evaluates each member’s compliance with the ICCAT Convention and CMMs.²⁷⁰ The Committee’s compliance evaluation is based on member reports submitted to the Secretariat on actions and measures taken against those engaged in IUU fishing, “subject to the national laws of confidentiality,”²⁷¹ in addition to other information.²⁷² Members should also submit

263. *Id.* art. XVIII(4)(b).

264. *Id.* art. XVIII(4)(c).

265. *Id.* art. XVIII(8).

266. *See supra* note 258.

267. *See* IATTC Resolution C-11-07, *supra* note 256, para. 3(a).

268. *See id.* paras. 4-5.

269. *See id.* para. 9.

270. ICCAT, *Recommendation by ICCAT to Amend the Mandate and Terms of Reference Adopted by the Commission for the ICCAT Conservation and Management Measures Compliance Committee (CoC)*, Recommendation 11-24, para. 3 (2012), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2011-24-e.pdf> [<https://perma.cc/5P8Z-C5EE>].

271. ICCAT Recommendation 06-14, *supra* note 253, para. 2.

272. *See* ICCAT, *Facilitate an Effective and Efficient Compliance Process*, Resolution 16-22 (2016), <https://www.iccat.int/Documents/Recs/compendiopdf-e/2016-22-e.pdf> [<https://perma.cc/BE7G-W3A6>] (providing, for example, that the Secretariat compiles

information to the Committee about “possible non-compliance”²⁷³ and, “consistent with domestic laws,” shall provide the ICCAT Secretariat with the findings of any investigation taken in relation to the allegations of non-compliance and any actions taken to address compliance concerns.²⁷⁴ If such an investigation is ongoing, members shall advise the Executive Secretary of the expected length of the investigation and provide periodic updates on their progress until complete.²⁷⁵ Moreover, members are required to “review their own internal actions and measures taken . . . , including punitive and sanction actions and in a manner consistent with domestic law as regards disclosure, report any relevant results of the review to the Commission at its annual meeting.”²⁷⁶ If the Committee finds areas of non-compliance that need to be addressed, it may make recommendations to ICCAT²⁷⁷ “for consideration and appropriate action,”²⁷⁸ including directing the flag members to take further action to enhance compliance with ICCAT CMMs by specific vessels.²⁷⁹

The NPFC Convention establishes a Technical and Compliance Committee (“TCC”) to monitor and review compliance with NPFC CMMs and implementation of cooperative measures for monitoring, control, surveillance, and enforcement.²⁸⁰ The NPFC’s TCC receives reports from each member relating to measures taken “to monitor, investigate and penalize violations of provisions of this Convention and measures adopted pursuant to this Convention.”²⁸¹ Based on those reports, the NPFC’s TCC makes and reports its recommendations to the NPFC.²⁸²

an inventory of compliance information for each CPC for the Compliance Committee to review.).

273. ICCAT Recommendation 06-14, *supra* note 253, para. 1 (indicating that information must be submitted at least 120 days before the relevant annual meeting).

274. *Id.* para. 3 (providing that information must be submitted at least 30 days before the annual meeting).

275. *Id.*

276. ICCAT Recommendation 13-13, *supra* note 67, para. 6.

277. *Id.* para. 2. For more on the process for assessing a CPC’s compliance, see ICCAT, Resolution 16-22, *supra* note 272.

278. ICCAT Resolution 16-22, *supra* note 272, para. 8.

279. See ICCAT, Recommendation 13-13, *supra* note 67, para. 6.

280. NPFC Convention, *supra* note 22, art. 11(1).

281. *Id.* art. 11(4)(c).

282. *Id.* arts. 7(2), 11(4)(d)-(e).

To assist the NPFC and its TCC in fulfilling their compliance-related duties, the NPFC Secretariat prepares a Draft Compliance Report based on information from a variety of information sources, including each member's annual report.²⁸³ In their annual report, members must provide a range of information, such as a statement of action taken "in response to boarding and inspections of their fishing vessels that resulted in observation of alleged violations, including any proceedings instituted and sanctions applied."²⁸⁴ Each member must provide information, clarifications, and corrections to any potential compliance issue raised in the Draft Compliance Report,²⁸⁵ and then the Secretariat prepares and publishes a revised Draft Compliance Report on the non-public section of the NPFC's website.²⁸⁶ Based on the revised Draft Compliance Report, the NPFC's TCC prepares a provisional compliance report,²⁸⁷ which it forwards to the NPFC,²⁸⁸ which in turn becomes the Final Compliance Report after adoption.²⁸⁹ The NPFC's binding CMM on compliance provides that the Draft and Provisional Compliance Reports, and all associated documentation, "shall constitute non-public domain data," but that the Final Compliance Report and the executive summary "shall be public domain data."²⁹⁰ Nonetheless, the Final Compliance Reports are not available on the NPFC's website.

