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Below the Surface

How Illegal, Unreported and Unregulated
Fishing Threatens our Security

Cathy Haenlein



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Contents

| | |
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| Acknowledgements | v |
| Executive Summary | vii |
| Introduction | 1 |
| I. Understanding IUU Fishing | 5 |
| II. IUU Fishing as Transnational Organised Crime | 13 |
| III. IUU Fishing and Its Links to Broader Criminality | 19 |
| IV. IUU Fishing and Security | 31 |
| V. Responding to IUU Fishing in Policy and Practice | 37 |
| Conclusions | 41 |
| About the Author | 45 |

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Executive Summary

ILLEGAL, UNREPORTED AND UNREGULATED (IUU) fishing is conventionally treated by governments worldwide as the result of technical regulatory infringements. As such, it is often deemed a matter for industry regulators and dismissed as a trivial issue insofar as it relates to national security.

This diagnosis is flawed. Certainly, IUU fishing is often small in scale and conducted by artisanal fishers out of ignorance of laws, or opportunism. Yet there is also evidence that much of today's IUU fishing activity takes place on an organised, systematic scale across multiple jurisdictions. Testament to this are the volumes involved. Although numerous difficulties affect such calculations, global losses to IUU fishing have been estimated at some \$10–23.5 billion annually – equivalent to 11–26 million tonnes of fish per year.¹

The result is the plunder of the world's oceans, threatening not only marine ecosystems, but also the security of human populations. Large-scale IUU fishing endangers food security, threatens livelihoods, undermines the rule of law and deprives states of revenues. It also intersects with other crimes, further amplifying the threat to security. Yet research on these security dimensions is limited and fragmented; our understanding of their dynamics remains partial. Policy and practical responses, meanwhile, remain ill-suited, failing to keep pace with the complexity of the threat posed.

This paper makes the following recommendations for governments, NGOs and international agencies looking to address the security dimensions of large-scale IUU fishing:

1. **Recognise large-scale IUU fishing as transnational organised crime.** There is a critical need for policymakers and practitioners to treat high-volume IUU fishing as more than a fisheries management problem. Large-scale IUU fishing is transnational organised crime and must be recognised and treated as such. A paradigm shift is needed in the way we view and respond to the phenomenon, to ensure that responses are commensurate with the scale, complexity and diversity of the threat faced.
2. **Recognise large-scale IUU fishing as 'convergence crime'.** Awareness that large-scale IUU fishing commonly occurs in conjunction with other crime types must increase. Policymakers must adapt to a more sophisticated operating reality, with front line investigators trained to recognise not just IUU fishing, but also crimes such as human trafficking and corruption. Broader responses must draw on expertise associated with all crime types involved, in an integrated, multi-agency approach.

1. David Agnew et al., 'Estimating the Worldwide Extent of Illegal Fishing', *PLoS ONE* (Vol. 4, No. 2, February 2009).

3. **Strengthen domestic legislation.** States must strengthen fisheries legislation and harmonise all other relevant laws, such that penalties and the likelihood of their application create real deterrence. Domestic criminalisation must meet the criteria – a four-year minimum custodial sentence – for large-scale IUU fishing to qualify as serious crime under the UN Convention Against Transnational Organized Crime (UNTOC).
4. **Strengthen international responses.** International-level reform is required to ensure that IUU fishing is recognised under UNTOC, conferring binding obligations on 179 states to cooperate on law enforcement action. Global bodies must also clarify roles and responsibilities, address overlapping mandates and deepen cooperative arrangements.
5. **Strengthen monitoring and enforcement.** Capacity building to interdict those engaged in large-scale IUU fishing and associated crimes must be provided. To further facilitate monitoring and enforcement, vessels above a certain size and/or operating beyond the jurisdiction of flag states must be required to have International Maritime Organization numbers – as must their owners.
6. **Bolster information sharing.** Overlaps between IUU fishing and other crimes challenge the common separation of national fisheries management and policing agencies. Flexibility is needed to match perpetrators' shifting portfolios, as is stronger collaboration between coast guards, customs, immigration, anti-narcotics, fisheries management and financial crime agencies, as well as international organisations.
7. **Expand regional approaches and partnerships.** Promising initiatives already underway must be more fully resourced and prioritised. Innovative regional and multisectoral approaches, such as FISH-i Africa, should be expanded, scaled up and replicated as models in other, particularly financially constrained, locations.
8. **Bolster efforts to prevent fish laundering.** More states must be persuaded to ratify the Food and Agriculture Organization's Agreement on Port State Measures to Prevent, Deter and Eliminate IUU Fishing, to ensure that no port is used as a shelter for non-compliance. Implementation of the Agreement must also be supported through sustained capacity building in developing coastal and small-island states.
9. **Expand multilateral initiatives.** In light of its organised and poly-threat nature, the priority assigned to large-scale IUU fishing under multilateral maritime security initiatives should increase. Defence and security-focused programmes that prioritise maritime security but exclude IUU fishing should be expanded to include it.
10. **Follow the money.** Financial investigation tools should be used to reveal ownership information, uncover money laundering and tax fraud, and make strategic arrests of the true beneficiaries of high-volume IUU fishing. To enable this, legislative reform in many jurisdictions to provide for IUU fishing as a predicate offence to money laundering is crucial.

11. **Prosecute under alternative legislation.** Crime convergence provides options to arrest and prosecute perpetrators using laws other than those relating to fisheries. For example, prosecution of large-scale IUU operators under economic crimes legislation may increase the prospects for imposing substantial penalties where associated crimes carry weightier sentences.
12. **End use of flags of convenience.** To bolster enforcement, the exploitation of flags of convenience must be ended. This could be achieved by encouraging flag-of-convenience states to close registries, by requiring coastal states not to issue licences to flag-of-convenience vessels, and by pursuing action by regional fisheries management organisations and international bodies.

Introduction

ILLEGAL, UNREPORTED AND UNREGULATED (IUU) fishing has not traditionally been viewed as a security issue. Instead, it is most often treated as a regulatory matter – as a niche fisheries management problem of concern primarily to industry regulators. In many locations, IUU fishing is only lightly criminalised, with enforcement falling outside the purview of security professionals concerned with serious and organised crime. In a range of states, for example, IUU fishing is treated as a minor crime under national fishery codes, with limited domestic resources assigned to monitoring and enforcement. Often, the persistent image of IUU violations is one of small-scale operators infringing regulations mistakenly or opportunistically.¹ As a result, IUU fishing is deemed a trivial issue in many states insofar as it relates to national security.

This diagnosis is flawed. Certainly, IUU fishing can – and does – result from small-scale artisanal fishers acting out of ignorance of laws, desperation or opportunism, but much IUU fishing also takes place on a systematic and industrial scale, across multiple jurisdictions, as a form of transnational organised crime. Such high-volume IUU fishing is carried out by repeat offenders engaged in coordinated efforts to break fisheries laws. It is this form of IUU fishing on which this paper focuses, highlighting the tangible security impacts this activity can have.

As global fish stocks decline, many IUU activities take the form of high-volume fishing by distant-water vessels engaged in the pillage of the world's remaining productive fishing grounds. As responses have failed to keep pace, IUU fishing has become a low-risk, high-return activity. In many jurisdictions, weak governance and lax enforcement in the fishing industry act as a pull to those engaged in a range of illegal practices. Little deterrence exists, with perpetrators operating safe in the knowledge that their activities will likely go undetected and unpunished within a fragmented fisheries management system.² This reality has seen organised crime enter the IUU fishing chain – from ship registration to at-sea transshipment, cargo unloading, fish processing and sale.

Far from a harmless regulatory transgression, organised, high-volume IUU fishing can involve a range of violent and destructive criminal practices. There is evidence from a range of sources that high-volume IUU fishing can form part of broader processes of 'crime convergence'. This occurs as IUU offences intersect with other criminal activities, covering multiple illicit commodities,

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1. Teale N Phelps Bondaroff et al., 'The Illegal Fishing and Organized Crime Nexus: Illegal Fishing as Transnational Organized Crime', Global Initiative Against Transnational Organized Crime and The Black Fish, April 2015, p. 8.
 2. Ariana Densham, 'Illegal Fishing Coming to Waters Near You', *Greenpeace blog*, 17 March 2015; Pramod Ganapathiraju, 'Illegal and Unreported Fishing: Global Analysis of Incentives and a Case Study Estimating Illegal and Unreported Catches from India', IUU Risk Intelligence Report, 10 December 2015.

crossing multiple jurisdictions and violating multiple legal frameworks.³ In a range of cases, IUU fishing has been linked to crimes that violate the rights of vulnerable people through human trafficking for forced labour.⁴ Multiple crossovers with corruption, money laundering and other facilitating crimes have also been recorded. These intersect in diverse and complex ways – with each other and with IUU fishing itself.⁵

As evidence of these dynamics has emerged, awareness of IUU fishing's security dimensions has gradually been increasing. In recent years, investigative media reporting has highlighted the use of forced labour aboard IUU fishing vessels, helping to raise the issue's low profile among policymakers, industry leaders and consumers.⁶ At the same time, the organised criminal dimensions of much modern IUU fishing have begun to receive some attention. Since the late 2000s, the UN General Assembly has expressed 'concern about possible connections between transnational organized crime and illegal fishing'. It has done so while encouraging efforts 'to increase knowledge and understanding of those possible connections'.⁷

Our comprehension of the issues, however, remains partial. IUU fishing comprises diverse, clandestine activities occurring in often remote at-sea locations far from the eyes and ears of those looking to expose it. Much reporting on IUU fishing – and notably its security dimensions – is anecdotal rather than empirical, given the challenges involved in documenting these phenomena. In particular, there is limited published scholarly research on the relationship between IUU fishing and other forms of criminality, whether human trafficking, money laundering or large-scale tax fraud.

Existing research on IUU fishing as a convergence crime has tended to focus on particular instances of convergence, in particular locations. It has been conducted by diverse organisations, approaching the issues from differing perspectives, whether out of concern for the legitimate fishing industry or out of fears over IUU operations as a source of demand for forced labour. Few detailed studies explore the security dimensions of IUU fishing more broadly, or seek to document their scope and nature. The knowledge that exists is partial and fragmented. In this

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3. Interpol, 'Environmental Crime and its Convergence With Other Serious Crimes: Environmental Security', 2015/999/OEC/ENS/SLO, 30 October 2015.
 4. Numerous cases are highlighted in US Department of State, 'Trafficking in Persons Report 2016', June 2016.
 5. UN Office on Drugs and Crime (UNODC), 'Transnational Organized Crime in the Fishing Industry: Focus on Trafficking in Persons, Smuggling of Migrants, Illicit Drugs Trafficking', 2011; Interpol, 'Study of Fisheries Crime in the West African Coastal Region', September 2014, pp. 8–9, 25–31.
 6. See, for example, International Labour Office, *Caught at Sea: Forced Labour and Trafficking in Fisheries* (Geneva: ILO Publications, 2013); Ian Urbina, 'Tricked and Indebted on Land, Abused or Abandoned at Sea', *New York Times*, 9 November 2015. See also *Al-Jazeera*, 'Pirate Fishing: An Interactive Investigation'; Robin McDowell et al., 'AP Investigation: Slaves May Have Caught the Fish You Bought', *Associated Press*, 25 March 2015.
 7. UN General Assembly, 'Resolution Adopted by the General Assembly on 4 December 2009: 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', A/RES/64/72, 19 March 2010, para 61.

form, it contributes little to an in-depth, context-specific understanding of how these overlaps feed into IUU fishing's broader security dimensions.

This paper reviews the diverse strands of available evidence on the form, dynamics and extent of the security threat posed by today's high-volume IUU fishing, leaving aside consideration of small-scale IUU fishing by artisanal fishers. In doing so, it assesses the scope and reliability of current knowledge, and its contribution to the existing global picture of the security threat posed. The paper identifies gaps in this picture, both thematic and geographical, and assesses the appropriateness of current responses. It stresses the need for all states to characterise high-volume IUU fishing as a serious crime and recognise its susceptibility to crime convergence.⁸ It argues that a paradigm shift is needed in the way we view and respond to such organised forms of IUU fishing.

Methodology

The study took the form of a six-month review of available open-source literature, supplemented by individual expert consultations. Literature reviewed includes relevant UN reports, documentation of government agencies, reports by intergovernmental organisations and NGOs, and studies by academic researchers. As many angles as possible were sought on the issues in question. Researchers surveyed not only literature with a primary focus on IUU fishing, but also sources concerned with other crime types – from human trafficking to drug trafficking – that touched on a link to IUU fishing. In addition, an extensive survey was conducted to review the scope of English-language media reporting on the subject.

A number of individual consultations took place to supplement this review, with representatives of NGOs, government agencies, intergovernmental organisations and research institutes. They were conducted to gather further insight from individuals actively engaged in combatting IUU fishing. Interviews focused on the scope and quality of the existing literature, and the gaps that exist within it. Experts consulted included those working on IUU fishing in the Indian Ocean, the Caribbean, West Africa and Southeast Asia, among others. Many offered valuable insights into the strength of published information in their regions, which have been incorporated into this paper.

It must be noted that this paper does not cover all potential security threats arising from IUU fishing, particularly insofar as these relate to future threat projections around topics such as resource security. Indeed, this paper is not the result of extensive new primary research, aiming instead to both synthesise and critically analyse the existing literature on the current threats that exist. It is also beyond the scope of this study to verify independently the findings of all literature cited, the reliability of which varies; as noted, these are clandestine phenomena often occurring in remote locations.

Their clandestine nature also mean that IUU fishing activities – not to mention their impact on security – are likely to be significantly under-reported. Indeed, much available information is

8. Interpol, 'Environmental Crime and its Convergence With Other Serious Crimes'.

anecdotal and reliable data in many cases are scarce.⁹ Information on the security issues arising from IUU activities in inland – as opposed to maritime – fisheries is particularly limited. There is also notably little published research on the economic crimes, such as money laundering, that accompany large-scale IUU fishing.¹⁰ This increases dependence on media reporting and expert testimony, as well as sources more than a few years old. It also speaks to the pressing need for further scholarly research into these phenomena. An additional aim of this paper, in identifying security threats and vulnerabilities around IUU fishing, is thus to encourage their further empirical study.

Structure of the Paper

An assessment of the security dimensions of high-volume IUU fishing depends, first, on a clear understanding of the phenomenon as witnessed today. Chapter I seeks to provide this, examining the nature of high-volume IUU fishing and its dominant modus operandi. It examines the purported drivers, facilitators and mechanisms employed by repeat IUU fishing offenders. In doing so, it highlights commonly observed characteristics of IUU vessels, operators and practices – features that, in turn, inform the character of the security threat(s) posed.

Chapter II builds on this analysis to assess current understanding of high-volume IUU fishing as transnational organised crime. It does so highlighting inconsistencies in the technical treatment of IUU fishing in policy and practical responses, relative to the organised criminal nature of much of this activity in reality. Chapter III takes this examination further to explore our understanding of high-volume IUU fishing as a practice prone to crime convergence. It explores knowledge of the various economic crimes to which IUU fishing gives rise – from corruption to money laundering – as well as overlaps with a range of other crime types, reviewing known cases worldwide.

Chapter IV then examines the human, economic and maritime security threats posed by large-scale IUU fishing and the crimes with which it intersects. It covers first those threats felt by individuals whose livelihoods depend most directly on marine living resources. Subsequently, it extends the analysis to the threats to governments from the loss of state revenues to large-scale IUU fishing, and from the corruption, money laundering and tax fraud that may accompany it.

Chapter V reflects on the implications of this analysis for responses. In particular, it assesses the efficacy of the current framework for responding to high-volume IUU fishing, in light of the security dimensions discussed. The Conclusion sets out recommendations and priorities for action by policymakers and practitioners at national and international levels. It stresses the need to reform legal frameworks and enhance enforcement regimes to more effectively respond to the security dimensions of IUU fishing. Although neither complete nor comprehensive, abundant evidence suggests that these security threats can no longer afford to be ignored.

9. Anastasia Telesetsky, 'Laundering Fish in the Global Undercurrents: Illegal, Unreported, and Unregulated Fishing and Transnational Organized Crime', *Ecology Law Quarterly* (Vol. 41, No. 4, January 2015), p. 939.

10. Maira Martini, 'Illegal, Unreported and Unregulated Fishing and Corruption', U4 Anti-Corruption Resource Centre, Expert Answer No. 392, 5 September 2013, p. 1.

