volume

2

ASCOMARE YEARBOOK
ON THE LAW OF THE SEA
2022

Fisheries and the Law of the Sea in the Anthropocene Era

Edited by

Pierandrea Leucci and Ilaria Vianello

luglioeditore

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ASCOMARE
Consulenza Diritto del Mare

ASCOMARE YEARBOOK ON THE LAW OF THE SEA, 2022
Volume 2: Fisheries and the Law of the Sea in the Anthropocene Era

The *Associazione di Consulenza in Diritto del Mare* (ASCOMARE) is dedicated to promoting the study, and uniform interpretation and application of the international law of the sea, including the United Nations Convention on the Law of the Sea, 1982, and its implementing instruments. The work of ASCOMARE is inspired by human rights considerations and environmental principles. The *ASCOMARE Yearbook on the Law of the Sea* strives to serve as a tool to support the work of international law experts, judicial bodies, policy makers and legal practitioners in the field of the law of the sea.

Volume 2 of the *ASCOMARE Yearbook on the Law of the Sea* can be accessed in a free and open digital format on: **www.ascomare.com**

Graphics and printing: Luglioprint, Trieste

ACKNOWLEDGEMENTS
The Editors wish to express their utmost gratitude to Mr Randall Caruana and Dr Arron N. Honniball for their comments and constructive feedback in the review stage of the book's articles. The Editors are extremely grateful for the support received from the Ankara University National Center for the Sea and Maritime Law (DEHUKAM), the Brazilian Institute for the Law of the Sea (BILOS), the Centro interdipartimentale di Ricerca sull'Adriatico e il Mediterraneo (CiRAM), and the International Center of Ocean Governance (ICOG) of the Western Sydney University.

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INTERNATIONAL CENTRE FOR OCEAN GOVERNANCE

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© Prima Edizione 2022 by Luglio Editore
Loc. Domio, 107 - San Dorligo della Valle - Trieste
Tel. 040.381416 - Fax 040.280215
Internet: www.luglioeditore.it
E-mail: info@luglioeditore.it

ISBN 978-88-6803-333-0
ISSN 3035-1448

Cover image: Pietro Consolandi, *The Hauntological Tour of Pellestrina in Winter*, 2022.

A tutte le anime fragili.
Buon viaggio, e grazzi ta' kollox, Angelo e Randall!

Ilaria Vianello and Pierandrea Leucci
Heidelberg and Lecce, December 2022

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Foreword

In a human-dominated epoch (the Anthropocene era), the impact of anthropogenic pressure on marine biological diversity, including fish population and ecosystems, has registered a dramatic surge in the last few decades. Overfishing is a good example of this anthropocentric derangement, a worrying trend that a restructuring of the law of the sea architecture held between 1973–1982 was not able to invert. The latest 'State of World Fisheries and Aquaculture (2022)' of the Food and Agriculture Organization reports that one-third of the world's marine fishery stocks are fished at unsustainable levels (25% more than 50 years ago). These are numbers that do not consider the over $23 billion volume of fishery products plundered every year from the sea by vessels and operators engaging in illegal, unreported, and unregulated fishing, with consequences that go beyond conservation per se, but touch upon human rights, maritime security, and sustainability at large. Against this backdrop, international fisheries law provides an opportunity to reflect on the way anthropogenic challenges are addressed by the community of States, as well as to re-conceptualise fisheries in a contemporary setting. The process embraces a multilevel dimension, finding its practical justification in the complexity of modern society and the fragmentation of international law at large. Whereas the UN Convention on the Law of the Sea states that 'the problems of ocean space are closely interrelated and need to be considered as a whole', a cross-sectoral approach in the identification of causes of and possible solutions to fishery problems should be explored. This exercise entails a critical examination of the multifaced nature of fisheries, covering a number of external factors of environmental, human rights, socio-economic, and security importance. Building on that, Volume 2 ('Fisheries and the Law of the Sea in the Anthropocene

Era') of the ASCOMARE Yearbook on the Law of the Sea proposes a selection of works looking at fisheries through a contemporary lens, to facilitate an interdisciplinary debate on the role played by international law in addressing the horizontal nature of fisheries matters. All the contributions in the volume are relevant for the discussion. Some of them put emphasis on fisheries legal instruments adopted at international, regional, or national level, offering a holistic approach to the interpretation of their transformative effects and purpose. Others incorporate the elements of the discussion in a diversified research scope, such as the use of advisory opinions to deal with fishery problems or the management of marine living resources in newly designated maritime zones. Either way, this volume strives to prompt further reflection on the topic and to serve as a tool to support the work of international law experts, judicial institutions, policy makers, and legal practitioners in the field of fisheries and the law of the sea.

Pierandrea Leucci
President of ASCOMARE
Lecce, December 2022

List of abbreviations

AFS:	Agreement on Fisheries Subsidies (WTO)
BBNJ:	Biological Diversity in Areas Beyond National Jurisdiction
CAO:	Central Arctic Ocean
CAOFA:	Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean
CBD:	Convention on Biological Diversity
CCAMLR:	Commission for the Conservation of Antarctic Marine Living Resources
CEM:	Conservation and Enforcement Measures
CITES:	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMM:	Conservation and Management Measures
CNCP:	Cooperating Non-Contracting Party
COLREG:	International Regulations for Preventing Collisions at Sea
CoP:	Conference of the Parties
CP:	Contracting Party
CTA:	Cape Town Agreement
EAF:	Ecosystem Approach to Fisheries
EEZ:	Exclusive Economic Zone
EIA:	Environmental Impact Assessment
EU:	European Union
FAO:	Food and Agriculture Organization of the United Nations
FFA:	Pacific Islands Forum Fisheries Agency
GFCM:	General Fisheries Commission for the Mediterranean
HAC:	High Ambition Coalition
ICCAT:	International Convention for the Conservation of Atlantic Tuna
ICJ:	International Court of Justice

IEZ:	Inshore Exclusion Zone
IFL:	International Fisheries Law
ILC:	International Law Commission
ILO:	International Labour Organization
ILO C-188:	Work in Fishing Convention - 2007, No. 188 (ILO)
IMO:	International Maritime Organization
IO:	International Organisation
IOTC:	Indian Ocean Tuna Commission
IPBES:	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC:	Intergovernmental Panel on Climate Change
IPOA-IUU:	International Plan of Action to Prevent, Deter and Eliminate IUU fishing
ISA:	International Seabed Authority
ITLOS:	International Tribunal for the Law of the Sea
ITQ:	Individual Transferable Quotas
IUCN:	International Union for Conservation of Nature
IUU:	Illegal, Unreported and Unregulated Fishing
JPSRM:	Joint Program on Scientific Research and Monitoring
LOSC:	Law of the Sea Convention (see also UNCLOS)
M:	Nautical Mile (see also N.M.)
MCA:	Convention on the Minimal Conditions for the Access to Marine Resources
MLC:	Maritime Labour Convention
MPA:	Marine Protected Area
MSY:	Maximum Sustainable Yield
NAFO:	Northwest Atlantic Fisheries Organization
NCP:	Non-contracting Parties

NEAFC:	North East Atlantic Fisheries Commission
NGO:	Non-Governmental Organisation
N.M.:	Nautical Mile (see also M)
PNAP:	Política Nacional de Desenvolvimento Sustentável da Aquicultura e da Pesca
PNMA:	Política Nacional do Meio Ambiente
PNRM:	Política Nacional para os Recursos do Mar
PSMA:	Port States Measures Agreement
RD&I:	Research Development and Innovation
RFB:	Regional Fishery Body
RFAB:	Regional Fishery Advisory Body
RFMO:	Regional Fisheries Management Organisation
SBSTTA:	Subsidiary Body on Scientific, Technical and Technological Advice
SCOI:	Standing Committee on Observation and Inspection
SDC:	Seabed Disputes Chamber
SDG:	Sustainable Development Goal
SEAFO:	South East Atlantic Fisheries Organization
SOFIA:	State of Word Fisheries and Aquaculture
SOLAS:	International Convention on the Safety of Life at Sea
SPRFMO:	South Pacific Regional Fisheries Management Organization
SRFC:	Sub-Regional Fisheries Commission
SSF Guidelines:	Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries
STCW:	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers
SUA Convention:	Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation

TAC:	Total Allowable Catch
TCA:	UK-Trade and Cooperation Agreement
TEK:	Traditional Ecological Knowledge
UK:	United Kingdom
UN:	United Nations
UN SDG:	United Nations Sustainable Development Goal
UNCLOS:	United Nations Convention on the Law of the Sea (see also LOSC)
UNDP:	United Nations Development Programme
UNDRIP:	United Nations Declaration on the Rights of Indigenous Peoples
UNEP:	United Nations Environmental Programme
UNFSA:	United Nations Fish Stocks Agreement
UNGA:	UN General Assembly
UNSC:	UN Security Council
UNODC:	United Nations Office on Drugs and Crimes
UNTS:	United Nations Treaty Series
VCLT:	Vienna Convention on the Law of Treaties
VMS:	Vessel Monitoring System
WCPFC:	Western and Central Pacific Fisheries Commission
WFC:	Work in Fishing Convention
WTO:	World Trade Organization

Haunting Pasts to Flowing Futures: In Search of Oceanic Agency*

*Pietro Consolandi,** Mekhala Dave****

We tend to think of the Ocean as an expansive space of abundance. Indeed, she is not a stingy one: she continues to give to and nourish us as long as she can. As humans, our dependency on her can rob both her and us of relations that are essential for the sustainability of life forms in the long run.

The ongoing acceleration of climate change has been pushed by our ever-growing anthropogenic carbon footprint and other impacts on the

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biosphere. The Ocean is especially affected, as the largest carbon sink of our blue planet, and the home to many creatures that we depend upon. At the same time, the variety of fish available to us feels endless, and there are ancient traditional practices at sea that have carried intricate fishing strategies along the course of history. Whether these are small-scale or industrial, we need to be aware of how fishing practices affect the Ocean. Each element of our global ecosystem is inextricably intertwined, and human imagination is often so limited that we don't realise how marine life has arranged itself into rich ecosystems of underwater wonders, like coral reefs or hydrothermal vents, that form blossoming submerged gardens and more-than-human cities of thriving life. Such assemblages are not only beautiful: they are one of the many pillars upon which life itself rests, human life too.

If we try to think with fish from a non-human perspective, we might consider the relation between fish and fishing strategies. For this precise reason, the cover of Volume 2 of the Yearbook on the Law of the Sea is timely. The modern vessel disappearing into the background is overshadowed by the apparently serene sight of a traditional fishing hut, suspended on poles over the lagoon of Venice. A net hangs down from the hut, designed to work together with the complex tide system generated by the inlets allowing exchange with the Adriatic Sea. This view, almost a vernacular land art monument, leaves us with a flurry of questions: how do we relate to this landscape, and what are we looking at? What are the possible ways in which we can respond? How does an image that contains and unfolds so many queues of symbols and connections relate to other disciplines, to law and science?

The title of the image is 'Hauntological Tour of Pellestrina in Winter', giving us the clue that ghosts or spectres are so much more present than our rational selves want to believe. History is still very tangible, the past is alive and acting, in this case where small-scale and traditional fisheries are slowly disappearing along with the salty marshes they depend on.

This dynamic of the past has a complex relation with aggressive and more directly haunting industrial-scale fisheries, which jeopardise the fundamental infrastructure that supports the act of fishing, and upon which the culture of such places is built: that is the watery ecosystem that we call Ocean. The term 'hauntology' is captivating in the context of the image that leaves us emotionally replete and conveys as a single piece of living evidence – or an archive the very alive idea of 'capitalist realism', conceptualised by Mark Fisher and stretching back to the spectres that Jacques Derrida and Karl Marx allude to as acting in our world, although invisible. It might be true that 'it is easier to imagine the end of the world than the end of capitalism',[1] as Fisher famously states, but it is also true that in such places we can feel the presence of a lingering ghost: a way of fishing – and more broadly of living – that sees nature as a subject, an embracing infrastructure and an agent that shapes culture and lifestyles, rather than an object to be dominated and extracted until exhaustion and ultimately (self)destruction.

In this holistic sense, just as we cannot separate nature from culture, we cannot frame histories of art as pure, as disentangled from reality and its shifting power relations. Over the centuries, artists have crafted not only artworks, but new ways of seeing and constructing reality, often to shed light on what has been less exposed by dominant narratives. Similarly, as scholars and makers of law, we should be conscious of our ghostly pasts, but we must also take risks in dreaming up a future that celebrates the Ocean's living form, regarding it and protecting it accordingly. Art and culture can serve the purpose of deconstructing and re-assessing values, a process in which laws can be elements to catalyse agency within relational systems. Rather than separated disciplines, each fulfilling a single task in perfect epistemological seclusion, these elements can join forces. For example, law must not necessarily follow a disaster, regulating

1. Mark Fisher, *Capitalist Realism: is there no alternative?* (Zero Books, 2009), chapter 1.

its consequences, or after a cultural shift has already happened; by being shaped in dialogue with ongoing events and flows of relations, it can influence culture and generate new paradigms that are alive.
Looking at nature as a whole, and to history as a continuum, we reach the conclusion that one lens cannot be enough to see such enormous things as the Ocean in full: they must be approached from as many sides and points of view as possible, also accounting for worldviews that have been sidelined for too long, or ideas that are on the verge of disappearing.

Here is the key, and the secret contained in the spectral remnants of surviving ideas, like the one portrayed on the cover of this book: the canvas of contemporaneity remains open in search of a sustainable balance – one that renders the future of our planet liveable – within a closed ecosystem, that must account for all of the life forms depending on it and shaping it, at all times. We must cooperate and coexist, following paths of deep care and cosmic kinship.

In this process we must not fear such ghosts, as they are not hungry spectres, craving to devour life. Quite the opposite: they bring empowering messages from a past that has not passed. They whisper tales of a planet that wants to live.

ITLOS Advisory Opinions and International Law

*Óscar Cabello Sarubbi**

1. Introduction

Advisory opinions from international courts are relatively rare but in the last years have been gaining the attention of many of the international actors, including some who speculate about their necessity. Allegedly they offer a versatility, in practical terms, that no other jurisdictional procedure could offer, as there is no need for their application to a previously existing dispute. In fact, even though it is not the intention of a Party requesting and advisory opinion, putting one into practice might prevent disputes, because a court or tribunal can make this decision quickly and they are easy to apply if there is no controversy.

In its long history the International Court of Justice (ICJ) has released 27 Advisory Opinions, and the International Tribunal for the Law of the Sea (ITLOS) in more than 25 years of existence, has produced two of them. Both ITLOS opinions cover crucial domains of the

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exploitation of the seas: the vast mineral resources of the Seabed, and fishing activities.[1]

Any prospective applicant before the ITLOS must consider the two options for advisory jurisdiction offered by the Convention: the ITLOS Seabed Disputes Chamber (SDC)[2] or the Tribunal sitting as a full bench, resulting from an interpretation made by the same Tribunal of Article 21 of its Statute in connection with Article 138 of its Rules.[3] Issues that refer to the activities in the Area, mostly related to the exploitation of the resources of the Seabed, are reserved for the Chamber. All other matters, that imply the interpretation and application in general of the UN Convention on the Law of the Sea (UNCLOS) rules, are reserved to the ITLOS as a whole.

The potential applicants to these two bodies are also different. The ITLOS Seabed Chamber will hear requests brought by the authorised organs of the International Seabed Authority (ISA), while the ITLOS as a whole may assert advisory jurisdiction where a group of interested States sign an agreement that includes expressly the possibility of relying on its advisory jurisdiction.[4]

In the last instance, as in the only Case (Case 21) up to now that has been considered by the Tribunal, we can identify mostly developing countries wishing to have certain UNCLOS rules elucidated in relation to questions that are of the utmost importance for their national interests. The trend may be reflected in the fact that, with a letter dated 12 December 2022, the Commission of Small Island States on Climate

1. For the ICJ see <www.ICJ-CIJ.org/en/advisory-proceedings>, the first opinion was delivered in 1948 and the last in 2019. For ITLOS see in *Digest of Jurisprudence 1996-2021*, Case 17 (2011) 83-87 and Case 21 (2015) 109-115.

2. United Nations Convention on the Law of the Sea (Montego Bay, adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS 396, Article 191.

3. For this interpretation see in *Digest* (n 1) Case 21, ¶ 5-10, 110-111.

4. In the first Case the application was submitted by the Secretary General of ISA, pursuant a decision adopted by the Council; and in the second by the Permanent Secretary of the Sub-Regional Fisheries Commission. See in Digest (n 1) 83, 109.

Change and International Law submitted to the Tribunal a Request for an Advisory Opinion on the obligations of UNCLOS' State Parties to prevent, reduce and control pollution of the marine environment and protect and preserve it.[5]

There is also a striking difference between issues that have been submitted to the ICJ's Advisory jurisdiction and those submitted to the ITLOS. While requests submitted to the ICJ, that are mostly made by the United Nations General Assembly (UNGA), are usually strongly politically biased (and we will examine the objections presented in some cases by interested Parties), requests submitted to the ITLOS are mostly related to technical or legal issues.

One can have the strong impression that the content of the questions, being raised in the respective court, have also influenced the likelihood of a case being heard under a court's advisory jurisdiction. In the case of the ICJ, requests involving issues with a strong legal-political content require sufficient majority among member States to bring them. To invoke ITLOS's Special Chamber there is a complex procedure within the ISA's organs before a request will be made.

In the case of the ITLOS and, in particular, of the application for advisory jurisdiction of the Tribunal, the lack of sufficient information on the procedures for bringing a request for an advisory opinion has also undoubtedly influenced the delay in new submissions.

However, before reflecting further on the ITLOS's advisory opinions, it is important to examine first what is the real nature of an advisory opinion and the real impact they can have in the creation of new rules of international law.

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5. Request for an Advisory Opinion submitted by the Commission of Small Island States on Climate Change and International Law (ITLOS, Case No. 31), 12 December 2022. Available at <https://www.itlos.org/en/main/cases/list-of-cases/request-for-an-advisory-opinion-submitted-by-the-commission-of-small-island-states-on-climate-change-and-international-law-request-for-advisory-opinion-submitted-to-the-tribunal/> accessed on 31 December 2022.

2. The Legal Nature of Advisory Opinions

Advisory opinions by International Courts are not a creation of contemporary international law. They already existed long before the creation of the ICJ or the ITLOS and they were included in Article 14 of the Covenant of the League of Nations, evolving into a generally accepted procedure. Some national legislations had even before incorporated the concept of advisory opinions.[6]

Both, Article 96 of the Charter of the United Nations, and Article 191 of the United Nations Convention on the Law of the Sea, expressly provide for these proceedings to be submitted to the ICJ or the SDC of the ITLOS, respectively. In both cases the authorised applicants for them are the UNGA, the United Nations Security Council (UNSC), and other organs of the United Nations and specialised agencies, in the first instance; and the Assembly or the Council of the Seabed Authority, in the second.

In both cases, the advisory procedure should deal with 'legal questions', with the important difference that in the case of the United Nations it could be 'any' international legal question, for the UNGA and the UNSC requests; but it is restricted to only those legal questions 'arising within the scope of their activities', for the other main United Nations organs and those of the specialised agencies, as well as for those of the Seabed Authority, in the case of UNCLOS. This distinction makes sense because of the diverse and expert functions of those specialised organs, including the ISA.[7]

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6. Helmut Turk, 'Advisory opinion and the Law of the Sea', in Miha Pogačnik (ed.) *Challenges to contemporary International Law and International Relations*, (The European Faculty of Law Nova Gorica 2011) 366; Anthony Aust, 'Advisory opinions' (2010) 1(1) Journal of International Dispute Settlement 123, 124-6.

7. United Nations Charter, Article 96(1) and (2); and UNCLOS, Articles 159(10) and 191.

The exercise by a Court of its contentious and advisory jurisdiction is equally legitimate and both are only different facets of their essential role of dictating ('dicere') the law ('ius'). Both share the same nature, and even in practical terms they are so similar that, for instance in the case of the SDC, the procedural provisions to be applied, 'to the extent to which it recognises them to be applicable', are the same as those in effect in contentious cases.[8]

In a recent Max-Planck Institute publication, advisory opinions are defined very simply as 'judicial statements on legal questions'[9] and we could add, paraphrasing the ICJ, '[with]… the purpose of furnishing to the requesting organ the elements of law necessary for them in their action.'[10] Only indirectly, by the use by the requesting organs of the 'legal elements' furnished by a Court in its advisory opinion, may there be an eventual effect on the settlement or avoidance of an international dispute. An advisory opinion should not be relied upon to circumvent the general principle that a dispute cannot be submitted to judicial settlement without the consent of the State involved.[11]

However, we should not lose sight of the important differences between opinions concluded under advisory jurisdiction, and those under contentious jurisdiction. In fact, advisory opinions: a) do not have a binding force, unless there is a specific agreement on the contrary;[12] b) they are not addressed to a State; and c) there is an expectation that they

8. ITLOS, Rules of the Tribunal, Article 130(1).

9. Teresa F Mayr, Jelka Mayr-Singer, 'Keep the wheels spinning: the contribution of advisory opinions of the ICJ to the development of International Law' (2016) Max-Plank Institute for Comparative Public Law and International Law 425, 427.

10. This was expressed by the ICJ in the *Wall Case*, Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, Advisory Opinion, I.C.J. Reports 2004, p. 136; Aust (n 6) 144.

11. Mayr (n 9) 429.

12. Turk (n 6) 366, who also mention some instances of such agreements.

should not be refused to the requesting parties unless the Court, by exercising its discretionary power, decides that the content of the question is not related to a legal issue or the request exceeds the jurisdictional scope of the activities of the requesting organ.

In the case of the ITLOS sitting as a Whole on an advisory opinion, we can recognise the existence of other potential requesting Parties. As a matter of fact, Article 138(1) of the Rules of the Tribunal specifies that advisory jurisdiction is available 'if an *international agreement* related to the purposes of the Convention specifically provides for the submission to the Tribunal of a request for such an opinion' (emphasis added). This is exactly what took place when a group of Coastal States from Western Africa signed and ratified an agreement creating a Sub-Regional Fisheries Commission (SRFC), in which the possibility for the Permanent Secretary of the Commission to submit the request for an advisory opinion was established.[13]

The first procedural step that any Court or Tribunal must take before pronouncing its opinion is to check its own jurisdiction over the particular case submitted; it is at this stage that the capability of the Court or Tribunal to entertain the case could be challenged by some interested Parties. As a matter of fact, in the case of the ITLOS, its Rules provides for the Registrar to give notice of the request for an advisory opinion to all States Parties to the Convention and those international organisations, that the Tribunal has identified as likely to provide information on the question that is the object of the request.[14]

As a consequence, any interested State, within a time limit established by the Chamber or the Tribunal, can present a written statement on the issue under consideration. The content of these statements is variegated and, of course, could include objections to the Tribunal's jurisdiction in

13. See MCA Agreement, Article 33.

14. ITLOS, Rules of the Tribunal, Article 133(1) and (2).

the particular case. In the case of the ICJ it is quite frequent that the State opposing the request could invoke the political nature of the question submitted for an opinion.[15]

However, in almost all cases the ICJ has rejected those objections, considering that any political issue could also inextricably involve a legal question that will be the only object of its pronouncements. This has been the case even when, in practical terms, an advisory opinion is understood to have a potentially important political effect. For instance, in the Wall Case, the UNGA's request to the ICJ for and advisory opinion, even when expressed in legal terms, had an undeniable political intention. That opinion later formed the basis for a UNGA's resolution containing practical recommendations regarding the cessation by Israel of its construction of a wall in the Palestinian occupied territories.[16]

Garcia-Revillo, in a recent paper,[17] identifies three checks that the ITLOS must make before accepting jurisdiction:

- *In abstract*, by checking its own jurisdiction as it appears to be conceded by the Convention.
- For the *particular request*, in light of the appropriate Convention provisions that are applicable to the case; that is to say if the requirements in Article 191, in the case of the SDC, are met or, in the case of the Tribunal in full, if those expressed in Article 138 of the Rules are met.
- If the rendering of an advisory opinion is *appropriate* or not to the case, by using its own discretionary power.

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15. ITLOS, *A Guide to proceedings* (2021) 33, 35.

16. *Legal consequences of the construction of a Wall in the occupied Palestinian territories*, ¶ 41, where it adheres once more to previous precedents. See also United Nations General Assembly, Resolution ES-10/15, adopted on 7/20/2004, in particular operative paragraphs 1 and 2.

17. Miguel García Garcia-Revillo, 'The jurisdictional debate on the request for an Advisory Opinion submitted by the Sub-Regional Fisheries Commission to the International Tribunal for the Law of the Sea' in Angela del Vecchio, Roberto Virzo (ed), *Interpretation of UNCLOS by International Courts and Tribunals* (Springer, 2019) 127-8.

A State that disagrees with the exercise of advisory jurisdiction in a particular case might argue that the ITLOS has failed to meet one of these requirements; for example, if the Tribunal exercises its discretionary power to consider a purely political question. The ITLOS has not yet had to refuse a case based on these three jurisdictional checks.

As a matter of fact, in Case 17, the Chamber concluded that the three requirements established in Article 191 had been fulfilled: '(i) there was a valid request from the Council; (ii) the questions raised by the Council were of a legal nature; and (iii) these legal questions fell within the scope of the activities of the Council since they related to the exercise of its powers and functions…'

In Case 21, however, the jurisdiction of the Tribunal of the Whole was objected *in abstract*, that is to say, on the grounds that no such jurisdiction was ever conceded by the Convention in any of its provisions. The Tribunal was than obliged to justify its own jurisdiction by an extensive interpretation of Articles 21 of its Statute, and 138 of the Rules.[18]

This is not what happens with the ICJ that, considering the high political content of many of the questions presented in advisory opinion requests, has needed in almost all cases to offer long justifications of its jurisdiction, focusing on the appropriateness of the particular request.