The WCPFC requires members to, among other things, take measures to ensure that nationals and vessels owned by its nationals,²⁹¹ as well as vessels it flags,²⁹² comply with the convention and CMMs. At the request of another member, a

283. NPFC, *Conservation and Management Measure For The Compliance Monitoring Scheme*, CMM 2019-13, para. 8 (2019), <https://www.npfc.int/cmm-2019-13-compliance-monitoring-scheme> [<https://perma.cc/NY7G-T3F4>].

284. NPFC, *Conservation and Management Measure For High Seas Boarding and Inspection Procedures for the North Pacific Fisheries Commission*, CMM 2017-09 para. 42 (2017), <https://www.npfc.int/cmm-2017-09-high-seas-boarding-and-inspection-procedures-npfc> [<https://perma.cc/9SYD-4RYC>].

285. NPFC CMM 2019-13, *supra* note 283, para. 10(a).

286. *Id.* paras. 11-12.

287. *Id.* paras. 13-14.

288. *Id.* para. 17.

289. *Id.* para. 18.

290. *Id.* para. 21.

291. WCPFC Convention, *supra* note 23, art. 23(5).

292. *Id.* art. 24(1).

member must investigate any alleged violation and report to both that other CCM and the WCPFC any action taken or proposed to be taken in response to the alleged violation.²⁹³ When sufficient evidence indicates that a violation has occurred, the flag State must institute proceedings without delay.²⁹⁴ Any penalties must be “adequate in severity to be effective in securing compliance and to discourage violations.”²⁹⁵ Importantly, each member must transmit to the WCPFC an annual statement of compliance measures taken, including any sanctions imposed.²⁹⁶

The WCPF Convention also establishes a Technical and Compliance Committee (“TCC”)²⁹⁷ to help the members monitor and review compliance with identified provisions of CMMs.²⁹⁸ As part of the WCPFC’s Compliance Monitoring Scheme (“CMS”), the WCPFC Secretariat prepares individual draft Compliance Monitoring Reports for each member based on annual reports, VMS information, transshipment reports, and other documents.²⁹⁹ To determine whether members are taking action against vessels alleged to be in non-compliance, the Secretariat maintains an online compliance file system that tracks alleged violations,³⁰⁰ which members must update as an

293. *Id.* art. 25(2).

294. *Id.* art. 25(3).

295. *Id.* art. 25(7).

296. *Id.* art. 25(8).

297. *Id.* art. 11(1).

298. *Id.* art. 14(1)(b). WCPFC adopted the Compliance Monitoring Scheme (“CMS”) to establish a process for identifying which provisions to assess for compliance. WCPFC, *supra* note 254, paras. 1-2, 6.

299. WCPFC CMM 2019-06, *supra* note 255, paras. 22-23. CMM 2019-06 provides that the draft Compliance Monitoring Reports will be sourced from documents, such as the following:

- i. information available to the Commission through data collection programmes, including but not limited to, high seas transshipment reports, Regional Observer Programme data and information, Vessel Monitoring System information, High Seas Boarding and Inspection Scheme reports, and charter notifications;
- ii. information contained in an Annual Report which is not available through other means; and
- iii. where appropriate, any additional suitably documented information regarding compliance during the previous calendar year.

Id. para. 23.

300. *Id.* para. 9. CCMs must respond to the following questions with respect to alleged violations by vessels it flags:

- (a) Has an investigation been started? (Yes/No)

investigation progresses until that investigation reaches a conclusion.³⁰¹

The WCPFC's TCC reviews the draft Compliance Monitoring Report prepared by the Secretariat and, after reaching agreement on its contents, forwards a Provisional Compliance Monitoring Report to the WCPFC for decision.³⁰² Draft and Provisional Compliance Monitoring Reports constitute non-public domain data, and the Final Compliance Monitoring Report constitutes public domain data.³⁰³ Regardless of whether or not the Draft Monitoring Report is confidential, each member is required to submit information in order for the relevant WCPFC bodies to complete their work on the Compliance Monitoring Report.

V. IMPROVING TRANSPARENCY TO MINIMIZE IUU FISHING AND ENSURE LONG-TERM SUSTAINABILITY OF FISH STOCKS

IUU fishers are abetted by the lack of transparency within RFMOs and at the national level.³⁰⁴ As FAO has concluded, a lack of transparency facilitates a range of behavior that causes IUU fishing and undermines the long-term conservation and management of fish stocks.³⁰⁵ Consequently, it is vital to fisheries management and food security that RFMOs adopt strong rules to ensure the transparency of fisheries information, including information relating to vessel ownership, the reporting of catch data, VMS, and the reporting of sanctions and other compliance

(b) If yes, what is the current status of the investigation? (Ongoing, Completed)

(c) If the alleged violations stem from an observer report, have you obtained the observer report? (Yes/No)

(d) If no, what steps have you taken to obtain the observer report?

(e) What was the outcome of the investigation? (Closed – no violation; Infraction – not charged; Infraction – charged)

(f) If no violation, provide brief explanation

(g) If infraction, but not charged, provide brief explanation

(h) If infraction charged, how was it charged (e.g., penalty/fine, permit sanction, verbal or written warning, etc.) and level of charged (e.g., penalty amount, length of sanction, etc.).