I. Understanding IUU Fishing

A CLEAR UNDERSTANDING OF the phenomenon of IUU fishing is required prior to analysing its security dimensions. On this subject, a growing body of literature has emerged, although a complete picture of large-scale IUU fishing and its perpetrators does not yet exist. Inconsistencies and disagreements persist, not least regarding the terminology used. This chapter examines this terminology, the purported drivers, facilitators and mechanisms employed along the IUU fishing supply chain. It does so as a basis for examining the security implications of this activity in later chapters.

IUU fishing can be described broadly as any fishing that breaks fisheries laws and regulations or occurs outside the reach of these laws and regulations.¹ However, in effect, the term comprises a series of distinct activities. A growing body of literature has begun to highlight the theoretical and practical problems with treating IUU fishing as part of a single ‘hold-all’ category.² This literature stresses the often diverse mechanisms and motivations grouped under this banner, and thus the differences in responses required.

It is therefore worth examining IUU fishing in terms of its constituent parts. The Food and Agriculture Organization (FAO), most prominently, defines IUU fishing according to its three main component activities.³ It describes illegal fishing, first, as activities ‘conducted by national or foreign vessels in waters under the jurisdiction of a State, without the permission of that State, or in contravention of its laws and regulations’.⁴ The definition extends to activities conducted in violation of regulations, conservation and management measures provided for under international law and by regional fisheries management organisations (RFMOs) to which a vessel’s flag state may be party. These actions can encompass a range of violations, from fishing without a licence to exceeding quotas, using banned fishing gear and fishing in protected areas.⁵

Unreported fishing, second, refers to activities that ‘have not been reported, or have been misreported, to the relevant national authority, in contravention of national laws and regulations’.⁶ It also refers to those that have not been reported or have been misreported to

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1. The Pew Charitable Trusts, ‘FAQ: Illegal, Unreported, and Unregulated Fishing’, fact sheet, 27 August 2013.
 2. University Association for Contemporary European Studies, ‘IUU: Is It a Bird or a Plane? Is It Illegal Fishing, Unregulated Fishing or Crime? Look to the Fish Stocks Agreement for Answers’, *IUU Fishing blog*, 4 October 2015.
 3. Food and Agriculture Organization (FAO), *International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing* (Rome: FAO, 2001).
 4. *Ibid.*
 5. For a fuller review see, among others, Interpol, ‘Study of Fisheries Crime in the West African Coastal Region’, September 2014; UNODC, ‘Transnational Organized Crime in the Fishing Industry’.
 6. FAO, *International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing*.

the relevant RFMO, where these activities occur in its area of competence.⁷ Unreported fishing can occur both accidentally and intentionally. The latter, of greater interest to this paper, can occur where large-scale operators act in a way that ensures that over-limit catches fall within permissible quotas, or otherwise avoid formally accounting for their catches.

Finally, unregulated fishing refers to activities conducted in areas under the authority of RFMOs 'by vessels without nationality, or by those flying the flag of a State not party to that organization, or by a fishing entity, in a manner that is not consistent with or contravenes the conservation and management measures of that organization'.⁸ It also covers fishing in 'areas or for fish stocks in relation to which there are no applicable conservation or management measures'.⁹ Unregulated fishing may thus not contravene the law explicitly, but is typically carried out to deliberately circumvent and thus violate the *spirit* of the law. An example occurs where vessels fish at the edge of marine protected areas (MPA), with no less significant an impact on those areas' ecosystems.¹⁰

IUU fishing may thus be committed by domestic or foreign, artisanal or industrial vessels. It can occur in lakes and rivers, in coastal states' exclusive economic zones (EEZs) – which extend 200 nautical miles from their shorelines – and in international waters (the high seas). It occurs on both small and large scales – accidentally or out of opportunism by subsistence fishers, or through coordinated efforts to profit from the violation of laws and regulations. As noted, this paper focuses on the latter form of IUU fishing, conducted deliberately to profit from a low-risk, high-reward activity that jeopardises the health of marine ecosystems and the security of those who depend on them.

Enforcing regulations around IUU fishing is complicated by the fractured governance arrangements policing the issue. States to which vessels are registered (or 'flagged') are responsible for regulating the actions of their vessels wherever they operate – whether in other states' EEZs or on the high seas. Yet some flag states – known as 'flags of convenience' – lack either the will or the ability to fulfil their responsibilities by exercising jurisdiction over their vessels. On the high seas, meanwhile, there is no international authority in place to enforce laws and regulations. There is also little incentive for states to enforce international law here by interdicting foreign vessels.¹¹

As with any illegal activity, estimating the extent of IUU fishing is challenging. Perhaps the most widely cited estimate is one put forth by David Agnew et al. in 2009, placing global losses to IUU fishing at \$10–23.5 billion annually.¹² This is held to equate to 11–26 million tonnes of

7. *Ibid.*

8. *Ibid.*

9. *Ibid.*

10. Phelps Bondaroff et al., 'The Illegal Fishing and Organized Crime Nexus', p. 37.

11. Efthymios Papastavridis, *The Interception of Vessels on the High Seas: Contemporary Challenges to the Legal Order of the Oceans* (Oxford: Hart, 2013).

12. David Agnew et al., 'Estimating the Worldwide Extent of Illegal Fishing', *PLoS ONE* (Vol. 4, No. 2, February 2009).

fish per year.¹³ This volume, as noted by The Pew Charitable Trusts, is equal to 816 kg of wild-caught fish removed from the seas every second.¹⁴ This is frequently equated to a full 20% of global catches.¹⁵

It must be noted, however, that a lack of effective monitoring, control and surveillance, a chronic lack of data, and year-on-year variations in prices and import volumes mean that any estimate of revenues must be treated with great caution. A range of other global estimates exist, including that of \$15 billion cited by the European Commission in 2007.¹⁶ In 2016, the UN Environment Programme (UNEP) and Interpol ventured a range of \$11–30 billion.¹⁷ The latter organisations, however, add a caveat to their figures, noting that ‘considerable uncertainties exist ... regarding the accuracy of the estimates’.¹⁸ Indeed, such calculations are affected by significant methodological challenges. Acknowledging these challenges in relation to trafficking in protected species (including fish), UNODC’s 2016 *World Wildlife Crime Report* describes it as ‘nearly impossible to give an accurate and consistent estimate of the criminal revenues generated’.¹⁹

Estimations in the billions nonetheless speak to a picture of systematic, high-volume, IUU fishing on a global scale. This is manifested particularly strongly in certain locations. In West African waters – estimated to face the highest levels of IUU fishing in the world – IUU fishing is thought to account for as much as 37% of all fish caught.²⁰ Here and in other hotspots, a range of diverse factors are thought to drive IUU fishing, which are worth examining in turn.

A prominent driver is believed to be over-capacity. In many states, fishing is heavily subsidised, resulting in a far larger fisheries sector than would otherwise exist. The FAO put the number of fishing vessels in the world at 4.6 million in 2014, 75% of which belonged to the Asian fleet.²¹ China, for example, grants generous support to its distant-water fishing industry, which counted 2,460 vessels in 2014 (relative to just 225 US-flagged distant-water vessels in 2015).²² Many Chinese distant-water fishing companies’ net profits derive entirely from subsidies. Meanwhile,

13. *Ibid.*

14. The Pew Charitable Trusts, ‘How to End Illegal Fishing’, December 2013, p. 1.

15. Stop Illegal Fishing, ‘FISH-i Africa: Issues, Investigations and Impacts’, p. 6. It should be noted, however, that numerous difficulties affect such calculations.

16. Marine Resources Assessment Group (MRAG) and University of British Columbia, ‘The Global Extent of Illegal Fishing’, final report, April 2008.

17. Christian Nelleman et al. (eds), *The Rise of Environmental Crime: A Growing Threat to Natural Resources, Peace, Development and Security* (Nairobi: UNEP, 2016), pp. 18–19.

18. *Ibid.*

19. UNODC, *World Wildlife Crime Report: Trafficking in Protected Species* (New York, NY: UNODC, 2016).

20. Environmental Justice Foundation (EJF), *Pirate Fishing Exposed: The Fight Against Illegal Fishing in West Africa and the EU* (London: EJF, 2012), p. 7, citing Agnew et al., ‘Estimating the Worldwide Extent of Illegal Fishing’, Table 2. The Africa Progress Panel puts the level of catch affected in West Africa at between one third and one half. See Africa Progress Panel, *Grain, Fish, Money: Financing Africa’s Green and Blue Revolutions – Africa Progress Report 2014* (Geneva: Africa Progress Panel, 2014), p. 89.

21. FAO, *The State of World Fisheries and Aquaculture 2016: Contributing to Food Security and Nutrition for All* (Rome: FAO, 2016), p. 5. The FAO notes that the Asian fleet is followed by those of Africa (15%), Latin America and the Caribbean (6%), North America (2%), and Europe (2%).

22. Greenpeace, ‘Africa’s Fisheries’ Paradise at a Crossroads: Investigating Chinese Companies’ Illegal Fishing Practices in West Africa’, May 2015, pp. 5, 45.

artisanal fishers are forced to compete, and are driven further afield in search of fish. The result is too many vessels chasing fewer fish, pushing their owners – both industrial and artisanal – towards IUU fishing.²³

Overfishing has in turn impacted on the health of fisheries, pointing to a second driver. Indeed, declining fish stocks have driven – and, in turn, been driven by – IUU fishing. The FAO estimates that in 2013, 31.4% of global fish stocks were fished at biologically unsustainable levels, and were thus overfished.²⁴ Fully fished stocks, with no potential for increases in production, accounted for a further 58.1%.²⁵ This means that just under 90% of global fish stocks were either overfished or fully fished in 2013. Meanwhile, as the global population continues to expand, demand for fish remains high. In 2013, fish accounted for around 17% of the global population's intake of animal protein.²⁶ The FAO also notes a sustained increase in the share of fish production required for direct human consumption – up from 67% in the 1960s to 87% in 2014.²⁷

As demand increases and supplies dwindle, the corresponding rise in profits explains a further set of drivers. These include profitability and, ultimately, greed – bolstered by two further factors: ease and opportunity.²⁸ Indeed, the vastness of the high seas and law-enforcement capacity mean that the chances of being apprehended are low, while fish can be laundered easily into legitimate catches. Even where enforcement is effective, penalties are small. Fines are typically minor relative to the value of stolen fish and viewed simply as a cost of doing business.²⁹

The result is a low-risk, high-reward environment perfectly tailored to the interests of criminal actors. To capitalise on the opportunities presented, perpetrators have adopted a range of modus operandi. A full cross-section of the methods employed in IUU fishing is beyond the scope of this paper; however, a brief overview of some of the main practices is crucial to the analysis that follows.³⁰

Although the specifics vary by location, vessel type and target species, a range of common techniques have been documented. Illicit practices occur at all stages of the supply chain,

23. The Pew Charitable Trusts, 'How to End Illegal Fishing', p. 1.

24. FAO, *The State of World Fisheries and Aquaculture 2016*, pp. 5–6.

25. *Ibid.*

26. *Ibid.*, p. 4.

27. *Ibid.*, p. 6.

28. For more on drivers, see High Seas Task Force, 'Closing the Net: Stopping Illegal Fishing on the High Seas. Summary Proposals of the Ministerially-Led Task Force on IUU Fishing on the High Seas', March 2006, p. 2; Phelps Bondaroff et al., 'The Illegal Fishing and Organized Crime Nexus', pp. 22–25.

29. A study by Economics for the Environment Consultancy Ltd calculated that penalties paid in the European Community in 2003 and 2004 averaged 0.4% and 0.2% of the value of fish landings in 2002 and 2003, respectively. On the basis of an assumption that IUU fishing accounted for 10–30% of total catches, it calculates that fines amounted to just 1–2.5% of the value of IUU landings. See Rob Tinch et al., 'Costs of Illegal, Unreported and Unregulated (IUU) Fishing in EU Fisheries', Economics for the Environment Consultancy Ltd., November 2008.

30. For more extensive reviews, see Interpol, Environmental Security Sub-Directorate, 'Project Scale: Study of Fisheries Crime in the West African Coastal Region', pp. 13–25; Phelps Bondaroff et al., 'The Illegal Fishing and Organized Crime Nexus'.

from the purchase and registration of vessels to the acquisition of licences, preparation of vessels, at-sea fishing, landing, processing, overland transportation, and reporting and sale of catches. At the earliest stages, common practices include the fraudulent acquisition of licences and establishment of access arrangements through bribery, forgery and extortion.³¹ Such activities can involve the abuse of vessel registries, which states may outsource to private overseas companies.

IUU fishers, meanwhile, can choose the flag state that will exercise jurisdiction over their vessel. They often opt for ‘flags of convenience’, which lack the will or ability to ensure that their vessels act lawfully.³² Former UN Secretary-General Kofi Annan has described IUU fishing vessels deliberately exploiting flags of convenience as engaged ‘in organized theft disguised as commerce’.³³ Franz Fischler, former EU Commissioner for Agriculture, Rural Development and Fisheries, has labelled flags of convenience ‘the scourge of today’s maritime world’.³⁴

‘Flag brokers’ are reported to assist in the acquisition of flags suitable to the operations of IUU fishers.³⁵ These brokers also assist in ‘flag hopping’ later in the chain, whereby a vessel can register with a new flag state to gain a new identity and hide its history of IUU fishing.³⁶ These flags are selected precisely because they do not perform due diligence on vessels’ histories or identities – and may not be party to RFMOs in whose waters IUU operators may wish to fish.³⁷ It should be noted, however, that poor enforcement allows IUU fishing even under flags not labelled ‘flags of convenience’. Whichever the flag state used, facilitating high-volume IUU fishing is often a non-transparent ownership system based on a set of complex arrangements that maintain the anonymity of beneficial owners. These owners often sit behind ‘shell companies’ located in jurisdictions enabling ownership secrecy, hampering investigative efforts.

31. André Standing, ‘Corruption and Commercial Fisheries in Africa’, *U4Brief* (No. 23, December 2008).

32. Examples include Antigua and Barbuda, Bahamas, Barbados, Belize, Bermuda (UK), Bolivia, Cambodia, Cayman Islands, Comoros, Cyprus, Equatorial Guinea, Faroe Islands, Georgia, Gibraltar (UK), Honduras, Jamaica, Lebanon, Liberia, Malta, Mauritius, Moldova, Mongolia, Netherlands Antilles, North Korea, Panama, Saint Vincent and the Grenadines, São Tomé and Príncipe, Sri Lanka, Tonga and Vanuatu. See International Transport Workers’ Federation, ‘Flags of Convenience’, <<http://www.itfglobal.org/en/transport-sectors/seafarers/in-focus/flags-of-convenience-campaign/>>, accessed 16 September 2016; Rose George, ‘Flying the Flag, Fleeing the State’, *New York Times*, 24 April 2011.

33. Africa Progress Panel, ‘Launch Remarks – Kofi Annan’, 8 May 2014.

34. EJF, *Pirate Fish on Your Plate: Tracking Illegally-Caught Fish from West Africa into the European Market* (London: EJF, 2007), p. 10.

35. As noted by Telesetsky in ‘Laundering Fish in the Global Undercurrents’, websites such as <www.internationalshipregistries.com> offer assistance in obtaining ship registrations from a range of states identified as flags of convenience.

36. The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) IUU vessel registry provides several examples of vessels changing their names and flags. See also EJF, *Pirate Fishing Exposed*, pp. 30–31.

37. See, among others, Stop Illegal Fishing, ‘FISH-i Africa’, pp. 13–19 for cases of repeated IUU vessel identity and flag changes, such as the Togo-flagged *ALDABRA*, which has previously used the names *OMOA 1*, *ILANGA*, *STELLA 1*, *KING STAR No. 303*, and *CLOVER No. 103* and had been flagged to Panama and Honduras.