At this point we cannot ignore the many criticisms that have been raised that advisory opinions are really a disguised way of resolving disputes and imply a violation of the principle of consent of the Parties involved. As we mentioned, when identifying the main differences between contentious and advisory jurisdiction, the latter are not addressed to any particular country and, as a consequence, will not mandate any direct intervention in a State's ongoing dispute. However, it is also true, that a Tribunal statement on a requested issue can facilitate or influence

18. *Digest* (n 1) 84, for Case 17; 110-111, for Case 21.

the outcome of an international dispute.[19] It could prevent them or even, less frequently and at least theoretically, provoke them by giving enough legal elements for a State or group of States to denounce another for the violation of certain rights. For instance, that could be a possible outcome of an advisory opinion on the responsibility of certain State/s for compensation, as a consequence of the commission of a wrongful act against another State's own rights and legitimate interests.

But the way of thinking behind those criticisms focuses only on unwanted consequences that are not in the intention of any international court or tribunal, and cannot, in any case, jeopardise the legal nature of a decision. Advisory opinions are clearly not intended as a method of settlement of disputes, and at the most could be considered, as the same ICJ characterised them, as means of 'preventive diplomacy.'[20]

3. A Source of International Law?

The ICJ's Statute enumerates the 'judicial decisions' as 'subsidiary means for the determination of rules of law', and the doctrine in general accepts that they are sources of international law, albeit of a subsidiary nature. We also know that 'judicial decisions' could be the outcome equally of contentious or advisory jurisdictions of a court or tribunal. Consequently, we could finally concede that by giving its legal opinion to a requesting organ, the court or tribunal could be acting as a *law developer*.[21]

19. See considerations in Mayr (n 9) 429.

20. Turk (n 6) 366; Mayr (n 9) 427.

21. Statute of the International Court of Justice, Article 38(d). See also in James Crawford, *Brownlies principles of Public International Law* (8th Edition Oxford 2012) 37-41, in particular 39-41, 732.

But how are we to understand that expression? In general, there is an agreement in the Doctrine that there must be a clear difference between 'making the law' and 'developing it'. The most radical position in favour of the first position is that of Kelsen that supported the idea that 'every application of the law amount to the creation of new legal rules…'[22] On the other hand authors, like Professor Ruda, are of the opinion that judicial decisions can only 'contribute to the interpretation and application of existing rules of international law but not to the establishment of new rules.'[23] In between these two opinions I prefer an intermediate position.

The fact is that not all rules of international law are perfectly clear, and by interpreting and applying them, especially in evolving contexts, the courts are, in practical terms, giving to them contents that were not easily foreseen by the original law makers or that are not easily discovered in quick and superficial examination of them. In the particular case of the advisory opinions, these could have a real influence in the creation of new rules of law when the requesting organs, and the States that are part of the corresponding international organisation, effectively incorporate the giving opinions into their general practice. For instance, if the content of an advisory opinion is incorporated into a UNGA resolution by consensus and adopted into the general practice of the States, it could become customary international law.[24]

In a recent study,[25] researchers identified four effects of advisory opinions in the development of the law:

22. Mayr (n 9) 432.

23. ibid., 431.

24. There is an important opinion that support the idea that UNGA Resolutions could represent an important contribution to the formation and 'crystallisation' of new norms of international costumary law or general principles, because they 'offer an indication of the international legal community's *opinio iuris*' See Antonio Augusto Cançado Trindade, *Principios do Direito Internacional contemporaneo* (2a. Ed Fundaçao Alexander de Gusmao Brasilia 2017) 112.

25. Mayr (n 9) 441-448.

1) *Adherence to judicial precedents*, which means that an advisory opinion contributes to the progress of international law by 'maintaining the same legal position on several occasions' or 'ratifying the correctness of previous conclusions',[26] which makes it difficult for States, that do not agree, to argue otherwise. This does not mean that a court or tribunal will only adhere to its own previous decisions, but also that one court may follow the logic of a different court to support its own similar conclusions. As a matter of fact, this is a very common occurrence between the ICJ and the ITLOS decisions, both in contentious and advisory procedures.

2) *Treaty interpretation*, an advisory opinion may have repercussion in the future application of a rule by a State if an opinion: a) attributes new meaning to the terms of a treaty in changing circumstances; or b) reassess a rule of customary international law, in connection with a rule from treaty law, and has a repercussion in the future application of it by the State parties (*opinio iuris sive necessitatis*).

3) *Shaping of customary international law*, when an advisory opinion evaluates the conduct of relevant players in the international community and tries to construct a legal norm from that conduct; or, in other words, tries to identify new or changing norms of international general law from that conduct that impact on the behaviour of those States, to the point to lead to a process of formation of new norms.

4) *Closing gaps* with the court's own statements, in the absence of generally accepted rules. By clarifying ambiguities or bringing to light a rule, that is otherwise implicit or that arises from new developments in the international community or in the legal system, an advisory opinion can impact law development.

In the case of the ITLOS the lack of written or other objections to a request for an advisory opinion by State Parties, could be an indication

26. ibid., 441.

of the later acceptance of the opinion's conclusions or of full agreements with its findings that could lead to the recognition of new rules of customary international law. To that effect, the acceptance must be accompanied by a consistent State practice.[27]

4. The ITLOS Advisory Opinions

The ITLOS has only issued two advisory opinions: Case 17 on *Responsibilities and obligations of States with respect to the activities in the Area*, submitted by the Secretary General of the ISA, pursuant to a decision taken by the ISA's Council, on May 14, 2010; and Case 21, submitted by SRFC, through its Permanent Secretary, on March 27, 2013.[28]

The first case was submitted to the SDC, in conformity with Article 191 of the Convention and Article 138 of the ITLOS's Rules of Procedure, and the second to the Tribunal as a Whole, based on an interpretation made by the same Tribunal of Article 21 of its Statute, in connection with Article 138 of the Rules. We will now proceed to examine each of these cases and try to identify, even if not in an exhaustive manner, their major contributions to the development of the international law.

4.1 Case 17

This case originated on the interests of the States of Tonga and Nauru to engage in UNCLOS' related mining activities in reserved areas of the

27. See the interesting arguments exposed by Garcia - Revillo when referring to Article 38 of the ITLOS Rules, (n 17) 136-7. The same considerations could be extended, mutatis mutandis, to the ITLOS Advisory Opinions.

28. Digest (n 1) 83-87, 109-115.

seabed to be developed by ISA, 'in association with developing countries', under Article 8, Annex III of the Convention, after a license is awarded. The two States were sponsoring two private companies: The Tonga Offshore Mining Ltd., and the Nauru Ocean Resources Co., respectively.[29]

In March 2010, Nauru contacted the ISA's Secretary to request an advisory opinion on the liabilities that a sponsoring State might be subjected to for the activities by their sponsored companies in the Area. Nauru's proposal was accepted by the ISA's Council but reformulated into three general questions:

1. *What are the legal responsibilities and obligations of States Parties to the Convention with respect to the sponsorship of activities in the Area in accordance with the Convention and the 1994 Agreement related to the implementation of Part IX of the Convention?*
2. *What is the extent of the liability of a State Party for any failure to comply with the provisions of the Convention and the 1994 Agreement, by an entity whom it has sponsored under Article 153, paragraph 2 (b) of the Convention?*
3. *What are the necessary and appropriate measures that a sponsoring State must take in order to fulfil its responsibility under the Convention, in particular article 139 and Annex III, and the 1994 Agreement?*

If we analyse these questions in the light of the effects described above on how an advisory opinion can influence the development of international law, we can conclude that the SDC was called not only to interpret treaties (the Convention and the 1994 Agreement) but also to, eventually, close gaps existing in their provisions on the matter, or shape evolving norms of international customary law.

29. David Freestone, 'Responsibilities and obligations od States sponsoring persons and entities with respect to activities in the Area' (2011) 105 American Journal of International Law 755, 755-6.

What were the answers given by the Chamber to these questions?

A) Regarding the *first question*, it clarified the extent of the concept of 'activities in the Area', specifying that even though they could refer to 'all possible activities in the Seabed' they are limited to only those expressly mentioned in the Convention or in the Agreement.[30] It also, in reference to the responsibilities and obligations of the States sponsoring such activities, identified, among others, two main sets of due diligence obligations: (i) to *ensure* that a sponsored contractor should carry out its activities in the Area in conformity with the provisions, not only of its contract but also of the Convention, the Agreement and other related instruments; and (ii) *independently* of the first obligation, to assist the Authority in its controlling functions related with the activities by the sponsored contractors taking place in the Area.[31]

Regarding the first obligation, the Chamber also clarified that it is one of *conduct* and not of *results*. The sponsoring State was only responsible when it did not take the necessary legal, administrative, and practical measures, within the framework of its own legislation and the applicable international law, to ensure that its contractor always behaved in conformity with the Convention and the Agreement. The sponsoring State would not be liable if its contractor acted in infringement of those measures.[32]

A very important contribution to the development of the international environment law was that the 'obligation to ensure' was also qualified by the Chamber to be one of *due diligence*, expanding its content at the same time to include, as a legal obligation, the *precautionary approach*

30. ibid., 757.

31. In conformity with Article 153(4) of UNCLOS. See Digest (n 1) 84-5; *Responsibilities and obligations of States with respect to activities in the Area*, Advisory Opinion, 1 February 2011, ITLOS Reports 2011, p. 10, ¶ 82-97, 34-38.

32. Freestone (n 29) 757-8. Opinion, ¶ 110-11, 41.

as defined in Principle 15 of the Rio Declaration. In fact, the Chamber stated that the approach 'set out in the Nodules Regulations and the Sulphides Regulations […] is also to be considered an integral part of the due diligence obligation of the sponsoring State and applicable beyond the scope of the two Regulations.'[33] In this part of the advisory opinion the Chamber closed an important gap existing between the activities contemplated in those regulations and all other activities possible under the Convention and the Agreement.

The Chamber also recognised that the sponsoring State's *due diligence* obligation required the State to ensure that the contractor conduct an environmental impact assessment (EIA). As a general obligation under customary international law, this part of the advisory opinion supported the existence of a general norm of international law in the seabed mining context.[34]

It is important to notice here that the existence of a duty to conduct an EIA in similar cases was previously pronounced by the ICJ in its *Pulp Mills* case;[35] however, in a very revealing sample of the factual coordination existing between the two judicial bodies, the ITLOS not only confirmed the precedent established by the ICJ, but expanded the content of the ruling, improving the scope, content and correct implementation of the provision.[36] By corroborating the same legal position as the ICJ, the advisory opinion contributed to the consolidation of an emerging

33. Digest (n 1) 85. Order, ¶ 125-135, 45-47.

34. ibid., 85. Opinion, ¶ 141-150, in particular ¶ 145, 49-52.

35. *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, Judgment, I.C.J. Reports 2010, 14.

36. See more in Laura Pineschi, 'The duty of Environmental Impact Assessment in the First ITLOS Chamber Advisory Opinion: Towards the supremacy of the general rule to protect and preserve the marine environment as a common value', in Nerina Boschiero, Tullio Scovazzi, Cesare Pitea and Chiara Ragni (ed.), *International Courts and the development of International Law* (Springer Milano 2013) 427.

norm of international general law. The opinion further clarified that the performance of this obligation applied equally to both developed and developing countries.[37]

B) Regarding the *second question*, the Chamber stated that the sponsoring State was not to be liable for the unlawful conduct of the contractor when it 'has taken all the necessary and appropriate measures to secure its effective compliance.' It was enough for the sponsoring State not to be held liable if, in light of the State's own existing legislation, it took 'reasonable' measures to ensure compliance by its contractor.[38]

In a long set of paragraphs, the Opinion also gave useful details on the scope and prerequisites for the existence of the liability, clarifying the content of the Convention's provisions in the matter and closing important gaps in the respective regulations.[39]

C) Finally, the Chamber answered the *third question* by stating that the required measures to be taken by a State, within its own legal system, could include the adoption of laws, regulations, or administrative orders with two functions: (i) to ensure compliance by the contractor with its obligations and (ii) to exempt the sponsoring State from liability. The State would not be considered in compliance with its obligations simply by entering into a contractual agreement with the Contractor, but only if it had taken the necessary legal measures.[40]

The Chamber than described the characteristic that those measures should have:

- An enforcement mechanism for active supervision of the activities performed by the contractor.

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37. Digest (n 1) 85. Opinion, ¶ 158-159, 53-54.

38. ibid., 86; Freestone (n 29) 759.

39. ibid., 85-86. Opinion, ¶ 165-177, 55-58.

40. ibid., 86. Opinion, ¶ 218-222, 68-69.

- Mechanism for coordination of the activities of the sponsoring State and the Authority.
- Continued enforcement of these measures while a contract with the Authority is in force.
- Post-exploration coverage for any outstanding obligations of the contractor.

In adopting these measures, the sponsoring State does not have absolute discretion, because it must act in good faith 'taking the various options into account in a manner that is reasonable, relevant and conducive to the benefit of mankind as a whole.'[41]

For the protection of the marine environment, in particular, the measures taken could not be less stringent than those adopted by the Authority or less effective than international rules, regulations and procedures.[42]

The Chamber also insisted on the necessity that the involved States, as due diligence obligations, check, *inter alia*, the financial liability and technical capacity of its sponsored contractors as well as ensuring that all the obligations in the contract with them are enforceable.[43]

A very interesting conclusion was the emphasis on the provision of Article 39 of the ITLOS Statute prescribing that 'decisions of the Chamber shall be enforceable in the territories of the State Parties in the same manner as judgments and orders of the highest court of the State Party in whose territory the enforcement is sought.'[44]

This Opinion could have an historic character, not only for being the first such opinion delivered by the SDC but also for the impact it will have on the development of the international environmental law in the issue, in at least three aspects: the requirements of due diligence,

41. ibid., 86. Opinion, ¶ 230, 71.

42. Digest (n 1) 86. Opinion, ¶240, 73.

43. Digest (n 1) 87. Opinion, ¶ 234, 72 and ¶ 238, 73.

44. Digest (n 1) 86-87. Opinion, ¶ 235, 72; Freestone (n 29) 659.

recognition of the trend towards considering the precautionary approach as general customary law, and identifying a set of direct obligations for sponsoring states. One first consequence of this opinion was that in a few years' time, in the opinion of one source, 'most Tuna [regional fisheries management organisations (RFMOs)] have adopted procedures that can be precautionary in nature…'[45]

4.2. Case 21

On March 28, 2013 (date the letter was received), the Permanent Secretary of the SRFC of North Western Africa (Cabo Verde, the Gambia, Guinea, Guinea-Bissau, Mauritania, Senegal and Sierra Leone) requested that the ITLOS render an advisory opinion, in accordance with Article 138 of the Rules, and pursuant to the authority granted to it by the Convention on the definition of minimum access conditions and exploitation of fisheries resources within the maritime zones under the jurisdiction of the SRFC Member States (Minimal Conditions for the Access to Marine Resources (MCA) Convention, signed in Dakar on June 8, 2012).[46]

The question posed to the Tribunal were:

1. *What are the obligations of the flag State in cases were illegal, unreported and unregulated fishing activities are conducted within the Exclusive Economic Zone of a third-party State?*
2. *To what extent shall the flag State be held liable for [illegal, unreported, and unregulated (IUU)] fishing activities conducted by vessels sailing under its flag?*

45. Freestone (n 29) 760. Text extracted from Paul De Bruyn, Hilario Murua and Martin Aranda, 'The precautionary approach to fisheries management: How this is taken into account by Tuna regional fisheries management organisations (RFMOs)' (2013) 38 Marine Policy 9.

46. Digest (n 1) 109. Opinion, ¶ 230, 71.

3. *Where a fishing license is issued to a vessel within the framework of an international agreement with the flag State or with an international agency, shall the State or international agency be held liable for the violation of the fisheries legislation of the coastal State by the vessel in question?*
4. *What are the rights and obligations of the coastal Sate in ensuring the sustainable management of shared stocks and stocks of common interest, especially the small pelagic species and tuna?*[47]

The Tribunal as a Whole answered the questions in the following manner:

A) *First question*. Regarding the obligations of the flag State in cases of IUU fishing, the Tribunal identified five obligations, including to:

1. Take all necessary measures: (i) to ensure compliance by vessels flying its flag with the law and regulations enacted by the SRFC Member States; (ii) to assure that those vessels are not engaged in IUU fishing activities or (iii) in activities which undermine the flag State responsibilities under Article 192 of the Convention (preservation of the marine environment and of the marine living resources).
2. Cooperate with SRFC States.
3. Investigate the alleged IUU fishing.
4. Perform the necessary actions to remedy the consequences of those activities.
5. Inform SRFC Members of those actions.[48]

These obligations were recognised by the Tribunal to be of 'due diligence' in nature, which implies that the flag States should comply with them in conformity with what is generally, in the practice of the States, considered the 'common standard of conduct' applicable to those concrete cases. As the concept's extension was clearly defined by the ICJ, in its *Pulp Mills* case, it comprises not only the obligation to enact norms

47. id.

48. Digest (n 1) 111. Opinion ¶ 121-129, 37-40.

and regulations, but to exercise a certain degree of vigilance over the fishing activities taking place and an administrative control over the operators.[49] Furthermore, the Tribunal considered this due diligence obligation to be one of conduct and not of results.[50]

The Tribunal also clarified the connections existing with this prohibition of IUU fishing with the provisions in Article 58, paragraph 3 (regarding the duty of *due regard* for the rights and duties of Coastal States), Article 62, paragraph 4 (the obligation of fisherman to comply with conservation measures, terms and conditions established by coastal States) and Article 192 (the general obligation of all States to protect and preserve the marine environment), among others.[51]

This was a very well received outcome of the Opinion because in UNCLOS there are not explicit provisions on IUU fishing activities, and the advisory opinion contained very specific clarifications on the rights and obligations of coastal and flag States on the matter.[52]

The Tribunal also contributed to the definition of IUU fishing activities by adopting the one provided by the MCA Convention in its Article 4, that includes a clear identification of its three elements: *illegality*, in the sense that it is carry out without authorisation, in contravention of the conservation and management measures adopted and in infringement of national and international law; *undeclared*, to the competent national authorities or to those established by the RFMO, such as the SRFC; and *unregulated*, referring to activities carried out by

49. *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, Judgment, I.C.J. Reports 2010, p. 14; Opinion, ¶ 131, 197, ¶ 131-133, 41-42.

50. Digest (n 1) 112. Opinion, ¶ 129, 40.

51. ibid. Opinion, ¶ 133-139, 42-43.

52. Guillaume Le Floch, 'Le premiere avis de la formation pleniere du Tribunal International du Droit de la Mer: entre prudence et audace' (2015) LXI Annuaire Francaise du Droit International 672-3. He mentions the source of this definition: the 2001 FAO Plan of Action to prevent, deter and eliminate IUU fishing, paragraph 3.

vessels without a flag, or with the flag of a State that is not part of the RFMO agreement or against the regulations of that organisation, or in areas or affecting fish stocks outside the realm of the applicable measures or in a way contrary to the State conservation responsibilities under international law.[53]

B) *Second question.* In reference to the liability of the flag State in the case of a wrong doing of a vessel carrying its flag, the Tribunal took into consideration the articles of the International Law Commission on the responsibility of States for internationally wrongful acts, and concluded: (i) that any wrongful act generates a responsibility and (ii) that in order to assign that responsibility to the flag State certain conditions must be satisfied, namely:

- The act or omission must be attributable to the flag State.
- The act or omission must have a wrongful effect on other State's rights.
- They should constitute a breach of a legal and international obligation.

In the case, the flag State wrongful act could be that it failed to fulfil its due diligence obligations concerning IUU fishing by a vessel carrying its flag. As these are obligations of conduct, the flag State is not liable if it has taken all the necessary and appropriate measures identified in the answer to the first question.[54]

C) *Third question*. The Tribunal in this case first clarified that under Articles 305 and 306 of UNCLOS there could be a possibility for an international organisation to become Party to it, and that under the constitutional agreement establishing that international organisation there could be a provision by which certain competences were transferred from the Member States to the organisation. Only one such organisation, the

53. ibid., 673. See also Digest (n 1). Opinion, ¶ 90, 28-29.

54. Digest (n 1) 112-1133; see also considerations in Le Floch (n 52) 689. Opinion, ¶ 144, 44 and ¶ 146-148, 44-45.

European Union (EU), is a Member of the Convention and signed fisheries access agreements with State Parties to the SRFC. Because the administration of fisheries activities has been transferred to the EU, the obligations of the flag State become the obligations of the international organisation. Consequently, only the organisation will be held liable for any breach of its obligation deriving from the fisheries access agreement and not its member States.[55]

These obligations, as well as in the case of any flag State, are of 'due diligence' in nature, and the 'common standard of conduct' is upheld for fisheries management.[56]

D) *Fourth question.* As this question affected mainly the SRFC Members, the Tribunal recognised however the duty of any third State whose vessels were operating in their exclusive economic zones to cooperate with the Sub-Regional Commission and its Members. This duty to cooperate, for SRFC's Member States and third States, contains different obligations, including (i) to avoid overexploitation; (ii) to use the best scientific evidence to establish the permissible catch and when such evidence is insufficiently clear, to apply the precautionary approach; (iii) to maintain or restore stocks at levels which can produce the maximum 'sustainable' yield; (iv) to seek to agree (under Article 63, paragraph 1 of the Convention) in order that the consultations conducted for the purpose to reach agreements could lead to meaningful and substantial results, by permitting the application of effective measures; and (v) to cooperate, under Article 64 of the Convention, among themselves or/and with the support of any competent international organisation, such as the Food and Agriculture Organization of the United Nations. The Tribunal considered all these obligations to be of 'due diligence.'[57]

55. Digest (n 1) 113. Opinion, ¶ 168, 172-73, 49, 51.

56. ibid., 113. Opinion, ¶ 168, 49.

57. ibid., 113-114. Opinion, ¶ 205-210, 58-59.

It can be also concluded that this opinion confirmed the trend to consider the precautionary approach as a rule of customary international law, as well as filled important gaps exiting in the UNCLOS provisions related to IUU fishing and the character of the duties (due diligence) and liabilities of the flag States and international organisations in the matter.[58]

5. Conclusion

There is no doubt that between the Tribunal's contentious and advisory jurisdiction exist a relation of complementarity because they support each other as precedents; or because the latter expands the conceptual content of the provisions to be applied by the former in the concrete case presented to their attention; or when the latter considers *at large* a relevant issue presented by its applicant. But we cannot support those subjective interpretations that consider this complementarity to be *experimental*, in the sense, for example, that advisory opinions are mere experiments conducted by inexperienced jurists or by judicial bodies that have not yet reached that level of authority that a contentious jurisdiction requires. Advisory opinions are not mere *consolatory* exercise for young and inexperienced organisations.[59]

The truth is that advisory jurisdiction responds to a real necessity of the international community, not only of the States but also of other subjects of international law, like international organisations and even qualified

58. ibid., 114, (ii). Opinion, ¶ 208 (ii), 59.

59. Jean Pierre Margueraud, 'Rapport introductive : La fonction consultative des jurisdictions internationales', Observatoire des mutations institutionnelles et juridiques de Limoges (2009 Pédone, Paris) 14.

persons, in cases related to human rights. As we tried to demonstrate, we hope successfully, and paraphrasing the ICJ Statute, advisory opinions are efficient 'subsidiary means for the determination of law' that can be applied in contentious jurisdiction cases.[60]

It is also true that judiciary bodies have been created mainly for the purpose of the peaceful settlement of disputes and their main activity consists in exercising its contentious jurisdiction, but as history demonstrates it there is a long list of advisory opinions been given by national or international courts over many years that support the idea, today, that they are not useless. The consistent practice of Sates demonstrates to the contrary.

The fact that the UNCLOS Convention expressly mentioned advisory jurisdiction, however in a limited way, when referring only to the SDC, is not conclusive of the idea that there should be a limited use of that jurisdiction. Treaties are the result of long and complex negotiations and are relative to changing conditions and times, giving way to an extensive exercise of constant interpretation. Consequently, it should not be a surprise that when confronting new challenges or needs of States Parties, an exercise of interpretation of the Convention must be done, to close gaps or expand the scope of the provisions.

However, this is not an unconditioned or unlimited exercise, because any effort of interpretation must start from solid ground. The Vienna Convention on the Law of Treaties, in its provisions on treaty interpretation, establishes the importance of the agreement of State Parties in the matter, among other elements to be taken into account.[61] In the case, for example, of the ITLOS's advisory jurisdiction those same parties could directly participate in the proceedings or give their reaction, when the

60. Statute of the International Court of Justice, Article 38(d).

61. Vienna Convention on the Law of Treaties (adopted 23 May 1969, entered into force 27 January 1980) Article 31(3)(a).

Tribunal's report, containing detailed information on the judicial activity of the Tribunal, is presented by its President for their consideration in the Annual Meeting of the States Parties.[62]

The eventual consent, expressed in most cases in an implicit way, as there is no record of a massive objection to any of the activities by the Tribunal, could be a decisive element to the consolidation of new rules or change of rules in international law. Particularly considering that UNCLOS States Parties represent a large majority of the international community, the Tribunal's advisory jurisdiction can effectively contribute to the development of international rules and regulations.

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62. García García-Revillo (n 17) 136-137; ITLOS, Rules of the Tribunal, Article 133 (1) and (3).

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Disordered Legal Pluralism and Legal Security in Internationally Shared Fisheries

*Mercedes Rosello**

1. Introduction

Attaining human security in fisheries is an important objective that international law has so far failed to conquer. Internationally shared fisheries can generate particularly challenging scenarios for human security, hosting a wide range of stakeholders that range from the powerful to the very vulnerable. To illustrate the discussion with an example, in West Africa industrial vessels have historically captured a significant proportion of stocks that are shared with local artisanal and subsistence fishers.[1] Foreign fleets have operated under various forms of agreement with different coastal States in the region,[2] but have also been accused

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1. Nathan J. Bennett et al, 'Environmental (in)justice in the Anthropocene Ocean' (2023) 147 Marine Policy, 105383, Section 2.5.