Id. para. 10.

301. *Id.* para. 11.

302. *Id.* paras. 31-32.

303. *Id.* para. 8.

304. *See supra* Section IV.

305. FAO, STATE OF WORLD FISHERIES AND AQUACULTURE, *supra* note 141, at 105.

issues. In addition, RFMO members must comply with those requirements.

In recent years, members have rejected proposals to increase transparency in these RFMOs by increasing observer coverage on longline vessels³⁰⁶ and improving reporting of transshipment events on the high seas.³⁰⁷ In the IATTC, the Republic of Korea and Chinese Taipei, along with other IATTC members, objected to a proposal to increase observer coverage on longline vessels to 20%, ostensibly due to costs and the lack of sufficient numbers of observers.³⁰⁸ The Republic of Korea, China,³⁰⁹ and Chinese Taipei³¹⁰ have also opposed prohibitions against high seas transshipment in the WCPFC convention area as costly and unnecessary. The Republic of Korea opposed observer coverage on both the carrier and longline vessels during transshipment.³¹¹ China and Japan have also opposed additional rules relating to high seas transshipment.³¹² More broadly, the NPFC has

306. See, e.g., WCPFC, *Conservation and Management Measure to Mitigate the Impact of Fishing for Highly Migratory Fish Stocks on Seabirds*, CMM 2018-03, para. 4 (2018), <https://www.wcpfc.int/file/227140/download?token=WifcidLy> [<https://perma.cc/76QV-6FVQ>] (“Those SIDS and Territories that have vessels operating south of 250 South are encouraged to collect data on seabird interactions, increase observer coverage rate as appropriate, and implement seabird mitigation measures when they operate within their EEZs.”).

307. Chris Wold & Alfred “Bubba” Cook, *Observer Reporting of Transshipments in the WCPFC*, WCPFC16-2019-OP07 (2019), <https://www.wcpfc.int/file/362282/download?token=yKqpKkX3> [<https://perma.cc/BRZ8-HMY8>].

308. IATTC, *Minutes of the 93rd Meeting of the IATTC*, 10 (2018), https://www.iattc.org/Meetings/Meetings2018/IATTC-93/Docs/_English/IATTC-93-MINS_93rd-Meeting-of-the-IATTC.pdf [<https://perma.cc/K5VZ-GW2U>].

309. See, e.g., WCPFC, *Fourteenth Regular Session of the Technical and Compliance Committee Majuro, Republic of Marshall Islands*, para. 196 (2018), https://www.wcpfc.int/system/files/TCC14%20Summary%20Report%20Final_30%20Nov.pdf [<https://perma.cc/BD9G-A68Z>] (“Korea expressed agreement with the statement by China, and noted that it was not feasible to require longline vessels to meet the same observer obligations as purse seine vessels. It noted that Korea has well-trained observers on its carrier vessels, and very strong MCS tools, with very good monitoring and tracking.”).

310. See *id.* para. 199 (“Chinese Taipei stated that high seas transshipment is a globally common practice, and supported its regulation, but not a ban, while noting that any illegal activities should be addressed.”).

311. *Id.* para. 196.

312. *Id.* paras. 194, 197. The WCPFC has established a Transshipment Working Group to explore ways to improve transshipment reporting, among other things. For documentation relating to the WCPFC transshipment working group, see *IWG-*

prohibited observers to attend its small working group meetings, which are being held virtually during the COVID-19 pandemic.³¹³

With respect to the issues assessed in this report, the conclusions are mixed. On the whole, members of the RFMOs, including those claiming that privacy laws prevent them from submitting some types of information, are in fact fulfilling their responsibilities to submit vessel information, require their vessels to use VMS, and provide vessel-specific catch landing data. However, the rules of the RFMOs are often inadequate to provide a level of transparency needed to prevent IUU fishing. As described below, the RFMOs assessed in this report do not require RFMO members to submit the names of the beneficial owners of vessels authorized to fish in the RFMO convention areas. In addition, the RFMOs do not disclose information regarding compliance issues. While it is possible to determine generally that a member is in compliance, it is not possible to determine on what basis the members made those conclusions or the extent to which vessels have been penalized for infractions.

A. Vessel Registration

Among the most important actions that RFMOs can take to lift the veil of secrecy in fisheries management is to require and record accurate information concerning the beneficial ownership of vessels.³¹⁴ If the vessel “owner” is listed as a corporation, that corporation may very well be a shell corporation used to hide the identities of beneficial owners.³¹⁵ That shell corporation may be owned by other shell corporations spread across multiple jurisdictions, thus making prosecutions for any wrongdoing extremely difficult.³¹⁶

In that regard, the RFMOs reviewed here are failing to adopt the necessary measures to ensure compliance with CMMs and

Transshipment, WCPFC, <https://www.wcpfc.int/iwg-transshipment> [https://perma.cc/RBC5-R3PU] (last visited Feb. 18, 2021).