Once at sea, documented *modus operandi* include fishing without a licence or with forged licences in the jurisdiction of coastal states or high-seas fisheries regulated by RFMOs. Much large-scale IUU fishing also takes place in prohibited areas such as MPAs or in inshore exclusion zones (IEZs) reserved for artisanal fishers.³⁸ Larger vessels may commit gross tonnage fraud: by under-declaring their gross tonnage, they can fraudulently gain access to sensitive in-shore fishing grounds.³⁹ IUU operators may also fish out of season or target prohibited species. The use of destructive prohibited fishing equipment – such as dynamite, cyanide and driftnets – is also commonly reported. By catching everything in their path, meanwhile, practices such as driftnet fishing generate large volumes of incidental catch (or bycatch) – including juveniles, vulnerable animals such as sea turtles, and lower market-value species. These species are often then wastefully discarded.⁴⁰

In many cases, attempts are made to conceal the identity of the vessels responsible. These include using false or multiple vessel identities (or single identities for multiple vessels);⁴¹ obscuring vessel markings; and tampering with vessels' automatic identification system transmitters – mandated by the International Maritime Organization as a safety regulation in vessels above a certain size. Other efforts to evade enforcement include ignoring patrol requests to stop⁴² and fleeing port whilst under detention (as in the case of the falsely Indonesian-registered *Berkat Menjala No. 23* and *Samudera Pasific No. 8*, which absconded from Cape Town in 2013).⁴³ High-volume IUU fishers are also reported to 'play cat and mouse' with patrols, using a network of lookouts. If necessary, decisions are made to sacrifice older ships to save the more valuable members of a long-distance fleet.⁴⁴

In processing and landing catches, other mechanisms are employed. Transshipment – the transfer of fish between vessels at sea, often to refrigerator vessels or 'reefers' – is a well-known practice, often carried out to avoid scrutiny at port.⁴⁵ It occurs despite being banned in many jurisdictions, or being subject to national and international controls, such as the presence of observers.⁴⁶ By transferring fish between vessels, operators can launder illegally caught fish into 'legal' catches, circumventing quota and licensing regulations.⁴⁷ In addition, fish laundering can occur by falsifying catch documentation and mislabelling catches. Vessels may also offload full quotas at multiple ports, use 'ports of convenience' – those known for low regulatory and

38. EJF has documented much IUU fishing in IEZs in West Africa, see EJF, *Pirate Fishing Exposed*, pp. 11–24.

39. Greenpeace, 'Africa's Fisheries' Paradise at a Crossroads', pp. 21–22.

40. FAO, *The State of World Fisheries and Aquaculture 2016*, pp. 118–20; FAO, *International Guidelines on Bycatch Management and Reduction of Discards* (Rome: FAO, 2011).

41. As in the case of the multiple vessels operating under the name of the Oman-flagged *NAHAM-4*, see Stop Illegal Fishing, 'FISH-i Africa', pp. 20–21.

42. As documented by the EJF in West African EEZs, see EJF, *Pirate Fishing Exposed*, pp. 11–22.

43. Stop Illegal Fishing, 'FISH-i Africa', pp. 22–23.

44. See UNODC, 'Transnational Organized Crime in the Fishing Industry', p. 107.

45. See the case of the *POSEIDON* and the *AL-AMAL* operating in Kenyan and Somali waters, referred to in Stop Illegal Fishing, 'FISH-i Africa', pp. 24–25.

46. Interpol, 'Study of Fisheries Crime in the West African Coastal Region', pp. 14–16; EJF, 'Transshipment at Sea: The Need for a Ban in West Africa', 2013.

47. Numerous examples of illegal transshipment have been documented. See EJF, 'Transshipment at Sea'; Stop Illegal Fishing, 'FISH-i Africa'.

inspection standards – and evade or bribe fishing inspectors at port.⁴⁸ Following this, a range of other unlawful practices are involved in the onward transportation, import and export of finished fish products.

In these and many other ways, IUU vessels are registered, IUU fishing occurs at sea, and IUU products enter ports and reach customers on a daily basis. Illicit activities clearly occur not just on board fishing vessels, but throughout the supply chain. The security implications of these activities are numerous, as explored in subsequent chapters. This exploration begins with our comprehension of high-volume IUU fishing as transnational organised crime, as examined in Chapter II.

48. See Gohar A Petrossian et al., 'Where Do "Undocumented" Fish Land? An Empirical Assessment of Port Characteristics for IUU Fishing', *European Journal on Criminal Policy and Research* (Vol. 21, No. 3, 2014); Martini, 'Illegal, Unreported and Unregulated Fishing and Corruption', pp. 3–5.

II. IUU Fishing as Transnational Organised Crime

THE LITERATURE EXAMINING IUU fishing as a form of transnational organised crime is limited. This is likely to reflect the perception of IUU fishing as a minor crime, and its primarily technical treatment in policy and practical responses. Yet, as Chapter I shows, much of today's IUU fishing involves sophisticated techniques employed purposefully to exploit weaknesses in fisheries laws and regulations. These techniques require planning and investment, which only globally operating organised crime groups can provide. Estimated values of \$10–23.5 billion per annum and 11–26 million tonnes of fish caught illegally per year speak further to today's IUU fishing as an organised criminal industry.¹ This chapter examines existing knowledge of large-scale IUU fishing as transnational organised crime, highlighting the extent to which this lags behind reality.

Despite the generally casual treatment of IUU fishing in policy and practice, awareness of a link with transnational organised crime has gradually been increasing. Two of the first high-profile expressions of concern over this link were made at the ninth Meeting of the UN Open-Ended Informal Consultative Process on Oceans and the Law of the Sea (UNICPOLOS) in 2008,² and at the meeting of the Conference of Parties to the UN Convention Against Transnational Organized Crime (UNTOC) in 2008.³ These meetings bore witness to divergent views on the existence (or absence) of a link, with consensus only on the need for further study of the subject.⁴ In 2010, meanwhile, the UN General Assembly adopted Resolution 64/72, acknowledging 'concerns about possible connections between international organized crime and illegal fishing in certain regions of the world'⁵. It did so calling on states 'to study the causes and methods of ... illegal fishing to increase knowledge and understanding of those possible connections'.⁶

What is notable about these references is the tendency merely to emphasise *links* between high-volume IUU fishing and transnational organised crime. The implication appears to be that high-volume IUU fishing does not *itself* constitute transnational organised crime – the term is

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1. Agnew et al., 'Estimating the Worldwide Extent of Illegal Fishing'.
 2. UN General Assembly, 'Report on the Work of the United Nations Open-Ended Informal Consultative Process on Oceans and the Law of the Sea at its Ninth Meeting', A/63/174, 25 July 2008, paras 10, 61–71.
 3. UN, 'Report of the Conference of Parties to the United Nations Convention Against Transnational Organised Crime on its Fourth Session, Vienna, 8–17 October 2008', CTOC/COP/2008/19, 1 December 2008, para. 210.
 4. UN General Assembly, 'Report on the Work of the United Nations Open-Ended Informal Consultative Process on Oceans and the Law of the Sea at its Ninth Meeting', paras 10, 71.
 5. UN General Assembly, 'Resolution Adopted by the General Assembly on 4 December 2009', para 61.
 6. *Ibid.*

used in reference to such better-recognised organised criminal activities as drugs and human trafficking that may occur alongside it. In dismissing a connection at the ninth meeting of UNICPOLOS, a number of states expressed the view that ‘the links that may exist between illegal fishing and some crimes committed at sea were not sufficient reason to designate illegal fishing a transnational organized crime’⁷. In doing so, they excluded the possibility that IUU fishing might itself constitute transnational organised crime.⁸

Since 2010, successive UN General Assembly resolutions, including Resolution 70/75 of February 2016, have used the same language to acknowledge concerns about ‘possible connections between transnational organized crime and illegal fishing’.⁹ This focus on the links – rather than large-scale IUU fishing itself as organised crime – is broadly mirrored in the media, and by some researchers and NGOs. In a September 2016 article, a senior associate at the Stimson Center noted that ‘illegal fishing ... has become inextricably linked with a variety of illicit behaviours, including transnational organized crime’. He noted further that ‘fishing vessels themselves are often directly connected to transnational organized crime, such as trafficking of drugs, arms and persons’.¹⁰ Although usefully highlighting such potential overlaps, IUU fishing itself was not recognised as transnational organised crime.

The emergence of the concept of ‘fisheries crime’ goes some way to redressing this. According to UNODC, fisheries crime refers to a range of illegal activities in the fisheries sector. These activities include ‘transshipment of marine resources; illegal fishing; corruption; money laundering; and document, tax and customs fraud, among others’.¹¹ In describing fisheries crime, FISH-i Africa similarly notes that this occurs when illegal fishing ‘goes beyond non-compliance ... [to become] transnational and organised, ... [incorporating links with] crimes such as tax evasion, human rights abuse including human trafficking, drug, wildlife, diamond and arms smuggling, fraud and pollution’.¹² In the context of fisheries crime, the organised criminal nature of large-scale IUU fishing is thus more often explicitly recognised, alongside that of other, better-established organised criminal practices.

Fisheries crime, however, remains a somewhat unclear formulation, without an established definition. UNODC describes it as ‘an ill-defined legal concept’,¹³ with little clarity, in particular,

7. UN General Assembly, ‘Report on the Work of the United Nations Open-Ended Informal Consultative Process on Oceans and the Law of the Sea at its Ninth Meeting’, para 71.

8. *Ibid.*

9. See UN General Assembly, ‘Resolution Adopted by the General Assembly on 8 December 2015: 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’, A/RES/70/75, 22 February 2016, p. 18.

10. Johan Bergenas, ‘Why Illegal Fishing is Becoming a National Security Issue’, *Politico*, 13 September 2016.

11. UNODC, ‘Fisheries Crime’, <http://www.unodc.org/documents/about-unodc/Campaigns/Fisheries/Fisheries_Leaflet_PRINT.pdf>, accessed 17 September 2016.

12. Stop Illegal Fishing, ‘FISH-i Africa’, p. 13.

13. UNODC, ‘Fisheries Crime’.

around the pervasiveness of the links with other crimes required for IUU fishing to qualify as fisheries crime.¹⁴ At a policy level, IUU fishing and other (apparently more serious) crimes in the fisheries sector continue to be viewed separately. Researcher Mary Ann Palma-Robles notes the ‘careful treatment of these two separate but related issues in international discussions’.¹⁵ She also observes the separation of institutional mandates in international responses. IUU fishing, for example, viewed primarily as a fisheries management issue, falls under the FAO’s mandate. Yet fisheries crime – as transnational crime in the fishing industry – falls under the mandate of UNODC.¹⁶ What is unclear is the distinction made between these two issues in practice. That is, where IUU fishing is treated as an issue in its own right, and where it is viewed as forming part of fisheries crime.

A number of studies have sought to bridge this gap. In doing so, they demonstrate not just the links between large-scale IUU fishing and transnational organised crime, but the status of such IUU fishing as transnational organised crime in itself. The 2011 UNODC report ‘Transnational Organized Crime in the Fishing Industry’ focuses chiefly on drug trafficking, human trafficking and migrant smuggling, but also stresses the role of organised crime groups in IUU fishing itself.¹⁷ In their 2011 article ‘Illegal Fishing and the Organized Crime Analogy’, researchers Henrik Österblom et al. describe IUU fishing in the Southern Ocean as ‘analogous to organized crime’.¹⁸ They do so noting that ‘many points of difference are weak in separating IUU fishing from organized crime’¹⁹. They call further for these ‘systematic, well-organized and illegal activities’ to be explicitly recognised as organised crime.²⁰

In 2014, Interpol called for efforts to ‘increase awareness of some types of illegal fishing as a form of transnational and organized crime’.²¹ In 2015, researcher Anastasia Telesetsky argued similarly that insufficient attention has been paid to understanding large-scale IUU fishing as a form of transnational organised crime.²² In 2016, meanwhile, the Global Initiative Against Transnational Organized Crime and The Black Fish published ‘The Illegal Fishing and Organized Crime Nexus: Illegal Fishing as Transnational Organized Crime’.²³ This report is notable in that it lays out explicitly, one by one, the ways in which large-scale IUU fishing meets the criteria used to define transnational organised crime. In doing so, it distinguishes – as does this paper – between several types of IUU fishing: those types conducted out of ignorance; opportunistically;

14. *Ibid.*

15. Mary Ann Palma-Robles, ‘Fisheries Crime: Bridging the Conceptual Gap and Practical Response’, Center for International Maritime Security, 30 July 2014.

16. Author’s interview with maritime crime expert, Nairobi, Kenya, 16 September 2016; Palma-Robles, ‘Fisheries Crime: Bridging the Conceptual Gap and Practical Response’.

17. UNODC, ‘Transnational Organized Crime in the Fishing Industry’, pp. 3, 95–111. IUU fishing falls under what is described in the report as ‘marine living resource crimes’.

18. Henrik Österblom et al., ‘Illegal Fishing and the Organized Crime Analogy’, *Trends in Ecology and Evolution* (Vol. 26, No. 6, 2011).

19. *Ibid.*

20. *Ibid.*

21. Interpol, ‘Study of Fisheries Crime in the West African Coastal Region’, p. 10.

22. Telesetsky, ‘Laundering Fish in the Global Undercurrents’.

23. Phelps Bondaroff et al., ‘The Illegal Fishing and Organized Crime Nexus’.

and those conducted by the habitual or repeat offender. Leaving aside IUU fishing conducted out of ignorance of regulations or opportunistically, it methodically compares repeat offending with accepted definitions of transnational organised crime.²⁴

In this way, the report deconstructs formal understanding of transnational organised crime and demonstrates how much of today's IUU fishing 'more than satisfies' the relevant criteria.²⁵ In addressing the 'transnational' component of organised crime, for example, the report refers to UNTOC – the most comprehensive legally binding global tool to fight transnational organised crime. UNTOC specifies that a crime is transnational if:

[I]t is committed in more than one State; it is committed in one State but a substantial part of its preparation, planning, direction or control takes place in another State; it is committed in one State but involves an organized criminal group that engages in criminal activities in more than one State; or it is committed in one State but has substantial effects in another State.²⁶

In line with this, the report demonstrates the multiple ways in which large-scale IUU fishers operate transnationally. Supporting this analysis are numerous sources attesting to the global nature of much IUU fishing, whether deriving from the nationality of fishers, the flag of the vessels, the waters in which fishing occurs, or the ports at which vessels dock. The campaigning group Stop Illegal Fishing and research organisation PescaDOLUS use the case of the *TAWARIQ 1* – intercepted off the Tanzanian coast in 2009 – to illustrate the point. The vessel had been flagged in Korea and Madagascar and registered to owners in Oman, South Korea and the Philippines. Crewed by Chinese, Indonesians, Filipinos, Kenyans, Taiwanese and Vietnamese and sending catch to Singapore, Taiwan and Japan, the *TAWARIQ 1* clearly shows the global nature of much of today's IUU activity.²⁷

To demonstrate the involvement of organised crime, the Global Initiative Against Transnational Organized Crime and Black Fish report again invokes UNTOC. It cites the UNTOC definition of an 'organized criminal group' as 'a structured group of three or more persons, existing for a period of time and acting in concert with the aim of committing one or more serious crimes or offences established in accordance with [the] ... Convention, in order to obtain, directly or indirectly, a financial or other material benefit'.²⁸ The report also references the definition offered by the Annual EU Organised Crime Situation Report, which defines organised crime groups as those that meet at least six of eleven possible characteristics. Four of these six are core requirements: the collaboration of more than two people; a state of existence for a prolonged or indefinite period; the committing of serious criminal offences; and the pursuit of profit and/or power.²⁹

24. *Ibid.*

25. *Ibid.*

26. UNODC, 'United Nations Convention Against Transnational Organized Crime and the Protocols Thereto', 2004, Article 3, p. 6.

27. Stop Illegal Fishing and PescaDOLUS, 'Record of the First International Symposium on FishCRIME', 2016.

28. UNODC, 'United Nations Convention Against Transnational Organized Crime and the Protocols Thereto', 2004, Article 2 (a), p. 5.

29. Phelps Bondaroff et al., 'The Illegal Fishing and Organized Crime Nexus', p. 40.

On top of these, two further characteristics must apply. These come from a list including: having members with appointed tasks; using some form of discipline or control; operating at an international level; using violence or other means of intimidation; using commercial or business-like structures; engaging in money laundering; or exerting influence on politics, the media, public administration, judicial authorities or the economy.³⁰

The Global Initiative Against Transnational Organized Crime and Black Fish report demonstrates how large-scale IUU fishing meets the majority – if not all – of these characteristics. In doing so, it draws on many of the modus operandi examined in Chapter I. Taking the EU criteria first, it is clear that large-scale IUU fishing operations meet the majority of the criteria listed. These IUU operations are not solo or spontaneous missions: different actors are involved, in defined roles, throughout the supply chain. The vessels employed spend prolonged periods at sea, where violence and intimidation can be used as a means of control. Such missions require upfront planning and investment, carried out by criminal networks focused on a single objective – increasing profit while remaining undetected. This is achieved often through a structured commercial-style approach, involving the exploitation of legal loopholes to impede traceability, and the subsequent laundering of the proceeds of crime.