2. Mi-Ling Li et al, 'Tracking industrial fishing activities in African waters from space' (2021) 22(4) Fish and Fisheries 851, 856.

of engaging in illegal and/or unreported fishing operations there.[3] Some shared stocks such as small pelagic species like sardines, mackerels, and sardinellas have an important role in providing food and work security to human populations in the region.[4] The abundance of these stocks is impacted by unsustainable fishing as well as other factors such as climate change and increasing trade pressures.[5] Access to these shared fisheries by large foreign vessels in some African States has generated tensions with small scale artisanal fishers which at times have led to violence.[6] Some practices have caused disruption of subsistence fishing with acutely detrimental outcomes for coastal communities.[7] West African States have ratified international agreements and established domestic laws for the regulation of fishing activities, including provisions for overseeing the access and operations of foreign vessels to such fisheries.[8] Nevertheless, these developments have not been sufficient to stem the problem of overexploitation in the region, where human insecurity endures.[9]

To address threats to human security through law in the context of internationally shared fisheries in which vulnerable stakeholders are pres-

3. Dyhia Belhabib and others, 'Euros vs. Yuan: Comparing European and Chinese Fishing Access in West Africa' (2015) 10 PLOS ONE e0118351; Edmund C. Merem et al, 'Analyzing the tragedy of illegal fishing on the West African coastal region.' (2019) 9(1) International Journal of Food Science and Nutrition Engineering 1-15, 9.

4. Pierre Failler, 'Climate Variability and Food Security in Africa: The Case of Small Pelagic Fish in West Africa' (2014) 2(2) Journal of Fisheries & Livestock Production, 2-4.

5. ibid.

6. Environmental Justice Foundation, 'Pirate Fishing Exposed: The Fight Against Illegal Fishing in West Africa and the EU' (EJF, 2012) 11.

7. Environmental Justice Foundation and Hen Mpoano, 'Issue Brief: The problem with 'Saiko', an Environmental and Human Catastrophe' (EJF and HM, 2018) 1.

8. Tafsir M. Ndiaye, 'Illegal, Unreported and Unregulated Fishing: Responses in General and in West Africa' (2011) Chinese Journal of International Law 373, 379, quoting Réne-Jean Dupuy, L'Ocean Partagé (Pédone, Paris, 1979) 397-398.

9. Belhabib, Sumaila and Pauly (n 3) 72.

ent is not straightforward. In this article, legal instruments and academic literature are scoped in order to unearth possible legal causes of human insecurity in those fisheries contexts, and possible avenues to understand and address them. Part 2 sets out a dual understanding of human security spanning subsistence and safety dimensions, which together coalesce to support human dignity. Part 3 identifies and discusses different international legal and voluntary instruments that are relevant to the protection of human security in fishing, placing a particular focus on its subsistence dimension. It also explains the role of human rights in the security of the most vulnerable fishery stakeholders, and highlights the complexity that multiple international legal instruments can introduce in the context of a fishery.

Considering recent international law and governance research, Part 4 reviews existing literature and discusses how interpretive and implementation silos can result in a less than satisfactory outcome for the legal regulation of fishing activities. Such silos can generate a 'disordered' legal pluralism, particularly once rules from different national origins constellate to regulate different stakeholder activities in internationally shared fisheries, risking incoherence and asymmetries in rights and obligations, and ineffectual regulatory outcomes. This discussion illustrates the desirability of engaging in detailed analysis into and across the different domestic legal rule bundles that constellate to regulate stakeholder activities in internationally shared fisheries, with the aim of producing insight into specific features of legal disorder. In Part 5, a legal security approach is identified as possessing suitable features to guide such a task. This part sets out the principal formal and substantive characteristics of legal security, outlining its synergies with human rights approaches, and its core features of being antithetic to normative chaos and protective of individual rights. The article concludes with a reflection on disordered pluralism and legal insecurity and their relevance for the protection of human security in fisheries contexts.

2. Human Insecurity in Internationally Shared Fisheries

The objective of attaining sustainability in marine fisheries is important to maintain the health and productivity of the ocean.[10] International fisheries law (IFL) provides the normative foundation for attaining those ends.[11] Its aim is regulating the conservation and sustainable management of wild marine stocks that cannot be undertaken by a single State due to their transboundary nature.[12] However, IFL has not been effective in this quest.[13] According to recent estimates by the UN Food and Agriculture Organization (FAO), stocks fished unsustainably have increased from 10% in the mid-1970s to 34.2% in 2019.[14] Fishing activity requires adequate regulation because it directly contributes to the removal of marine species,[15] and if carried out destructively or excessively it can be a stressor of the marine ecosystems that sustain stocks.[16] Fishing activ-

10. Food and Agriculture Organization (FAO), 'State of World Fisheries and Aquaculture' (Rome 2022), xvii [FAO]; UN, 'Second World Ocean Assessment', Volume I, 32 [WOC Vol. I]. Increasingly, there is also a need to consider the detrimental effects of climate change on vulnerable stocks and populations as part of the management of stocks and the regulation of fishing operations: See IPCC, 'Synthesis Report: Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change' (2014).

11. FAO ibid. 93-95.

12. Robin Allen, James Joseph, and Dale Squires, *Transnational Tuna Fisheries* (Blackwell, 2010) 3.

13. Mialy Andriamahefazafy et al, 'Sustainable development goal 14: To what degree have we achieved the 2020 targets for our oceans?' (2022) 227 Ocean and Coastal Management 106273.

14. FAO, State of World Fisheries and Aquaculture' (Rome 2022), 46.

15. Jeremy B. C. Jackson et al, 'Historical Overfishing and the Recent Collapse of Coastal Ecosystems' (2001) 293(5530) Science 629-637; Boris Worm et al, 'Global Patterns of Predator diversity in the Open Oceans' (2005) 309(5739) Science 1365-1369; Cecilia M. Holmlund and Monica Hammer, 'Ecosystem services generated by fish populations' 1999 (29) Ecological Economics 253, 254.

16. David Malakoff D, 'Extinction on the high seas' (1997) 277 Science 486.

ities that are undertaken without being subject to any kind of regulation, and those that breach laws established to manage fishing activity, are inconsistent with international legal obligations, or otherwise undermine international fisheries management measures, are usually referred to as illegal, unreported and unregulated or 'IUU' fishing. While not always the only cause of unsustainable fishing, IUU fishing can undermine efforts by regulators, industry, and third parties to ensure effective conservation and management of marine stocks.[17] IUU fishing can be complex in its characteristics and is acknowledged to be a persistent obstacle to attaining sustainability in fishery management.[18] The aim of combatting unsustainable and IUU fishing activities has long been endorsed by the United Nations (UN),[19] and is increasingly linked to the safeguarding of human security.[20]

However, defining human security is not straightforward.[21] Historically, security has been a concept tied to the State, but the 1994 Global Development Report of the United Nations Development Programme (UNDP) marked a shift towards an increasing policy focus on the security of human life. It disengaged security from an exclusive association to the threat of war and tied it to a broader spectrum of threats and risks spanning across political and socio-economic contexts, with a focus on

17. FAO and IMO, Third Session of the Joint FAO/IMO *Ad Hoc Working Group on Illegal, Unreported and Unregulated Fishing and Related Matters* (2015) 3. Available at <https://www.fao.org/3/i5736e/i5736e.pdf> accessed 31 December 2022.

18. FAO, 'Report of the Third Meeting of the Regional Working Group on Illegal, Unreported and Unregulated (IUU) Fishing' (2019) 8-19, 22.

19. UN Sustainable Development Goal 14: Conserve and sustainably use the oceans, seas and marine resources. Available at <https://www.un.org/sustainabledevelopment/oceans/> accessed 31 December 2022.

20. FAO (n 14) 93-95.

21. It is a contested concept that can be interpreted and valued differently depending on disciplinary boundaries. For a broad overview, see Gerd Oberleitner, 'Human Security and Human Rights' (2002) 8 ETC Human Rights and Democracy Occasional Paper Series 1, 3.

the individual.[22] Human security conceived in this way extends to include the requirement that States should not just protect the security of the human beings over whom they have jurisdiction from external aggression, but also cater for 'an environment within the State which allows for the well-being and safety of the population'.[23] The UNDP Report attributed two dimensions to human security, namely 'safety from such chronic threats as hunger, disease and repression', and 'protection from sudden and hurtful disruptions in the patterns of daily life – whether in homes, jobs or in communities.' It further considered that those threats 'can exist at all levels of national income and development.'[24] Fukuda-Parr and Messineo have usefully summarised human security as including freedom from fear as well as freedom from want.[25] In the ocean domain, human insecurity associated to fishing and other marine and maritime operations preserves that dual quality.[26] Each dimension alone and in combination in turn can pose a threat to human dignity.[27]

Unsustainable fishing is acknowledged to be a cause of human insecurity due to the serious impacts of depleting resources upon which human beings and their communities depend for survival through food and work.[28] The need to attain and maintaining sustainability is therefore syn-

22. Emma Rothschild, 'What is Security?' (1995) 124 (3) Daedalus 53, 56.

23. In this regard, human security has a broader meaning that personal security as recognised in Article 3 of the Universal Declaration of Human Rights. See Oberleitner (n 21) 10, 15-16.

24. United Nations Development Programme, *Human Development Report 1994* (Oxford University Press, 1994) 23.

25. Sakiko Fukuda-Parr and Carol Messineo, 'Human Security: a critical review of the literature' (2012) CRPD Working Paper No. 11, 3.

26. Christian Bueger and Timothy Edmunds, 'Blue crime: Conceptualising transnational organised crime at sea' (2020) 119 *Marine Policy* 104067.

27. UN Human Security Unit, 'Framework for Cooperation for the system-wide application of Human Security (2015) 1-15, 2.

28. Elizabeth R. DeSombre, 'The Security Implications of Fisheries' (2019) 95 International Affairs 1019, 1033. Tim McClanahan, Edward H. Allison and Joshua E. Cinner, 'Managing Fisheries for Human and Food Security' (2015) 16 *Fish and Fisheries* 78, 85.

ergetic with human security in its 'freedom from hunger' dimension. Additionally, some aspects of fishing operations can occur in ways that pose a threat to human security in its 'freedom from fear' dimension.[29] Fishing crews can experience fear through threats to safety from piracy and other violent crimes.[30] Extreme labour practices in fisheries can also be a source of fear.[31] De Sombre refers to scenarios involving crewing fraud, abandonment on board of vessels, unjust and often brutal working practices, and severe deprivation, often derived from steep economic pressures.[32] Safety concerns are unfortunately extensive in the fishing industry: a recent report denounces a staggeringly high mortality level, which could be in the region of 100,000 per year.[33] Causes involve dangerous working practices stemming from various and often interconnected causes: illegality and secrecy, at times protected by corruption, intense and often unjust competition over dwindling resources, poverty and desperation, the impacts of conflict, and the ravaging effects of environmental degradation.[34]

Just as insecurity is complex, so are the stakeholders that partake of internationally shared fisheries, and so are the possible threats to their security: Smaller companies and individual fishers are ubiquitous in marine fisheries, and can potentially be exposed to many of the threats described

29. Eve De Coning, *Transnational organized crime in the fishing industry: Trafficking in persons, smuggling of migrants, illicit drugs trafficking* (United Nations Office on Drugs and Crime, 2011) 140; Patrick Vrancken, Emma Witbooi, Jan Glazewski, 'Introduction and overview: Transnational organised fisheries crime' (2019) 105 *Marine Policy* 116, 116.

30. See in respect of vulnerability to piracy: <https://www.reuters.com/article/us-somalia-pirates-incidents-factbox-idUSTRE59Q1LE20091027> accessed 31 December 2022.

31. In the broader maritime security context, see Christian Bueger, 'What Is Maritime Security?' (2015) 53 *Marine Policy* 159, 161. See also Ioannis Chapsos, 'Is Maritime Security a Traditional Security Challenge?' in Anthony J Masys (ed), *Exploring the Security Landscape: Non-Traditional Security Challenges* (Springer International Publishing 2016) 59.

32. De Sombre (n 28) 1033.

33. Fish Safety Foundation, 'Triggering Death: Quantifying the True Human Cost of Global Fishing' (2022) 32-34.

34. ibid. 42, 45, 73, 77, 92; summary at 166.

in the previous section.[35] Large transnational corporations are capable of having significant impact on the availability of marine living resources,[36] but the crews on board of their fishing vessels are not exempt from threats to their security.[37] Hence, diverse actors of mixed sizes, capacities and influence can assemble around specific fisheries in heterogeneous human security scenarios. Such multiple fishing actors often coexist while operating separately from each other in operational, epistemic, and regulatory silos.[38] While actors share a fishery, they can inflict as well as suffer a range of impacts directly and indirectly on the stock and on each other.[39] The smaller scale fishers are likely to be in a situation of increased vulnerability due to their dependency on the resource and lower resilience capacity.[40]

3. Legal Complexity

The governance of the fishing activities that converge upon an internationally shared fishery requires cooperation and coordination efforts by State authorities, as well as bringing together different regulatory

35. Including to the unintended consequences of policy decisions. See Andrew M. Song et al, 'Collateral Damage? Small-Scale Fisheries in the Global Fight against IUU Fishing' (2020) 21 *Fish and Fisheries* 831-834.

36. Henrik Österblom et al, 'Transnational Corporations as 'Keystone Actors' in Marine Ecosystems' (2015) *PlosOne*. Available at <https://doi.org/10.1371/journal.pone.0127533> accessed 31 December 2022.

37. Bueger (n 31) 161; for examples in fisheries, see EJF (n 6) (n 7), DeSombre (n 28), De Coning (n 29).

38. Bennett (n 1).

39. Bueger (n 31) 161.

40. Dyhia Belhabib, U. Rashid Sumaila and Daniel Pauly D, 'Feeding the poor: contribution of West African fisheries to employment and food security' (2023) 111 *Ocean & Coastal Management* 72, 72.

instruments and arrangements domestically and internationally. Effectiveness can be enhanced by cross-institutional cooperation initiatives,[41] and mixed public and private actor responses to perceived wrongdoing, which are no longer the exclusive domain of States.[42] Often formed in support of States with limited capacity and resources,[43] such assemblages can strengthen responses to insecurity risks, but also have the potential to add legal and jurisdictional complexity.[44] International cooperation is often organised around legal commitments established by international agreement.[45] Multiple international agreements are relevant to human security in fishing operations.

Firstly, IFL is integrated by a host of global, regional and bilateral agreements articulated around the United Nations Convention on Law of the Sea (the Convention, or LOSC).[46] Key global fisheries agreements

41. Juan L. Suarez de Vivero, Juan C. Rodriguez Mateos and D. Florido del Corral, 'The paradox of public participation in fisheries governance. The number of actors and the devolution process' (2008) 32(3) *Marine Policy* 319, 324.

42. Jade Lindley and Erika Techera, 'Controlling IUU Fishing through Problem-Oriented Policing' in Saskia Hufnagel and Anton Moiseienko (eds.) *Policing Transnational Crime: Law Enforcement of Criminal Flows* (Routledge, 2020) 51. More broadly, see Carolin Liss, 'New Actors and the State: Addressing Maritime Security Threats in Southeast Asia' (2013) 35 Contemporary Southeast Asia: A Journal of International and Strategic Affairs, 141–155; Brendan Flynn, 'Non-state and Hybrid Actorness at Sea: From Narco-Subs to Drone Patrols' in *Routledge Handbook of Maritime Security* (Routledge, 2022) 287-298.

43. Carolin Liss, 'Non-state Actors in the Maritime Domain: Non-state Responses to Maritime Security Challenges' in Lisa Otto (ed) *Global Challenges in Maritime Security. Advanced Sciences and Technologies for Security Applications* (Springer, 2020) 215.

44. See for example, the three-week detention of crew on board of the Spanish long-liner Alemar Primero by Gabonese officials and a Sea Shepherd Crew over a suspected breach of authorisation conditions and of applicable European Union law in waters of Sao Tome and Principe. Available at <https://www.iuuwatch.eu/2017/09/fish-cash-batter-eu-robs-africa-seafood/> accessed 31 December 2022. For a more general analysis of the issue, see Liss (n 43) 225.

45. Ndiaye (n 8) 387.

46. United Nations Convention on the Law of the Sea (Montego Bay, adopted 10 December 1982, entered into force 16 November 1994) 1833 *UNTS* 396.

are the 1993 FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, 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 the 2009 Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing.[47] Numerous regional treaties have also been adopted in order to constitute organisations with scientific assessment, data collection, and stock allocation and other competences relevant to fishery management. Amongst these bodies, Regional Fisheries Management Organisations (RFMOs) are responsible for adopting rules, processes, and technical and allocation measures, some of which are relevant to the food security of developing States and the protection of artisanal and subsistence fishers.[48] Several voluntary instruments have been elaborated by the FAO in order to promote fisheries conservation and to combat IUU fishing.[49] Broadly speaking, IFL is concerned with the regu-

47. In particular, see Articles 24 and 25 of 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 (UNFSA).

48. Michael W. Lodge et al, *Recommended Best Practices for Regional Fisheries Management Organizations: Report of an independent panel to develop a model for improved governance by Regional Fisheries Management Organizations* (Chatham House, 2007) 96.

49. See the FAO Code of Conduct for Responsible Fisheries. Available at <https://www.fao.org/iuu-fishing/international-framework/code-of-conduct-for-responsible-fisheries/en/> accessed 31 December 2022; FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported, and Unregulated Fishing <https://www.fao.org/iuu-fishing/international-framework/ipoa-iuu/en/> accessed 31 December 2022; FAO Voluntary Guidelines for Flag State Performance <https://www.fao.org/iuu-fishing/international-framework/voluntary-guidelines-for-flag-state-performance/en/> and FAO Voluntary Guidelines on the Responsible Governance of Tenure of Land, Forests and Fisheries in the Context of National Food Security <https://www.fao.org/3/i2801e/i2801e.pdf> accessed 31 December 2022.

lation of marine capture fishing activities and the conservation and management of marine living resources, and therefore predominantly relates to the freedom from want dimension of human security.[50]

The second dimension of human security, namely freedom from fear, relates more closely to the protection of individuals who work in the fishing sector, whether on board of a vessel or in support of fishing operations, and by extension to the regulation of employment, training, and operating practices with a view to ensuring human safety. As Lindley and Techera discuss in the context of IUU fishing control, multiple treaties converge for the regulation of these activities.[51] These include the 2007 International Labour Organization (ILO) Work in Fishing Convention No. 188, the 2012 International Maritime Organization (IMO) Cape Town Agreement on the Implementation of the Provisions of the 1993 Protocol relating to the Torremolinos International Convention for the Safety of Fishing Vessels, and the 2012 IMO Convention on Standards of Training, Certification and Watch-keeping for Fishing Vessel Personnel. In addition, the 2000 United Nations Convention against Transnational Organized Crime and its protocols,[52] are relevant to the growing problem of human trafficking on board of fishing vessels.[53] All these treaties are important for safety aspects of human security, and the safeguarding of human beings from dangerous working practices, the impacts of crime, or unsafe fishing vessel structures, which are areas that IFL does not fully extend to. Insofar as they apply to marine fisheries contexts,

50. Valentin J. Schatz, and A.N. Honniball, 'International Fisheries Law' (2020) Oxford Bibliographies < https://www.oxfordbibliographies.com/display/document/obo-9780199796953/obo-9780199796953-0196.xml> accessed 31 December 2022.

51. Lindley and Techera (n 42) 73.

52. Especially the Protocol against the Smuggling of Migrants by Land, Sea and Air.

53. See Joan P. Mileski, Cassia Bomer Galvao, and Zaida Denise Forester, 'Human trafficking in the commercial fishing industry: A multiple case study analysis' (2020) 116 Marine Policy 103616.

those agreements also operate under the framework of the LOSC, which set outs the jurisdictional blueprint that State parties must abide by.[54]

The rules that emanate from those instruments can be adopted, implemented, and enforced differently by States depending on their respective jurisdiction. The LOSC establishes zonal jurisdictional demarcations and related cooperation mechanisms. A key jurisdictional divide for the purposes of governing fishing operations concerns the Exclusive Economic Zone (EEZ), where flag States and coastal States play distinct roles. According to Article 92 of the Convention, a flag State has exclusive jurisdiction over the vessels it registers and regulates in the high seas, but the rules of jurisdiction are different in the EEZ: Under Article 56(1)(a) of the Convention, in the EEZ, which measures 200 nautical miles from the baseline, coastal States have 'sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil'.[55] The EEZs of the world are the marine areas where most marine living resources occur.[56] However, as Stephens explains, coastal States 'do not have general sovereignty in these waters, and high seas freedoms (with the exception of fishing) continue to apply'.[57] The implication of this is that the living resources of a fishery situated in the EEZ are subject to the legal prescription and enforcement

54. Shirley V. Scott, 'The LOS Convention as a constitutional regime for the oceans' in Alex G. Oude Elferink (ed.) *Stability and Change in the Law of the Sea: The Role of the LOS Convention* (Brill Nijhoff, 2005) 9.

55. In accordance with Articles 2 and 3 of the Convention 'The sovereignty of a coastal State extends, beyond its land territory and internal waters and, in the case of an archipelagic State, its archipelagic waters, to an adjacent belt of sea, described as the territorial sea', which extend 'up to a limit not exceeding 12 nautical miles, measured from baselines determined in accordance with this Convention'.

56. Ndiaye (n 8) 381.

57. Tim Stephens, 'Global Ocean governance in the Anthropocene: From extractive imaginaries to planetary boundaries?' (2022) Global Policy 1, 3.

protection of the coastal State, as corollary to its international rights and obligations under the Convention for the purposes of conserving and managing the fishery.[58] As specified in Article 62(4) of the Convention, this includes the establishment of management measures, such as setting a total allowable catch and quota, licensing rules, fishing regulations, scientific, and other conservation and management measures. However, the coastal State is obligated by Article 62(2) of the LOSC to give access to surplus resources to vessels flagged to other States if it 'does not have the capacity to harvest the entire allowable catch'. Foreign vessels can thus operate under international access agreements or under individual licensing and/or chartering arrangements with the relevant coastal State.[59]

The coastal State must balance the possible economic benefits that foreign vessel access might bring against other factors. Article 61(3) requires coastal States to *inter alia* have consideration of the economic needs of their coastal communities when they determine the total allowable catch and establish conservation and management measures. Naturally, such measures are to apply to national and foreign vessels operating in the EEZ, as Article 62(4) makes clear. To have consideration for the economic needs of coastal communities when balancing access related priorities and interests implies the need to consider their needs in the context of having to share with other stakeholders fish stocks upon which they may depend as sole source of work, food, and development.[60] As Nakamura,

58. Request for an Advisory Opinion submitted by the Sub-Regional Fisheries Commission, Advisory Opinion, 2 April 2015, ITLOS Reports 2015, p. 4, 34 ¶108 [Advisory Opinion to the SRFC].

59. These are typical arrangements in the West African region. See Vlad M. Kaczynski, 'Coastal Fishing Fleets in the Sub-Saharan West African EEZ' (1989) Marine Policy 1, 3 et seq.

60. Daniela Diz, Elisa Mogera and Meriwether Wilson, 'Sharing the benefits of sustainable fisheries: from global to local legal approaches to marine ecosystem services for poverty alleviation (Science – Policy Analysis)' (2017) 7 *University of Strathclyde Centre for Environmental Law and Governance* 25.

Diz, and Morgera argue, ex-ante impact assessments should be undertaken if the larger stakeholders with which the fishery is to be shared are known to have a detrimental environmental and/or social impact.[61] This is particularly important if the resource is not plentiful.[62] Further, other considerations also apply with regard to the utilisation of the resources, as Article 62(3) indicates that the coastal State shall:

> …take into account all relevant factors, including, *inter alia*, the significance of the living resources of the area to the economy of the coastal State concerned and its other national interests, […] the requirements of developing States in the subregion or region in harvesting part of the surplus and the need to minimize economic dislocation in States whose nationals have habitually fished in the zone or which have made substantial efforts in research and identification of stocks.

This implies an element of discernment in access and allocation decisions on the basis of locality, development, and the flag State's relationship with the coastal State in fisheries matters and contribution made to the coastal State's fisheries knowledge.

In the EEZ, flag States must have due regard for the rights as well as the obligations of coastal States,[63] which as explained are principally concerned with living resource management. This due regard obligation is significant not only for flag States to support the coastal State in matters involving compliance and enforcement of the coastal State's own fisheries laws: arguably, it is also important for overseeing fishing conduct under rules established by the flag State itself, insofar as they are addi-

61. Julia Nakamura, Daniela Diz and Elisa Morgera, 'International legal requirements for environmental and sociocultural assessments for large-scale industrial fisheries' (2022) 31 Review of European, Comparative, and International Environmental Law 331, 331.

62. See Failler (n 4) 2.

63. Richard Barnes, 'Flag States', in Donald Rothwell et al (eds.) *The Oxford Handbook on the Law of the Sea* (Oxford, Oxford University Press, 2015) 317, 211-212.

tional to and compatible with those established by the coastal State.[64] Further, flag States remain responsible for the operational standards set out in Article 94(5) of the Convention, which refers broadly to administrative, technical, and social matters as they may take place on board of the fishing vessel.[65] Hence, many scenarios of risk that are relevant to human security directly fall under the umbrella of flag State jurisdiction in accordance with LOSC Article 94 irrespective of vessel location. The resulting jurisdictional landscape may not always be characterised by clarity, and might instead be prone to overlaps, authority avoidance, friction and potentially detrimental results for human security.[66]

In this scenario of legal complexity, special attention should be paid to the legal protections of the most vulnerable fishery actors.[67] In particular, smaller scale subsistence fishers are less resilient to human security threats as well as being under-represented in the decision-making processes leading to stock access and other management decisions and measures, which can perpetuate situations of comparative disadvantage.[68] Legitimacy questions are relevant too where impacted coastal communities lack representation, leading to discrepancies between the need to secure access to food, work, and development, and policy priorities.[69] These

64. For example, European Union shark finning restrictions apply to European Union vessels even in the EEZ of coastal States with no such restrictions. For commentary of shark finning legislation in the European Union and a brief overview of other frameworks, see Annamaria Passantino, 'The EU shark finning ban at the beginning of the new millennium: the legal framework' (2013) 71(3) ICES Journal of Marine Science 429-434.

65. Ndiaye (n 8) 397-398.

66. In a broader context, see Vassilis P. Tzevelekos, 'Human Security and Shared Responsibility to Fight Transnational Crimes: Resolution 2240 (2015) of the United Nations Security Council on Smuggling of Migrants and Human Trafficking off the Coast of Libya' in Stefan Salomon, Lisa Heschl, Gert Oberleitner and Wolfgang Benedek (eds.) *Blurring Boundaries: Human Security and Forced Migration* (Brill, 2017) 99, 92.