313. Rachel Hopkins, *Fisheries Bodies Should Be More Transparent in Decision-Making, Not Less*, PEW CHARITABLE TRUSTS (Sept. 8, 2020), <https://www.pewtrusts.org/en/research-and-analysis/articles/2020/09/08/fisheries-bodies-should-be-more-transparent-in-decision-making-not-less> [https://perma.cc/S4FZ-NW7K].

314. See NAFIG & INTERPOL, *supra* note 7, at 64-65.

315. *Id.* at 24-25.

316. *Id.*

prevent IUU fishing. None of the RFMOs assessed in this report require their members to submit information on beneficial ownership.³¹⁷ Instead, they require members to submit the name and address of the owner or owners.³¹⁸

While not comprehensively reviewing each of the thousands of vessels included in the vessel registers of these four RFMOs, a meaningful search indicates that the vast majority of vessel owners are listed as corporations. In the WCPFC, for example, only one vessel was found that named an individual as the owner—for the purse seiner *1 Sooduck Ho*, the owner is listed as Park Byeong Ho.³¹⁹ In ICCAT³²⁰ and the IATTC,³²¹ most, if not all, vessels are registered under corporate names, not the names of the beneficial owners; this Author found no records listing an individual as the vessel owner. In the NPFC, members appear to be submitting all the required information, but the publicly available vessel register does not record the owner of the vessel.³²²

Information from the compliance regimes of the IATTC, ICCAT, NPFC, and WCPFC indicates that members are fulfilling

317. See *supra* Section IV.A.

318. *Id.*

319. *WCPFC Record of Fishing Vessels: 1 Sooduck Ho*, WCPFC <https://www.wcpfc.int/node/13144> [<https://perma.cc/Z3Y6-PTUK>] (last visited Feb. 18, 2021).

320. See, e.g., *ICCAT Record of Vessels*, ICCAT, <https://www.iccat.int/en/vesselsrecord.asp99> [<https://perma.cc/YL7A-RSZS>] (last visited Feb. 18, 2021) (recording the name and address of the owner of the Korean-flagged *Kova* as Dongwon Industries and recording the name and address of the owner of the Chinese Taipei-flagged *Chun Fa No. 99* as Chen Feng Fishery Co., Ltd.).

321. See, e.g., *IATTC Vessel Record*, IATTC, <https://www.iattc.org/VesselRegister/VesselDetails.aspx?VesNo=8261&Lang=en> [<https://perma.cc/6UPW-CZR6>] (last visited Feb. 18, 2021) (recording the name and address of the owner of the Korean-flagged *Oryong No. 315* as Sajo Industries Company, Ltd.). See also *IATTC Vessel Record*, <https://www.iattc.org/VesselRegister/VesselDetails.aspx?VesNo=16357&Lang=en> [<https://perma.cc/RV49-DQ4K>] (last visited Feb. 18, 2021) (recording the name and address of the owner of the Chinese Taipei-flagged *Da Sheng* as Jong Shyn Shipbuilding Company, Ltd.).

322. See, e.g., *NPFC Vessel Register*, <https://www.npfc.int/vessels/1337NPFC> [<https://perma.cc/R772-3H4B>] (last visited Feb. 18, 2021) (recording the Korean-flagged *101 Haerang* as authorized to fish in the NPFC convention area but not recording the name and address of the owner of the vessel). *An Fong No. 116*, NPFC, <https://www.npfc.int/vessels/91> [<https://perma.cc/396J-BM8R>] (last visited Feb. 18, 2021) (recording the Chinese Taipei-flagged *An Fong No. 116* as authorized to fish in the NPFC convention area but not recording the name and address of the owner of the vessel).

their responsibilities to submit the required information concerning their vessels.³²³ Thus, even if RFMO members are fulfilling their responsibilities to submit information concerning vessels to the relevant RFMO, the RFMO members are not adopting requirements for vessel registration and the submission of information regarding beneficial ownership of vessels to improve transparency and better prevent IUU fishing.

B. VMS

Many fishers believe that public disclosure of VMS data may reveal important fishing grounds to other fishers.³²⁴ However, the International Maritime Organization already requires many large vessels, including fishing vessels, to use an automatic identification system (“AIS”),³²⁵ which is publicly available and reveals the location of vessels.³²⁶ Given increasing surveillance of IUU fishing, the failure to operate VMS may “raise suspicion among authorities and draw attention to illegal activity.”³²⁷

323. See, e.g., WCPFC, *Summary Report of the WCPFC’s Sixteenth Annual Meeting*, 234-39 (2020), https://www.wcpfc.int/system/files/Final%20WCPFC16%20Summary%20Report%20as%20at%202%20Apr%202020_opt.pdf [<https://perma.cc/P4AM-NP7F>] [hereinafter WCPFC16 Summary Report]. No information was found in the documents of the other three RFMOs to indicate that members were failing to submit the required vessel information.

324. *Are There Concerns about Sharing VMS Data?*, GLOBAL FISHING WATCH, <https://globalfishingwatch.org/faqs/are-there-concerns-about-sharing-vms-data/> [<https://perma.cc/5XUU-V5CV>] (last visited Feb. 18, 2021).