Similarly, when considering the UNTOC criteria, it is clear from numerous documented cases that large-scale IUU fishing requires at least a structured group of three or more persons acting in concert with the aim of illegally fishing for profit. Whether or not illegal fishing constitutes a serious crime under UNTOC, however, remains the main sticking point. Indeed, many parties fail to treat IUU fishing as serious crime, as defined by UNTOC as a minimum custodial sentence at domestic level of four years. This means that the UNTOC definition of transnational organised crime does not, in fact, cover IUU fishing. This again reflects the disconnect described previously in policy and practical responses: that between the conceptualisation by policymakers of IUU fishing as a regulatory transgression, and the high-volume, systematic IUU fishing taking place in reality.

This disconnect is unhelpful. In matching the criteria for transnational organised crime with the key modus operandi involved in large-scale IUU fishing, the attraction of IUU fishing for organised crime groups becomes clear. Throughout the supply chain, multiple factors act as incentives. In the early stages, unregulated access to flags of convenience, the ability to exploit non-transparent ownership systems and an active business in offshore shell companies combine to provide the low-risk environment coveted by these groups. At sea, fishing vessels' global reach, mobility and ability to evade authorities without arousing suspicion make them perfect sites for transnational organised crime.³¹ The lack of a requirement to list fishing vessels on a global register and the ease of laundering fish into legal supplies provide only further incentives for criminal networks. If a vessel is caught, meanwhile, the generally lax treatment and low penalties associated with IUU fishing ensure that there is no real deterrent.

30. *Ibid.*, pp. 40–43.

31. As observed by Stop Illegal Fishing and PescaDOLUS, 'Record of The First International Symposium on FishCRIME', Cape Town International Convention Centre, South Africa, 12–13 October 2015.

The active exploitation of these vulnerabilities by organised crime groups is confirmed by evidence continually emerging from NGOs, international organisations, national authorities and civil society, which report systematic, high-volume IUU fishing in locations from West Africa to the Western Indian Ocean, East Asia and the Southern Ocean.³² Less well documented, however, are the identities of perpetrators – a function, again, of low prioritisation, interdiction and prosecution rates. UNODC attempts to differentiate between organised crime groups who diversify into IUU fishing, and otherwise legitimate fishers who engage in IUU activities.³³ However, the difference in reality is unclear; both would qualify as organised crime groups under the UNTOC and EU criteria listed above. Further research is thus needed into the types of actors involved throughout the supply chain. What is also required, as described further in Chapter IV, is the prioritisation of IUU fishing by law enforcement and serious efforts to identify, pursue and prosecute its perpetrators. While much remains unknown, one thing is clear: until large-scale IUU fishing is treated as an organised criminal industry, illegal operators will continue their activities, acting largely with impunity.

32. See, for example, Greenpeace, 'Africa's Fisheries' Paradise at a Crossroads'.

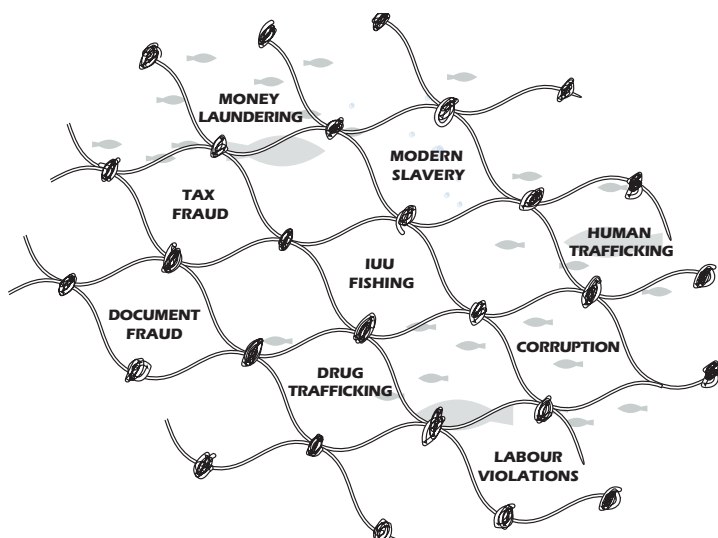
33. UNODC, 'Transnational Organized Crime in the Fishing Industry'.

III. IUU Fishing and Its Links to Broader Criminality

AWARENESS OF THE status of high-volume IUU fishing as transnational organised crime has grown alongside awareness of its links with other illegal activities. As noted in Chapter II, these links are often depicted under the banner of ‘fisheries crime’, which takes place when organised crime groups ‘engage in illicit activities ranging from criminal fishing to tax crimes, money laundering, corruption, document fraud, and trafficking in persons’.¹ However, in-depth literature on these crossovers is limited. This chapter reviews existing knowledge on high-volume IUU fishing and its intersections with other illegal activities.

Awareness of links between IUU fishing and other forms of crime has increased as the scale of IUU activities has expanded. Today, the main crime types with which IUU fishing is reported to overlap – and which this chapter will examine – are highlighted in Figure 1. In highlighting these links, UNODC describes large-scale IUU fishing as just one part of a ‘perfect storm of illegal activities in the fishing sector’.² These links, UNODC states, appear throughout the supply chain, with associated crimes occurring at sea and on land, from vessel registration to fish capture, processing and sale. The outcome described by UNODC is an interlinked web of crime convergence, the different strands of which can be a challenge to untangle. To assess current knowledge around such convergence, it is necessary to study in turn the crime types with which IUU fishing is reported to intersect.

Figure 1: Crimes Reported in Conjunction with IUU Fishing



Source: The author.

1. UNODC, ‘Fisheries Crime’.
2. *Ibid.*

Associated Economic Crimes

A number of crossovers cited in the context of fisheries crime relate to corruption and other, mainly economic, crimes that derive directly from large-scale IUU fishing. These are reported to occur as perpetrators seek to facilitate, maximise profits from, and ultimately safeguard the proceeds of the core illicit activity. Of these crimes, most commonly cited are the corruption, tax evasion and money laundering with which serious crimes commonly go hand in hand.³ Knowledge of each of these forms of criminal activity in the fishing industry, however, remains far from complete.

Corruption, first, is clearly a widespread reality with regard to organised criminal activity of all kinds. Key to the viability of organised crime networks is the ability to corrupt officials, who can act as a gateway for their operations. Yet corruption occurring in conjunction with IUU fishing remains an understudied area. A 2012 report by the Anti-Corruption Resource Centre observes that corruption in fisheries has not received the same attention as corruption in some other natural resource sectors.⁴ A 2013 report by the same organisation notes that ‘there is little research on the relationship between IUU fishing and corruption’ and that ‘research on illegal financial flows related to corruption in fisheries is even scarcer’.⁵

Some literature on corruption in IUU fishing is, however, developing. The growing value of declining fish stocks, and thus the vulnerability of their management mechanisms to corruption, is increasingly viewed as a matter of concern, at both national and international levels.⁶ Stop Illegal Fishing and PescaDOLUS note that ‘at every link in the illegal fishing supply chain, the potential for corruption exists’.⁷ This can extend from the fraudulent negotiation of access agreements to the issuing of licences and the use of bribery to land catches in port.

At the earliest stages of the IUU chain, concerns have been raised about corruption in the operation of flag states’ registries. These can be run by corporate entities, with potential links to the fishing industry.⁸ Although little research has centred on these issues, there is growing concern that companies may pay bribes to establish registries, and in turn profit from the inability or unwillingness of flags of convenience to ensure oversight of vessels. UNODC points to Sierra Leone, where the official managing negotiations with the US-based corporate entity running the Sierra Leone International Ship Registry and Sierra Leone Maritime Administration was charged with multiple counts of corruption in 2011.⁹ Reports of ‘improprieties’ were also made in the Liberian government-ordered Dunn Commission Report on the renewal of the

3. OECD, ‘Evading the Net: Tax Crime in the Fisheries Sector’, 2013.

4. Standing, ‘Corruption and Commercial Fisheries in Africa’.

5. Martini, ‘Illegal, Unreported and Unregulated Fishing and Corruption’, p. 1.

6. UNODC, ‘Transnational Organized Crime in the Fishing Industry’, p. 112.

7. Stop Illegal Fishing and PescaDOLUS, ‘Record of The First International Symposium on FishCRIME’.

8. UNODC, ‘Transnational Organized Crime in the Fishing Industry’, pp. 116–20.

9. Anti-Corruption Commission, ‘Press Release: The Executive Director of Sierra Leone Maritime Administration Indicted for Corruption’, 2 February 2011, <<http://news.sl/drwebsite/exec/view.cgi?archive=7&num=17252&printer=1>>, accessed 12 March 2017, as cited in UNODC, ‘Transnational Organized Crime in the Fishing Industry’, p. 118.

Liberian International Ship and Corporate Registry's licence in 2008.¹⁰ Yet significant gaps in this picture remain, with further empirical research required.

Perhaps more frequently raised in the literature are concerns about corruption in the negotiation of fisheries access agreements. There is limited scholarship on the issue, but the lack of transparency has led to widespread allegations that officials receive bribes and embezzle revenues, and that foreign states can exploit their donor status to ensure favourable terms.¹¹ Researchers Martin Tsamenyi and Quentin Hanich point to a series of corruption allegations against Pacific Island officials during access negotiations, involving payment of air tickets, lavish holidays and children's tuition fees.¹² Meanwhile, researcher André Standing notes that the EU publishes its agreements with third countries, but that in most cases negotiations are confidential, with no information available to civil society.¹³ It should be noted, however, that a European Commission proposal to make publicly available the management system of fishing authorisations and associated databases is currently under consideration.¹⁴

Worldwide, conflicts of interest are also thought to play into the equation. This appears a particular risk where domestic policies favour joint ventures between local businesses and foreign fishing companies, as in Senegal, Mozambique and Angola, among others. Standing, for example, examines the 'criminogenic relationships' that can form between corporate and state actors, arguing that 'abuse of power' aspects of corruption such as these are 'largely understudied and weakly integrated into fisheries policy discussions'.¹⁵ He explores, in particular, Senegal's shift from bilateral agreements towards joint-venture partnerships with foreign firms, citing the resultant allegations of corruption, with missing funds suspected to have funded election campaigns.¹⁶

A related concern here relates to states being 'captured' as such agreements weaken policymakers' neutrality. Where access agreements are linked to further loans, or policymakers have an interest in a joint venture, there are fears that sanctions for violating fishing regulations may be waived in order to protect diplomatic relations.¹⁷ Standing highlights suspicions of such an outcome in Mozambique in relation to Chinese offenders. He also highlights the potential for proactive political

10. UNODC, 'Transnational Organized Crime in the Fishing Industry', pp. 118–20.

11. Standing, 'Corruption and Commercial Fisheries in Africa'; Stephen Mbithi Mwikya, *Fisheries Access Agreements: Trade and Development Issues* (Geneva: International Centre for Trade and Sustainable Development Publications, 2006).

12. Martin Tsamenyi and Quentin Hanich, 'Addressing Corruption in Pacific Island Fisheries: A Report Prepared for the IUCN PROFISH Law Enforcement, Corruption and Fisheries Project', 2008.

13. Standing, 'Corruption and Commercial Fisheries in Africa'.

14. European Commission, 'Proposal for a Regulation of the European Parliament and of the Council on the Sustainable Management of External Fishing Fleets, Repealing Council Regulation (EC) No 1006/2008', 2015/0289 (COD), 10 January 2015.

15. André Standing, 'Corruption and State – Corporate Crime in Fisheries', *U4* (No. 15, July 2015).

16. *Ibid.*

17. André Standing, 'Corruption and Industrial Fishing in Africa', *U4Brief* (No. 7, December 2008), pp. 15–16.

interference to hamper efforts to prosecute foreign individuals, citing potential interference in the Philippines against the charging of Chinese nationals implicated in IUU fishing.¹⁸

Corruption in negotiating access agreements is not the only concern. The regulation of fisheries beyond these agreements provides further opportunities for corruption, particularly in relation to enforcement. Here, the literature cites the issuance of bribes to navy patrols to avoid detention,¹⁹ bribery of fisheries observers mandated to report wrongdoing onboard,²⁰ and the corruption of port officials to ignore irregularities.²¹ Again, detailed scholarship is limited. Yet certain cases speak to the scale of the problem.

In South Africa, for instance, investigators uncovered extensive IUU fishing activity by the multinational Hout Bay Fishing Industries between 1999 and 2001. The company's operations were shown to have relied on the bribery of at least four marine conservation inspectors to falsify catch and export data regarding the planned export to the US of more than 17,500 kg of rock lobster tails and 2,800 kg of Patagonian toothfish.²² A further investigation into overfishing of pilchards by 35 South African companies led to seven further arrests of fisheries inspectors for similar offences.²³ In Sierra Leone, meanwhile, the World Bank pulled out of the West African Regional Fisheries Programme in 2016 over allegations of corruption within the Sierra Leone Ministry of Fisheries. An investigation by the Public Service Commission recommended that the officials involved be suspended for gross misconduct.²⁴

Despite these examples, understanding of the dynamics of the corruption facilitating large-scale IUU fishing remains partial.²⁵ The same applies to other offences to which much IUU fishing directly gives rise, such as large-scale tax evasion and money laundering. It is these processes that ultimately render IUU fishing profitable: as for all criminal actors, the ability to maximise and disguise the proceeds of crime is key to IUU operators' success. As noted by researcher Maira Martini, however, 'this area is still under-researched and there is almost no information available regarding illicit financial flows in the fisheries sector'.²⁶

Those studies that *have* covered illicit financial flows linked to IUU fishing focus mainly on large-scale tax evasion. Yet again, as UNODC notes, 'detailed data on tax crimes in the fishing sector is currently limited', with research in this area in its infancy.²⁷ The OECD, however, has studied a range of strategies used to evade tax on profit or earnings, customs duties and VAT in

18. *Ibid.*

19. EJF, *Pirate Fishing Exposed*, p. 26.

20. *Ibid.*; *Al-Jazeera*, 'Pirate Fishing'; Martini, 'Illegal, Unreported and Unregulated Fishing and Corruption'.

21. Martini, 'Illegal, Unreported and Unregulated Fishing and Corruption', p. 5.

22. Bill Blumenfeld, 'Hout Bay Fishing Company Found Guilty', *IOL*, 30 April 2002.

23. Standing, 'Corruption and Industrial Fishing in Africa', pp. 20–21.

24. Hassan Gbassay Koroma, 'Sierra Leone: Failed US\$28 Million Fisheries Project', *Sierra Leone Concord Times*, 17 February 2016.

25. One among many areas in which further research is needed is corruption as it relates to the operation of RMFOs.

26. Martini, 'Illegal, Unreported and Unregulated Fishing and Corruption', p. 6.

27. UNODC, 'Fisheries Crime'.

conjunction with IUU fishing. It lists techniques common to multiple sectors, including missing sales and re-invoicing, as well as sector-specific methods, including disguising the origin of fish, under-declaring catches and mislabelling fish products.

A clear case cited by the OECD is one in which exported dried codfish (liable to import duty of 20%) was documented as dried cod heads, liable to import duty of only 10%. This misdocumentation resulted, in this case, in the avoidance of \$500,000 in taxes in the export country, and potentially up to \$2.5 million in the importing country.²⁸ A further technique used includes the false declaration that EU-bound fish were caught in states with which the EU has trade agreements – thereby avoiding the 6% import duty that would otherwise apply.²⁹ In the case of large-scale illegal electro-fishing for razor clams in Scotland,³⁰ meanwhile, a range of measures were uncovered during a 2014 law-enforcement operation – including the fraudulent creation of companies, export licences and ‘ghost employees’ – all to minimise tax liability.³¹

Few studies exist on offences committed in laundering the proceeds of IUU fishing. This is due, in part, to a broad failure by investigators to adopt financial investigation tools to pursue the operators and indeed the owners of vessels, who make the greatest profit. This links, in turn, to the fact that anti-money-laundering laws in many states do not have specific provisions relating to IUU fishing. To illustrate this, Palma-Robles examines the cases of the Philippines and Indonesia, where predicate offences to money laundering do not include IUU fishing.³² This is not uncommon; the situation is similar in many domestic anti-money-laundering laws, resulting in a dearth of information about, and little motivation to investigate, the money flows linked to IUU fishing.