67. Diz, Mogera, and Wilson (n 60) 28.

68. See Bennett (n 1) 105383.

69. Diz, Mogera, and Wilson (n 60) 25.

contexts require consideration of impacts not only in an empirical sense, but also legally, to assess erosion of individual rights,[70] including rights of an economic and social character associated with the need to a productive environment and to development.[71] There is a synergetic and mutually reinforcing relationship between human security and those rights, though only the latter have a normative character by virtue of their legal status.[72]

As Diz, Morgera and Wilson advocate, a human rights approach is desirable to secure the nutrition, work availability, and development opportunity of those whose security is affected.[73] The International Covenants on Civil and Political Rights, and on Economic, Social, and Cultural rights are widely ratified instruments.[74] In addition, the FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries (the Guidelines) provides guidance to States on the adoption of human rights approaches in the context of small-scale marine fisheries protection, management, and promotion. It is among the stated objectives of the Guidelines to 'enhance the contribution of small-scale fisheries to global food security and nutrition and to support the progressive realization of the right to adequate food'.[75] They also aim *inter alia* to make a contribution 'to the equitable development of small-scale fishing communities' and to 'poverty eradication' in the context of fishery management.[76] Ad-

70. See Robert J. Hanlon, and Kenneth Christie, *Freedom from Fear, Freedom from Want: An Introduction to Human Security* (University of Toronto Press, 2016) 57.

71. See Oberleitner (n 21) 20.

72. Wolfgang Benedek, 'Human Security and Human Rights Interaction' (2008) 59 International Social Science Journal 7, 14.

73. Diz, Mogera, and Wilson (2017) 25 & 26, footnote 60.

74. Available at <https://www.ohchr.org/en/instruments-listings> accessed 31 December 2022.

75. FAO Guidelines, paragraph 1.1(a).

76. ibid., paragraph 1.1(b).

ditionally, the Guidelines promote the adoption of a human rights based approach in domestic legislation and the participation of small-scale fishing communities in the decision-making processes that affect them and the resources they depend on, particularly in developing countries and in support of marginalised groups.[77]

In summary, when a fishery is situated in the EEZ and is internationally shared by stakeholders of several nationalities, the applicable international norms relating to jurisdiction imply the convergence of domestic legal rules not only from the coastal State, but also as many flag States as there are vessel nationalities in that EEZ at any one time. The implications of this for human security are that the fishery stakeholders' activities will in many cases be regulated differently depending on activity and flag. The extent to which such legislation contains the necessary human security protections is likely to depend on inter alia whether the different States involved have ratified or acceded to a multiplicity of international instruments. As discussed, these transcend the scope of IFL, including agreements touching on employment practices, health and safety, transnational crime, and human rights. Additionally, protections for the smaller and more vulnerable fishery stakeholders might also depend on the extent to which the coastal State has adopted the recommendations in the FAO Guidelines.

4. Disordered Legal Pluralism

Beyond the previously discussed complexities, additional reasons suggest that the analysis of international instruments alone might not be sufficient to comprehensively identify the causes for the failure of IFL in the

77. ibid., paragraph 1.2.

protection of human security. The effectiveness of many international treaties depends not only on their content and scope, or the number of ratifications or accessions, but also on their implementation and its broader effects.[78] Further, international cooperation obligations for the management of transboundary fishing are typically *due diligence* obligations.[79] This is 'an obligation to deploy adequate means, to exercise best possible efforts, to do the utmost' in order toachieve the desired result.[80] Such obligations do not therefore imply the attainment of specific outcomes or standards, permitting States considerable discretion in their implementation. Additionally, insofar as this type of obligations establish duties that domestic authorities must abide by, they are more likely to require implementation in a State's domestic legal system than other types of international obligation.[81] As Verdier and Versteeg indicate, obligations of this nature often require the adoption of domestic legislation to have full effect.[82]

It might be tempting to think that if two States have ratified and implemented the same international agreement, the parts of their domestic legal frameworks resulting from the implementation of that agreement might be similar, or at least compatible and/or complementary. Yet, this

78. Pierre-Hugues Verdier and Mila Versteeg 'International Law in National Legal systems: An Empirical Investigation' (2015) 109(3) *American Journal of International Law* 514, 517, 522.

79. *Advisory Opinion to the SRFC*, ¶ 124.

80. *Responsibilities and obligations of States with respect to activities in the Area*, Advisory Opinion, 1 February 2011, ITLOS Reports 2011, p. 10, ¶ 110.

81. For example, obligations leading to the establishment of international bodies may not require domestic legislation, whereas obligations to issue authorisation or licences, or to close off an area to fishing activity may require such legislation to furnish domestic authorities with the relevant legal powers and establish related obligations on citizens, sanctions where appropriate, etc. See Karen Knop, 'Here and There: International Law in Domestic Courts' (2000) 32 New York University Journal of International Law & Politics 501, 506.

82. Verdier and Versteeg (n 41) 517, 522.

should not be taken for granted. As Knop explains, the domestic legal rules that result from international treaty implementation are the product of a 'process of translation from international to national'.[83] This might result in diverging meanings across States and across institutions within States. According to Roberts, international law is a product of social construction and is processed and understood via the perception of different actors who often interpret and apply it differently across distinct national and sub-national communities, even within the context of the same specialist fields.[84] There is a risk that differences in interpretation and implementation might result in a lack of coherence within and across domestic scenarios. This risk will be enhanced in fishery contexts involving transnational fishing operators. The domestic legal rules that constellate to regulate the conduct of actors in a shared fishery in matters of human security protection, some of which will originate from different States, might set out processes, rights, and obligations that interact poorly with one another, resulting in asymmetries, fragmentation, and ultimately ineffectiveness.

The environmental governance literature is illustrative of problems derived from the unintended consequences of disordered legal outcomes. Several authors have highlighted fragmentation,[85] and qualitative differences in substance and process across relevant legal systems, resulting in what can be termed a 'disordered legal pluralism' across and within

83. See Knop (n 81).

84. Anthea Roberts, *Is international law international?* (Oxford University Press, 2017) 24, 25, 35.

85. In respect of fragmentation in fisheries governance, see Catherine Blanchard, 'Fragmentation in high seas fisheries: Preliminary reflections on a global oceans governance approach' (2017) 84 Marine Policy 327; Mialy Andriamahefazafy et al, 'Sustainable development goal 14: To what degree have we achieved the 2020 targets for our oceans?' (2022) 227 Ocean and Coastal Management 106273. More broadly, see Christian Bueger and Timothy Edmunds, 'Blue Crime: Conceptualising Transnational Organised Crime at Sea' (2020) 119 Marine Policy 104067.

States, which can challenge legal coherence on multiple fronts.[86] Heyvaert warns that regulation derived from global or regional institutions can generate a destabilising influence on the cohesiveness of legal frameworks designed for environmental protection.[87] Such effects range from geographic factors to others linked to thin legitimacy, polycentricity and coordination challenges amongst others.[88] Heyvaert refers to the bundles of legal rules that can converge to govern different aspects of transnational scenarios as 'a patchwork more than a framework'.[89] Further, according to Young, in contexts of environmental protection there are unclear interplays between rules as they interact at different levels, potentially giving rise to incoherent and ineffectual governance practices across the different contexts and communities to which they apply.[90] The regulation of transboundary fishing activity relies on a multiplicity of rules of diverse scope and origin.[91] While it is known that there is fragmentation and that asymmetries within and across domestic legal systems exist in respect of the duties and protections they establish,[92] the specific voids and frictions that result from their interactions with one another are less

86. Maarten Bavinck and Joyeeta Gupta, 'Legal Pluralism in Aquatic Regimes: A Challenge for Governance' (2014) 11 Current Opinion in Environmental Sustainability 78, 81; Joeri Scholtens and Maarten Bavinck, 'Lessons for Legal Pluralism: Investigating the Challenges of Transboundary Fisheries Governance' (2014) 11 Current Opinion in Environmental Sustainability 10, 11.

87. Veerle Heyvaert, 'The Transnationalization of Law: Rethinking Law through Transnational Environmental Regulation' (2017) 6 Transnational Environmental Law 205, 209.

88. ibid., 212.

89. ibid., 220.

90. Oran Young, 'Vertical Interplay among Scale-dependent Environmental and Resource Regimes' (2006) 11 Ecology and Society 27, 28.

91. Henrik Österblom et al., 'Adapting to regional enforcement: fishing down the governance index.' (2010) 5(9) *PloS one* e12832. Available at <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0012832> accessed 31 December 2022.

92. Bavinck and Gupta (n 86) 81; Scholtens and Bavinck (n 86) 11.

well known.[93] Such voids and frictions are likely to increase when the full spectrum of international instruments that are relevant to human security in fisheries is taken into account.

The preceding considerations suggest that cooperation in prescription and enforcement in the regulation of human security in fishing might at least in part fail due the content, scope, and interactions of domestic legal rules. Poorly integrated sets of domestic rules can result from the different interpretation and implementation processes that individual sovereign States follow in their respective ratifications or accessions of international agreements.[94] Martin refers to States as being able to 'interpret and implement their commitments across all sectors in an endless variety of ways'.[95] Such result may not necessarily involve infringement of international obligations,[96] but where it occurs it might foster a less than optimum outcome for the regulation of fishing operations,[97] particularly given the interactions and interdependencies previously discussed. Hence disordered legal pluralism has the potential to produce a legal landscape that is opaque, fragmented, incoherent, and ineffectual.[98]

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93. However, a lack of coordination across domestic fishery policies is an acknowledged problem that the FAO has tried to address via the utilisation of national plans of action in the context of IUU fishing control. The FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing addresses this issue in paragraphs 25 to 27.

94. Josh Martin, 'A Transnational Law of the Sea' (2021) 21(2) Chicago Journal of International Law 419, 435 *et seq.*

95. ibid., 438.

96. At least in part this result is acknowledged to be related to complexity and domestic implementation difficulties. See, for example, Jenny Cheatle, 'Overview of Procedures to Assess Compliance in ICCAT' (undated)- Available at <https://www.iattc.org/GetAttachment/cf71b4b4-d462-45a6-a378-002219581380/Overview%20of%20procedures%20to%20assess%20compliance%20in%20ICCAT> accessed 31 December 2022.

97. For a broader analysis on jurisdictional silos, see Yoshifumi Tanaka, 'Zonal and integrated management approaches to ocean governance: reflections on a dual approach in international law of the sea' (2004) 19(4) International Journal of Marine and Coastal Law 483-514.

98. See Scholtens and Bavinck (n 86) 10, 11.

In fisheries contexts, a lack of transparency and precision in respect of authorisations and permits and their associated conditions and duties, such as notification of catches, discards, and landings, can have detrimental results for stocks as well as the security of crews.[99] These are important factors not only for ascertaining the legality and sustainability of operations or evaluating the equity of access decisions, but also for avoiding unnecessary tensions related to jurisdiction and enforcement. Moreover, if a fishery supports different stakeholders, the externalisation of losses by one stakeholder is borne by another.[100] Individual protections, rights and obligations, across stakeholders might be asymmetrical, raising the possibility that those most exposed to human security threats might also be the most lacking in basic legal protections. It follows that regulatory silos should be avoided in favour of an approach that is coherent to the fishery and its stakeholders.

These issues invite reflection on the failing fortunes of international law in respect of fisheries sustainability and related human security erosions.

While prominent international narratives often point at flaws and gaps in individual treaties, or at failures in the implementation of international obligations by States as a root cause for ineffectiveness,[101] these insights might not offer a comprehensive explanation of the reasons for

99. See footnote 44 regarding the case of the longliner *Alemar Primero*, which was detained in Sao Tome & Principe as a direct result of confusion in respect of fishing authorisations and permits involving shark fishing, and evidence of on board shark carcasses separated from fins prohibited by European Union law.

100. See Martin (n 94) 445.

101. See WOC Vol. I (n 10) 23.

102. See WOC Vol. I (n 10) 23.

failure.[102] The material set out in the previous paragraphs suggests that disordered legal pluralism might also be preventing effectiveness. Hence, insight into the features and interactions of the domestic rule assemblages that constellate across shared fisheries appears desirable to fully scope possible causes of legal ineffectiveness.

An approach based on domestic as well as comparative exploration across specific domestic legal rules as they constellate around the fishery is compatible with the UN Framework for Cooperation for the system-wide application of Human Security (the Framework) and its recommendations.[103] The Framework is rooted in UN General Assembly Resolution 66/290, according to which a common understanding of human security embraces the right of human beings, especially the most vulnerable, to live with dignity and free from want and fear, and enjoy an equal opportunity to develop their human potential. Apart from having human beings at its heart, the Framework also calls for approaches that are comprehensive, context-specific, and prevention-oriented. It also recognises multiple interlinkages across peace and development, and across civil, political, social, economic and cultural rights. It recognises that multiple institutional collaborations are required nationally and internationally to avoid policy silos and acknowledges States as the principal actors with responsibility for ensuring the human security of their

102. Additional anecdotal examples can be offered to illustrate how the intricacies of the legal and jurisdictional rules that govern transboundary fishing can undermine the effectiveness of legal frameworks. See firstly the recent complaints over court instruction time and ensuing delays following *Operacion Tarantelos* in Spain, which involved a sting on unauthorised bluefin tuna farming in Malta: https://www-moncloa-com.cdn.ampproject.org/c/s/www.moncloa.com/2022/07/28/atun-rojo-audiencia-nacional-pesca-ilegal-1539897/amp/ . See also the failure to prosecute a Chinese vessel after at sea arrest in Uruguay over confusion surrounding the facts and their legal significance: https://www-elpais-com-uy.cdn.ampproject.org/c/s/www.elpais.com.uy/amp/informacion/judiciales/fiscal-archivo-caso-buque-chino-entendio-hubo-pesca-ilegal-desacato.html.

103. UN Human Security Unit (2015) (n 27) 1.

citizens. A key aim of this approach is to strengthen the protection and empowerment of human beings. Part of its function is analytical: 'to uncover the various factors that impede those who are most vulnerable (…) from accessing essential public services and economic opportunities. Subsequently, services can be tailored to meet the specific needs of these groups.'[104]

The integrative approach that characterises the Framework resonates with the direction followed by many legal scholars interested in identifying, tracing and comparing the features of legal frameworks as they apply to transnational conduct regulation scenarios. For example, Scott explains that many scholars opt for an inclusive legal pluralism that incorporates non-legal rules that possess conduct regulating force.[105] Yet, transcending legal fragmentation via inclusive approaches that integrate non-legal rules risks missing legal accountability voids and complexity barriers. Legal accountability should remain a part of any approach aiming to reinforce the protection and empowerment of individuals vis-à-vis decisions of State authorities that have the potential to undermine their security. Further, situations of disordered pluralism call for analysis of the disordered features to shed clarity before integrative exercises are undertaken. However, to the extent that disordered pluralism is a systemic problem, analysis requires a suitable guiding tool to identify and remedy potential issues of fragmentation and incoherence within and across legal fields and systems. To meet these demands, a legal security approach could prove useful.

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104. ibid., 6.

105. Craig Scott, 'Transnational Law as Proto-Concept: Three Conceptions' (2009) Research Report No. 32/2009, Osgood Hall Law School of York University, p. 865 et seq. This approach is also supported by Zumbansen. See Peer C. Zumbansen, 'Transnational Law: Theories and Applications' in Peer C. Zumbansen (ed.) *The Oxford Handbook of Transnational Law* (Oxford University Press, 2021) 3.

5. The Legal Security Lens

Legal security is both a concept and a legal principle with two complementary dimensions: subjectively, it interprets and constrains the exercise of public authority from the perspective of individual rights, and objectively it requires the legal architecture to be systemically coherent.[106] It is associated with the aim of securing for human beings a level of certainty in and accessibility to individual rights and obligations, so as to allow some critically important aspects of life to unfold without disruption from detrimental intervention by public authorities.[107] It supports the articulation of clear and coherent legal rules in areas of civil and especially economic life that are mediated by public authority, safeguarding the credibility of the law and predictability of its application.[108] Systemic considerations refer to epistemology and coherence of legal rules and processes within the domestic legal architecture,[109] meaning legal security is antithetic to normative chaos.[110] An implication of this imperative for systematicity and accessibility is that decision-making by public authority must be transpar-

106. Gregorio Peces-Barba Martínez, 'Legal Security from the Point of View of the Philosophy of Law' (1995) 8 *Ratio Juris* 127, 132, 136, 139; Biruté Pranevičienė and Kristina Mikalauskaitė-Šostakienė, 'Guarantee of Principles of Legitimate Expectations, Legal Certainty and Legal Security in the Territorial Planning Process' (2012) 19 Jurisprudencija 643, 647; Åke Frandberg, *From Rechtsstaat to Universal Law-State: An Essay in Philosophical Jurisprudence* (Springer, 2014) p. 143. Ivaylova CB, 'Legal Security as a Principle in Law Making' (2017) 2(14) Globalization, the State and the Individual 23, 24, 27.

107. Frandberg, ibid. See also Arghyrios A. Fatouros, 'The Quest for Legal Security of Foreign Investments - Latest Developments' (1963) 17 Rutgers Law Review 257-304; RJ Greenwald, 'Problems of Legal Security of the World Hard Minerals Industry in the International Ocean' (1971) 4 Natural Resources Law 639-645.

108. Anne-Julie Kerhuel and Arnauld Raynouard, 'Measuring the Law: Legal Certainty as a Watermark' (2010) 8 *International Journal of Disclosure and Governance* 4, 17, 18, 20.

109. Cherneva Boyka Ivaylova, 'Legal Security as a Principle in Law Making' (2017) 2(14) Globalization, the State and the Individual 23, 27.

110. Peces-Barba Martinez (n 106) 137, 139.

ently justified by reference to legal rules and principles, preventing arbitrariness.[111] Hence, legal security is fundamentally tied to the rule of law.

Legal security is not only a conceptual and methodological approach: it has been enshrined as a constitutional principle that is present in numerous domestic legal systems, especially in Europe.[112] It promotes an open and mature legal order as a public good upon which human beings can rely for the understanding and actioning of their legally recognised rights and freedoms.[113] For example, where domestic law recognises a right to participate in economic life, this includes the non-encroachment of that right by public measures to protect the individual's ability to access and rely on the legal rules, and anticipate decisions that are consistent with them in matters related to tenure or access to resources. These features make legal security an instrument of interest for legal analysis in internationally shared fishery scenarios, given the previously discussed context of disordered legal pluralism. Such approach is also compatible with the broad features of the UN Framework, and synergetic with human rights approaches to natural resource regulation.[114] The lens can

111. ibid., 224-228.

112. Orlando Mejía-Herrera, 'El principio general de la seguridad jurídica en la jurisprudencia comunitaria europea: un punto de referencia para los tribunales latinoamericanos' (2012) 2 Boletín Electrónico sobre Integración Regional del CIPEI. Available at: <https://intranet.eulacfoundation.org/es/system/files/El%20PRINCIPIO%20GENERAL%20DE%20LA%20SEGURIDAD%20JUR%C3%8DDICA%20EN%20LA%20JURISPRUDENCIA%20COMUNITARIA%20EUROOPEA..pdf> accessed 31 December 2022; Stanley L. Paulson, 'Radbruch on Unjust Laws: Competing Earlier and Later Views?' (1995) 15(3) Oxford Journal of Legal Studies 489, 495.

113. Kerhuel and Raynouard (n 108) 11, 17.

114. In particular, Principles 7, 8, and 9 of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries exhort the adoption of rules-based approaches underpinned by independent adjudication, the publication of clearly defined laws, policies, and decisions in accessible formats and languages, and upholding the rule of law as the basis for accountability. For further insight on the human rights dimensions of the Guidelines, see Nakamura, Diz, and Morgera (n 61) 331.

help highlight legal voids related to human security concerns, such as the absence or asymmetry in protected rights, or the presence of competing rights or administrative barriers to the exercise of such right. If used comparatively, it can also support the identification and analysis of asymmetries and discontinuities in individual obligations as they apply to different stakeholders in the shared fishery. In turn, this has the potential of producing knowledge on the effect of legal silos and other flaws. This knowledge can be used to provide a basis for legal development towards a regulatory approach that is coherent with the requirements of the fishery and attuned to human security needs.

6. Conclusion

The background and discussion previously set out invite reflection on the reasons for the failing fortunes of international law in securing sustainable exploitation of fishery resources essential for human subsistence and other human security concerns. Prominent international narratives rightly point at the flaws and scope limitations in international treaties, and at failures in the implementation of international obligations by certain States as a root cause for failure. However, they alone might not offer a sufficiently comprehensive explanation. In addition, disordered legal pluralism is likely to also be a factor compromising the effectiveness of IFL and other international law frameworks. It might generate undesirable results including a lack of coherence in legal regulation and leaving vulnerable persons insufficiently protected. As fishing and related activities taking place in internationally shared fisheries often unfold in regulatory silos, legal incoherences and voids might not be obvious unless careful legal analysis of the disordered features is undertaken. Legal security appears well positioned as a perspective to undertake such analysis.

The combination of subjective and systemic features in the legal security approach and its synergetic relationship with human rights and the rule of law make it a desirable lens to evaluate the regulatory landscape of internationally shared fisheries. Used comparatively, it can guide analysis of asymmetries in individual rights and obligations. Overall, it should produce useful knowledge upon which to base specific legal reforms and development, as preparative steps towards more integrative governance approaches.

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115. All internet sources have last been accessed on 31 December 2022.

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I

Leveraging International Fisheries Law for Maritime Security in the Anthropocene: Addressing Conflicts in Fisheries

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Abstract

Maritime security is the backbone of the modern blue economy and blue growth initiatives exemplar of the Anthropocene. While the security of coastal and archipelagic States regarding maritime shipping is safeguarded by the law of the sea regime and other legal frameworks, conflicts in fisheries remain poorly regulated by international law. As technological advances increase anthropogenic pressures in fisheries and the ocean, multilateral cooperation between States, directly or through international organisations, has facilitated economic prosperity while attempting to

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address sociocultural and environmental concerns arising from multiple uses of the marine space. These generally positive outcomes have largely come at the expense of volatile and often aggressive interactions between diverse groups in the fisheries sector inter-se and between other sectors. From an international law perspective, this chapter provides an appraisal of the existing international fisheries law that addresses conflicts in fisheries that are currently threatening maritime security, the marine environment, fishers' human rights, and ultimately the socio-economic viability of the fisheries sector. First, we clarify the meaning of such conflicts, and explain their causes and consequences, noting that these conflicts can also be exacerbated by the effects of climate change and have significant detrimental impacts on vulnerable groups within the fisheries sector. We go on to explore how international fisheries law deals with conflict in fisheries, map out applicable approaches to conflict curtailment from this legal domain, and conclude by reiterating the need for further research on other legal regimes that can complement and mutually support international fisheries law, to more effectively address fisheries conflict and promoting maritime security in the Anthropocene.

Keywords: International Fisheries Law, Maritime Security, Conflicts in Fisheries, Anthropocene

1. Introduction

Maritime security is the backbone of the modern blue economy and supports blue growth initiatives. Over the past seventy years, technological advances in marine capture fisheries along with multilateral cooperation between States and international organisations have paved the way for economic growth in marine spaces around the world, fostering market

variety and facilitating consumer comfort. However, these generally positive outcomes which are an exemplar of the Anthropocene[1] – the theme of this Yearbook's volume – have largely come at the expense of volatile and often aggressive interactions between diverse groups in the fisheries sector. Abhorrent scenes of violence between users of maritime space sporadically flash across media platforms,[2] providing a glimpse of the brutality in these largely veiled occurrences.

Like all conflicts, fisheries quarrels have serious consequences for national security and sustainability, impacting trade, economic growth, diplomatic trust, food security, environmental health, and livelihoods.[3] For coastal communities across the globe, especially in the global south, these conflictual interactions have more impactful negative consequences on the prosperity and effectiveness of their fishing activities.[4] The impacts, under a criminological lens, are also staggering. With a conservative methodology, Devlin and others identified that between 1990 and

1. Shankar Sswani, Xavier Asurto, Sebastian Ferse, Marian Glaser, Lisa Campbell, Joshua E Cinner, Tracey Dalton, Lekelia D. Jenkins, Marc L. Miller, Richard Pollnac, Ismael Vaccaro, Patrick Christie, 'Marine resource management and conservation in the Anthropocene' *Environmental Conservation* 45 (2018) 192–202.

2. Helen Wieffering 'Fights over illegal fishing leads to armed conflicts, death' *Associated Press* (31 March 2022). Available at <https://apnews.com/article/business-environment-middle-east-fish-only-on-ap-88e59a1748ba76fdc5847cc7a44e3fa6> accessed 31 December 2022.

3. Carolyn DuBois and Christos Zografos, 'Conflicts at Sea between Artisanal and Industrial Fishers: Inter-Sectoral Interactions and Dispute Resolution in Senegal' (2012) 36 Marine Policy 1211; Lol I. Dahlet, Amber Himes-Cornell and Rebecca Metzner, 'Fisheries Conflicts as Drivers of Social Transformation' (2021) 53 Current Opinion in Environmental Sustainability 9; Robert Pomeroy, John Parks, Karina L. Mrakovcich, Christopher LaMonica, 'Drivers and Impacts of Fisheries Scarcity, Competition, and Conflict on Maritime Security' (2016) 67 Marine Policy 94.

4. Maarten Bavinck, 'Understanding Fisheries Conflicts in the South - A Legal Pluralist Perspective' (2005) 18 Society and Natural Resources 805; Richard B. Pollnac, 'Cooperation and Conflict between Large- and Small-Scale Fisheries: A Southeast Asian Example' in William W. Taylor, Michael G. Schechter and Lois G. Wolfson (eds), *Globalization: Effects on Fisheries Resources* (Cambridge University Press, 2007).