325. Int’l Maritime Org. [IMO], *Revised Guidelines for the Onboard Operational Use of Shipborne Automatic Identification Systems (AIS)*, Resolution A.1106(29) (Dec. 2, 2015), https://www.navcen.uscg.gov/pdf/ais/references/IMO_A1106_29_Revised_guidelines.pdf [<https://perma.cc/2RMJ-5WHW>] (“[R]egulation V/19 of the International Convention for the Safety of Life at Sea (SOLAS) requires all ships of 300 gross tonnage and upwards engaged on international voyages, cargo ships of 500 gross tonnage and upwards not engaged on international voyages and passenger ships irrespective of size to be fitted with . . . AIS . . .”).

326. AIS was not developed for fisheries purposes; rather, it was developed to show the location of vessels to avoid collisions. In order to do that, the data is publicly available. Jean-Pierre Cauzac, *VMS or AIS for Sustainable Fisheries Management?*, COLLECTE LOCALISATION SATELLITES (July 3, 2020), <https://fisheries.groupcls.com/vms-ais-sustainable-fisheries/> [<https://perma.cc/T5TN-ZCZH>]. It is, in fact, one important source of data that Global Fishing Watch uses to track fishing vessels. *What is Global Fishing Watch’s VMS Transparency Initiative?*, GLOBAL FISHING WATCH, <https://globalfishingwatch.org/faqs/what-is-global-fishing-watches-vms-transparency-initiative/> [<https://perma.cc/RQ66-VKAD>] (last visited Feb. 19, 2021).

327. GLOBAL FISHING WATCH, *supra* note 324.

Despite moves to make VMS data publicly available,³²⁸ VMS data remains confidential in the IATTC, ICCAT, NPFC, and WCPFC.³²⁹ Moreover, in the IATTC and ICCAT, the information is transmitted from the vessel to the flag State, and the flag State is not required to forward the data to the relevant commission.³³⁰ Only in the WCPFC do vessels transmit VMS data directly to the Secretariat.³³¹

Despite the requirement in the WCPFC to report VMS data directly to the Secretariat, WCPFC members have noted that “VMS non-reporting to the Commission . . . has been a long-standing issue” and that “the problem is worsening, with . . . patrols detecting significant numbers of vessels that are not reporting to the Commission VMS.”³³² Other members have noted the need to reduce the number of “dark” vessels—those operating without VMS.³³³

C. Vessel-based Catch Landing Data

In the past, the Asian fleets have resisted the submission of operational fisheries data to RFMOs.³³⁴ Beginning in 2017, Japan and the Republic of Korea began submitting operational data to the WCPFC rather than aggregate data,³³⁵ while Chinese Taipei submitted some operational data³³⁶ and a significant amount of logbook data.³³⁷ By 2018, Chinese Taipei began submitting

328. See GLOBAL FISHING WATCH, *supra* note 165.

329. See *supra* Section IV.B.

330. See *supra* Section IV.B.

331. *Id.*

332. WCPFC, *Report of the Fifteenth Meeting of the Technical and Compliance Committee*, para. 204 (2019), https://www.wcpfc.int/system/files/WCPFC16-2019-TCC15%20TCC15%20Summary%20Report_issued%201%20December.pdf [<https://perma.cc/FU59-73A8>] (statement of the Cook Islands on behalf of the 17 members of the Forum Fisheries Agency).

333. *Id.* para. 208 (statement of the United States).

334. See Wold et al., *supra* note 17, at 239 (describing the history of lack of submission of operational data by Asian fleets, particularly Japan and the Republic of Korea, in the WCPFC).

335. *Data Gaps 2013*, *supra* note 208, para. 19 (“Provision of operational data (100% coverage) for the Korean Longline and Purse seine fleets for 2014, 2015 and 2016. Significantly, the logbook data for recent years have been collected through an E-Reporting initiative established by Korea.”).

336. *Id.* para. 45.

337. *Id.* (“Provision of 2016 logbook data for the Chinese Taipei longline fleet, for the first time. Coverage is currently very low, but Chinese Taipei has advised that of

operational data.³³⁸ In the WCPFC, “the provision of *historical* operational data for the Asian tuna fleets (China, Indonesia, Japan, Korea and Chinese Taipei) remain the main data gaps.”³³⁹ The provision of operational data by the Asian fleets is indeed a significant development to improve fisheries management.³⁴⁰ Significantly, Chinese Taipei specifically noted that it can now submit operational data because it has removed the domestic legal constraints that it claimed prevented it from doing so.³⁴¹ The Republic of Korea has not made a similar comment, but notably it began submitting operational data after the submission of a paper to the WCPFC concluding that it did not have domestic legal constraints that prevented it from submitting such data to the WCPFC.³⁴² The Republic of Korea and Chinese Taipei are apparently submitting some operational data to ICCAT,³⁴³ although it is not required to do so.³⁴⁴

However, the IATTC does not require the submission of operational level data, only aggregated data,³⁴⁵ and IATTC

January 2017, their domestic constraint has been lifted so logbook data can be provided in the future – this is another very positive development.”).