Yet it is clear that money laundering is an essential component of large-scale IUU fishing. In order to be profitable, the proceeds of this, as all other crimes, must be integrated into the legitimate economy. In line with this, there appears to be growing awareness of the risks posed by money laundering linked to high-volume IUU fishing in some affected jurisdictions. The Solomon Islands’ Financial Intelligence Unit’s 2008 ‘Financial Crime and Money Laundering Risk Assessment’ identified fisheries on a list of ‘higher risk customers and industries’³³. It rated fisheries (together with logging) as one of the most significant sources of money likely

28. OECD, ‘Evading the Net’, p. 28. The embezzlement of approximately \$30,000 by an official at the exporting company was also uncovered, resulting in a successful prosecution.

29. *Ibid.*, p.27.

30. This technique involves the trailing of electrodes behind boats, stunning razor clams in the seabed and causing them to rise up for easy collection by divers. It has been banned in the EU since 1998. See *The Herald*, ‘Criminal Gangs Making More from Illegal Fishing than Drugs’, 12 September 2014.

31. Author’s email correspondence with former law enforcement officer and consultant on justice, security, risk and resilience, 3 April 2017.

32. Mary Ann Palma-Robles, ‘Integrating Monitoring, Control and Surveillance and Anti-Money Laundering Tools to Address Illegal Fishing in the Philippines and Indonesia’, in Gregory Rose (ed.), *Following the Proceeds of Environmental Crime: Fish, Forests and Filthy Lucre* (Abingdon: Routledge, 2014), p. 107.

33. Solomon Islands Financial Intelligence Unit, ‘Financial Crime and Money Laundering Risk Assessment’, 2008.

to be laundered in the Islands, noting the likelihood that ‘hundreds of millions has been lost in foregone forestry and fisheries revenue’.³⁴

Little research and analysis has focused on the precise sums involved, or the money-laundering channels used. There are, however, suggestions that payments are likely to be transferred through complex financial transactions involving third-party state tax havens and difficult-to-trace cash payments.³⁵ The OECD, for example, reports that IUU vessel owners rely on jurisdictions enabling ownership secrecy to hide ill-gotten gains.³⁶ As such, it is observed that some of the same factors that make the fisheries sector vulnerable to organised crime – access to flags of convenience and offshore shell companies – may facilitate the economic crimes that accompany large-scale IUU fishing.³⁷ Just as these vulnerabilities can facilitate IUU fishing, so can they allow IUU operators to commit tax crime, safely shelter income and disguise the destination of payments. This intersection of vulnerabilities is a theme that recurs in the case of overlaps with other crime types, as explored below.

Other Associated Crimes

Beyond corruption, tax fraud and money laundering, large-scale IUU fishing is associated with broader forms of criminal activity. Most frequently cited here are human trafficking and drug trafficking. Again, research on the nature of the overlaps is limited and restricted to particular cases. However, increasingly recognised in the literature is a common theme: that many crossover crimes arise from the same vulnerabilities that enable large-scale IUU fishing itself.

Most attention has focused on crimes that exploit vulnerable people. Perhaps the greatest concern has been raised over instances of human trafficking for the purposes of modern slavery in IUU operations. Human trafficking, in general terms, is increasingly recognised to occur alongside other crimes, particularly natural resource-based crimes that depend on cheap or free labour, either directly or indirectly.³⁸ The UN describes human trafficking, in these and other cases, as ‘the recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose

34. *Ibid.*

35. Meeting of the European Parliament Intergroup on Climate Change, Biodiversity, and Sustainable Development, Brussels, Belgium, 5 December 2012, ‘Summary Report on Combating Transnational Organized Fisheries Crime’, cited in Telesetsky, ‘Laundering Fish in the Global Undercurrents’, p. 959.

36. OECD, ‘Evading the Net’.

37. *Ibid.*, pp. 25–31.

38. Kendra L Kreider, ‘Human Trafficking and Environmental Crime’, presentation at the Asia-Pacific Economic Co-operation (APEC) Pathfinder Dialogue III: Strengthening the Fight Against Illicit Trade and Corruption, Lima, Peru, 18 August 2016, <<http://www.2015pathfinderdialogue.com/ms-kreiders-remarks.html>>, accessed 13 March 2017.

of exploitation'.³⁹ Exploitation, here, is described as 'the prostitution of others or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude or the removal of organs'.⁴⁰

There is a lack of statistics on the extent of human trafficking for these purposes throughout the IUU fishing supply chain. Information is partial and generated by disparate sources – data on human trafficking are sparse in general, and even more so in the fishing industry. This is a result of difficulties in data collection arising from a lack of awareness of symptoms, the difficulty of monitoring fishing vessels and the frequent recording of human trafficking as other crimes.⁴¹ Nonetheless, in a range of cases, large-scale IUU fishing has been shown to be linked to human trafficking and, once on board, to modern slavery, human rights' abuses, and acute violations of labour and safety standards. When examined together, the range of cases cited in the literature gives an indication of the severity of human exploitation on board IUU vessels – and throughout the supply chain.⁴²

Much human trafficking witnessed in conjunction with IUU fishing appears to occur for the purposes of forced fishing labour, although sexual exploitation has also been documented.⁴³ In 2011, UNODC cited a range of examples where human trafficking, extreme human rights' abuses and IUU fishing intersect. These included the discovery of hundreds of Senegalese men using a mother ship as a base station for fishing operations in Sierra Leone, and the exploitation of Vietnamese fishers at sea for more than eighteen months before the situation was exposed off the coast of South Africa.⁴⁴ In examining these cases, UNODC drew attention to the breadth of illicit practices involved. These included the commission of fraud by recruitment agencies and intermediary brokers to deliver labour on board; the use of deception, intimidation and violence on board; and the practice of turning crew into bonded labourers via debts incurred to recruiters.⁴⁵

Since 2011, further cases have emerged, particularly as media interest has increased. In 2012, *Bloomberg* reported on a six-month investigation into Indonesian debt-bondage schemes where men were exploited on ten vessels fishing off New Zealand.⁴⁶ The same year, a National Public

39. UN, 'Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children', 2000, p. 2.

40. *Ibid.*

41. Author's interview with anti-narcotics officer, Victoria, Seychelles, 13 September 2016.

42. Mark P Lagon, 'Netting People: Treaties Reducing Illicit Fishing and Human Trafficking', statement before the Committee on Foreign Relations, United States Senate, 2nd Session, 113th Congress, Hearing on Fisheries Treaties and Port State Measures Agreement, 12 February 2014.

43. UNODC, 'Transnational Organized Crime in the Fishing Industry', pp. 22–23.

44. *Ibid.*, pp. 25–26, citing UN Inter-Agency Project on Human Trafficking (UNIAP), 'Exploitation of Cambodian Men at Sea: Facts About the Trafficking of Cambodian Men Onto Thai Fishing Boats', report, CB-03, 22 April 2009; EJF, *All at Sea: The Abuse of Human Rights Aboard Illegal Fishing Vessels* (London: EJF, 2010); Caryn Dolley, 'Cape Sea Hostage Drama', *IOL*, 6 May 2009.

45. UNIAP, 'Exploitation of Cambodian Men at Sea'; EJF, *All at Sea*; UNODC, 'Transnational Organized Crime in the Fishing Industry', p. 39.

46. E Benjamin Skinner, 'The Fishing Industry's Cruellest Catch', *Bloomberg*, 24 February 2012.

Radio report exposed trafficking of Cambodian and Burmese men on to Thai vessels:⁴⁷ Thailand's large fishing fleet is chronically short on labour – reportedly by up to 60,000 fishermen per year – and has emerged as a hub for human trafficking. Journalist Michael Field's 2014 book *The Catch* explores human trafficking and abuse in the fishing industry in New Zealand – including on IUU vessels.⁴⁸ In 2015, the *New York Times* series 'Outlaw Ocean' detailed the use of forced labour on IUU vessels in a range of cases, in one case reporting on workers being shackled to prevent them escaping.⁴⁹ The same year, a nine-month Pulitzer Prize-winning *Associated Press* investigation exposed forced labour in the Southeast Asian fishing industry, leading to the release of more than 2,000 slaves.⁵⁰

The factors that make the crew of IUU vessels vulnerable to exploitation are multiple. Human trafficking, in particular, works where victims can be kept invisible and their voices silent. It is here that the first vulnerability to crossovers with IUU fishing exists: the sea enforces isolation and denies victims a means to raise the alarm.⁵¹

Other features of high-volume IUU fishing discussed previously exacerbate this situation. Once on board, transshipment of fish, as well as at-sea refuelling, mean that crew can be kept on board indefinitely, without any means of escape.⁵² Fishing vessels' exemption from carrying ID numbers and the lack of monitoring capacity of many states, meanwhile, reduce not just the risk to criminals of engaging in IUU fishing, but also that of using forced labour, disregarding safety standards, mistreating and, at times, murdering crew members.⁵³ Finally, the failure of flags of convenience to exercise their law enforcement jurisdiction and the ability to exploit non-transparent ownership systems ensures quasi-impunity for vessel owners regardless of the specific activities taking place on board.

Suggestions have also been made that direct intersections exist between IUU fishing and migrant smuggling.⁵⁴ Media articles have at times sought to highlight the ability of IUU fishers to switch activities to engage in the smuggling of migrants. Such a scenario was reported in July 2010 in Australia in response to the country's tough stance on Southeast Asian fishermen caught illegally fishing the northern seas.⁵⁵ Research on this topic is, however, limited. In particular, there is little literature specifically on the use of IUU vessels – rather than fishing vessels in general – for organised migrant smuggling.⁵⁶

47. Shannon Service and Becky Palmstrom, 'Confined To a Thai Fishing Boat, for Three Years', *National Public Radio*, 19 June 2012.

48. Michael Field, *The Catch: How Fishing Companies Reinvented Slavery and Plunder the Oceans* (Wellington: AWA Press, 2014).

49. See, for example, Urbina, 'Tricked and Indebted on Land, Abused or Abandoned at Sea'.

50. McDowell et al., 'AP Investigation: Slaves May Have Caught the Fish you Bought'.

51. *Ibid.*

52. Phelps Bondaroff et al., 'The Illegal Fishing and Organized Crime Nexus', pp. 56–59.

53. UNODC, 'Transnational Organized Crime in the Fishing Industry'.

54. See UNODC, 'Transnational Organized Crime in the Fishing Industry', pp. 58–73.

55. Sean Parnell, 'Poachers Turn to Asylum Trade', *The Australian*, 8 July 2010.

56. See UNODC, 'Transnational Organized Crime in the Fishing Industry', pp. 58–73.

Gradually, however, a less direct link is emerging, concerning the greater *vulnerability* of migrants to trafficking onto IUU fishing vessels. The US Department of State's 2016 'Trafficking in Persons Report' gives the example of Rohingya and Bangladeshi migrants travelling by boat to Southeast Asian countries, who are subject to starvation, assault and ransom demands. Those who are unable to pay are reportedly sold into forced labour on board fishing boats.⁵⁷ Although not differentiating between legitimate and IUU fishing vessels, given the prevalence of IUU fishing in the region, it appears possible that many will end up on IUU vessels. In other cases, investigators have uncovered the direct sale by migrant smugglers of their charges into modern slavery on IUU vessels.⁵⁸ Further empirical research is required to assess the extent of such practices.

Many of the factors that make fishing vessels opportune for human trafficking are also thought to make them suitable for other forms of trafficking, including that of drugs. Here, specific attractions are said to include the large storage compartments of vessels, and established transportation and distribution networks – described as a boon to those seeking to smuggle drugs.⁵⁹ The ease with which fishing vessels can change name, ownership and register can also hamper intelligence gathering on drug-trafficking operations. In line with this, recent years have seen growing concern about the use of fishing vessels for these ends.

UNODC provides numerous examples, largely concerning cocaine trafficking from South America to the US, in which the use of fishing vessels is described as integral.⁶⁰ UNODC also highlights the use of fishing vessels to traffic heroin and cannabis at various stages of the supply chain for each.⁶¹ It stresses the various functions that can be performed by fishing vessels, from providing mother ships to act as base stations from which trafficking is conducted, to functioning as support and resupply vessels for go-fast boats moving drugs along trafficking routes.⁶² Smaller fishing vessels have been reported to traffic drugs in and out of harbours, transshipping them to and from mother ships outside the relevant coastal state's jurisdiction.⁶³ Meanwhile, laundering

57. US Department of State, 'Trafficking in Persons Report', p. 88. The report identified 51 countries that have trafficking in their fishing industries, are transit countries for human trafficking for forced labour on fishing vessels in other jurisdictions or are at a high risk of experiencing trafficking in their fishing industries – although it does not discuss IUU fishing.

58. See, for example, Emanuel Stoakes et al., 'Sold from a Jungle Camp to Thailand's Fishing Industry: "I Saw 13 People Die"', *The Guardian*, 20 July 2015.

59. UNODC, 'Transnational Organized Crime in the Fishing Industry'.

60. *Ibid.*

61. *Ibid.*; author's interview with representative of the Sierra Leone Police, Freetown, Sierra Leone, 20 June 2016; author's interview with anti-narcotics officer, Victoria, Seychelles, 13 September 2016.

62. See, for example, US Department of Justice, 'Former Colombian Maritime Training Instructor and Co-Conspirator Sentenced to Prison on U.S. Drug Charges', 11–1287, press release, 30 September 2011, <<https://www.justice.gov/opa/pr/former-colombian-maritime-training-instructor-and-co-conspirator-sentenced-prison-us-drug>>, accessed 9 March 2017.

63. UNODC, 'Report of the Sixteenth Meeting of Heads of National Drug Law Enforcement Agencies, Latin America and the Caribbean, Held in Buenos Aires from 23 to 27 October 2006', UNODC/HONLAC/2006/5, 9 November 2006, p. 11.

of the proceeds of drug trafficking through the purchase of fishing vessels has been reported,⁶⁴ as has the concealment of drugs inside caught fish.⁶⁵

The use of fishing vessels in drug-trafficking operations does not appear to be exceptional. High-profile cases in 2016 included the seizure by the Sri Lanka Navy of 101 kg of heroin worth \$7.5 million on an Iranian fishing dhow, with this seizure linked to trafficking networks operating from the Makran Coast.⁶⁶ More broadly, UNODC cites data from the European Maritime Analysis and Operations Centre (Narcotics) deriving from intelligence on 40 interdictions at sea coordinated by partner countries from 2007–10. These data show that 20% of the vessels on which cocaine was seized during this period were fishing vessels.⁶⁷

Fewer data exist on the nexus between drug trafficking and IUU fishing specifically. The majority of literature and media reporting does not clarify whether those vessels implicated are engaged in IUU fishing or are otherwise legitimate.⁶⁸ A small number of cases have been uncovered, however. One of the most frequently cited concerns South African abalone – a large sea snail that demands high prices in East Asia as a delicacy and an aphrodisiac. It is worth examining this case in further detail.

Illegal abalone extraction has been escalating since the mid-1990s. In 2002, South African authorities confiscated more abalone than was harvested by the commercial fishery.⁶⁹ The business involves Chinese Triad gangs long active in drug trafficking, who have used control of abalone trading to broker deals with gangs in Cape Town linked to the distribution of the methamphetamine-based drug methaqualone, known locally as Mandrax.⁷⁰ In 2005, multi-tonne Mandrax seizures were linked to individuals at the heart of the abalone trade; investigations revealed an extensive barter economy where abalone was exchanged for Mandrax and ingredients for methamphetamine production.⁷¹ Researcher Annette Hübschle describes this nexus as a ‘marriage of convenience’, requiring no exchange of money and thus leaving no paper trail.⁷² The result, according to the NGO TRAFFIC, has been a ‘coastal South Africa transformed from a network of small fishing communities, [in]to outposts of international organized crime battling for the opportunity to harvest and export abalone’.⁷³

64. UNODC, ‘Transnational Organized Crime in the Fishing Industry’, p. 87.

65. *BBC*, ‘Mexico Cocaine “Hidden in Sharks”’, 17 June 2009.

66. *AFP*, ‘Sri Lanka Detains 14 Foreigners Over \$7.5m Drug Bust’, 3 April 2016.

67. UNODC, ‘Transnational Organized Crime in the Fishing Industry’, p. 81.

68. *AFP*, ‘Sri Lanka Detains 14 Foreigners Over \$7.5m Drug Bust’.

69. Jonny Steinberg, ‘The Illicit Abalone Trade in South Africa’, Institute for Security Studies Paper 105, April 2005.

70. Sam Kiley, ‘Rare Shellfish Bartered for Drugs’, *The Observer*, 23 September 2007.

71. Edwin Muchapondwa et al., ‘Abalone Conservation in the Presence of Drug Use: Combating Poaching by Empowering Local Communities and Targeting Organized Crime’, Environment for Development Research Brief, EFD DP 12–15, 4 March 2014.