2017, the Horn of Africa saw 1,549 abductions, 496 injuries, 15 sexual assaults, and 406 fatalities as a direct result of fisheries conflicts.[5] Similarly, a recent review by the Associated Press found 360 occurrences of State-sponsored violent conflicts involving fishing boats with 850 foreign vessels seized in the last five years.[6] Despite their implications, conflicts in fisheries are still poorly understood. Part of the issue, as Bavinck elaborates, is that these conflicts 'are embedded in different normative perspectives, social realities, and economic concerns',[7] meaning that outbreaks are intimately tied to extraneous drivers, creating a volatile mixture of motives and consequences that cloud the reality of what actually instigated a single conflictual event. From a regulatory perspective, their management is further complicated because, while they occur at the confluence of global trade routes, seafood supply chains, and maritime security, they exist outside the purview of any single legal regime. Confrontations may also take place outside the competence of a single State, or State-to-State dynamic and instead operate through sub-State actors which then indirectly 'threaten more traditional state-based security.'[8]

It remains unclear what exactly *conflicts in fisheries* entail and whether it is adequately regulated in international law, if at all. The current chapter aims to address these two main questions. The authors investigate how

5. Tsung-Han Tai, Shih-Ming Kao, and Wan-Chun Ho, 'International Soft Laws against IUU Fishing for Sustainable Marine Resources: Adoption of the Voluntary Guidelines for Flag State Performance and Challenges for Taiwan' (2020) 12 Sustainability (Switzerland); Sarah M. Glaser, Paige M. Roberts and Kaija J. Hurlburt, 'Foreign Illegal, Unreported, and Unregulated Fishing in Somali Waters Perpetuates Conflict' (2019) 6 Frontiers in Marine Science; Jessica Spijkers, Tiffany H. Morrison, Robert Blasiak, Graeme S. Cumming, Matthew Osborne, James Watson, Henrik Österblom, 'Marine Fisheries and Future Ocean Conflict' (2018) 19 Fish and Fisheries 798.

6. Wieffering (n 2).

7. Bavinck (n 4).

8. Elizabeth R. Desombre, 'The Security Implications of Fisheries' (2019) 95 International Affairs 1019.

international fisheries law can be leveraged to promote peaceful relationships among fishers at sea and curtail conflict between foreign fishing vessels and coastal States' national fleets, as well as between flag State fishing vessels on the high seas. After clarifying what we understand as conflicts in fisheries and explaining the different types of conflict falling under this umbrella concept, illustrating in more detail a couple of them (section 2), we map out the applicable international law provisions that relate to conflict prevention and curtailment (section 3). We then make specific recommendations on how international fisheries law can be harnessed to minimise conflicts and promote maritime security (section 4). In providing this appraisal, we seek not to prescribe laws for nations facing conflicts in fisheries, nor do we evaluate the effectiveness of relevant laws in mitigating such conflicts. Rather, we seek to enhance knowledge about 'conflicts in fisheries' and clarify international fisheries law's contribution to this problem, while also noting the need for and importance of an integrated analysis of relevant international legal instruments, from different regimes, which can be useful in addressing specific types of conflicts in fisheries.

2. Conflicts in Fisheries

Conflicts in fisheries can take a range of different and convoluted forms. Disputes may involve anything from verbal disagreements and complaints to property damage, gear confiscation, and vandalism all the way up to abductions, injuries and even fatalities.[9] To come to terms with how fishing relations may escalate to more severe levels of conflict, we do not

9. Colleen Devlin, Sarah M. Glaser, Joshua E. Lambert, Ciera Villegas, 'The Causes and Consequences of Fisheries Conflict around the Horn of Africa' (2021) Journal of Peace Research.

differentiate the level of severity across conflicts, but we acknowledge that the different degrees of seriousness can lead to different legal responses.[10] For clarity, we categorise various conflict manifestations and forms. The nature of these confrontations is ultimately shaped by their driving forces – most apparently whether the conflict stems from the fishing activity, and thus directly relating to it ('direct fisheries conflict'), or whether the conflict is not about fisheries *per se*, but involves a fisheries player - e.g. a fisher, a fishing gear, or a fishing vessel - which impacts the fisheries sector ('indirect fisheries conflict'). Fisheries conflict may occur on land, in inland waters (such as lakes and rivers), and in marine waters. We clarify what those two categories mean, with a focus on the marine context.

The first category – direct fisheries conflicts – arises from the mere exercise of fishing activities, thus involving fishers *inter se*, and fishers *with* stakeholders engaged in ocean activities. Direct fisheries conflicts between fishers (*inter-se*) can be the result of competition for stocks, competition for fishing grounds, clashes for authority, and retaliation for gear destruction in marine waters.[11] Such types of conflict occur within and between fisheries subsectors, making more apparent the differences between the large-scale industrial fisheries and small-scale artisanal subsectors, the latter of which is challenged by unfair competition and marginalisation.[12]

10. It depends on a range of factors, from the individuals involved to the consequences of the conflict, which can lead to different types of penalties to the individuals. Parallels can be drawn from the different types of enforcement approaches to illegal fishing, that is, administrative, criminal, or both. See Blaise Kuemlangan and others, 'Enforcement Approaches against Illegal Fishing in National Fisheries Legislation' (2022) Marine Policy, under review.

11. Dyhia Belhabib, U. Rashid Sumaila and Philippe Le Billon, 'The Fisheries of Africa: Exploitation, Policy, and Maritime Security Trends' (2019) 101 Marine Policy 80 at 86.

12. Due to the potential and actual significant impacts caused by large-scale industrial fisheries, it is argued that this subsector should be subject to integrated environmental socio-cultural impact assessments. See Julia Nakamura, Daniela Diz and Elisa Morgera, 'International Legal Requirements for Environmental and Socio-Cultural Impact Assessment for Large-scale Industrial Fisheries' (2022) Review of European, Comparative and International Environmental Law 1.

Direct fisheries conflict may also involve spats between fishers *with* other stakeholders, such as aquaculturists for the same said reasons. Such types of conflict can also arise from competition for marine space, associated with socio-environmental impacts caused in shared waters, such as in the case of oil and gas and other large-scale undertakings that may cause marine pollution and communities' displacement, or with environmental conservation initiatives aiming to establish marine protected areas. This first category of conflicts encompasses the definition of 'fishery conflict' put forward by Spijkers and others, as 'disagreements that occur between two or more actors and centre on the ownership or management of marine fishery resources.'[13]

The second category -indirect fisheries conflicts - is driven by contentions that are independent of fishing activity or fisheries management, but still, involve fishers or fishing vessels. These conflicts may involve external actors, who utilise, for instance, a fishing vessel to commit a crime or an illegal act, such as an assault or to illegally transport groups of individuals to another country. They may also involve a fisher who uses fishing gear to fight against and harm an individual for theft or revenge. For instance, fishers on the Niger Delta have been known to align with organised criminal groups to support navigation and operations in piracy attacks.[14] Accidents caused by other vessels or bunkers[15] that unintentionally hit fishing vessels or gear can also stimulate such types of conflicts in fisheries, as

13. Jessica Spijkers, Andrew Merrie, Colette C. Wabnitz, Matthew Osborne, Malin Mobjörk, Örjan Bodin, Elizabeth R. Selig, Philippe Le Billon, Cullen S. Hendrix, Gerald G. Singh, Patrick W. Keys, Tiffany H. Morrison, 'Exploring the Future of Fishery Conflict through Narrative Scenarios' (2021) 4 One Earth 386.

14. Ifesinachi Okafor-Yarwood, 'The Cyclical Nature of Maritime Security Threats: Illegal, Unreported, and Unregulated Fishing as a Threat to Human and National Security in the Gulf of Guinea' (2020) 13.

15. Sam Chambers, 'Many dead as bunker tanker collides with fishing vessel off Incheon' Splash247 (4 September 2017) <https://splash247.com/many-dead-bunker-tanker-collides-fishing-vessel-off-incheon/> accessed 31 December 2022.

well as accidents between fishing vessels and armed forces.[16] Similarly, the stress associated with facilitating illicit drug transport or human trafficking onboard fishing vessels has been shown to lead to violent fallout that also involves fishers.[17] These conflicts are entirely unrelated to the fishing activity itself nor do they concern a disagreement relating to the management of fishery resources. They are, nevertheless, conflicts that occur in a fisheries scenario, consequently impacting the fisheries sector and contributing to a conflictual environment within fisheries.

In addition to the direct fisheries conflict and indirect fisheries conflict, we also identify another type of conflict, which is not an additional category of fisheries conflict per se, but is rather a transversal conflict that may affect both direct and indirect fisheries conflict. This is what we call 'cross-cutting climate change-induced conflict in fisheries', which is an issue that can be associated with and related to any conflict in fisheries and which deserves special attention, thus, will be examined as a standalone conflict. In addition to climate-related issues, other factors can exacerbate fisheries conflicts in general. In some cases, for instance, the presence of rampant illegal or foreign fishing can stoke the emotion of law-abiding, local communities to the point where grievance spills into violence.[18] In a similar vein, poverty, terrestrial based civil unrest, environmental destruction, weak governance, and criminal activity can add to the pressures that fishers face and thereby propel discontent.[19]

16. Thomas Nyagah, James Mwangi, Larry Attree, 'Inside Kenya's War on Terror: the case of Lamu' *Saferworld: Preventing violent conflict. Building safer lives* (no date) <https://www.saferworld.org.uk/long-reads/inside-kenyaas-war-on-terror-the-case-of-lamu> accessed 31 December 2022.

17. Dyhia Belhabib, Philippe Le Billon and David J. Wrathall, 'Narco-Fish: Global Fisheries and Drug Trafficking' (2020) 21 Fish and Fisheries 992.

18. Tai and others (n 5); Glaser and others (n 5); Spijkers and others (n 5).

19. Jessica Spijkers, Gerald G. Singh, Colette C. C. Wabnitz, Henrik Österblom, Graeme S. Cumming, Tiffany H. Morrison, 'Identifying Predictors of International Fisheries Conflict' (2021) 22 Fish and Fisheries 834.

In these circumstances, fishers within the same fisheries sub-sector may enter into conflict, or the conflict may be divided across the various fisheries sub-sectors, including large-scale industrial fishing, small-scale artisanal fishing, and recreational fishing. Our categorisation of conflicts in fisheries is structured and explained in Table 1.

Conflicts in Fisheries	Direct fisheries conflict				Indirect fisheries conflict
	International level		National level		
	Bilateral fishing agreements conflict	High seas fishing conflict	Large - and small - scale fishing conflict	Fisheries sector and other sectors conflict	
Causes	Competition for stocks, fishing areas and authority	Competition for stocks, fishing areas and authority	Competition for stocks, fishing areas and authority	• Competition for marine space • Socio-environmental impacts caused by other large-scale undertakings • Environmental conservation initiatives impacting fishing activities	Illegal, or criminal, or military activities unrelated to fishing
Location	National marine waters of the hosting country (coastal State or archipelagic State)	High seas	National marine and inland waters of the coastal State or archipelagic State	National marine and inland waters of the coastal State or archipelagic State	Anywhere
Cross-cutting climate change-induced conflict in fisheries					

Table 1. Types of conflicts in fisheries.

In order to better understand 'direct fisheries conflicts', we provide a more detailed analysis of 'bilateral fishing agreement conflict' between a foreign fleet[20] that fishes in a coastal State's waters and the coastal State's national fishing fleet. This helps us to understand what conflicts in fisheries entail in practice. When distinguishing international fisheries conflicts, it is important to recall that fisheries operate in an international business space, which can shroud the division between domestic and foreign vessels. For instance, while a fishing vessel may be registered in Brazil and thus flying the Brazilian flag, its owner can be a British company, and its crew may include Argentinians and other citizens from neighbouring countries. At the same time, a conflict may occur between such a vessel and a United States of America-flagged fishing vessel in Suriname's waters with an equally complex makeup of crew nationalities. Bilateral conflicts therefore may include those involving cis-flagged but foreign-influenced vessels, such as those with a foreign crew or ownership ties. Within this devolved, international complex, head-on clashes between fishers are often fuelled by underlying socio-cultural tensions, which can be framed by industry operations or regional politics and instability.

2.1. Bilateral Fishing Agreement Conflict

Bilateral fishing agreement conflicts can play out in several ways. If a fishing activity takes place under a formal access arrangement – pursuant to Article 62(2) of the 1982 UN Convention on the Law of the Sea (LOSC)[21] – any ensuing conflict may take on a State-to-State dynamic.

20. To account for the complexity of fisheries business, we consider foreign fleets to include any vessels managed or regulated by entities based outside the coastal state's waters of fishing activity. This may include vessels with; (1) foreign flags, (2) foreign crewing, or (3) foreign ownership ties (beneficial ownership, joint ventures or chartering arrangements that include a foreign entity).

21. United Nations Convention on the Law of the Sea (Montego Bay, adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS 396.

The 'cod wars' in the North Atlantic and the fishing disputes between Canada and Spain on the Grand Banks exemplify this type of conflict. However, not all conflicts achieve this nationalist flavour. Instead, many occur on an ad hoc basis between individual vessels or crews and without wider influence from governments, politicians, or national media. Yet, literature has persistently alerted the need for fishing partnership agreements to take account of the socio-cultural and environmental impacts caused by foreign fishing fleets on the coastal communities of the hosting developing countries, as many of such agreements fail to fully realise sustainability standards in practice.[22] Alternatively, access to fishing grounds may be granted at the sub-State level. More commercially focused arrangements such as joint venture partnerships, charter agreements, and the local registration of foreign-owned vessels have the potential to create a bilateral interface that is not managed by State-to-State relations.[23]

By their nature, bilateral fishing agreement conflicts usually occur within close proximity to shore, drawing in local political, cultural, and economic concerns. So, while they may be sparked by competition over space and resources, they are often elevated in severity by social dynamics such as perceived unfairness over quota distribution or competitive ad-

22. Solène Guggisberg, 'The EU's Regulation on the Sustainable Management of External Fishing Fleets' (2019) 34 International and European Law Perspectives 291; Anna S. Antonova, 'The rhetoric of 'responsible fishing': Notions of human rights and sustainability in the European Union's bilateral fishing agreements with developing States' (2016) 70 Marine Policy 77; Antonius Gagern and Jeroen van den Bergh, 'A critical review of fishing agreements with tropical developing countries' (2013) 38 Marine Policy 375; Clair Gammage, 'A Sustainability Impact Assessment of the Economic Partnership Agreements: Challenging the Participatory Process' (2010) 3 The L & Dev Rev 108; For a dissenting opinion, see Mihail Vatsov, 'Towards achieving sustainable fishing through EU trade agreements?' [2019] 3(1): 1. Europe and the World: A law review.

23. André Standing, 'Mirage of Pirates: State-Corporate Crime in West Africa's Fisheries' (2015) 4 State Crime Journal 2.

vantage, or foreign influence (resource drainage).[24] In some cases, these social dynamics may be enough to instigate conflict. In parts of West Africa, for instance, foreign fishing has so severely undermined the livelihoods of some local communities that it could be said to have contributed to regional destabilisation and forced migration.[25] In other cases, authorities and communities may take active action against foreign or illegal fishing vessels as a deterrent. Indonesia, for instance, made international headlines between 2014 and 2019 when their Ministry of Marine Affairs and Fisheries committed to exploding hundreds of vessels that were found to be illegally fishing in their waters.[26]

These complex non-legal concerns can also bring about new legal situations, which can lead to conflict. Take the United Kingdom (UK)'s departure from the European Union (EU) and its Common Fisheries Policy for example.[27] Political, social, and economic arguments led to Brexit which created a new legal landscape for the UK, EU, and other States to navigate in the form of the UK-EU Trade and Cooperation Agreement (TCA) and

24. Nichols R, Parks J, Pollnac R, Campson T, Genio E, Marlessy C, Holle E, Pido M, Nissapa A, Boromthanarat S, Thu Hue N, 'Fishing Access Agreements and Harvesting Decisions of Host and Distant Water Fishing Nations' (2015) 54 Marine Policy 77; Ifesinachi Okafor-Yarwood and Belhabib Dyhia, 'The Duplicity of the European Union Common Fisheries Policy in Third Countries: Evidence from the Gulf of Guinea' (2020) 184 Ocean and Coastal Management 104953.

25. Jessica H. Jönsson, 'Overfishing, Social Problems, and Ecosocial Sustainability in Senegalese Fishing Communities' (2019) 27 Journal of Community Practice 213 at pg. 213; Mariko Frame, 'Foreign Investment in African Resources: The Ecological Aspect to Imperialism and Unequal Exchange' (2014) ProQuest Dissertations and Theses at 131.

26. Vincent Bevins "I'm nasty.' How an Indonesian government official won admirers by blowing up boats.' *The Washington Post* (5 September 2018) <https://www.washingtonpost.com/world/2018/09/05/im-nasty-how-an-indonesian-government-official-won-admirers-by-blowing-up-boats/> accessed 31 December 2022.

27. See generally, Jonatan Echebarria Fernández, Tafsir Matin Johansson, Jon A. Skinner, Mitchell Lennan (eds), *Fisheries and the Law in Europe - Regulation After Brexit* (Routledge, 2022).

its fisheries provisions.[28] This replaced the EU Common Fisheries Policy that managed fishery resources under the principles of equal access and relative stability.[29] Interpretation of the fisheries provisions of the TCA has already led to conflicts. In May 2021, Jersey authorities were accused of unilaterally imposing new licensing conditions on French vessels to fish within the territorial sea around the island without the consent of the French authorities, as specified by the TCA.[30] The responses to this included the blockading of Jersey ports by French fishing vessels, threats of cutting off the electricity supply to Jersey by some members of the French Government, and the deployment of so-called 'gunboats' to Jersey by the UK Government (conveniently on the day of a local election in the UK).[31] While this licensing issue is by and large resolved, tensions remain.[32]

28. Trade and Cooperation Agreement between the European Union and the European Atomic Energy Community, of the one part, and the United Kingdom of Great Britain and Northern Ireland, of the other part, December 30, 2020 (entered into force provisionally on 1 January 2021 and definitively on 1 May 2021) UKTS 2021 No. 8; OJ 2021 L149/10 (TCA); Fisheries provisions are found in Articles 493–511.

29. Treaty on the Functioning of the European Union, OJ 2016 C202/47, Article 3(1)(d); Reg. 1380/2013, OJ 2013 L354/22; see also Ellen Hoefnagel, Birgit de Vos, and Erik Buiman, 'Quota swapping, relative stability and transparency' 57 *Marine Policy* (2015) 111–119.

30. TCA, Article 502; See Andrew Serdy, 'The Fisheries Provisions of the Trade and Cooperation Agreement - An Analytical Conspectus' in Jonatan Echebarria Fernández, Tafsir Matin Johansson, Jon A. Skinner, Mitchell Lennan (eds), *Fisheries and the Law in Europe - Regulation After Brexit* (Routledge, 2022) 32, at 44–45; Gerard van Balsfoort and others 'A Synoptic Overview of Expert Opinion on Fisheries in a Post-Brexit World' in Echebarria Fernández (2022) 123–124.

31. Daniel Boffey and Lisa O'Carroll, 'UK sends navy vessels to Jersey amid post-Brexit fishing row with France' *The Guardian* (5 May 2021) <https://www.theguardian.com/uk-news/2021/may/05/uk-hits-back-at-french-threat-to-cut-jerseys-electricity-supply> accessed 31 December 2022; Bryce D. Stewart BD, Chris Williams, Richard Barnes, Suzannah F. Walmsley, Griffin Carpenter, 'The Brexit deal and UK fisheries, has reality matched the rehetoric?' 21 *Maritime Studies* (2022) 1, at 11; van Balsfoort and others, (n 30); Joe Mays 'Fresh Brexit Fish Spat Averted as Jersey Extends French Amnesty' *Bloomberg* 28 June 2021 <https://www.bloomberg.com/news/articles/2021-06-28/freshbrexit-fish-spat-averted-as-jersey-extends-french-amnesty> accessed 31 December 2022.

32. Stewart and others, (n 31) 11.

Far from shore, Brexit has also brought a historical territorial and resource dispute between the UK and the Republic of Ireland to the fore over the small remote sea rock of Rockall and the fishery resources within its 12 nm territorial sea.[33] The complex fishery resources around Rockall are of interest not just to the UK and Ireland, but also EU Member States and Icelandic and Russian fishing fleets.[34] Another layer of complexity is that while the UK holds *de jure* and *de facto* sovereignty over Rockall,[35] and the waters around it are part of the UK EEZ,[36] its fisheries matters are administered by Scotland, including enforcement of fisheries conservation and management measures.[37] Mere hours after Brexit took effect, 'the Scottish marine protection vessel *Jura* had stopped Irish fishing vessel *Northern Celt* from entering Rockall waters beyond the 12 nm of the UK territorial waters.'[38] This exercise of enforcement jurisdiction by the Scottish authorities caused a diplomatic incident between Ireland and the UK 'and even prompted calls for Ireland to step up claims over Rockall.'[39]

33. van Balsfoort and others, (n 30) 124–126.

34. Mercedes Rosello, Mitchell Lennan, Jonatan Echebarria Fernández JE, Tafsir Matin Johansson, 'Fisheries Enforcement in a Post-Brexit World', in Echebarria Fernández and others (2022), at 94–96.

35. See Richard Collins, 'Sovereignty has 'Rock-all' to Do with It … or Has It? What's at Stake in the Recent Diplomatic Spat between Scotland and Ireland?' *EJIL:TALK! Blog of the European Jounral of International Law* (8 July 2019), <https://www.ejiltalk.org/sovereignty-has-rock-all-to-do-with-it-or-has-it-whatsat-stake-in-the-recent-diplomatic-spat-between-scotland-and-ireland/>; James Harrison, 'Guest Blog – Unpacking the Legal Disputes over Rockall' *SPICe Spotlight* (18 June 2019), <https://spice-spotlight.scot/2019/06/18/guest-blog-unpacking-the-legal-disputesover-rockall/>; *contra* Ríán Derrig, 'An Irish Claim to Rockall' *EJIL:TALK! Blog of the European Jounral of International Law* (14 January 2021) <https://www.ejiltalk.org/an-irish-claim-to-rockall/> accessed 31 December 2022.

36. The Exclusive Economic Zone Order 2013, <https://www.legislation.gov.uk/uksi/2013/3161/contents/made> accessed 31 December 2022.

37. Island of Rockall Act 1972, C2, <https://www.legislation.gov.uk/ukpga/1972/2>; Scotland Act, 1998 Sch 5, S C6, <https://www.legislation.gov.uk/ukpga/1998/46/contents> accessed 31 December 2022.

38. Rosello et al (n 34).

39. ibid.

The above considered, bilateral fisheries conflicts can occur in multiple formulations. High-level incidents may lead to serious consequences at the local level, while smaller incidents may have huge repercussions at the inter-State level. In any case, all conflicts play out within a complex web of legal, cultural, political and economic factors.

2.2 Cross-Cutting and Climate Change-Induced Conflict in Fisheries

More recently, climate change and its consequences have reached the ocean governance discussion. There are increasing concerns regarding the nexus between climate change and fisheries.[40] The main impacts of climate change on fisheries are numerous and pervasive. They include impacts on primary productivity, growth, and distribution of fish populations from warming waters. Ocean acidification impacts the behaviour, distribution, and survival rate of many fish populations. Consequences of climate change include loss of habitat, sea level rise (which can destroy coastal fishing infrastructure), depletion of fish populations and resulting scarcity, increased competition and fishing intensity, shifting maritime boundaries, and shifting fish populations.[41] In particular, the general trend in fish species moving towards the Poles or into deeper

40. See, for example, Nathan L. Bindoff, 'Chapter 5: Changing Ocean, Marine Ecosystems and Dependent Communities' in IPCC, *The Ocean and Cryosphere in a Changing Climate: Special Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press 2022) 447; Mitchell Lennan, 'Fisheries Redistribution under Climate Change: Rethinking the Law to Address the "Governance Gap" in Platjouw FM and Pozdnakova A (eds.) *The Environmental Rule of Law for the Oceans* (Cambridge University Press, 2023) 163-177; Manuel Barange, Tarûb Bahri, Malcolm C. M. Beveridge, Kevern L. Cochrane, Simon Funge-Smith, Florence Poulain, 'Impacts of Climate Change on Fisheries and Aquaculture: Synthesis of Current Knowledge, Adaptation and Mitigation Options' (FAO, 2018).

41. Elizabeth Mendenhall, Cullen Hendrix, Elizabeth Nyman, Paige M. Roberts, John Robison Hoopes, James R. Watson, Vicky W. Y. Lam, Rashid Sumaila, 'Climate Change Increases the Risk of Fisheries Conflict' (2020) 117 Marine Policy 103954.

water.[42] Yet, while it has been identified that climate exacerbates known drivers of fisheries conflicts,[43] the international legal literature is scarce in addressing the linkages between climate change and conflicts in fisheries. Here we need to again distinguish the type of conflict we mean by 'cross-cutting climate change-induced' conflict in fisheries. We do not refer to the conflicts that may arise from climate-related disasters in marine and coastal spaces, such as sea level rise, extreme weather events, beach erosion, and inundation, which may lead to conflicting situations among fishers and fishing communities due to the associated distress, often leading to forced relocation and loss of property, fisheries tools, and facilities. The type of conflict in fisheries that we associate with climate change concerns the direct fisheries conflict caused by the absence of stocks in a given location impacted by the change in distributional patterns.[44]

Generally, climate-driven shifts in fish stocks can cause exacerbation of fisheries conflicts and the creation of new ones, undermine fixed area-based management tools such as marine protected areas, and contribute to loss of ecosystem goods and services with food security and human rights implications for communities reliant on the ocean. Shifts in fish stocks can lead to breakdown in cooperation between States as fish move into new management jurisdictions and the receiving State acts

42. Malin L. Pinsky, Boris Worm, Michael J. Fogarty, Jorge L. Sarmiento, Simon A. Levin, 'Marine Taxa Track Local Climate Velocities' (2013) 341 Science 1239; Rebecca G Asch, 'Climate Change and Decadal Shifts in the Phenology of Larval Fishes in the California Current Ecosystem' (2015) 112 Proceedings of the National Academy of Sciences E4065; Kristin M. Kleisner, Michael J. Fogarty, Sally McGee, Analie Barnett, Paula Fratantoni, Jennifer Greene, Jonathan A. Hare, Sean M. Lucey, Cristopher McGuire, Jay Odell, Vincent S. Saba, Laurel Smith, Katherin J. Weaver, Malin L. Pinsky,'The Effects of Sub-Regional Climate Velocity on the Distribution and Spatial Extent of Marine Species Assemblages' (2016) 11 PLOS ONE e0149220.