338. Peter Williams, *Scientific Data Available to the Western and Central Pacific Fisheries Commission*, WCPFC-SC14-2018/ST-WP-01 Rev. 1, ¶ 19 (2018), <https://www.wcpfc.int/file/218151/download?token=uRNxxhlw> [<https://perma.cc/G3K5-LZLK>] [hereinafter *Data Gaps 2018*].

339. *Id.* para. 46.

340. *Id.* para. 20 (“The operational catch and effort data submitted for the China, Indonesia, Japan, Korea and Chinese Taipei fleets in recent years are by far the most significant developments in resolving operational data gaps since the establishment of the Commission.”).

341. Peter Williams, *Scientific Data Available to the Western and Central Pacific Fisheries Commission*, WCPFC-SC13-2017/ST-WP-01, para. 44 (2017) (“Advice from Chinese Taipei that the domestic constraints that have previously prevented them from submitting operational data have been recently resolved and some operational longline catch/effort data were provided this year.”).

342. CHRIS WOLD ET AL., REQUIREMENTS FOR OPERATIONAL DATA ANALYSIS 1 (2015).

343. ICCAT, *Report of the Standing Committee on Research and Statistics, in 2 REPORT FOR THE BIENNIAL PERIOD 2018-19: PART II 46* (2020) (noting that with respect to bigeye and yellowfin tuna, the Republic of Korea and Chinese Taipei “[t]he main change from the previous assessment was the development and use of a single Joint Longline standardized abundance index (Hoyle et al., 2019) instead of each individual CPC’s standardized CPUE indices used in the 2015 assessment. The joint longline standardized index for 1959-2017 was constructed using detailed operational data of major longline fleets (Japan, Korea, United States and Chinese Taipei.”)).

344. *See supra* Section IV.C.2.

345. *See supra* Section IV.C.2.

Secretariat staff confirm that the Republic of Korea and Chinese Taipei do not submit operational level data.³⁴⁶ The NPFC does not require its members to submit operational level data.³⁴⁷

D. Compliance Mechanisms

Despite calls for transparent compliance regimes, the compliance regimes of these four RFMOs are far from transparent. Outside observers cannot verify whether an RFMO member has taken relevant action against its vessels found to be in non-compliance because the publicly available Final Compliance Monitoring Reports do not have sufficient detail. In the WCPFC, for example, the Final Compliance Monitoring Report consists of a table that indicates whether or not the CCM is compliant, non-compliant, or priority non-compliant for those obligations assessed in that year.³⁴⁸ No narrative accompanies the table to determine how the WCPFC reached its conclusions. Compliance information is not publicly available for the IATTC³⁴⁹ or NPFC;³⁵⁰ only some ICCAT information is available.

Based on the limited available evidence, it appears that the Asian fleets are, for the most part, complying with their obligations. For example, in ICCAT, the Republic of Korea has

346. E-mail from Chris Wold to Brad Wiley, IATTC Policy Officer (Oct. 2020) (on file with author).

347. See *supra* Section IV.C.2.

348. See, e.g., WCPFC, *WCPFC16 Summary Report*, *supra* note 323, at 218-44. A CCM is considered “priority non-compliant” with an obligation if any of the following have occurred, as applicable:

- a. exceeded quantitative limit established by the Commission;
- b. failure to submit its Part II Annual Report;
- c. repeated non-compliance with an obligation for two or more consecutively assessed years; or
- d. any other non-compliance identified as Priority Non-Compliance by the Commission.

WCPFC CMM 2019-06, *supra* note 255, Annex 1.

349. See, e.g., *IATTC and AIDCP Annual Meetings*, IATTC (July 2017), <https://www.iattc.org/Meetings/Meetings2017/IATTC-92/IATTC-AIDCP-Annual-Meetings-JUL2017ENG.htm> [<https://perma.cc/7DGA-78GH>] (blocking access to the document “Compliance 2016”).

350. See, e.g., *Review of the CCMs and the recommendations by the Committees*, NPFC, <https://www.npfc.int/meetings/5th-annual-session-commission/71-review-cmms-and-recommendations-committees> [<https://perma.cc/4RWT-QCP9>] (last visited Feb. 28, 2021) (blocking access to Conservation Management Measure for the Compliance Monitoring Scheme, NPFC-2019-COM05-WP12 (Rev 3)).

been largely in compliance with the CMMs reviewed by the ICCAT Compliance Committee. In 2017, the Compliance Committee reported that the Republic of Korea submitted a report late³⁵¹ and had no issues of non-compliance in 2018.³⁵² For the 2017 violation for failing to submit data (“Task 1 data”), however, ICCAT did impose on the Republic of Korea prohibitions against retaining certain species.³⁵³ Chinese Taipei did not have any compliance issues for these two years.³⁵⁴ The compliance report did note that perhaps some transshipment issues arose in 2017 for both the Republic of Korea and Chinese Taipei, but ICCAT has not made the documents in which those issues are discussed publicly available.³⁵⁵ ICCAT documents from 2020 do not show any possible infringements relating to the vessels of the Republic of Korea or Chinese Taipei.³⁵⁶ In addition, Chinese Taipei reported that it had imposed sanctions on and deregistered the vessel *Yu Fong 168* and asked ICCAT members for assistance in locating the vessel because it had not been able to do so “for some years.”³⁵⁷