72. Annette Hübschle, *Organised Crime in Southern Africa: First Annual Review* (Pretoria: Institute for Security Studies, December 2010).

73. Kimon De Greef and Serge Raemaekers, *South Africa’s Illicit Abalone Trade: An Updated Overview and Knowledge Gap Analysis* (Cambridge: TRAFFIC International, 2014).

As UNODC notes, the abalone case suggests that ‘segments of the fishing industry – particularly the illegitimate industry – may be operating closely with transnational organized criminal groups involved in illicit traffic in drugs’.⁷⁴ A small number of other cases have been reported that appear to support this assessment. Oceana, an ocean conservation advocacy organisation, has cited the arrest for cocaine trafficking of the owner of Nogueira Garcia – a fishing company exposed for using flags of convenience and suspected of IUU fishing.⁷⁵ Meanwhile, it has been reported that some drug-trafficking networks may be shifting their focus to IUU fishing as it grows in profitability but remains low risk.⁷⁶

Here, crossovers may occur as networks engage in both activities simultaneously. Reports have suggested, for example, that Colombian drug-trafficking networks have been entering the illegal shark-finning business.⁷⁷ In Mexico, there are reports that drug traffickers have become involved in illegally fishing for totoaba – a marine fish prized in Chinese cuisine for its swim bladder.⁷⁸ In 2014, most notably, the murder of the leader of a Mexican drug-trafficking organisation, Samuel Gallardo Castro, was linked to his failure to pay another smuggler \$1 million for a shipment of totoaba swim bladders destined for Asia.⁷⁹ While some of these cases are dated, interviews with practitioners suggest the incidence of as-yet unreported cases in which IUU fishing and drug trafficking overlap.⁸⁰ On a global scale, however, the number of known cases speaking to these links remains limited, with further empirical research required to ascertain their prevalence.

Other crimes alluded to in the IUU fishing literature include arms trafficking and piracy. In the case of arms trafficking, however, the evidence base is much thinner – while some arms seizures have been made on fishing vessels, there is limited evidence of these vessels’ involvement in IUU fishing.⁸¹ The connection between piracy and IUU fishing, similarly, is unconfirmed. One of the most commonly cited links is indirect: that of Somalia, where it is posited that piracy developed in response to illegal fishing by foreign vessels in Somali waters.⁸²

74. UNODC, ‘Transnational Organized Crime in the Fishing Industry’, p. 87.

75. Oceana, ‘Oceana Exposes Galician Connections between Cocaine, Illegal Fishing and Shark Catches’, press release, 20 August 2008, <<http://eu.oceana.org/en/press-center/press-releases/oceana-exposes-galician-connections-between-cocaine-illegal-fishing-and>>, accessed 9 March 2017.

76. *Herald Scotland*, ‘Criminal Gangs Making More From Illegal Fishing Than Drugs’, 12 September 2014; Jesús A Cañas, ‘Drug Dealers Find a More Lucrative Trade: Sea Cucumbers’, *El País*, 31 August 2016.

77. Paul Watson, ‘Sharks, Drugs, Lies, and Corruption in Costa Rica’, Sea Shepherd Conservation Society, 18 June 2009; WildAid, ‘At Rock Bottom: The Declining Sharks of the Eastern Tropical Pacific’, 2005.

78. Mimi Yagoub, ‘“Narco Fish” Trafficking Easy Money for Mexico Criminals’, *Insight Crime*, 8 July 2016.

79. Camilo Mejia Giraldo and James Bargent, ‘Are Mexican Narcos Moving into Lucrative Fish Bladder Market?’, *Insight Crime*, 6 August 2014; *Fox News*, ‘Fish Bladder, Coveted In Asia, Is The New “It” Among Mexican Cartels’, 7 August 2014.

80. Author’s interview with anti-narcotics officer, Victoria, Seychelles, 13 September 2016; author’s interview with maritime crime expert, Victoria, Seychelles, 12 September 2016.

81. *BBC*, ‘“Somalia-Bound” Ship of Weapons Seized by French Navy’, 29 March 2016; Justin V Hastings, ‘Illicit Flows in the Hong Kong–China–Taiwan Triangle’, *Issues & Studies* (Vol. 45, No. 2, June 2009), p. 202.

82. *Democracy Now*, ‘Analysis: Somalia Piracy Began in Response to Illegal Fishing and Toxic Dumping by Western Ships Off Somali Coast’, 14 April 2009.

As noted by researcher Jasmine Hughes, for example, Somali piracy is viewed ‘as a response to the overfishing of Somali waters by European and Asian fishing vessels ... following the collapse of the Somali state in 1991’.⁸³ Many Somali pirates, Hughes notes, claim to be disenfranchised fishermen who only resorted to piracy after the pillage of their waters by foreign vessels. The names some have taken – such as ‘Central Somali Coast Guard’ and ‘Defenders of Somali Territorial Waters’ – are said to reveal this motivation.⁸⁴ Further afield, and since Somali piracy has declined, there are concerns that piracy will expand as commercial fishing operators, particularly those fishing illegally, drive artisanal fishermen out of business.⁸⁵

Others contest this link. Researcher Stig Jarle Hansen argues that much Somali pirate behaviour witnessed has not been consistent with a ‘coast-guard’ logic, betraying instead a profit-based motivation.⁸⁶ As noted by the special adviser to the Secretary-General on Legal Issues Related to Piracy off the Coast of Somalia, the link between piracy and illegal fishing has not been proved. The extension of Somali piracy far outside Somali territorial waters further suggests that these activities go beyond protecting Somali fisheries.⁸⁷

In the absence of firmer evidence, potential connections with piracy need to be treated with greater caution than those for which more extensive evidence exists. These cases include, most directly, the economic crimes to which large-scale IUU fishing inevitably gives rise – from corruption to money laundering. Although our level of understanding remains limited, these crimes are essential to the operations of IUU fishers, and key to the profitability of their core activity. At the same time, growing evidence of intersections with human and drug trafficking point clearly to the need for further, in-depth interrogation of IUU fishing as convergence crime.

83. Jasmine Hughes, ‘The Piracy–Illegal Fishing Nexus in the Western Indian Ocean’, *Future Directions International*, 10 February 2011.

84. *Ibid.*

85. Ted Kemp, ‘The Link Between Illegal Fishing and Piracy’, *CNBC*, 19 September 2014.

86. Stig Jarle Hansen, ‘Debunking the Piracy Myth: How Illegal Fishing Really Interacts With Piracy in East Africa’, *RUSI Journal* (Vol. 156, No. 6, December 2011).

87. UN Security Council, ‘Annex to the Letter Dated 24 January 2011 from the Secretary-General to the President of the Security Council: Report of the Special Adviser to the Secretary-General on Legal Issues Related to Piracy off the Coast of Somalia’, S/2011/30, 25 January 2011, p. 12; Ishaan Tharoor, ‘How Somalia’s Fishermen Became Pirates’, *Time*, 18 April 2009.

IV. IUU Fishing and Security

AS SHOWN PREVIOUSLY, the tendency to treat IUU fishing as a minor regulatory violation often obscures the true nature of the dynamics at play. Most notably, a broad failure to note the systematic nature of IUU fishing means that its security dimensions are underappreciated. Where attention *has* focused on IUU fishing as a security threat, it has been localised: we most often cite the threat to the livelihoods of those dependent on marine ecosystems. The true extent of the damage is much broader. This chapter examines current understandings of the threat posed by IUU fishing and its crossover crimes, highlighting the knowledge gaps that exist.

The most common understanding of the harm caused by large-scale IUU fishing relates to the threat posed to the security of individuals who directly depend on legitimate fishing for their livelihoods. This concern is rooted in the concept of human security. The foundation of this concept emerged in the latter part of the twentieth century as part of broader efforts to move beyond narrow definitions of security focused on states, to address the security of individuals.¹ Although little consensus exists on the concept, human security is often understood to extend beyond narrowly defined economic means, to incorporate power, voice and the ability to exercise control over one's future.² The scholar Amartya Sen outlines this understanding of human security in his capabilities approach to the concept.³ More recently, researchers Karen O'Brien and Jon Barnett have drawn on this approach to provide a useful definition of human security, encompassing its intersection with environmental change. They do so describing human security as a condition in which people have the capacity to respond to threats – including environmental threats – posed to their basic needs and rights in such a way that they are able to live with dignity.⁴

In order to assess current understandings of the human security threats posed in affected communities, it is useful to consider existing knowledge of the environmental harm caused by IUU fishing itself. Unsurprisingly, it is not possible to accurately quantify the full extent of the environmental damage caused, given gaps in our understanding of the scope of the phenomenon. However, various sources attest to the severity of the impacts in particular locations. NGOs such as the Wildlife Conservation Society, for example, have sought to quantify the large numbers of turtles and dolphins caught by trawler fleets in Gabonese waters.⁵

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1. Barry Buzan et al., *Security: A New Framework for Analysis* (London: Lynne Rienner, 1998); G Dabelko et al., 'State-of-the-Art Review on Environment, Security and Development Co-operation', The World Conservation Union, 2002.
 2. Rosaleen Duffy and Jasper Humphreys, 'Poaching, Wildlife Trafficking and Human Security', in Cathy Haenlein and M L R Smith (eds), *Poaching, Wildlife Trafficking and Security in Africa: Myths and Realities*, RUSI Whitehall Paper 86 (London: Taylor and Francis, 2016).
 3. Amartya Sen, *Development As Freedom* (Oxford: Oxford University Press, 1999).
 4. Karen O'Brien and Jon Barnett, 'Global Environmental Change and Human Security', *Annual Review of Environment and Resources* (Vol. 38, 2013).
 5. Author's interview with fisheries expert, Libreville, Gabon, 20 November 2015.

Successive FAO *State of World Fisheries and Aquaculture* reports, meanwhile, tell an alarming tale of declining fish stocks and collapsing marine and coastal ecosystems⁶. As noted, the FAO reports that, in 2013, a full 90% of global fish stocks were over-fished or fully fished – to say nothing of the knock-on ecological consequences of these declines.⁷ IUU fishing is now recognised as one of the primary drivers of this over-exploitation, lying at the heart of today's fisheries management crisis.⁸ By its nature, IUU activity contravenes laws and regulations, many designed expressly to reduce the environmental impact of global fishing.

Much of the literature on the environmental damage caused by IUU fishing focuses on the destructive methods involved. The commercial use of poisons and dynamite in blast fishing, for example, has received significant attention.⁹ Such practices cause irreversible damage to sensitive habitats such as coral reefs, as documented in many locations.¹⁰ The impacts of driftnets and bottom trawlers are also highlighted, the latter one of the most destructive methods in modern fishing history.¹¹ Bottom trawlers drag nets along the sea bed, catching all target, as well as non-target, species in their way. At the same time, unreported fishing – and the unreported discarding of bycatch – poses a serious challenge to the task of monitoring fish stocks, biasing counts towards permitting more fishing than might, in fact, be sustainable.¹² The situation is made worse by the fact that IUU vessels are commonly older and more polluting, with crews more likely to engage in uncontrolled dumping of fishing gear, often leaving 'ghost' nets which cause further damage.¹³

Together, these impacts can affect the normal balance of marine ecosystems, as documented in a number of cases. Greenpeace, among others, paints a vivid picture of the collapse of China's domestic fishing grounds due to overfishing, the use of destructive fishing methods, and a fisheries management system unequipped to respond. Over decades, fishing many times over maximum sustainable yields and the use of bottom trawlers have caused extensive damage to deep-sea habitats. This has led to the disappearance of some of the most valuable commercially exploited species in the East China Sea, Yellow Sea and Bohai Sea – the last of these now commonly known as the 'empty sea'.¹⁴

6. FAO, *The State of World Fisheries and Aquaculture 2016*, p. 6.

7. *Ibid.*

8. Africa Progress Panel, *Grain, Fish, Money*, p. 87.

9. See Lauretta Burke et al., *Reefs at Risk in Southeast Asia* (Washington, DC: World Resource Institute, 2002). On blast fishing in Tanzania, see presentation by James Bulongo and Johannes Dirk Kotze in Stop Illegal Fishing and PescaDOLUS, 'Record of The First International Symposium on FishCRIME', pp. 7–8.

10. Advocacy Network for North Sumatra Fisherfolk (JALA) and EJF, 'When Fishing Turns Deadly: The Environmental and Social Impacts of Illegal Trawling in North Sumatra', 2007, p. 3; Margot L Stiles et al., 'Impacts of Bottom Trawling on Fisheries, Tourism, and the Marine Environment', Oceana, May 2010.

11. Marine Conservation Institute, 'Destructive Fishing', <<https://marine-conservation.org/what-we-do/program-areas/how-we-fish/destructive-fishing/>>, accessed 12 February 2017.

12. On this issue in the Asia-Pacific region, see Tony Pitcher et al., 'Evaluations of Compliance With the FAO (UN) Code of Conduct for Responsible Fisheries', *Fisheries Centre Research Reports* (Vol. 14, No. 2, 2006). See also Frédéric Le Manach et al., 'Reconstruction of Total Marine Fisheries Catches for Madagascar (1950–2008)', in *Fisheries Centre Research Reports* (Vol. 19, No. 4, 2011).

13. National Oceanic and Atmospheric Administration (NOAA), 'Impact of "Ghost Fishing" Via Derelict Fishing Gear', 2015 NOAA Marine Debris Program Report, March 2015.

14. Greenpeace, 'Africa's Fisheries' Paradise at a Crossroads', pp. 8–9; Liang Jialin and Jiang Han, 'Overfishing Pushes 80% of Chinese Fishermen Towards Bankruptcy', *China Dialogue*, 19 October 2012.

All of this has implications for the security of those who rely on healthy marine environments for fish capture. This threat has received growing attention as ever more examples of these environmental impacts, and their knock-on effects on livelihoods, have emerged.¹⁵ For instance, the export of destructive fishing methods through China's distant-water fleet – now present in most major fishing grounds – has caused concern. Greenpeace at-sea monitoring in 2013 revealed that the majority of the 462 Chinese distant-water vessels surveyed in African waters were bottom trawlers.¹⁶ In the waters of Senegal, Guinea and Guinea-Bissau, from 2011 to 2013, Greenpeace observed numerous Chinese vessels engaged in violations ranging from fishing in prohibited areas to fishing with illegal mesh sizes.¹⁷ Investigations by official bodies and, increasingly, civil-society organisations, back up this picture, and point to further infractions. From 2010 to 2012, the EJF Community Surveillance Project in Sierra Leone documented 252 further environmentally damaging IUU fishing incidents, as reported by over 23 communities in the Sherbro River area alone.¹⁸

The human security impact of the depletion of fish stocks on which communities rely are multiple. One of the greatest concerns relates to food security.¹⁹ In 2013, fish accounted for as much as 17% of the global population's intake of animal protein.²⁰ Fish constitutes a particularly crucial food source in developing countries, most notably densely populated and small-island developing states. Fish contribute at least 50% of total animal protein intake in states such as Sri Lanka, Indonesia, Cambodia and Bangladesh.²¹ Here, it makes a vital – and affordable – contribution to nutritional requirements as a rich source of vitamins, minerals, micronutrients and essential fatty acids. As high-volume IUU fishing threatens small-scale fisheries, this vital contribution to food security is imperilled, as highlighted in a significant range of cases.²²

Meanwhile, numerous studies depict subsistence fishermen, in efforts to mitigate the effects of declining fish stocks, venturing further offshore, sharing dangerous waters with industrial trawlers, facing damage to their fishing gear, and yet bringing home ever-smaller catches.²³ The EJF highlights these threats to artisanal fishers from Sierra Leone to North Sumatra. In Sierra Leone, various accounts