43. Mendenhall (n 41).

44. See Malin L. Pinksy, 'Preparing Ocean Governance for Species on the Move' (2018) 360 Science 1189.

unilaterally to exploit the stock (e.g. the 'Mackerel Wars' between Iceland, the EU and the UK).[45] Within States, conflicts can arise between users of fish stocks as they move into deeper waters. This considered, climate change is not just a confounding factor in fisheries conflicts, but can also induce conflicts in its own right. On that basis, legal solutions to curtailing fisheries conflicts must take into account climate change as a factor. From a managerial perspective, adopting climate change adaptation measures in fisheries management has been sought to be useful and important in avoiding conflicts in the fishing industry. For instance, diversifying products and markets to maximise fishery value as catches decline due to climate change can help to avoid conflicts in post-harvesting contexts.[46] Through a 'poverty lens', adaptation measures would need to address 'issues of power imbalances and inequity disadvantaging the poor', including with respect to stakeholders' conflict.[47]

3. International Law and Conflicts in Fisheries

To better understand how international law, including binding and non-binding instruments, address conflicts in fisheries, our analysis departs from two elementary assumptions. First, that the law of the sea regime is a non-hierarchical, yet fragmented, States-centred framework, which is primarily devoted to protecting the interests of States and their

45. Andreas Østhagen, Jessica Spijkers, Olav Anders Totland, 'Collapse of Cooperation? The North-Atlantic Mackerel Dispute and Lessons for International Cooperation on Transboundary Fish Stocks' (2020) 19 Maritime Studies 155.

46. Tarûb Bahri, Marcelo Vasconcellos, David Welch, Johanna Johnson, R. Ian Perry, Xuechan Ma, Rishi Sharma, 'Adaptive management of fisheries in response to climate change.' FAO Fisheries and Aquaculture Technical Paper No. 667. Rome, FAO, at 72-73 and 155.

47. Barange and others (n 40) 2.

fishing vessels, rather than the concerns of people at sea.[48] Examining conflicts in fisheries in the law of the sea regime, thus, predominantly leads to the search for provisions that deal with the obligations of States with respect to maritime safety and security at sea, maritime transit, and the duties of the respective fishing vessels in relation to these matters.

Our second assumption is that conflicts in fisheries, particularly direct conflict in fisheries at the international level, essentially concern disagreements upon fisheries access, quota distribution, management decisions, and conservation – issues that are primarily the object of international fisheries law.[49] However, we also acknowledge that perception, regional stability, and cultural relations can play an equally important part in cultivating the conditions for conflict to flourish. In this framework, conflict in fisheries may be specifically regulated by effectively managing resources while also ensuring harmonious relationships among the actors within the fisheries sector.[50] In the next subsection, we examine the relevant instruments under international fisheries law to clarify their pertinence to preventing and combating conflicts in fisheries.

3.1 States' Binding Obligations Relevant to Conflicts in Fisheries

The security of coastal States and archipelagic States, as regards maritime shipping, is safeguarded by the LOSC,[51] but this treaty is silent as regards

48. Irini Papanicolopulu, *International Law and the Protection of People at Sea* (Oxford University Press 2018); Vasco Becker-Weinberg, 'Time to Get Serious about Combating Forced Labour and Human Trafficking in Fisheries' (2020) 36 The International Journal of Marine and Coastal Law 88.

49. Richard Caddell, 'International Fisheries Law and Interactions with Global Regimes and Processes' in Erik J. Molenaar EJ and Richard Caddell (eds), *Strengthening International Fisheries Law in an Era of Changing Oceans* (Hart Publishing 2019).

50. Devlin (n 9).

51. LOSC, Articles 19, 25, and 52.

States' obligations to ensure security in fisheries. General obligations to cooperate and to 'seek agreement' on the management and conservation of transboundary fish stocks do not relate (at least directly) to the security of fishers on board fishing vessels at sea. Further, there are still no internationally recognised standards or procedures for addressing these conflicts in a 'non-escalatory manner.'[52] These confrontations often take place outside the competency of a single State, or State-to-State dynamic and may instead operate through sub-State actors which then indirectly 'threaten more traditional State-based security.'[53]

One could say that the LOSC is implicitly concerned with all types of conflict in the ocean, without focusing on fisheries conflicts in particular. This broad approach is reflected in the LOSC's objectives, which include providing 'a legal order for the seas and oceans which will facilitate international communication and will promote the peaceful uses of the seas and oceans.'[54] This intention is enshrined in certain provisions that are helpful in preventing eventual clashes in fisheries and between fishing vessels. In explicit terms, conflicts in fisheries are enshrined in a single provision, Article 59, which deals with conflict arising 'between the interests of the coastal State and any other State or States' in respect of the 'attribution of rights and jurisdiction in the exclusive economic zone' (EEZ). In this event, the LOSC clarifies the parameters for conflict resolution, that is, based on 'equity and in the light of all the relevant circumstances, taking into account the respective importance of the interests involved to the Parties as well as to the international community as a whole.'[55] Yet, this provision is known to be 'controversial' by scholars, as

52. Jessica Spijkers, Gerald Singh, Robert Blasiak, Tiffany H. Morrison, Philippe Le Billon, Henrik Österblom, 'Global Patterns of Fisheries Conflict: Forty Years of Data' (2019) 57 Global Environmental Change.

53. Desombre (n 8).

54. LOSC, Preamble.

55. ibid., Article 59.

it neglects 'presumption in favour of either the coastal State or community interests in resolving new issues that may arise'.[56] Notwithstanding, these are interstates' conflicts, which may arise from conflicting fishing interests in the EEZ of coastal States and other States. International fisheries disputes between States have indeed increased over the last decades, as well discussed by scholars.[57]

One can associate other provisions of the LOSC relevant to fisheries conflict with those related to maritime security. For instance, fishing activities by foreign vessels in the territorial seas of coastal States and archipelagic States cannot be prejudicial to these States' peace, good order or security[58] (Articles 19 and 52). To that end, coastal States and archipelagic States have the right to temporarily suspend the 'innocent passage' of foreign ships as deemed essential to protect their security (Articles 25 and 52). Similarly, Article 27 provides exemptions on the exclusivity of flag State jurisdiction when foreign vessels commit certain acts during their passage through the territorial sea of a third State. Article 27 specifies that a coastal State may 'arrest' or 'conduct investigation in connection with any crime committed on board' if (a) the consequences of the crime extend to the coastal State; (b) the crime is of a kind to disturb the peace of the country or the good order of the territorial sea; (c) the assistance of the local authorities has been requested by the master of the ship or by a diplomatic agent or consular officer of the flag State; or (d) such measures are necessary for the suppression of illicit traffic in narcotic drugs or psy-

56. Nigel Bankes, 'Legislative and enforcement jurisdiction of the coastal state with respect to fisheries in the exclusive economic zone' in Øystein Jensen (ed), *The Development of the Law of the Sea Convention* (Edward Elgar Publishing 2020), at 74; Gemma Andreone, 'The Exclusive Economic Zone' in Donald Rothwell et al (eds), *The Oxford Handbook of the Law of the Sea* (Oxford University Press, 2014), at 166.

57. Bankes (n 56); Robin Churchill, 'The Jurisprudence of the International Tribunal for the Law of the Sea relating to Fisheries: Is There Much in the Net?' (2007) 22 IJMCL 383.

58. LOSC, Articles 19 and 52.

chotropic substances.[59] These provisions are indeed the closest the LOSC gets to addressing maritime security in the fisheries context.[60]

As conflicts in fisheries involve disputes between *persons* rather than interstate conflicts, it is no surprise that the LOSC has little to offer in the former respect. Indeed, the central focus of the Convention is on stipulating obligations on States and ships, with minimal attention to social dimensions and the persons involved in maritime activities. This issue has led scholars to recourse to human rights and other relevant regimes for the protection of people at sea.[61] In this respect, it is worth noting that disputes arising from the application of the LOSC could arguably include the protection of fishers, based on the interpretation and application of 'other rules of international law not incompatible with this Convention', as stipulated in Article 293. As such, while the International Tribunal for the Law of the Sea (ITLOS) has not dealt specifically with the protection of human rights of fishers in its jurisprudence, scholars have argued that the Tribunal could, based on Article 293, interpret human rights rules for the protection of individuals.[62] This desirable approach could foster the ITLOS' adjudication of human rights violations in the context of fisheries conflict.

59. LOSC, Article 27.

60. Barnes and Rossello also identify the provisions relating to 'general conduct' in the Area (Article 138) and to disclosure of information (Article 302), but these are less related to conflicts in fisheries. See Richard Barnes and Mercedes Rosello, 'Fisheries and maritime security: understanding and enhancing the connection' in Malcolm D. Evans and Sofia Galani (eds) *Maritime Security and the Law of the Sea: Help or Hindrance?* (Edward Elgar Publishing, 2020), at 56.

61. Papanicolopulu (n 48); Steven Haines, 'Developing Human Rights at Sea' (2021) 35(1) Ocean Y Online 18, at 30. See also Tafsir M Ndiyae, 'Human Rights at Sea and the Law of the Sea' (2019) 10 Beijing L Rev 261.

62. Anna Petrig A, Marta Bo, 'The International Tribunal for the Law of the Sea and Human Rights' in Martin Scheinin (eds) *Human Rights Norms in 'Other' International Courts* (Cambridge University Press 2019), at 355; and Anne Peters, *Beyond Human Rights: The Legal Status of the Individual in International Law* (Cambridge University Press, 2016).

There are other instances where the LOSC sets out important requirements for preventing conflicts in fisheries among States. The core contribution of the Convention in delineating the ocean into maritime zones and its applicable rules indeed clarify access rights to marine resources as well as bestow coastal States with the remit to deploy a number of legal tools to avoid violence within their water. Oral has ventured so far as to say that the progression of coastal States' sovereign rights over their 200nm EEZ is 'the most important international legal response' to have ever addressed fisheries conflicts between local and foreign fleets.[63] For starters, resource sovereignty has enabled coastal States to prohibit fishing access to vessels, companies, or States that have engaged in or supported fisheries conflict.[64] In other words, they may use access as a bargaining chip for conduct. In many countries, sovereignty over the EEZ has been buttressed by spatial separation schemes such as inshore exclusion zones (IEZ), foreign fisheries exclusion zones, or artisanal fishing zones. These measures are used to reserve areas for small-scale or artisanal fleets and thereby shield them from competition and confrontational interactions with industrial or foreign vessels. In Ghana, for instance, the Fisheries Act defines the IEZ, which is 'the coastal waters between the coastline and the 30-metre isobath or the 6 nautical miles offshore limit whichever is further', as reserved 'exclusively' for small semi-industrial vessels, canoes and recreational fishing vessels. While the Act does not specifically prescribe the zone as a remedy to avoid systematic conflict, the connection between conflict and spatial competition is well documented in Ghana.[65] In fact, reports suggest that IEZs

63. Nilufer Oral, 'Reflections on the Past, Present, and Future of IUU Fishing under International Law' (2020) 22 International Community Law Review 368, at 370.

64. Chris Armstrong, 'Abuse, Exploitation, and Floating Jurisdiction: Protecting Workers at Sea*' (2022) 30 Journal of Political Philosophy 3.

65. Katherine L. Seto, 'Local Fishery, Global Commodity: Conflict, Cooperation, and Competition in Ghana's Coastal Fisheries' (PhD Thesis, UC Berkeley, 2017); Godfred A. Ameyaw, Martin Tsamenyi, Alistair Mcilgorm, Denis W. Aheto, 'Challenges in the Management of Small-Scale Marine Fisheries Conflicts in Ghana' (2021) 211 Ocean and Coastal Management 105791.

have led to less conflict in many developing countries, including Liberia,[66] Sierra Leone,[67] and Cameroon.[68] In Africa, over ninety percent of coastal States have now designated some form of spatially managed, inshore fishing zone.[69] While there has been greater monitoring and enforcement efforts in recent years, incursions into this zone still occur and with recent volatility in certain demersal fish stocks, some have acknowledged that the industrial trawlers may be incentivised to venture into the IEZs by the higher abundance of stocks and the flourishing benthic habitats.

The LOSC is not the only legally binding instrument to address conflicts in fisheries in a more, let us say, indirect way. For its part, the LOSC's implementing instrument, which elaborates its provisions on the conservation and management of straddling fish stocks and highly migratory fish stocks - the 1995 UN Fish Stocks Agreement (UNFSA) - relates to conflicts in fisheries, by imbedding the agreement's purpose of contributing to 'the maintenance of international peace and security' (Preamble).[70] The Agreement is also helpful in addressing conflict in fisheries by means of regulating interstate cooperation in the management and conserva-

66. Environmental Justice Foundation, 'Inshore Exclusions Zone: A lifeline for Liberia's Fishers' (26 June 2017) <https://ejfoundation.org/news-media/inshore-exclusion-zone-a-lifeline-for-liberias-fishers> accessed 31 December 2022.

67. Andrew Baio and Sheku Sei, 'On the Development of Territorial Use Rights in the Marine Small-Scale Fisheries of Sierra Leone' (2019), *Conference: Global Conference on Tenure & User Rights in Fisheries 2018: Achieving Sustainable Development Goals by 2030*, 10-14 September 2018, Yeosu, South Korea.

68. Maurice Beseng M and James A. Malcolm, 'Maritime Security and the Securitisation of Fisheries in the Gulf of Guinea: Experiences from Cameroon' (2021) 21 Conflict, Security and Development 517.

69. Dyhia Belhabib, William W. L. Cheung, David Kroodsma, Vicky W. Y. Lam, Philip J. Underwood, John Virdin, 'Catching Industrial Fishing Incursions into Inshore Waters of Africa from Space' (2020) 21 Fish and Fisheries 379.

70. 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 (adopted 4 August 1995, entered into force11 December 2001) 2167 UNTS.40 (UN Fish Stocks Agreement or UNFSA).

tion of the said stocks, but, like the LOSC, the Agreement is relevant in addressing conflicts between States and not among fishers directly. Two legally binding instruments that have a more direct impact on preventing conflicts among fishers are those adopted under the Food and Agriculture Organization of the United Nations (FAO) auspices: the so-called 1993 Compliance Agreement,[71] and the 2009 Port States Measures Agreement (PSMA).[72] The former is important in requiring flag States to ensure fishing vessels flying their flags do not violate nor undermine the effectiveness of international conservation and management measures (CMMs).[73] By setting out parameters for international cooperation on high seas fishing, through, inter alia, maintenance of fishing vessels' records and information exchange, the Compliance Agreement promotes order among States fishing on the high seas. The PSMA, in turn, can be useful to protect fishers (nationals from the port State) against potential threats from foreign fishing vessels engaged in illegal, unreported, and unregulated (IUU) fishing attempting to land their fish or otherwise calling voluntarily into port.[74] Critically, the PSMA obliges port States to scrutinise and inspect the conduct of foreign fishing in line with obligations vis-à-vis the port State law, or flag State treaty law.[75] Where the port State has 'clear grounds

71. Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (adopted 29 November 1993, entered into force 24 April 2003) 2221 UNTS 91 (Compliance Agreement).

72. Agreement on Port State Measures to Prevent, Deter, and Eliminate Illegal, Unreported, and Unregulated Fishing (adopted 22 November 2009, entered into force 5 June 2016) (Port State Measures Agreement or PSMA).

73. ibid., Article 1(a).

74. ibid.

75. Callum Musto and Efthymios Papastavridis, 'Tackling Illegal, Unreported and Unregulated Fishing through Port State Measures Ported, and Unregulated Fishing through Port State Measures' (2021) 22 Melbourne Journal of International Law 1; Food and Agriculture Organization, 'International Plan of Action to Prevent, Deter And Eliminate Illegal, Unreported and Unregulated Fishing' (2001), Rome: Food and Agriculture Organization of the United Nations <http://www.fao.org/3/a-y1224e.pdf>.

for believing that a vessel has engaged in IUU fishing or fishing related activities' they are required to, inter alia, notify the flag State and deny the vessel use of the port, cargo discharge, transhipment, and re-supply.[76] The implementation of domestic legislation to action the PSMA may extend beyond these requirements to even include criminal proceedings against a vessel owner or crew.[77] Yet, the LOSC prohibits the coastal State to impose imprisonment, unless otherwise agreed with the concerned States, as well as the application of corporal punishment as penalties for the violation of fisheries legislation in the coastal State's EEZ.[78]

Under the PSMA, IUU fishing is interpreted according to the definition of the FAO International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported, and Unregulated Fishing (IPOA-IUU), which includes 'illegal fishing' as 'fishing in violation of national laws or international obligations, including those undertaken by cooperating States to a relevant regional fisheries management organization.' Where the national fisheries legislation of a port State explicitly prohibits conflicts in fisheries (such as in relation to fishing gear destruction - ex. Ghana Fisheries Act), and the foreign fishing vessel attempting to land its catches at port engages in fisheries conflict, then the port State can play an important role in curtailing fisheries conflict.[79] Regardless of the substance of national laws, the PSMA and wider port State control remit can also limit hostilities by proxy – either directly leveraging the

76. Shorter title for Agreement on Port State Measures to Prevent, Deter, and Eliminate Illegal, Unreported, and Unregulated Fishing (adopted 22 November 2009, entered into force 5 June 2016) (Port State Measures Agreement), Article 18.

77. Musto and Papastavridis (n 75); Anastasia Telesetsky, 'Scuttling IUU Fishing and Rewarding Sustainable Fishing: Enhancing the Effectiveness of the Port State Measures Agreement with Trade-Related Measures' (2014) 38 Seattle University Law Review 1237.

78. LOSC, Article 73(3).

79. Arron N. Honniball, 'The Exclusive Jurisdiction of Flag States: A Limitation on Pro-Active Port States?' (2016) 31 International Journal of Marine and Coastal Law 3.

connection between IUU fishing and violent outbreaks[80] or indirectly restricting illegal practices that erode the sustainability of coastal stocks and undermine efforts to promote peaceful environmental management. Outside the PSMA, port States can voluntarily impose access restrictions on their ports under customary international law.[81] While many States have made inroads by using port State control to buffer their economies from illegal activities at sea, ports of convenience continue to challenge the effectiveness of administering these supply chain pinch points. This factors in an additional driver for fisheries conflict.

In a slightly different context, some legal instruments have broadened the normative terrain over which Member States may intervene in foreign vessel operations. The Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (SUA Convention) allows Member States to take criminal corrective action against any person who 'endangers the safe navigation of [a] ship' by forcing control over that ship, acting violently against a person onboard, or destroying or damaging a ship, cargo, or maritime navigation facilities.[82] Originally designed to root out maritime terrorism, this provision consequently pushes the extraterritorial jurisdiction of member States to the high seas and territorial waters of other Member States when safe navigation is threatened. In one of the first applications of the SUA Convention, a Chinese cook, Shi, was sentenced, by the Ninth Circuit Court in the United States to 36 years in prison after killing two crew members aboard a Seychellois-flagged fishing vessel.[83] While not necessarily a conflict between two fishing vessels per

80. Dyhia Belhabib D and Philippe Le Billon, 'Fish Crimes in the Global Oceans' (2022) 8 Science Advances 1.

81. LOSC, Article 25(2).

82. Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (adopted 10 March 1988, entered into force 1 March 1992) 1678 UNTS.

83. Makoto Seta, 'A Murder at Sea Isn't Just a Murder! The Expanding Scope of Universal Jurisdiction under the SUA Convention' in Patrick Chaumette (eds), Maritime Areas: Control and Prevention of Illegal Traffics at Sea, (GOMYLEX 2016).

se, the Shi case provides a useful example for how the SUA Convention might be utilised to combat international violence in the fishing industry.

The international community has also devised instruments to advance the degree of flag State responsibility. For instance, the Cape Town Agreement, administered by the International Maritime Organization (IMO) and the International Labour Organization's (ILO) C188 treaty on Working Conditions in the Fishing Industry has made purposeful strides towards raising standards onboard fishing vessels and providing an added layer of legal safeguards for crews.[84] The Cape Town Agreement addresses vessel design, construction and equipment requirements and will enter into force '12 months after at least 22 States, with an aggregate 3,600 fishing vessels of 24m in length' have agreed to be bound by it.[85] Importantly, this treaty will ensure safety requirements for those types of fishing vessels. The ILO's C-188, on the other hand, entered into force in 2017 and sets minimum standards of human rights, crew safety, employment certification, and labour conditions on board fishing vessels.[86] Both instruments mandate the development of inspection systems, which improves the level of surveillance over vessels and adds further opportunities for investigation. Article 44 of the ILO C-188 is critical in this capacity as it includes a 'no more favourable treatment' clause ensuring that even vessels flagged to States who have not ratified the Convention are

84. Cape Town Agreement on the Implementation of the Provisions of the 1993 Protocol relating to the Torremolinos International Convention for the Safety of Fishing Vessels, 1977 International Maritime Organization (adopted October 2012); International Labour Organization 'Working in Fishing Convention (ILO 188)' (adopted 14 June 2007, entered into force 16 November 2017).

85. International Maritime Organization '2012 Cape Town Agreement to enhance fishing safety' (Hot Topics, 2019) <www.imo.org/en/MediaCentre/HotTopics/Pages/CapeTownAgreementForFishing.aspx> accessed 31 December 2022.

86. Gavin G. McDonald, Cristoforo Costello, Jennifer Bone, Reniel B. Cabral, Valerie Farabee, Timothy Hochberg, David Kroodsma, Tracey Mangin, Kyle C. Meng, Olivier Zahn, 'Satellites Can Reveal Global Extent of Forced Labor in the World's Fishing Fleet' (2021) 118 Proceedings of the National Academy of Sciences of the United States of America 1.

subject to the same level of legal standards during inspections.[87] While not targeting conflict directly, these approaches tackle associated symptoms of the fishing industry's opacity. Forced labour and violent clashes between vessels often go hand in hand, and in some cases, they may share the same root causes – including weak government oversight, organised crime, etc.[88] For the ILO C-188 in particular, some of the stipulations may even address certain features of the industry that motivate conflict. For instance, its prescribed standards for payment, food, accommodation, medical, and social security may help to quell the sense of desperation that many fishers may feel during long, challenging voyages. Yet, the ILO C-188 has a peculiar feature in that its application is flexible, in anticipation of the potential conflicts that its requirements may raise in the fisheries sector in general. Its applicability can only trigger after the competent authority consult with the representative organisations of employers and workers concerned and representative organisations of fishing vessel owners and fishers.[89] After such consultation, a Member may exclude fishing vessels operating in rivers, lakes, or canals or limited categories of fishers or fishing vessels from the requirements of the Convention.[90] This flexibility may allow governments to exempt small-scale

87. Working in Fishing Convention (ILO 188); Alejandro J. Garcia Lozano, Jessica L. Decker Sparks, Davina P. Durgana, Courtney M. Farthing, Juno Fitzpatrick, BirgitteKrough-Poulsen, Gavin McDonald, Sara McDonald, Yoshitaka Ota, Nicole Sarto, Andrés M. Cisneros-Montemayor, Gabrielle Lout, Elena Finkbeiner, John N. Kittinger, 'Decent Work in Fisheries: Current Trends and Key Considerations for Future Research and Policy' (2022) 136 Marine Policy.

88. Blake D. Ratner, Björn Åsgård and Edward H. Allison, 'Fishing for Justice: Human Rights, Development, and Fisheries Sector Reform' (2014) 27 Global Environmental Change 120; Emma Witbooi and others, 'Organized Crime in the Fisheries Sector Threatens a Sustainable Ocean Economy' (2020) 588 Nature 1; Garcia Lozano and others, 'Decent Work in Fisheries: Current Trends and Key Considerations for Future Research and Policy' (2022) 136 Marine Policy.

89. Working in Fishing Convention (ILO 188), Article 1(c).

90. ibid., Article 3(1).

fishing vessels from certain obligations that may impose an unfair or inappropriate burden on small-scale fisheries, as some requirements of the ILO C-188 depend on financial and technical capacity of the fishing vessel owner.[91] The ILO C-188 still counts with a poor number of ratification, so its contribution to preventing and curtailing fisheries conflict, although very promising, remains quite limited.

3.2 International Guidance Relevant to Conflict in Fisheries

While the legally binding instruments are primarily focused on interstate conflicts in fisheries, indirectly pertinent in addressing conflicts among fishers, the international non-binding guidance offers a more detailed and directly relevant account of the matter. The 1995 Code of Conduct for Responsible Fisheries adopts a precautionary approach in dealing with conflicts in *fisheries management*, requiring States and RFMO and arrangements to 'regulate fishing in such a way as to *avoid risk of conflict* among fishers using different vessels, gear and fishing methods.'[92] This Article 7.6.5 of the Code is the only provision explicitly referring to 'conflict', but there are several measures to avoid risk of conflict outlined in the Code. For instance, encouraging States to: develop and apply 'selective and environmentally safe fishing gear and practices';[93] recognise traditional practices, needs, and interests of indigenous and local fishers and their communities when adopting conservation and management measures (CMMs); evaluate social impacts from alternative CMMs;[94] and implement effective fisheries monitoring, control, surveillance, and

91. ibid., Articles 10(3), 12 and 14.

92. FAO, 'Code of Conduct for Responsible Fisheries' (adopted at the 28th Session of the FAO Conference, Rome, 31 October 1995) Resolution 4/95 FAO Conference (CCRF), Article 7.6.5, emphasis added.

93. ibid., Article 6.6.

94. ibid., Articles 7.6.6 and 7.6.7.

law enforcement measures, including through observer programmes, inspection schemes, and vessel monitoring systems,[95] which are important measures to deal with conflicts in fisheries. While these provisions relate to fisheries management, other provisions of the Code are attentive to the protection of fishers, such as Article 6.17, recommending States to ensure 'safe, healthy and fair working and living conditions' in fishing activities, and Article 6.18, calling for the protection of 'rights of fishers and fishworkers, particularly those engaged in subsistence, small-scale and artisanal fisheries, to a secure and just livelihood', also noting the importance of 'preferential access' to traditional fishing grounds. These measures are key to avoiding conflicts in fisheries, because fishers would be less likely to dispute one another if they are secured social protection and priorities, particularly in the case of the most vulnerable groups.

In this respect, there are other two voluntary instruments adopted under the FAO auspices that are particularly important in dealing with conflicts in fisheries, and are particularly concerned with vulnerable groups. The 2012 Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forestry in the Context of National Food Security (Tenure Guidelines), which deals with conflicts in *fisheries tenure*, are informed by the principle that States should 'prevent tenure disputes, *violent conflicts* and corruption' by taking 'active measures to prevent tenure disputes from arising and from escalating into violent conflicts'.[96] The Tenure Guidelines further suggest States to respect and promote 'customary approaches' of local communities with customary tenure systems to 'resolving tenure conflicts within communities', and to

95. ibid., Article 7.7.3.