The WCPFC assessed dozens of obligations and found the Republic of Korea non-compliant with three obligations and

351. ICCAT, *Report of the Compliance Committee, in* 1 REPORT FOR THE BIENNIAL PERIOD 2018–2019, PART I 673 (2019), https://www.iccat.int/Documents/BienRep/REP_EN_18-19_I-1.pdf [https://perma.cc/4XZ5-V7C2].

352. The Compliance Committee noted that the Republic of Korea had not submitted inspection reports for foreign vessels entering Korean ports, but Korea responded that no foreign vessels fishing in ICCAT waters were entering Korean ports. *Id.*

353. ICCAT, HISTORY OF PROHIBITIONS APPLIED UNDER REC. 11-15 COC-303-Annex 8, https://www.iccat.int/com2020/Annex/COC_303_Annex_8.pdf [https://perma.cc/K5P7-58KT] (last visited Feb. 28, 2021).

354. ICCAT, *Report of the Compliance Committee, supra* note 351, at 701.

355. *Id.* at 673, 701 (referencing COC-305/17 and COC-305/18, neither of which are publicly accessible).

356. *See, e.g.*, ICCAT, POTENTIAL NON-COMPLIANCE AND RESPONSES—BFT VESSELS ISSUES OF POTENTIAL NON-COMPLIANCE REPORTS BY OBSERVERS UNDER THE ICCAT REGIONAL OBSERVER PROGRAMS, Doc. No. COC-305_Appendix_2 (2020), https://www.iccat.int/com2020/ENG/COC_305_APP2_ENG.pdf [https://perma.cc/NH73-7G9U].

357. ICCAT, *Report of the 12th Meeting of the Working Group on Integrated Monitoring Measures (IMM), in* 1 REPORT FOR THE BIENNIAL PERIOD 2018–2019: PART I 209 (2019), https://www.iccat.int/Documents/BienRep/REP_EN_18-19_I-1.pdf [https://perma.cc/VKM5-MNB3].

priority non-compliant for one in the 2018 fishing season.³⁵⁸ It also found Chinese Taipei non-compliant with four obligations but also “priority non-compliant” with two additional obligations relating to transshipment reporting.³⁵⁹ Chinese Taipei is also investigating non-compliance of its vessels in at least three circumstances and the Republic of Korea in at least one.³⁶⁰ In the 2017 fishing season, the WCPFC found the Republic of Korea non-compliant for four obligations, priority non-compliant for five, and was conducting investigations into violations by at least three vessels.³⁶¹ It found Chinese Taipei to be priority non-compliant for five obligations and investigating violations by five of its vessels.³⁶²

Both the Republic of Korea and Chinese Taipei are engaged in “flag State investigations,”³⁶³ which are triggered when another member believes a vessel of the flag State is fishing inconsistently with a CMM.³⁶⁴ The flag State must report on the progress of the investigations until it completes those investigations and takes any remedial action.³⁶⁵ Because no information accompanies the compliance reports, however, observers cannot determine on what basis the investigations were initiated or how they were resolved.

To obtain this kind of information, nongovernmental organizations that attend RFMO meetings have sought greater

358. WCPFC, *WCPFC16 Summary Report*, *supra* note 323, at 222-23.

359. WCPFC CMM 2009-06 on transshipment provides that if transshipment occurs on the high seas, CCMs must submit information to the WCPFC Executive Director at least 36 hours prior to each transshipment and provide the Executive Director with a WCPFC Transshipment Declaration within 15 days of completion of each transshipment. WCPFC, CONSERVATION AND MANAGEMENT MEASURE ON THE REGULATION OF TRANSHIPMENT 2009-06 7, paras. 35(a)(iii)-(iv) (2009), <https://www.wcpfc.int/file/227377/download?token=4vIGoE4A> [<https://perma.cc/4G8B-VXRF>]. It is these two obligations for which Chinese Taipei is priority non-compliant due to failures to fulfill these obligations over multiple years. WCPFC, *WCPFC16 Summary Report*, *supra* note 323, at 222-23.

360. *Id.* at 218-44.

361. WCPFC, SUMMARY REPORT OF THE WCPFC'S FIFTEENTH ANNUAL MEETING, 293-320 (May 4, 2019), https://www.wcpfc.int/system/files/WCPFC15%20Summary%20Report%202018_final%20issued%204%20May%202019_optb.pdf [<https://perma.cc/WM5U-RHK4>].