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15. See, for example, Alfonso Daniel et al., 'Western Africa's Missing Fish: The Impacts of Illegal, Unreported and Unregulated Fishing and Under-Reporting Catches by Foreign Fleets', Overseas Development Institute, June 2016, pp. 26–30.
 16. Greenpeace, 'Africa's Fisheries' Paradise at a Crossroads', pp. 16, 31. This comes despite tightened domestic fisheries management frameworks at home in response to China's own acute overfishing.
 17. *Ibid.*
 18. See EJF, *Pirate Fishing Exposed*, pp. 9–10.
 19. High Level Panel of Experts on Food Security and Nutrition (HLPE), 'Sustainable Fisheries and Aquaculture for Food Security and Nutrition: A Report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security', 2014; EJF, 'The Fight Against Illegal Fishing', IUU Watch, <<https://vimeo.com/153384911?ref=em-share>>, accessed 30 August 2016.
 20. FAO, *The State of World Fisheries and Aquaculture 2016*, p. 4.
 21. *Ibid.*, p. 71.
 22. See, for example, HLPE, 'Sustainable Fisheries and Aquaculture for Food Security and Nutrition'; Claude Fortomme, 'Overfishing, Climate Change and Hunger', *Impakter*, 3 November 2014.
 23. JALA and EJF, 'When Fishing Turns Deadly: The Environmental and Social Impacts of Illegal Trawling in North Sumatra'; Asia-Pacific Economic Cooperation (APEC), 'Case Study on Illegal, Unreported and Unregulated (IUU) Fishing off the East Coast of Peninsular Malaysia', October 2008, pp. 146–50; Oceana, 'As Chile Plans to Revive a Vital Fish, Hope for a Traditional Way of Life', 17 June 2016.

depict once-thriving fishing villages becoming unviable as foreign trawlers empty the seas on which they rely.²⁴ Still needing to provide for their families, there is anecdotal evidence of small-scale fishermen resorting to IUU activities themselves – including the use of poisons and other destructive methods.²⁵ Fearing going out of business, there are also suggestions that they take up other criminal practices to survive, although further research is required to substantiate these claims.²⁶

The threat to food security thus goes hand in hand with the threat to productive and sustainable livelihoods in many coastal communities. Indeed, large-scale IUU fishing represents a direct challenge to the livelihood strategies of many legitimate fishers, and the survival of longstanding artisanal fishing communities. In 2014, the FAO estimated that fisheries and aquaculture accounted for the livelihoods of a full 10–12% of the world’s population.²⁷ These jobs are often small scale and subsistence based: the FAO reported in 2014 that employment in the marine artisanal subsector in 23 sampled African countries dwarfed that of marine industrial fisheries.²⁸ These sectors are all the more important in densely populated or small-island developing states with few other economically productive sectors. In Sierra Leone, legitimate fisheries contributed as much as 9.4% to GDP in 2005, employing more than 240,000 individuals, many of them small-scale fishers.²⁹ In West Africa as a whole, it is estimated that up to one-quarter of jobs are linked to fisheries.³⁰

The contribution made by small-scale fishing to local employment is not restricted to at-sea activity, but includes post-harvesting activities such as fish processing, packaging and transport. It also includes such ancillary activities as boat building, fuel and wood selling – described by the FAO as ‘often temporary and unrecorded jobs that provide a real “safety net” for the poor’.³¹ These jobs are at risk as legitimate fishing enterprises downsize, edged out by high-volume IUU operators.³² Faced with illegal operators plundering their waters – often under the jurisdiction of governments unable to respond – artisanal fishers’ capacity to defend their basic needs and rights is restricted. Many are left with limited alternative options; few enjoy social security protection. In extreme cases, this raises concerns over possible social dislocation and displacement.³³

24. Alinah O Bockarie, ‘Stealing from the Poor? Illegal Fishing in Sierra Leone’, *Sierra Express Media*, 17 June 2012.

25. Ousman K L Drammeh, *Illegal, Unreported and Unregulated Fishing in Small-Scale Marine and Inland Capture Fisheries* (Rome: FAO, 2000).

26. APEC, ‘Case Study on Illegal, Unreported and Unregulated (IUU) Fishing off the East Coast of Peninsular Malaysia’, pp. 148–49.

27. FAO, *The State of World Fisheries and Aquaculture 2014* (Rome: FAO, 2014), pp. 31–32.

28. FAO, *The Value of African Fisheries: Fisheries and Aquaculture Circular No. 1093, FIPS/C1093 (En)*, 2014 (Rome: FAO, 2014), pp. 18, 33–34.

29. *Ibid.*, p. 27.

30. Daniel et al., ‘Western Africa’s Missing Fish’, p. 27.

31. FAO, *Contribution of Fisheries to National Economies in West and Central Africa: Policies to Increase the Wealth Generated by Small-Scale Fisheries* (Rome: FAO, 2006).

32. Between 1997 and 2005, Senegal’s fleet of active fishing pirogues (long, narrow boats used for small-scale fishing) declined by nearly 50%. See ActionAid, ‘SelfFISH Europe: How the Economic Partnership Agreements Would Further Contribute to the Decline of Fish Stocks and Exacerbate the Food Crisis in Senegal’, 2008, p. 6.

33. APEC Fisheries Working Group, *Assessment of Impacts of Illegal, Unreported and Unregulated (IUU) Fishing in the Asia-Pacific* (Singapore: APEC Secretariate, 2008), pp. 32–34.

Meanwhile, human security is threatened in a broader sense by the corrosive impact of high-volume IUU fishing on the economic security of whole countries.³⁴ Most notably, large-scale IUU fishing threatens coastal and other states' revenues as fish are spirited away without receipt of the landing or licensing fees, taxes and other duties payable by legal operators.³⁵ Potential losses extend beyond direct revenues from fish taken illegally to income from post-harvest activities such as processing, packaging and provision of port services, for which demand decreases with illegal transshipping.³⁶ Cumulatively, the losses are significant; it is estimated that West Africa alone could be losing \$1.3 billion per year to these processes.³⁷

The impacts are among the greatest in developing countries whose fisheries sectors account for a significant proportion of GDP, such as many of those in the Western Indian Ocean. The FAO estimates that fisheries account for 2.7% of GDP in Madagascar, 3.7% in Mozambique and as much as 6.6% in Zanzibar, when factoring in gross value-added from fishing, aquaculture, post-harvest and licensing for local fleets.³⁸ In these countries, the economic losses from IUU fishing contribute substantially to already vast unrecorded money flows escaping them in growing volumes.³⁹ Such illicit flows have a devastating impact, not only on the economy, but also on governance, development and security.

This broader security threat – to the stability of national governments and their economies – is not as widely recognised in the literature as the threat to individual fishermen. This is an oversight: in its organised criminal form, the threat from IUU fishing is comparable to that posed by other transnational organised crime types – about which more has been written in general. Perhaps the most concerning aspect of all forms of organised crime, large-scale IUU fishing included, is the danger they pose to effective state functioning as national economies are undercut and as associated corruption eats away at state institutions. Indeed, organised crime networks can pose a direct threat to the state not through open confrontation but by quietly undermining national institutions. This process is often imperceptible over the short term. As described by Peter Gastrow:

[T]he impact on the state and its institutions is like slow biological warfare or radiation. It is hard to tell how much danger the state and its institutions are in at any given time ... The infrastructure and the appearance of the institutions appear to remain intact, but there is a slow degeneration until it becomes clear that they have become so contaminated that they are no longer functional

34. Africa Progress Panel, *Grain, Fish, Money*.

35. OECD, 'Evading the Net'; Hughes, 'The Piracy – Illegal Fishing Nexus in the Western Indian Ocean', p. 2.

36. APEC, 'Case Study on Illegal, Unreported and Unregulated (IUU) Fishing off the East Coast of Peninsular Malaysia'; APEC, *Assessment of Impacts of Illegal, Unreported and Unregulated (IUU) Fishing in the Asia-Pacific*, p. 33.

37. Africa Progress Panel, *Grain, Fish, Money*; Duncan Copeland, 'West Africa Has Vast Marine Wealth But It Is Being Depleted by the World's Highest Levels of Illegal Fishing', *The World Today* (Vol. 70, No. 1, February 2014).

38. FAO, *The Value of African Fisheries*, pp. 29–30.

39. Dev Kar and Joseph Spanjers, 'Illicit Financial Flows From Developing Countries: 2004–2013', Global Financial Integrity report, December 2015, p. 15.

and unable to enforce their rules. The institutions can then, in fact, become a threat themselves and often have to be destroyed or radically transformed.⁴⁰

The knock-on effects of these processes are substantial. As transnational organised crime eats away at governance, states can become locked into a vicious circle where trust in government is lost and both rule of law and economic growth are eroded. At its most serious, transnational organised crime can undermine the credibility of domestic political systems and the contract between citizens and their elected representatives, with potentially destabilising consequences where this intersects with existing governance problems.⁴¹ Simultaneously, the process undercuts poverty alleviation initiatives, hollows out resource bases and, in turn, the state's ability to provide basic services.

The exact contribution of today's high-volume IUU fishing to the broader destabilising influence of organised crime is difficult to measure given the challenges associated with estimating IUU fishing's global size or value. This contribution also inevitably varies by location, in line with the particular geographic, socioeconomic and political factors determining specific vulnerabilities in each context. However, the most commonly proffered figure attached to annual IUU fishing, \$10–23.5 billion, and the apparent concentration of large-scale IUU fishing in particular hotspots, imply major criminal profitmaking opportunities and thus a significant contribution to the destabilising impact of broader organised crime in states home to the fishing grounds in question. These characteristics also imply a substantial contribution to the corruption and broader illicit money flows depriving developing states of much-needed revenues.

Here we see the way in which the character of high-volume IUU fishing as convergence crime plays into this threat picture. Indeed, the corruption, tax fraud and money laundering that accompany large-scale IUU fishing contribute further to the economic security threat described. Again, our understanding of the scale of the threat is impeded by knowledge gaps around the economic crime types associated with IUU fishing. Similar knowledge gaps affect our understanding of the precise threats posed by crossover crimes such as human and drug trafficking.

However, it is clear that such overlaps, insofar as we currently understand them, create a poly-threat landscape, enhancing the scale and complexity of the security threat faced relative to that which would be posed by IUU fishing alone. This multidimensional threat may, in turn, be more challenging to counter in a world in which traditional lines of separation between environmental and security agencies remain highly relevant. An additional dynamic of importance thus concerns the challenges posed to existing models for responding to IUU fishing. This topic, and other obstacles to effective responses, are examined in Chapter V.

40. Peter Gastrow, 'Termites at Work: A Report on Transnational Organized Crime and State Erosion in Kenya', International Peace Institute report, p. 1.

41. *Ibid.*, p. 8; UNODC, *The Globalization of Crime: A Transnational Organized Crime Threat Assessment* (Vienna: UNODC, 2010).

V. Responding to IUU Fishing in Policy and Practice

THE ANALYSIS IN previous chapters suggests a critical need for policymakers to treat large-scale IUU fishing as a serious security threat, rather than a simple fisheries management problem. Yet a disconnect exists at both national and international levels, between the response to IUU fishing as a minor technical issue in policy terms and its large-scale and highly damaging manifestations in reality. This disconnect is increasingly recognised in the literature. Telesetsky, for example, argues unambiguously that ‘IUU fishing is organized transnational crime’, with all of the security implications this brings.¹ However, she also testifies to the range of impediments to domestic and global recognition and treatment of IUU fishing in these terms.² This chapter reviews the range of responses to IUU fishing witnessed to date, identifying their appropriateness to the security threat posed.

In examining existing mechanisms for responding to large-scale IUU fishing, it is crucial to look first at the legislative framework under which these offences sit. At a national level, IUU fishing largely falls under domestic fisheries law. Here, it is often only lightly criminalised, with numerous examples of weak domestic criminalisation highlighted in the literature. Telesetsky, for example, has dissected the light treatment of IUU fishing in national fisheries law in Taiwan, Japan and Russia – all major fishing states.³

In these and numerous other states, IUU fishing is not regulated in a way that meets the definition of serious crime under UNTOC, namely with the application of a minimum sentence of four years.⁴ The result, as noted previously, is that UNTOC – as the most comprehensive legally binding global instrument to fight transnational organised crime – does not cover IUU fishing. The same neglect of IUU fishing can be witnessed in other multilateral agreements on countering organised crime. While the 2013 Code of Conduct Concerning the Repression of Piracy, Armed Robbery Against Ships, and Illicit Maritime Activity in West and Central Africa included IUU fishing in its list of ‘transnational organized crime in the maritime domain’,⁵ for example, few other frameworks recognise IUU activities in such terms.

1. Telesetsky, ‘Laundering Fish in the Global Undercurrents’.

2. *Ibid.*

3. *Ibid.*, pp. 969–76.

4. UNODC, ‘United Nations Convention Against Transnational Organized Crime and the Protocols Thereto’, Article 2 (b), p. 5.

5. Economic Community of Central African States (ECCAS), Economic Community of West African States (ECOWAS) and Gulf of Guinea Commission (GGC), ‘Code of Conduct Concerning the Repression of Piracy, Armed Robbery Against Ships, and Illicit Maritime Activity in West and Central Africa’, 25 June 2013, pp. 4–5.

This has significant implications for our ability to counter large-scale IUU fishing as a security threat both at national and international levels. Most notably, IUU fishing's weak criminalisation consistently results in a low prioritisation of the issue and in the allocation of only limited resources to countering it. It also means that a potentially valuable opportunity to connect IUU fishing to UNTOC is being missed.⁶ UNTOC is binding on 179 parties, including many states offering flags and ports of convenience. As noted by Telesetsky, connecting IUU fishing to the Convention would infer obligations on these states, including an obligation to 'cooperate closely' with others 'to enhance the effectiveness of law enforcement action'.⁷ Importantly, it would also create valuable 'opportunities to assign appropriate penalties for crimes whose severity has been historically overlooked'.⁸

At present, these opportunities are being missed. Meanwhile, pressure from within the fishing industry or from civil society to redress the situation and to strengthen domestic legislation has not materialised in any significant way. IUU fishing has not seen the kind of push for recognition as serious organised crime that has wildlife trafficking.⁹ This push resulted, notably, in the first-ever UN resolution on wildlife trafficking in 2015, which saw 'illicit trafficking in protected species of wild fauna and flora' recognised as 'an increasingly sophisticated form of transnational organized crime'.¹⁰

Although applying to all fauna and flora protected by the Convention on International Trade in Endangered Species of Wild Fauna and Flora, which includes fish species, this resolution did not mention IUU fishing.¹¹ Marine resources, similarly, are not mentioned in the London Declaration on Illegal Wildlife Trade, which recognises illegal wildlife trade as 'an organised and widespread criminal activity, involving transnational networks'.¹² Meanwhile, as noted by Palma-Robles, even 'the classification of ... IUU fishing as an environmental crime has not been uniformly and clearly established in international law, unlike illegal logging, illegal traffic in wildlife, and illicit traffic in hazardous waste'.¹³

These weaknesses have impeded the ability of the international community, to date, to mount effective practical responses. They have also resulted directly in the large-scale expansion of organised crime into this low-risk, high-reward business area. At its most extreme, this has led

6. Gregory L Rose and Ben Tsamenyi, 'Universalising Jurisdiction over Marine Living Resources Crime: A Report for WWF International', University of Wollongong Research Online, 2013; author's discussion with IUU fishing expert, Lima, Peru, 18 August 2016.
7. Telesetsky, 'Laundering Fish in the Global Undercurrents', pp. 965–69.
8. *Ibid.*
9. CITES, 'Heads of UNODC and CITES Urge Wildlife and Forest Offences To Be Treated As Serious Transnational Organized Crimes', press release, 23 April 2013.
10. UN General Assembly, 'Resolution Adopted by the General Assembly on 30 July 2015', A/RES/69/314, 19 August 2015.
11. *Ibid.*
12. See 'London Conference on the Illegal Wildlife Trade, 12–13 February 2014: Declaration', <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/281289/london-wildlife-conference-declaration-140213.pdf>, accessed 16 September 2016.
13. See Environmental Investigation Agency, *Environmental Crime: A Threat to Our Future* (London: Emmerson Press, 2008), quoted in Palma-Robles, 'Fisheries Crime.

to a situation whereby the criminal groups involved appear to function as de facto governance networks asserting control over the long-term fate of fisheries. They do so largely unimpeded by a fractured fisheries management and enforcement architecture.

As noted previously, this architecture is based on the notion of primacy of flag state control reflected in the UN Convention on the Law of the Sea (UNCLOS). More specifically, it is flag states that are responsible for regulating the actions of their vessels whether they operate in other states' EEZs or on the high seas. This means that while coastal states have principal responsibility for regulating fishing activity within their EEZs, flag states are responsible for ensuring that their vessels comply with coastal state regulations. The difficulties posed by this reliance on flag state control are clear: as previously noted, numerous flag states lack the will or capacity to exercise jurisdiction over their vessels. Without flag state authorisation, the powers of other states and parties to intervene is limited.¹⁴ Furthermore, on the high seas, there is no international authority in place to directly enforce laws and regulations. Even where interceptions do occur, there is not a culture of prosecution around IUU fishing. Where interceptions take place, they typically result in only minor penalties – which are negligible in the scheme of the potential profits to be made.