96. FAO, 'Voluntary Guidelines on the Responsible Governance of Tenure of land, fisheries and forests in the Context of National Food Security' (adopted at the 38th (Special) Session of the Committee on World Food Security, Rome, 22 May 2012) (Tenure Guidelines), subsection 3.1(5).

develop or strengthen 'means of resolving conflict' between such communities.[97] Moreover, States are called upon to facilitate the operations of efficient and transparent markets to foster equal participation and opportunities for mutually beneficial tenure rights' transfers that 'lessen conflict and instability'.[98] Section 25 of the Tenure Guidelines is entirely dedicated to 'conflicts in respect to tenure of land, fisheries and forests'. While some recommendations under this section concern situations of armed conflict among States,[99] others relate to conflicts arising from 'tenure problems', noting the importance of resolving such problems through 'peaceful means', such as by using customary and local mechanisms that provide 'fair, reliable, gender-sensitive, accessible and non-discriminatory ways of promptly resolving disputes' over tenure rights to fisheries.[100] As such, the Tenure Guidelines comprehensively address conflict in fisheries tenure.

The Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines) acknowledge the conflicts between small-scale fishers and their communities and large-scale fishing operations, requiring States to provide special support to the former groups and combat arbitrary evictions, as small-scale fishing communities are 'often the weaker party in conflicts with other sectors'.[101] Elaborating on the Code's Article 6.18, the SSF Guidelines call upon States to protect small-scale fisheries through the 'creation and enforcement of exclusive zones' for this sector, and to give due consideration to small-scale fisheries prior to entering into fish-

97. ibid., subsection 9.11.

98. ibid., subsection 11.2.

99. ibid., subsection 25.1 and 25.2.

100. ibid., subsection 25.3 and 25.4.

101. FAO, 'Voluntary Guidelines for Securing Sustainable Small-scale fisheries in the context of food security and poverty eradication' (adopted at the 31st Session of the Committee on Fisheries, Rome, 9-13 June 2014) (SSF Guidelines), preamble and subsection 5.9.

ing agreements.[102] The SSF Guidelines follow the ecosystem approach to fisheries, which is based on precautionary and risk-management principles,[103] and go beyond the Code's provisions protecting fishers and their rights, by following a human rights-based approach.[104] The Guidelines' principles are anchored on international human rights law and standards,[105] enshrined throughout the Guidelines' text, which heighten its normative significance.[106] In connection with the Tenure Guidelines, the protection of human rights and dignity of small-scale fishers in situations of armed conflict are also promoted by the SSF Guidelines.[107]

There are other voluntary instruments and technical guidelines under the FAO auspices that are relevant for conflicts in fisheries by means of addressing specific matters and aiming to promote safety, security and order in fisheries governance generally. These instruments include the 2001 IPOA-IUU,[108] and the 2010 Recommendations for decked fishing vessels of less than 12 metres in length.[109] Notably, the 2014 Voluntary Guidelines for Flag State Performance,[110] among other things, offer a framework by which to measure the effectiveness of flag State performance in deterring IUU fishing, elaborating on requirements for vessel

102. ibid., subsection 5.7.

103. ibid., subsection 3.1(8).

104. ibid., subsection 1.2.

105. ibid., subsection 3.

106. Julia N. Nakamura, 'Legal Reflections on the Small-Scale Fisheries Guidelines: Building a Global Safety Net for Small-Scale Fisheries' (2022) 37 IJMCL 31.

107. SSF Guidelines (n 101), subsection 6.18.

108. FAO. 2001. International Plan of Action to prevent, deter and eliminate illegal, unreported and unregulated fishing (Rome, FAO. 2001) 24p.

109. Food and Agriculture Organization of the United Nations, 'Voluntary Guidelines for Flag State Performance' (adopted on 8 February 2013) (Guidelines for Flag State Performance).

110. IMO/FAO/ILO, 'Recommendations for Decked Fishing Vessels of Less than 12 metres in Length and Undecked Fishing Vessels' (approved by the 87th Session of the IMO Maritime Safety Committee, 12 to 21 May 2010; the 309th Session of the Governing Body of ILO; and recommended by 29th Session of COFI in January 2011).

authorisation, record keeping, flag State compliance measures, and co-operation between flag and coastal States.[111] It is also worth noting that the ecosystem approach to fisheries (EAF), whose normative content and guidelines were developed by the FAO through technical guidelines and legal guides,[112] is concerned with addressing conflicts in fisheries management. One of the EAF legal components is about 'mechanisms for conflict management', calling for the use of integrated management of aquatic ecosystems to 'minimize conflict between resource[s] users'.[113] This matter is, in fact, notably absent in many countries' fisheries legislation, as recent EAF legal assessments have indicated.[114] Importantly, in the 2021 Declaration for Sustainable Fisheries and Aquaculture of the FAO Committee on Fisheries, Member States stressed again the need to address issues of safe, healthy and fair working conditions, forced labour, social protection, and safety at sea, in cooperation with other relevant international organisations, including the ILO and IMO.[115]

111. Judith Swan and Karine Erikstein, 'Voluntary Guidelines for Flag State Performance: A New Tool to Conquer IUU Fishing' (2014) 29 International Journal of Marine and Coastal Law 116.

112. FAO, 'The ecosystem approach to fisheries' (FAO Technical Guidelines for Responsible Fisheries No 4, Suppl 2 Rome 2003); FAO, 'The human dimensions of the ecosystem approach to fisheries' (FAO Technical Guidelines for Responsible Fisheries No 4, Suppl 2, Add. 2, Rome, 2009); FAO, A How-to Guide on legislating for an ecosystem approach to fisheries (FAO EAF-Nansen Project Report No 27 Rome, 2016); FAO, Legislating for an ecosystem approach to fisheries – revisited – an update of the 2011 legal study on the ecosystem approach to fisheries (FAO EAF-Nansen Programme Report No. 36, Rome, 2021).

113. FAO, A How-to Guide on legislating for an ecosystem approach to fisheries (FAO EAF-Nansen Project Report No 27 Rome, 2016), at 24.

114. E.g. Julia N. Nakamura and others, 'Legal report on the ecosystem approach to fisheries in Benin – An analysis of the ecosystem approach to fisheries in selected national policy and legal instruments of Benin' (2022) EAF-Nansen Programme No. 53. Rome, FAO. https://doi.org/10.4060/cc2120en; Julia N. Nakamura J, Teresa Amador and Abdullah Al Arif, 'Legal report on the ecosystem approach to fisheries in Bangladesh – An analysis of the ecosystem approach to fisheries in selected national policy and legal instruments of Bangladesh' (2022) EAF-Nansen Programme No. 49. Rome, FAO. https://doi.org/10.4060/cc2560en.

115. FAO, '2021 COFI Declaration for Sustainable Fisheries and Aquaculture' (FAO, Rome, 2021).

3.3 Regional Approaches to Conflicts in Fisheries

In addition to more geographically agnostic instruments, international fisheries law also lies across a system of regional mechanisms, including the regional fisheries management organisations (RFMOs). These are regulated under the LOSC and the UNFSA.[116] RFMOs lay out important obligations, through CMMs, for their respective Member States to caretake migratory fish stocks falling under the concerned RFMO's area of competence, as well as set out requirements to be observed by flag States' associated fishing activity. As such, RFMOs can control conflictual behaviour among fishing vessels flying the flags of its Member States, and influence the conditions that may lead to social volatility in RFMOs' areas of competence. They also serve to facilitate States' cooperation in managing and conserving migratory fish stocks, but they remain insufficient in addressing conflicts in fisheries because their mandates to no cover conflicts as a topic, and – only more recently – have certain RFMOs been addressing issues such as labour and safety in conservation and management measures. However, in general, regional fishery bodies, not only RFMOs but also regional fishery advisory bodies (RFABs) have the potential to, inter alia, build trust between States, foster geopolitical cohesion through co-management, reduce competition, support collective resource control and collectively fashion legal stipulations that promote peace.[117] Ratner et al., for instance, show how collaborative, multi-stakeholder dialogue workshops have reduced conflict over fresh-water fisheries resources in Uganda, Zambia, and Cambodia. While by no means an assured means to counter-conflict, Ratner et al., explain how

116. LOSC, Articles 63-65; UNFSA, Article 8.

117. Cullen Hendrix and Zachary Lien. 'Managing fisheries conflict in the 21st century: a role for regional management organizations?' *New Security Beat*, (1 February 2021) <https://www.newsecuritybeat.org/2021/02/managing-fisheries-conflict-21st-century-role-regional-management-organizations/> accessed 31 December 2022.

voicing concerns, reflecting on historic challenges, and strategizing for future coexistence "can strengthen marginalised voices, help make incremental improvements and provide examples of innovation that lay the groundwork for more systemic reforms" - ultimately contributing to conflict prevention.[118]

Certain RFMOs' constituent instruments contain provisions that enshrine the concern with conflict in fisheries from a State's perspective, but not direct conflict among fishers. For instance, the Preamble of the Convention for the Conservation of the Antarctic Marine Living Resources (CCAMLR) states 'that it is in the interest of all mankind to preserve the waters surrounding the Antarctic continent for peaceful purposes only and to prevent their becoming the scene or object of international discord.'[119] Other RFMOs' constituent instruments include articles detailing principles and processes for dispute resolution between Member States. Adopting a preventative language, the South Pacific Regional Fisheries Management Organisation (SPRFMO) Convention, for instance, specifies that 'Contracting Parties shall cooperate in order to prevent disputes.'[120]

In turn, the Western and Central Pacific Fisheries Commission (WCPFC)[121] has built upon port and coastal State approaches to craft specific sanctioning mechanisms that guard Member States from illicit

118. Blake D. Ratner and others, 'Investing in Multi-Stakeholder Dialogue to Address Natural Resource Competition and Conflict' (2018) 28 Development in Practice 799 <https://doi.org/10.1080/09614524.2018.1478950> at 810.

119. Convention on the Conservation of Antarctic Marine Living Resources (adopted 20 May 1980, entered into force 7 April 1982) 1329 UNTS 47.

120. Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean (adopted 14 November 2009, entered into force 24 August 2012) 2899 UNTS.

121. Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (adopted 5 September 2000, entered into force 19 June 2004) 2275 UNTS. 43.

actors. IUU blacklists - as they have come to be known - are used by over a dozen regional bodies to identify, shape, and restrict the operations of vessels that do not comply with the stipulations of regional fisheries law.[122] Established in its sixteenth regular session in 2019, the WCPFC maintains an IUU fishing blacklist that is designed to target vessels who have 'undermined the effectiveness of the WCPFC Convention and the WCPFC measures in force.'[123] Since the functions of the WCPFC are inclusive of promoting 'the peaceful resolution of disputes', their IUU fishing blacklist could, in theory, be interpreted as a tool to restrain or deter vessels that engage in or initiate fisheries conflict. The penalties for vessels landing on an IUU blacklist can be strict, including restrictions on transshipments, landing, re-supply, chartering, and commercial transactions within Member States.[124] Many regional bodies now share intel and automatically sanction vessels that appear on other organisations' lists.[125]

Meanwhile, other multilateral platforms, like the Nauru Agreement, have seemingly addressed conflict by stoking coordinated, adaptive management of common stocks.[126] The Nauru Agreement's vessel day scheme

122. Zoe Scanlon, 'Safeguarding the Legitimacy of Illegal, Unreported and Unregulated Fishing Vessel Listings' (2019) 68 International and Comparative Law Quarterly 369.

123. Western and Central Pacific Fisheries Commission 'Conservation and Management Measure to Establish a List of Vessels Presumed to have Carried out Illegal, Unreported and Unregulated Fishing Activities in the WCPO' Sixteenth Regular Session (5-11 December 2019) S 1.

124. ibid; Scanlon (n 122).

125. ibid.

126. Merrick Burden and Rod Fujita, 'Better Fisheries Management Can Help Reduce Conflict, Improve Food Security, and Increase Economic Productivity in the Face of Climate Change' (2019) 108 Marine Policy 103610 <https://doi.org/10.1016/j.marpol.2019.103610>; Nauru Agreement Concerning Cooperation in the Management of Fisheries of Common Stocks (adopted 11 February 1982, entered into force 2 December 1982) (Nauru Agreement).

set out in the Palau Arrangement, for instance,[127] limits the amount of fishing effort – measured in the number of purse seine 'fishing days' – across the collective EEZs of its Parties. These fishing days are internally allocated to the Parties and can be sold to non-Parties for a standardised, minimum licensing fee. As a block, the Parties to the Nauru Agreement are able to negotiate effectively for the price of the vessel days, providing them with more control over the fishery. Certain experts have suggested block-system negotiations have reduced the need for State-State competition in bidding wars and limited the competition between different fishing fleets in the region.[128] Collectively, these outcomes can mitigate local resentment toward foreign fishing vessels while also providing negotiating leverage to Member States - especially when it comes to redressing potential conflicts or IUU activities that have come as a result of distant water fishing efforts.[129]

Other organisations like the Pacific Islands Forum Fisheries Agency (FFA)[130] have supported monitoring and surveillance. The Niue Treaty on Cooperation in Fisheries Surveillance and Law Enforcement in the South Pacific Region[131] sits within the auspices of the FFA and ar-

127. Palau Arrangement for the Management of the Western Pacific Purse Seine Fishery (adopted 2 October 1992, entry into force 31 October 1995) (as amended 1 December 2007) (Palau Arrangement).

128. Merrick Burden and Rod Fujita, 'Better Fisheries Management Can Help Reduce Conflict, Improve Food Security, and Increase Economic Productivity in the Face of Climate Change' (2019) 108 Marine Policy 103610.

129. Gilman EL, Ardron J, Clark N, Clark N, 'Standard for Assessing Transparency in Information on Compliance with Obligations of Regional Fisheries Management organizations: Validation through assessment of the Western and Central Pacific Fisheries Commission' (2015) 57 Marine Policy.

130. South Pacific Forum Fisheries Agency Convention (adopted 10 July 1979, entered into force 9 August 1979).

131. Niue Treaty on Cooperation in Fisheries Surveillance and Law Enforcement in the South Pacific Region (adopted 9 July 1992, entered into force 20 May 1993) (Niue Treaty).

guably gives Member States opportunities to further develop collaborative fisheries enforcement through efforts including information exchange, subsidiary agreements to share surveillance infrastructures, and the interjurisdictional coordination of prosecutions. The FFA also has a distinguished role in facilitating the national implementation of vessel monitoring systems and observer requirements for foreign flagged vessels operating in certain countries, such as the Solomon Islands - contributing to resource sovereignty, peaceful fisheries management and overall system legitimacy.

4. Conclusions and Recommendations

Fisheries conflicts are formidably embedded within a larger societal curtain involving sustainability ambitions, macroeconomic considerations, and food security features. Amongst this sea of pressures, explosive and sporadic altercations between fishers must be halted for the sake of their lives and the overall maritime order and security. At the same time, these conflicts occur at the fringes of mainstream media and political discourse, which make their mitigation very sensitive and difficult to achieve by decision makers. In this article, we shed light on what fisheries conflicts mean and how different types of conflicts occur in fisheries. We identified and interpreted selected international and regional fisheries legal instruments to clarify their approaches that are useful in addressing fisheries conflict.

Critically, we find that such legal approaches tackling fisheries conflict are reflective of the complex reality of the industry: there is no single *force de jure* or one-stop-shop addressing conflict. Instead, tactics are baked into the underlying international legal framework and vary considerably from across a slate of international legal tools. While most instruments

do not refer explicitly to 'conflict' in a fisheries context, they provide a range of States' obligations (in the case of legally binding instruments) and States and non-State actors' guidance (for non-binding instruments), which are instrumental in preventing fisheries conflicts. These requirements and guidance are important for setting out principles (e.g. combatting fisheries conflict, promoting and applying the ecosystem approach to fisheries), safety standards and decent working conditions (e.g. tackling forced labour), management approaches (e.g. establishing fisheries exclusive zones, delineating zones for small-scale fishers), monitoring, control, and surveillance (e.g. inspections, combating IUU fishing), and enforcement (e.g. applying adequate penalties for violation of rules), all which can be used to tackle fisheries conflicts and promote maritime security.

While the LOSC, UNFSA and PSMA have a stronger impact, others have yet to attract a broader community of States in adhering to its obligations, which is the case of the SUA Convention, the Compliance Agreement and the C-188. This is where non-binding instruments, such as the Tenure Guidelines, the SSF Guidelines, and the IPOA-IUU, can play a significant role in detailing requirements relevant to fisheries conflict, which States and non-State actors can implement, granted with more flexibility. In turn, regional mechanisms offer legal solutions with a necessary level of geographic specificity to target certain more localised, transboundary concerns like perceived unfairness over quota distribution.

Through the coordinated approach of regional platforms, States can also diplomatically negotiate, collectively take decisions, and overcome historical tensions, which can ultimately reduce conflict in fisheries at the individual level, shaping a more peaceful governance of common fisheries resources. While there may not be a silver bullet solution, the examples outlined in this chapter offer potential for effective prevention, control and management of fisheries conflict in the 21th century Anthropogenic fishing industry. We do not consider that a dedicated legal regime on fisheries conflict would be desirable nor practicable, as dispa-

rate motivations, nature, and different types of fisheries conflict necessarily demand multiple legal responses from different legal regimes. We showed what international fisheries law has to offer, but there is certainly an array of other international and regional instruments from other specialised regimes, notably human rights, biodiversity, and even trade (if considered potential trade sanctions that could be imposed for States whose nationals or flagged vessels indicate high incidents of fisheries conflict), which can complement and mutually support the legal responses against fisheries conflict. As Vidas articulates, 'we need to enter the transitional period where existing structures are retained, of necessity—as the only means we have to facilitate the shift in our approaches.'[132] At the same time, current international fisheries law must be moulded to fill gaps and evolve with emerging trends in fisheries conflict - climate change impacts, resource scarcity, civil conflicts, and technological advancements. As international fisheries law exemplifies, 'transboundary fisheries management is the path forward for the future.'[133] However, peripheral regimes including human rights, climate change, international environmental law, and international business administration also have important ties to fishing operations and could be integrated into the conflict conversation to broaden the normative lens trough which we consider international fisheries conflict. As Brown and Keating articulate: '[i]t may not be too much of an exaggeration to suggest that politics in the 21st century will be shaped, in part, by how well these disputes can be resolved.'[134]

132. Davor Vidas, 'The Anthropocene and the International Law of the Sea' (2011) 369 Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences 909.

133. Pomeroy and others, (n 6).

134. Oli Brown and Michael Keating, 'Addressing Natural Resource Conflicts Working Towards More Effective Resolution of National and Sub-National Resource Disputes' (2015) Chatham House: The Royal Institute of International Affairs, at 2.

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II

The Human Dimension of Fishing Activities: Towards A Broader Meaning of Illegal Fishing?

*Andrea Longo**

Abstract

Fishing has a tremendous impact on the environment. Poor governance, weak or inexistent enforcement mechanisms, and excessive and unregulated subsidies have resulted in the overexploitation of fish stocks around the world. Consequently, Target 14.4 under Agenda 2030 – i.e. ending overfishing of marine fisheries by 2020 – has clearly not been met. Yet, while scholars have focused mainly on the environmental dimension of fishing, concerns for the protection of the individual in the fisheries sector are progressively coming to the foreground. As a matter of fact, fishing activities may heavily impair the enjoyment of fundamental rights of numerous groups of people, ranging from coastal communities to end-consumers, from economic operators within the fishery sector to people on board fishing vessels, including fishers and fishery observers.

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Against this background, this paper calls for the integration of human security concerns into the existing instruments making up the regime for the sustainable conservation and management of marine living resources, specifically addressing the pressing living and working conditions on board fishing vessels. In this regard, it first provides an overview of States' obligations on the protection of the individual on board fishing vessels under both international human rights law and the law of the sea; then, it investigates the paradigm of IUU fishing and discusses possible ways to rethink such a paradigm with a view to addressing the growing concerns for human rights and the human security dimension, thereby contributing to shape a new global strategy to enhance the protection of the individual on board fishing vessels.

Keywords: IUU Fishing, Human Security, Fishing Vessels, Safety and Labour Standards, Human Rights, Illegal Fishing, Sustainable Fishing

1. Introduction

The regime on the conservation and management of marine living resources, as laid down in the United Nations Convention on the Law of the Sea (UNCLOS),[1] is primarily grounded on the paradigm of economic exploitation. Poor governance, weak or inexistent enforcement mechanisms, and excessive and unregulated subsidies have resulted in the overexploitation of fish stocks around the world, with devastating consequences both

1. United Nations Convention on the Law of the Sea, adopted in Montego Bay on 10 December 1982 and entered into force on 16 November 1994, 1834 UNTS 397 (UNCLOS).

on the marine environment,[2] and on the economic sustainability[3] of such activities.[4] In the aftermath of the 1992 Rio Declaration on Environment and Development,[5] the growing attention for environmental considerations worldwide prompted the adoption of multiple instruments incorporating the principle of sustainability into the broader fisheries regime.[6] Particularly significant in this regard is the 2001 International Plan of Action against illegal, unreported, and unregulated fishing (IPOA-IUU),[7] aimed at eradicating the phenomenon of illegal, unreported, and unregulated (IUU) fishing. This notion is a catchall expression referring to any vessels' non-compliant behaviour with the laws and regulations under the

2. In this regard, fish stocks within biologically sustainable levels have collapsed by nearly 30 percent in approximately 45 years, reaching 64.6 percent in 2019. Also, the overall number of fully fished and overfished stocks amounts to 92.8 percent, leaving only the remaining 7.2 percent of stocks fished below their capacity. 'The State of World Fisheries and Aquaculture 2022' (FAO, 2022) 46.

3. For instance, in 2017 the World Bank estimated an annual loss of approximately $83 billion of revenues due to overfishing, a huge amount of money that could instead accrue to the global fisheries sector, bringing potential benefits and growth, including for developing States. 'The Sunken Billions Revisited: Progress and Challenges in Global Marine Fisheries. Environment and Development' (World Bank, 2017) 83.

4. For a broader overview of current and future challenges within the international fisheries regime, see the recently published International Law Association's White Paper. Niki Aloupi, and Gabriele Göttsche-Wanli, 'White Paper 17 - Ocean' (International Law Association, 2022) 66.

5. UN General Assembly, 'Report of the United Nations Conference on Environment and Development – Annex I: Rio Declaration on Environment and Development', A/CONF.151/26 (Vol. I) (3-14 June 1992).

6. See *inter alia*, the 1993 FAO Compliance Agreement, the 1995 United Nations Fish Stocks Agreement, the 1995 Code of Conduct for Responsible Fisheries. The literature on this is vast. See, inter alia, William Edeson, David Freestone, and Elly Gudmundsdottir, *Legislating for Sustainable Fisheries: A Guide to Implementing the 1993 FAO Compliance Agreement and 1995 UN Fish Stocks Agreement* (World Bank Publications 2001); Mary Ann Palma, William Edeson, and Martin Tsamenyi, *Promoting Sustainable Fisheries: The International Legal and Policy Framework to Combat Illegal, Unreported and Unregulated Fishing* (Brill Nijhoff 2010); Simone Borg, *Conservation on the High Seas – Harmonizing International Regimes for the Sustainable Use of Living Resources* (Edward Elgar 2012).

7. International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing; Food and Agriculture Organization, United Nations 2001.

broader sustainable fisheries regime,[8] thereby premised on its very same economic- and environmental-oriented foundations.

However, in recent years numerous factors have progressively brought the attention to the impact of fishing activities on the life and fundamental rights of a wide range of individuals, including coastal communities, economic operators and end-consumers, fishers and other crewmembers on board fishing vessels. As a matter of fact, fish is vital for human consumption,[9] and constitutes a source of employment for many people, especially coastal dwellers and indigenous communities.[10] Whilst end-consumers and industrial enterprises are dependent on fish, the fishing sector remains a key one for numerous States, both developed and developing ones.[11] In addition, fishing is deemed as one of the most dangerous professions in the world,[12] both due to the inherent dangers

8. ibid., para 3.

9. Fish is a key source of proteins. Recent data show that about 89% of fish production is reserved to human consumption: 'Of the overall production of aquatic animals, over 157 million tonnes (89 percent) were used for human consumption. The remaining 20 million tonnes were destined for non-food uses, to produce mainly fishmeal and fish oil (16 million tonnes or 81 percent) [...] Per capita consumption of aquatic animal foods grew by about 1.4 percent per year, from 9.0 kg (live weight equivalent) in 1961 to 20.5 kg in 2019. Preliminary data for 2020 point to a slight decline to 20.2 kg', 'The State of World Fisheries and Aquaculture 2022' (n 2) 1.

10. 'In 2020, an estimated 58.5 million were engaged as full-time, part-time, occasional or unspecified workers in fisheries and aquaculture, and of these approximately 21 percent were women. By sector, 35 percent were employed in aquaculture and 65 percent in capture fisheries', ibid., 5.