362. *Id.*

363. WCPFC, *WCPFC16 Summary Report*, *supra* note 323, at 209.

364. WCPFC Convention, *supra* note 23, art. 25(2).

365. WCPFC CMM 2019-06, *supra* note 255, ann. II.

access to meetings concerning compliance.³⁶⁶ Members, however, have blocked these efforts. The presence of observers in discussions of compliance has been a very contentious issue. In the WCPFC, for example, Palau has taken a very strong position against observer participation in WCPFC compliance discussions.³⁶⁷ Whether a large percentage of WCPFC members also hold this view is not known; because Palau's position is well known, others likely do not consider it necessary to comment. Also, members often make their views known to the chair in the margins of the meeting so that they are not on record as opposing observer participation.³⁶⁸ Only a small number of delegations have been willing to voice support for observer participation.³⁶⁹

VI. CONCLUSION

Despite management of fish stocks by RFMOs, fish stocks continue to decline.³⁷⁰ Poor management of fish stocks and IUU fishing have both contributed to these declines.³⁷¹ As the US Coast Guard has noted, “[IUU] fishing is a pervasive security threat to U.S. national interests. By undermining international agreements and fisheries conservation measures, IUU fishing jeopardizes global food security, with pronounced destabilizing effects on vulnerable coastal States.”³⁷²

366. See, e.g., WCPFC, *WCPFC16 Summary Report*, *supra* note 323, para. 94.

367. See, e.g., WCPFC, REPORT OF THE FIFTEENTH MEETING OF THE TECHNICAL AND COMPLIANCE COMMITTEE, para. 80 (2019), https://www.wcpfc.int/system/files/WCPFC16-2019-TCC15%20TCC15%20Summary%20Report_issued%201%20December.pdf [<https://perma.cc/4EUQ-T7XE>] [hereinafter TCC15 Summary Report] (“Palau stated that it had experienced problems in the past when observers released information that was not necessarily accurate, but reflected that observers had also been very helpful.”).

368. WCPFC, REPORT OF THE THIRTEENTH MEETING OF THE TECHNICAL AND COMPLIANCE COMMITTEE, para. 81 (2018), https://www.wcpfc.int/system/files/TCC14%20Summary%20Report%20Final_30%20Nov.pdf [<https://perma.cc/T77A-GU22>] (“The Chair noted that requests had been received to conduct the CMS review in closed session, in accordance with past practice.”).

369. WCPFC, *TCC15 Summary Report*, *supra* note 367, paras. 75-78 (reporting that the United States, Canada, the European Union, and Indonesia spoke in favor of including observers in compliance discussions).

370. See *supra* Section II.

371. FAO 2020, *supra* note 1, at vi (“In places where fisheries management is not in place, or is ineffective, the status of fish stocks is poor and deteriorating.”).

372. U.S. COAST GUARD, ILLEGAL, UNREPORTED, AND UNREGULATED FISHING: STRATEGIC OUTLOOK 4 (2020),

International organizations and RFMOs have noted the critical importance of transparency for improving fisheries management and combatting IUU fishing.³⁷³ Nonetheless, even as RFMOs, including the IATTC, ICCAT, NPFC, and WCPFC, build elaborate strategies for monitoring, control, and surveillance of fisheries, they have largely failed to design transparent mechanisms to ensure those mechanisms succeed. For example, while these RFMOs require their members to maintain a record of fishing vessels and for RFMO secretariats to publish those records, they do not require submission of the beneficial owners of the vessels. As a consequence, the beneficial owners are able to hide behind shell corporations, making it virtually impossible for prosecutors to identify the person engaged in violation of the conservation and management measures of RFMOs.³⁷⁴ In addition, while the WCPFC requires the submission of vessel-specific fisheries data, other RFMOs do not; in any event, these data, in addition to VMS data, are considered strictly confidential.³⁷⁵ Moreover, despite the construction of elaborate compliance regimes, they remain hidden behind walls of confidentiality.³⁷⁶ What little information is made publicly available is inscrutable; these RFMOs so report the bases for finding an RFMO member compliant or non-compliant. IUU fishing flourishes when information remains cloaked in secrecy, and the long-term conservation of fish stocks consequently suffers.

To combat IUU fishing and enhance the long-term conservation of fish stocks, RFMOs must increase transparency and, given the current state of global fish stocks, accelerate the speed with which they develop more transparent processes. Transparency “will help generate the behavioral change needed to ensure thriving fish populations and the security of our ocean.”³⁷⁷ With greater transparency, the veils of secrecy that hide

https://www.uscg.mil/Portals/0/Images/iuu/IUU_Strategic_Outlook_2020_FINAL.pdf [<https://perma.cc/5T9Y-3UJ8>].

373. *See supra* Section III. *See also supra* notes 136-139 and accompanying text.

374. *See supra* Section IV.A.

375. *See supra* Section IV.B-C.

376. *See supra* Section IV.D.

377. Tony Long, *Track and Trace: Transparent and Digitized Fishing Data Is Crucial to Ocean Resilience*, *GLOB. FISHING WATCH* (June 3, 2020),

IUU fishing in Earth's vast oceans will begin to fall, bringing those fishers operating in the shadows into the light.