This problematic framework is recognised to lead directly to the low success rates witnessed in detecting, interdicting and prosecuting not only those engaged in high-volume IUU fishing, but also those engaged in parallel illegal activities. Meanwhile, a further impediment is posed by the common separation of authorities charged with environmental management from policing agencies. This constitutes a siloed way of working that is ill adapted to responding to IUU fishing as organised crime or to the shifting portfolios of perpetrators. Indeed, limited awareness of the extent and nature of the crossovers witnessed in relation to high-volume IUU fishing means, again, that appropriate mechanisms for responding to these overlaps largely have not been established. Instead, front line investigators in a range of locations are reported to lack the skills and training to identify crimes, such as human trafficking, occurring on board IUU vessels.

A number of researchers and NGOs have highlighted these shortcomings.¹⁵ As they have, a series of promising initiatives have been developed. These have emerged most often directly in response to the need to close loopholes in existing national and international policy frameworks. The FAO's Agreement on Port State Measures to Prevent, Deter and Eliminate IUU Fishing, for example, represents a significant initiative to shut down avenues for IUU fishing.¹⁶ The agreement requires vessels to give notice when approaching port and empowers officials to inspect foreign-flagged vessels suspected of IUU fishing. The agreement entered into force in 2016, and to date 30 states have ratified the agreement, limiting the landing options available to IUU fishers.

14. Papastavridis, *The Interception of Vessels on the High Seas*.

15. See, for example, The Pew Charitable Trusts, 'How to End Illegal Fishing'; Johan Bergenas and Ariella Knight, 'Secure Oceans: Collaborative Policy and Technology Recommendations for the World's Largest Crime Scene', Stimson Center, June 2016.

16. FAO, 'Ground-Breaking Illegal Fishing Accord Soon to Enter Into Force', 16 May 2016.

Other initiatives to close loopholes have seen collaboration between law enforcement, NGOs, civil society and the private sector. Such non-traditional partnerships have proved effective in bolstering capacity for monitoring and enforcement, denying IUU fishing vessels landings and winning prosecutions. FISH-i Africa, for example, is a programme that has seen seven Western Indian Ocean countries work with The Pew Charitable Trusts and private sector companies to improve technical collaboration and information sharing.¹⁷ The results have been highly positive: FISH-i Africa has engaged in more than 30 investigations since its creation in December 2012. In many cases, it has prevented illegally caught fish from entering the region's ports, secured the payment of sizeable fines and achieved amendments in legislation and licensing procedures.¹⁸

In Gabon, the Gabon Bleu marine management initiative has experienced similar success. This initiative has seen the Gabonese government partner with the Wildlife Conservation Society and the private sector to strengthen the management of the country's industrial and artisanal fisheries, and offshore oil and gas industries. In doing so, it has bolstered the fight against IUU fishing, reinforcing broader maritime security.¹⁹ The initiative has resulted, for example, in an agreement between Gabon and São Tomé and Príncipe to coordinate on maritime security initiatives, particularly in relation to IUU fishing, bolstering cooperation in a significant part of the Gulf of Guinea.²⁰

Beyond these initiatives, however, it is clear that current responses to high-volume IUU fishing based on minor fines for regulatory transgressions are inadequate. Little effective deterrence exists: at present, unscrupulous operators exploit the fertile environment offered in many regions by weak legislation, poor governance, low capacity for enforcement and inadequate information sharing. As noted by Phelps Bondaroff et al., management of 'regulatory issues require[s] a small number of inspectors; organized crime, on the other hand, requires a sophisticated and coordinated response that draws on a range of criminal justice tools'.²¹ To date, insufficient progress has been made, however, in strengthening either legislation or enforcement efforts to bring these into line with the scale of the threat faced. A significant shift in approach is required if the problem is to be effectively addressed.

17. Stop Illegal Fishing, 'FISH-i Africa'.

18. *Ibid.*

19. Parcs Gabon, 'Gabon Bleu : de l'expédition scientifique à la création d'un réseau de parcs marins [Gabon Bleu: From A Scientific Expedition to the Creation of a Network of Marine Parks]', press release, 24 November 2014; Wildlife Conservation Society Gabon, 'Gabon's Coast & Ocean', <<https://programs.wcs.org/gabon/Wild-Places/Gabons-Coast-Ocean.aspx>>, accessed 12 February 2017.

20. Author's interview with fisheries expert, Libreville, Gabon, 20 November 2015.

21. Phelps Bondaroff et al., 'The Illegal Fishing and Organized Crime Nexus', p. 66.

Conclusions

AS HAS BEEN suggested throughout this paper, perhaps the greatest impediment to an effective response to large-scale IUU fishing has been a slow recognition of the impact, severity and complexity of the problem.¹ Although knowledge of the phenomenon remains partial, a growing number of cases demonstrate that much IUU fishing constitutes transnational organised crime. A range of cases also suggests that such large-scale IUU fishing should be seen as a convergence crime, in light of the breadth of criminal activities potentially associated with it, from corruption to the use of slave labour throughout the supply chain.² All of these activities are economically motivated offences focused on a single objective – increasing profit while remaining undetected.³ Individual cases can involve multiple countries, and many criminal offences beyond IUU fishing, whether human trafficking, money laundering or tax fraud. Together they contribute to a phenomenon that is multi faceted, cross border and multi jurisdictional.

This paper concludes with a series of recommendations for more effectively responding to the current situation. First and foremost, in response to a situation where up to an estimated \$23.5 billion is thought to be generated, governments and international organisations must immediately recognise large-scale IUU fishing as transnational organised crime. They must do so most urgently by adjusting legislation, starting at the domestic level. Laws must be brought up to criminal standards and policymakers must address loopholes in fisheries legislation designed to regulate the fishing industry, rather than combat organised crime within it.⁴

Significantly strengthening penalties would go a long way towards rebalancing perpetrators' risk–reward calculations, ensuring that the severity of the penalty outweighs potential gains. It would also allow for the qualification of large-scale IUU fishing as serious and organised crime under UNTOC, with all of the benefits this could bring.⁵ At the global level, international bodies should clarify their roles and responsibilities, manage unclear mandates and promote effective cooperative arrangements. Strengthening legal and cooperative frameworks alone is insufficient, however. Effective implementation is crucial, requiring robust plans of action and financing.⁶

At present, unscrupulous operators exploit the fertile environment offered in many regions by weak governance, low enforcement capacity and inadequate information sharing. To address this, monitoring and enforcement capacity and information-sharing mechanisms must be

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1. Phelps Bondaroff et al., 'The Illegal Fishing and Organized Crime Nexus', p. 66.
 2. Stop Illegal Fishing and PescaDOLUS, 'Record of the First International Symposium on FishCRIME', p. 6.
 3. Telesetsky, 'Laundering Fish in the Global Undercurrents'.
 4. Katherine M Anderson and Rob McCusker, 'Crime in the Australian Fishing Industry: Key Issues', *Trends and Issues in Crime and Criminal Justice* (No. 297, 2005).
 5. Author's discussion with international IUU fishing expert, Lima, Peru, 18 August 2016; Telesetsky, 'Laundering Fish in the Global Undercurrents', pp. 965–69.
 6. Bergen and Knight, 'Secure Oceans', p. 5.

strengthened – both to apprehend high-volume IUU fishers and to create effective deterrence. Resource-poor and heavily affected coastal and small-island states should be offered assistance in this area as required.⁷ All of this must be accompanied by a willingness to prosecute; this is crucial to creating a penal culture around IUU fishing.

Promising initiatives already underway must also be bolstered, more fully resourced and prioritised. In particular, innovative approaches such as FISH-i Africa should be scaled up and replicated, particularly in resource-poor locations. Meanwhile, efforts to prevent fish laundering must continue. More states must be persuaded to ratify the FAO's Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing to ensure that no port can be targeted as a shelter for non-compliance.⁸ At the same time, support for implementation of the Agreement must be robust: developing coastal and small-island states may face difficulties in implementing the agreement, with sustained capacity building needed to support their efforts.

Other vulnerabilities and enablers must be addressed. These include the veil of secrecy that both facilitates and protects many large-scale IUU operations. Most importantly, the exploitation of flags of convenience by IUU operators must be ended, by encouraging flag-of-convenience states to close their registries, by requiring coastal states not to issue licences to flag-of-convenience vessels, or by pursuing action among RFMOs and international bodies.⁹ To further enhance transparency and facilitate enforcement, owners of fishing vessels above a certain size and/or operating beyond flag-of-convenience state jurisdiction must be required to have IMO numbers, for both vessel and owner. As noted by The Pew Charitable Trusts, 'given the importance to police authorities worldwide of identification numbers to recognise and solve a range of crimes, there is no credible counterargument to requiring ... [unique vessel identifiers] on fishing vessels'.¹⁰ At the same time, states should support the FAO's efforts to create a Global Record of Fishing Vessels, Registered Transport Vessels and Supply Vessels by making verified details of fishing vessels available.

Together, efforts on these fronts would go a long way to addressing the vulnerabilities that make IUU fishing attractive to organised crime groups. This potential is amplified by the fact that many of these same vulnerabilities appear to make IUU fishing attractive as a crossover crime. Yet the convergence issue requires still further attention. IUU fishing is not only about fish, and holistic, full-spectrum approaches to the full range of crimes involved are required.

Indeed, in addressing large-scale IUU fishing, its links with crossover crimes must sit at the forefront of planning.¹¹ This may pose challenges to conventional ways of working, including the separation of authorities charged with environmental management from policing agencies. The complexities witnessed in many IUU fishing cases transcend conventional categories of

7. Phelps Bondaroff et al., 'The Illegal Fishing and Organized Crime Nexus', p. 72.

8. FAO, 'Ground-Breaking Illegal Fishing Accord Soon to Enter into Force'.

9. For further discussion on this see EJF, *Lowering the Flag: Ending the Use of Flags of Convenience by Pirate Fishing Vessels* (London: EJF, 2009).

10. The Pew Charitable Trusts, 'How to End Illegal Fishing', p. 6.

11. Author's discussion with IUU fishing expert, Lima, Peru, 18 August 2016.

crime, demanding that enforcement agencies adapt to a more sophisticated operating reality.¹² In particular, it is clear that effectively fighting organised criminal fishing requires flexibility to match the shifting portfolios of perpetrators.

Key to this will be effective coordination among agencies to facilitate information flows. This must involve customs and immigration officials, drug enforcement agents, fisheries management officers, financial investigators, tax authority representatives, coast guards and anti-corruption agents. The transnational and multisectoral nature of the crimes in question requires that this collaboration occur both domestically and internationally, within and between coastal and other affected states.¹³ Meanwhile, specialist training is required to build capacity for targeted investigations that address the full range of crimes that may occur.

Indeed, convergence requires that front line investigators can recognise not just organised criminal fishing activity, but also symptoms of human trafficking and other associated crimes. These can be difficult to discern, often requiring specialist knowledge and skills. It can be challenging to identify human-trafficking victims, for example, or even to distinguish them from perpetrators. More broadly, given the apparent prevalence of the crossovers with human trafficking, efforts should be made to strengthen legislation and treaties designed to reduce slavery and labour violations at sea.¹⁴ Greater attention should also be paid to questions around what happens when trafficking victims are freed from vessels and repatriated, where often their very reason for leaving home lay in a lack of viable livelihood options.¹⁵

Meanwhile, action to address associated crimes must involve the more systematic use of financial investigation tools. 'Following the money' can help to reveal ownership information, uncover money laundering and tax fraud, and identify the real beneficiaries and instigators of high-volume IUU fishing and associated crimes. These high-level beneficiaries are unlikely to be those captaining vessels, so simply detaining the individuals on board – as, often, the only identifiable offenders – is likely to be ineffective. These individuals are readily replaceable. If states can identify the owners behind the front companies, strategic arrests capable of deterring IUU fishing become possible.¹⁶ To enable this, reform of legislation to provide for large-scale IUU fishing as a predicate offence to money laundering will be crucial.¹⁷

While adding to the complexity of responding, the intricacy of many cases can present opportunities for law enforcement. Crime convergence, for example, provides options for the arrest, detention and ultimately prosecution of illegal operators through laws other than those

12. Interpol, 'Environmental Crime and Its Convergence with other Serious Crimes', p. 8.

13. UNODC, 'Transnational Organized Crime in the Fishing Industry', p. 138.

14. Rebecca Surtees, 'Trapped at Sea: Using the Legal and Regulatory Framework to Prevent and Combat the Trafficking of Seafarers and Fishers', *Groningen Journal of International Law* (Vol. 1, No. 2, 2013).

15. Paul Dillon, International Organization of Migration, presentation during the 'Preventing and Combating Trafficking in Persons and Environmental Crimes' session at APEC Pathfinder Dialogue III: Strengthening the Fight Against Illicit Trade and Corruption, Lima, Peru, 18 August 2016.

16. Telesetsky, 'Laundering Fish in the Global Undercurrents'.

17. Palma-Robles, 'Integrating Monitoring, Control and Surveillance and Anti-Money Laundering Tools to Address Illegal Fishing in the Philippines and Indonesia'.

linked to fisheries. Prosecution of multiple offences under different legislation, including drug trafficking and economic crimes legislation, may increase the prospects of substantial penalties being imposed. This can be particularly useful in contexts where associated crime types carry the weighty custodial sentences often unavailable with regard to IUU fishing itself.

The intricacy that characterises many IUU fishing cases also opens opportunities for a greater potential role for multilateral organisations and initiatives.¹⁸ The Stimson Center highlights the Africa Integrated Maritime Strategy for 2050, launched in 2014, which makes almost no mention of ocean conservation, but could easily be expanded to include such tasks as MPA enforcement. The Center also stresses the opportunity presented by convergence to leverage defence and security resources in mounting effective responses to large-scale IUU fishing.¹⁹ It cites the capacity of many maritime security programmes led by defence and security actors to assist enforcement efforts around IUU fishing. They may be impeded, at present, by the exclusion of IUU fishing from their mandates or by the issue's low assigned priority. Reprioritising IUU fishing and expanding mandates to address it could present a relatively easy win-win outcome, securing potentially 'unprecedented financial, technical and human resources' for the fight against IUU fishing.²⁰

All of this depends, ultimately, on a paradigm shift in the way in which we view and respond to IUU fishing. To address the sophisticated and transnational threat it poses, large-scale IUU fishing must be treated with the seriousness it is due. Most importantly, all states must immediately characterise high-volume forms of IUU fishing as serious and organised crime, and recognise their potential susceptibility to crime convergence.²¹ In the process, governments must harmonise laws with an eye to shutting down all associated criminal activities. This is crucial: as marine living resources grow in value, the involvement of transnational organised crime is likely to intensify.

Finally, politicians, policymakers, enforcement agencies and research communities must reposition themselves to develop both greater knowledge on the issues and more effective responses. Significant gaps in understanding remain; further research should target key IUU hotspots to generate context-specific data on the risks in each location. In particular, additional research into threats posed in hotspots such as the Western Indian Ocean, West Africa and Southeast Asia would help to tailor responses to specific contexts. In all locations, however, responses must be commensurate with the scale, complexity and diversity of the threat faced. Worldwide, law enforcement must be coordinated and transnational to match an organised, flexible target. Enforcement efforts across the globe must draw on expertise associated with the crime types involved, in an integrated, multisectoral and multiagency approach.²² Such efforts must be supported by the political will, public support and sustained funding necessary to achieve success. Our oceans and fish depend on it; so too does our security.

18. *Ibid.*, pp. 8–9.

19. Bergenas and Knight, 'Secure Oceans', pp. 8–9.

20. *Ibid.*

21. Interpol, 'Environmental Crime and Its Convergence With Other Serious Crimes'.

22. *Ibid.*

About the Author

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Cathy has undertaken research on behalf of the European Commission and British government, conducting fieldwork in Kenya, Tanzania, Uganda, Madagascar, the Seychelles, Gabon and Sierra Leone. A regular speaker at international conferences, she is also a guest lecturer and Research Associate at King's College London's Marjan Centre for the Study of War and the Non-Human Sphere. She is the editor, with M L R Smith, of *Poaching, Wildlife Trafficking and Security in Africa: Myths and Realities* (Abingdon: Taylor and Francis, 2016).