11. UNGA Res 71/123, 'Sustainable Fisheries' (7 December 2016) UN Doc A/RES/71/123, 64.

12. 'Deadly Life at Sea: UN Partners Spotlight Depths of Danger in Fishing Industry' (UN News, 21 November 2019) <https://news.un.org/en/story/2019/11/1051941> accessed 31 December 2022. Some conservative data highlights an annual fatality rate of 80 lives lost per 100.000 fishers, whilst fisheries-related injuries and illnesses are far higher. Joint FAO/IMO/ILO Report 'Joining Forces to Shape the Fisheries Sector of Tomorrow - Promoting safety and decent work in fisheries through the application of international standards' (FAO, IMO, ILO 2020), Joint report. By contrast, a recent study has identified an alarming rate three to four times higher than previous estimates, suggesting that more than 100,000 fishing-related deaths occur each year, approximately 300 people per day. 'More Than 100,000 Fishing-Related Deaths Occur Each Year, Study Finds' (PEW Charitable Trust November 2022) Brief.

of working far from shore for weeks or months, in a limited space, operating under difficult working conditions, and due to the risk of abusive practices inflicted by operators or other crew members to fishers and fishery observers on board fishing vessels.[13]

Against this background, this contribution draws attention to the social and human dimension of fishing activities, specifically addressing the lack of protection of individuals on board fishing vessels. In this regard, the paper advocates for the integration of human security concerns into the existing instruments making up the regime for the sustainable conservation and management of marine living resources.[14] In particular, it calls for the rethinking of the illegal fishing paradigm so as to address the protection of persons on board fishing vessels, thereby reconciling the social dimension of sustainable fishing with the economic and environmental ones. Accordingly, the paper first provides an overview of States' obligations to protect the individual on board fishing vessels under both international human rights law, and the law of the sea; then, it investigates the paradigm of IUU fishing, and discusses possible ways to

13. See, *inter alia*, 'Out of Sight, Out of Mind: Seafarers, Fishers and Human Rights' (International Transport Workers' Federation 2006); 'Caught at Sea: Forced Labour and Trafficking in Fisheries' (International Labour Office and Sectoral Activities Department 2013); 'Slavery at Sea: The Continued Plight of Trafficked Migrants in Thailand's Fishing Industry' (Environmental Justice Foundation 2014). As to the treatment of fishery observers see, *inter alia*, 'Independent Case Review into the Investigation of the Death of Kiribati Fisheries Observer Eritara Aati Kaierua' (Human Rights at Sea, 2021).

14. In a nutshell, human security calls for the protection of the individual from today's global challenges, moving beyond the traditional paradigm of State security with a view to complementing it. On the human security paradigm see, *inter alia*, United Nations, 'Human Development Report 1994' (United Nations, 1994) 24–33 <https://hdr.undp.org/content/human-development-report-1994> accessed 31 December 2022. See also Commission on Human Security, 'Human Security Now' (The Commission, 2003) <https://digitallibrary.un.org/record/503749> accessed 31 December 2022; Barbara Von Tigerstrom, *Human Security and International Law: Prospects and Problems* (Hart Publishing 2007); Dorothy Estrada-Tanck, *Human Security and Human Rights under International Law: The Protections Offered to Persons Confronting Structural Vulnerability* (Hart Publishing, 2016).

rethink such a paradigm with a view to addressing the growing concerns for human rights and the human security dimension, thereby contributing to shaping a new global strategy to enhance the protection of the individual on board fishing vessels.

2. How Sustainable Is Sustainable Fishing? An Overview of Human Rights Abuses on Board Fishing Vessels

Fishing activities[15] constitute by themselves a fundamental source of risk for the rights of individuals on board fishing vessels. Fishers may be exposed to the harshest weather conditions, forced to physical and mental fatigue, and far from their home and families for months, if not years.[16] In addition, the already inherently tough working conditions may at

15. By 'fishing activities' the author refers to the searching for, catching and harvesting of marine living resources, as well as to activities in preparation for or in support of the searching, catching and harvesting, including bunkering and transshipping. Such a broader interpretation reflects the complex and multi-actor character of the fisheries sector, besides finding confirmation in the text of several regional fisheries frameworks as well as in the domestic legal orders of States. As to the first, see *inter alia* Article II(3)(a-b) of the Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean, which reads as follows: '3. "Fishing" means: (a) the catching, taking or harvesting of fish, or any other activity which can reasonably be expected to result in the catching, taking or harvesting of fish; or (b) any operation at sea in preparation for or in direct support of any activity described in sub-paragraph (a) above.' As to States, see *inter alia*, the definition of 'fishing' under Title 16 (Conservation), Chapter 38, Subchapter 1, § 1802 of the US Code <https://uscode.house.gov/view.xhtml?req=(title:16%20section:1802%20edition:prelim)> accessed 31 December 2022.

16. Whilst the Covid-19 pandemic and the related restrictive measures have brought to the attention the vulnerability of the general category of seafarers, trapped at sea for several months without the possibility of going back home, fishers in some parts of the world are often forced to work out at sea for very long periods of time, especially due to the transshipping and bunkering mechanisms. In this regard, see *inter alia*, 'Out of Sight, Out of Mind' (n 13) 34; see more generally 'Caught at Sea' (n 13) 47.

times be only one side of the coin. On the one hand, shipowners' or charterers' negligent behaviour or bad faith may lead to fishing vessels operating with scarce safety equipment or in the absence of seaworthiness certifications and regular controls to the on-board machinery.[17] On the other, shipmasters and other crew members may inflict inhuman and slavery-like treatments to fishers and fishery observers on board vessels navigating far from the coast, thus fuelling a system of structural human rights violations hardly detectable in light of the exceptional features of the maritime environment.[18]

Even though new technologies and other innovations on board fishing vessels (e.g. smart navigation systems, modern life-saving equipment, and CCTVs) have generally improved safety at sea, such improvements are more tangible in Europe, North America, and East Asia, while being still not common in the small-scale fisheries sectors of developing countries.[19] Yet, ensuring the protection of individuals on board fishing vessels also remains a challenge for developed States. For instance, the February 2022 sinking of a Spanish fishing vessel off the coast of Canada, which caused the death of 21 fishers out of 24 crew members,[20] shows that the lack of

17. For instance, though not concerning specifically a fishing vessel, in the *Bakanova v Lithuania* case, the European Court of Human Rights was confronted with the death of an engineer on board a Lithuanian-flagged cargo ship. Interestingly, the examination of the facts of the case showed a potential misconduct on the part of the shipowner with respect to the lack of technical checks and certifications as to the proper functioning of its engine and machinery. *Bakanova v Lithuania* [2016], ECtHR 11167/12.

18. See references at 13.

19. 'The State of World Fisheries and Aquaculture 2022' (n 2) 133.

20. Maria Cramer and Raphael Minder, 'At Least 10 Dead After Spanish Fishing Vessel Sinks in Atlantic' *The New York Times* (15 February 2022) <https://www.nytimes.com/2022/02/15/world/europe/spanish-fishing-boat-sinks-canada.html> accessed 31 December 2022. See also the recent investigation on the BBC website, '¿Cómo sobrevivió el capitán?: las preguntas sin resolver del naufragio de un pesquero español en el que murieron 21 de los 24 marineros' *BBC News - Mundo* (21 July 2022) <https://www.bbc.com/mundo/noticias-internacional-62222619> accessed 31 December 2022.

safety measures on board and the difficulties in enforcing them in the middle of the ocean are not problems limited only to the least developed regions of the world.[21] Similarly, evidence of forced labour within the fishing industry of some European countries draws attention to what is not an isolated phenomenon limited to least developed regions of the world, but rather a structural problem affecting the fisheries sector at large.[22]

Against this background, this section provides an overview of the human rights encroachment suffered by individuals on board fishing vessels and deriving from the State's failure to discharge its obligations at sea. In particular, it looks more closely at two sets of obligations applying to people on board fishing vessels and stemming from the numerous global and regional human rights law instruments, and the law of the sea rules on flag State jurisdiction. A third set of obligations, namely that applying in the context of law-enforcement operations, will not be discussed due to space limits; yet, future works might also take that into account to further strengthen the arguments presented in this paper.

2.1 Protecting the Individual on Board Fishing Vessels: State Obligations Under International Human Rights Law

International human rights law requires States to protect individuals, including in the maritime space. The past decade witnessed a growing liter-

21. For instance, as far as it concerns the impairment of fishers' right to health see, *inter alia*, Elpida Frantzeskou and others, 'Risk Factors for Fishermen's Health and Safety in Greece' Int Marit Health 8.

22. In this regard, see *inter alia* the allegations of forced labour within the Irish fishing industry brought by the legal advocacy group Liberty Shared to the US Department of Home Security's Customs and Border Protection. Mark Godfrey, 'Ireland faces possible sanctions from US due to fisheries labor issues' *SeafoodSource* <http://www.seafoodsource.com/news/environment- sustainability/ireland-faces-possible-sanctions-from-us-due-to-fisheries-labor-issues> accessed 31 December 2022. Likewise, see also the 'Letting exploitation off the hook? Evidencing labour abuses in UK fishing' (The University of Nottingham Rights Lab, 2022).

ature on the enforcement of human rights obligations at sea, reflecting an interest in this subject matter within both academic and political circles.[23] Such a diffuse interest is mainly due to two factors. On the one hand, the piracy assaults off the coast of Somalia,[24] and the plight of migrants, especially in the Mediterranean Sea.[25] On the other, a number of judicial cases entertained by international courts and treaty bodies, involving direct human rights violations occurring in the maritime space or, more generally, questions regarding the protection of the individual at sea.[26]

By contrast, the enforcement of human rights obligations in the fisheries sector, specifically on board fishing vessels, has received little attention so far.[27] This is primarily due to the fact that these human rights

23. On the enforcement of human rights obligations at sea see, *inter alia*, Irini Papanicolopulu, *International Law and the Protection of People at Sea* (Oxford University Press, 2018). See also Bernard Oxman, 'Human Rights and the United Nations Convention on the Law of the Sea' (1997) 36 Colum. J. Transnat'l L. 399; Tullio Treves, 'Human Rights and the Law of the Sea' (2010) 28 Berkeley J. Int'l L. 1; Tafsir Malick Ndiaye, 'Human Rights at Sea and the Law of the Sea', 10 Beijing L Review 261 (2019); Hélène Raspail, *Les droits de l'Homme et la mer. Actes du colloque du Mans, 24 et 25 mai 2018* (Pedone, 2020); Steven Haines, 'Developing Human Rights at Sea', 35 Ocean Yearbook 18 (2021). As far as it concerns the political debate see, *inter alia*, the numerous policy-making efforts carried out at the EU level with a view to addressing the migration flows in the Mediterranean Sea.

24. See, *inter alia*, Anna Petrig, *Human Rights and Law Enforcement at Sea: Arrest, Detention and Transfer of Piracy Suspects* (Brill Nijhoff, 2014).

25. See, *inter alia*, Itamar Mann, *Humanity at Sea: Maritime Migration and the Foundations of International Law* (Cambridge University Press, 2016); Violeta Moreno-Lax and Efthymios Papastavridis (eds.), *'Boat Refugees' and Migrants at Sea: A Comprehensive Approach: Integrating Maritime Security with Human Rights* (Brill Nijhoff, 2016).

26. See, *inter alia, M/V 'SAIGA' (No 2) (Saint Vincent and the Grenadines v Guinea)*, Judgment, ITLOS Reports 1999, p 10 (International Tribunal for the Law of the Sea). As far as it concerns the jurisprudence of human rights courts or treaty bodes see, *inter alia, Rigopoulos v Spain (dec)* [1999] ECtHR 37388/97; *Medvedyev and Others v France* [2010] ECtHR [GC] 3394/03; *Hirsi Jamaa and Others v Italy* [2012] ECtHR [GC] 27765/09. See also *The Haitian Centre for Human Rights et al v United States* [1997] Inter-American Commission on Human Rights 10.675; *AS and others v Italy* [2021] Human Rights Committee, Communication No 3042/2017; *JHA v Spain* [2008] UN Committee Against Torture, Communication No. 323/2007, CAT/C/41/D/323/2007.

27. The protection of human rights on board fishing vessels is only recently gaining momentum in legal scholarship and political arena, thanks to the increasing awareness of the link between IUU fishing and fisheries crime. See discussion *infra*, Section 2.

violations go easily unnoticed and undetected, for they mostly occur in the middle of the oceans, far from the State's enforcement apparatus. Consequently, human rights courts' and treaty bodies' case law is also very scarce.[28] This may be justified by at least two reasons. First and foremost, where victims on board fishing vessels manage to escape ashore, their access to said human rights courts or bodies may be subject to admissibility criteria such as the respondent State's acceptance of their jurisdiction, including for individual applications, or the prior exhaustion of local remedies, thereby rendering access to justice anything but a straightforward operation.[29]

Regarding the second reason, when they eventually manage to have such courts or bodies hear their case, establishing State responsibility for the human rights violation in question depends on two fundamental elements, namely the finding of State jurisdiction and the determination of the content and scope of the concerned State's human rights obligation allegedly breached. The first is commonly dependent on the State agents' exercise of *de facto* authority and control over the alleged victim

28. To the best knowledge of the author, only three cases concerning aspects of fishing activities have so far been entertained by human rights courts, specifically by the ECtHR. In this regard, see the *Drieman* case, concerning the attempt by some Greenpeace activists to obstacle Norway's whale hunting. *Drieman and Others v Norway (dec)* [2000] ECtHR 33678/96; see also the *Plechkov* and *Yaşar* cases, related to illegal fishing activities in the Romanian Exclusive Economic Zone. *Plechkov v Romania* [2014], ECtHR 1660/03; *Yaşar v Romania* [2019] ECtHR 64863/13.

29. For a general account on reservations to human rights treaties, see inter alia, Liesbeth Lijnzaad, *Reservations to UN-Human Rights Treaties: Ratify and Ruin?* (Martinus Nijhoff Publishers 1995); Ineta Ziemele, *Reservations to Human Rights Treaties and the Vienna Convention Regime: Conflict, Harmony or Reconciliation* (Springer, 2004). As to the rule of prior exhaustion of local remedies, see *inter alia* Cançado Trindade, *The Application of the Rule of Exhaustion of Local Remedies in International Law* (Cambridge University Press, 1983). See also Riccardo Pisillo-Mazzeschi, *Esaurimento dei ricorsi interni e diritti umani* (Giappichelli, 2004).

or human rights violation in question.[30] Therefore, establishing State jurisdiction for violations committed at sea in areas outside national territories - i.e. beyond the territorial sea - is problematic, especially where said violations are committed by private actors such as the shipowner or the master, meaning that no State official is directly involved in the harmful conduct.[31] By contrast, the second requires an in concreto as-

30. The legal scholarship on extra-territorial jurisdiction in human rights law is vast. See, *inter alia*, Marko Milanovic, *Extraterritorial Application of Human Rights Treaties: Law, Principles, and Policy* (Oxford University Press 2011); Samantha Besson, 'The Extraterritoriality of the European Convention on Human Rights: Why Human Rights Depend on Jurisdiction and What Jurisdiction Amounts To' (2012) 25 Leiden Journal of International Law 857; Lea Raible, 'Between Facts and Principles: Jurisdiction in International Human Rights Law' (2022) 13 Jurisprudence 52. For an interesting discussion on the extra-territorial jurisdiction, see also 'Litigating Jurisdiction before the ECtHR: Between Patterns of Change and Acts of Resistance Archives' (*QIL QDI*). As to human rights courts and treaty bodies, they tend to oscillate between different paradigms of State extra-territorial jurisdiction for human rights violations: see *inter alia*, *Lopez Burgos v. Uruguay* [1981] Human Rights Committee [Views] Communication No. R.12/52, 12.2; *Al-Skeini and Others v the UK* [2011] ECtHR [GC] 55721/07, 130-140; *The Environment and Human Rights* [2017] IACtHR [Advisory Opinion] OC-23/17, 104(h); *General Comment No. 36* [2019] HRC, CCPR/C/GC/36, 63; see also *AS and others v Italy* (n 26).

31. Indeed, virtually all cases of human rights violations at sea adjudicated so far concern law-enforcement operations where the enforcing State's agents exercised authority and control over the victims on board. In addition to the cases at n 26, see *inter alia*, *Xhavara and Others v Italy* [2001] ECtHR 39473/98; *Women on Waves and Others v Portugal* [2009] ECtHR 31276/05; *Safi et autres c Grèce* [2022] ECtHR 5418/15. In this regard, Papanicolopulu argued that jurisdiction should be instead interpreted in its *de jure* dimension. Accordingly, human rights violations at sea occurring extra-territorially might be attracted under the jurisdiction of a State by having resort to the rules allocating jurisdiction under international law such as, inter alia, the rules on flag State jurisdiction under Part VII UNCLOS. Papanicolopulu (n 23) 150-154. Such an understanding of jurisdiction was upheld in a number of cases adjudicated by the ECtHR, such as, *inter alia*, the *Leray, Guilcher, Ameon, Margue et Mad contre France* [2001] ECtHR 44617/98, en droit - 1; *Bakanova v Lithuania* (n 17), 63. In particular, the Court in *Banković* explicitly held that, though essentially territorial, the jurisdiction may be exceptionally attached to other grounds, including the flag. In this regard, see *Banković and Others v. Belgium and Others* [2001] ECtHR [GC] 52207/99, 59.

sessment of the State's due diligence obligations[32] to protect the alleged victims, whose content is informed by the concerned State's knowledge of and power over the source of risk.[33] Thus, when it comes to human rights violations committed by non-State actors on board fishing vessels, proving that the State had knowledge or ought to have had knowledge of said specific violations is highly controversial.

Overall, States do have human rights obligations at sea as they do on land,[34] yet, due to both practical difficulties and legal obstacles, these are seldom enforced *in concreto*. Given the wealth of human rights violations on board fishing vessels, an in-depth analysis of all international human rights norms allegedly violated would go beyond the scope of the present

32. For a general account on due diligence obligations, see Riccardo Pisillo-Mazzeschi, 'The Due Diligence Rule and the Nature of the International Responsibility of States' (1992) 35 German Yearbook of Int'l Law 9; Heike Krieger, Anne Peters and Leonhard Kreuzer (eds.), *Due Diligence in the International Legal Order* (Oxford University Press, 2020); Alice Ollino, *Due Diligence Obligations in International Law* (Cambridge University Press, 2022). As for the case law, see *Pulp Mills on the River Uruguay (Argentina v Uruguay)*, Judgment, ICJ Reports 2010, p 14, 101, as well as *Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Bosnia and Herzegovina v Serbia and Montenegro)*, Judgment, ICJ Reports 2007, p 43, 430. As far as it concerns due diligence obligations in the law of the sea, see Doris König, *The Elaboration of Due Diligence Obligations as a Mechanism to Ensure Compliance with International Legal Obligations by Private Actors* (Brill Nijhoff 2018); Ida Caracciolo, 'Due Diligence et Droit de La Mer' in Sarah Cassella (ed), *Le standard de due diligence et la responsabilité internationale* (Pedone, 2018); Irini Papanicolopulu, 'Due Diligence in the Law of the Sea' in Heike Krieger, Anne Peters and Leonhard Kreuzer (eds.), *Due Diligence in the International Legal Order* (Oxford University Press, 2020). See also *Responsibilities and obligations of States with respect to activities in the Area*, Advisory Opinion, 1 February 2011, ITLOS Reports 2011, p 10, 117–120.

33. Ollino, ibid., 133-156. See also Pasquale De Sena, 'La 'Due Diligence' et le Lien entre le Sujet et le Risque qu'il Faut Prévenir: Quelques Observation', in Sarah Cassella (ed.) *Le Standard de Due Diligence et la Responsabilité International* (Pedone, 2018) 248–255.

34. 'Geneva Declaration on Human Rights at Sea' (Human Rights at Sea 2022) <https://www.humanrightsatsea.org/GDHRAS> accessed 31 December 2022.

article.[35] Instead, the next sub-section delves into a further set of obligation binding upon the State, namely those under the law of the sea.

2.2 Protecting the Individual on Board Fishing Vessels: State Obligations Under the Law of the Sea

In addition to human rights obligations, the law of the sea also provides for States' substantive obligations to ensure the protection of individuals on board vessels. In particular, UNCLOS Part VII allocates exclusive jurisdictional powers to the flag State in respect of activities or operations occurring on board ships flying its flag.[36] Thus, the flag State has the obligation to 'effectively exercise jurisdiction and control in administrative, technical and social matters over ships flying its flag',[37] which translates into the State's duty to adopt measures relating to safety at sea including,

35. Such norms are enshrined in all international and regional human rights instruments and apply in the different contexts depending on the concrete circumstances of the case. Amongst many, suffice it to mention the numerous relevant provisions protecting the right to life and the physical and moral integrity of the individual laid down under the International Covenant on Civil and Political Rights, the International Covenant on Economic, Social and Cultural Rights, the European Convention on Human Rights, the American Convention on Human Rights, the African Charter on Human and Peoples' Rights. In addition, a further level of protection is afforded by other more specific instruments such as, *inter alia*, the 1984 Convention against Torture or Other Cruel, Inhuman and Degrading Treatment or Punishment, the 1926 Slavery Convention, the 1956 Supplementary Convention, and other instruments targeting modern forms of slavery such as forced labour and trafficking in persons.

36. In addition to the flag State, also the coastal State and port State may contribute to the protection of the individual on board fishing vessels, at times even with better results than the flag State. In particular, see, *inter alia*, Urfan Khaliq, 'Jurisdiction, Ships and Human Rights Treaties', in Henrik Ringbom (ed.), *UNCLOS Developments in the Law of the Sea* (Martinus Nijhoff, 2015); Sofia Galani, 'Assessing Maritime Security and Human Rights: The Role of the EU and Its Member States in the Protection of Human Rights in the Maritime Domain' (2020) 35 The Int'l J. of Marine and Coastal Law 325.

37. UNCLOS, Article 94.

inter alia, with regard to the construction, equipment, and seaworthiness of ships, the prevention of collisions, and labour conditions.[38] In particular, Article 94 of UNCLOS requires States to conform to 'generally accepted international regulations, procedures and practices'[39] laid down in external instruments and potentially incorporated into the Convention system via the so-called 'rule of reference' technique, provided that they meet certain conditions.[40]

Safety on board vessels is premised on three primary categories of standards. First, those pertaining to the ship itself, i.e. to its construction, design and equipment. Second, those relating to the movement of ships, particularly concerned with regulating the maritime shipping traffic and reducing the risk of collisions. Third, standards relating to the manning and qualifications of the crewmembers, including the master. All these standards may be found in international instruments adopted mainly

38. UNCLOS, Article 94(3)(a-c).

39. UNCLOS, Article 94(3)(a-c).

40. The 'rule of reference' (or *renvoi* in French) is a legal writing technique that allows for the incorporation of rules and standards into a separate conventional system. Most significantly for the purpose of the present contribution, only those rules and standards that are 'generally accepted' or 'applicable' may be incorporated. Though subject to a doctrinal debate, these expressions commonly refer to both the number of States ratifying the instrument containing said rules and standards, and the gross world tonnage represented by them. In this regard, see W van Reenen, 'Rules of Reference in the New Convention on the Law of the Sea, in Particular in Connection with the Pollution of the Sea by Oil from Tankers' (1981) 12 Netherlands Yearbook of International Law 3; Budislav Vukas, 'Generally Accepted International Rules and Standards' in Halfred Soons (ed), *Implementation of the Law of the Sea Convention through International Institutions* (Brill Nijhoff, 2000); Bernard H Oxman, 'The Duty to Respect Generally Accepted International Standards' (1991) 24 52; Mathias Forteau, 'Les renvois inter-conventionnels' (2003) 49 Annuaire français de droit international 71; Catherine Redgwell, 'Mind the Gap in the Gairs: The Role of Other Instruments in Losc Regime Implementation in the Offshore Energy Sector' (2014) 29 The International Journal of Marine and Coastal Law 600; Lan Ngoc Nguyen, 'Expanding the Environmental Regulatory Scope of UNCLOS Through the Rule of Reference: Potentials and Limits' (2021) 52 Ocean Development & International Law 419.

under the auspices of the International Maritime Organisation (IMO).[41] Among these, the 1974 International Convention on the Safety of Life at Sea (SOLAS Convention)[42] is perhaps the most important with regard to construction, design and equipment. It lays down technical rules and standards covering virtually all aspects of safety on board vessels, ranging from the construction of ships to the carriage of equipment and goods, from fire-safety measures to more specific ones applying to nuclear ships or ships operating in polar waters etc. In a similar vein, the 1972 International Regulations for Preventing Collisions at Sea (COLREG)[43] and the 1978 International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW)[44] respectively regulate maritime traffic and ensure that seafarers have a certain qualification and training. Overall, all these instruments are ratified by a very high number of States amounting to about 98 or 99% of world gross tonnage. Therefore, they surely contributed to the harmonisation of the safety standards on board vessels.

However, some of these instruments explicitly exclude fishing vessels from their scope, resulting in their non-applicability to individu-

41. For a complete list of IMO conventions recalled, see Myron Nordqist, Satya Nandan and Shabtai Rosenne, *United Nations Convention on the Law of the Sea 1982 A Commentary, Vol IV: Editor-in-Chief*, vol 16 (Elsevier, 1992) 142–143 and 148; Alexander Proelss and others (eds.), *United Nations Convention on the Law of the Sea: A Commentary* (CH Beck/Hart/Nomos, 2017) 713; Louis B Sohn and others, *Cases and Materials on the Law of the Sea* (Brill Nijhoff, 2014) 153–154.

42. International Convention for the Safety of Life at Sea, adopted in London on 1 June 1974, entered in force on 25 May 1980, 1184 UNTS 278 (SOLAS).

43. Convention on the International Regulations for Preventing Collisions at Sea, adopted in London on 20 October 1972, entered in force on 17 July 1977, 1050 UNTS 151 (COLREG).

44. International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, adopted in London on 1 December 1978, entered in force on 28 April 1984, 1361 UNTS 2 (STCW).

als serving on board such vessels.[45] For this reason, the international community has adopted parallel instruments specifically providing for similar standards to be implemented on board fishing vessels. Yet, the latter instruments are far from receiving a comparable consensus worldwide. For instance, the International Convention for the Safety of Fishing Vessels[46] and its 1993 Torremolinos Protocol[47] failed to meet the ratification threshold and to enter into force,[48] prompting the adoption of the 2012 Cape Town Agreement (CTA),[49] containing looser standards with a view to increasing States' participation. However, this has not yet entered into force either.[50] Accordingly, the very low number of ratifications of said instruments highly undermines the incorporation of their rules and standards into the UNCLOS system via the rule of reference.

45. In this regard, see SOLAS Convention – Chapter I – General Provisions – Part A – Application, definitions, etc. – Regulation 3 – Exceptions, which states that '(a). The present regulations, unless expressly provided otherwise, do not apply to: […] (vi). Fishing vessels.' Likewise, see also Article III(b) STCW.

46. Torremolinos International Convention for the Safety of Fishing Vessels (Torremolinos Convention), adopted in London on 1 October 1977, not in force.

47. 1993 Protocol to the Torremolinos Convention, IMO, adopted on 2 April 1993, not in force.

48. IMO, 'Global Integrated Shipping Information System (GISIS)' <https://gisis.imo.org/Public/ST/Treaties.aspx> accessed 31 December 2022.

49. Cape Town Agreement of 2012 on the Implementation of the Provisions of the 1993 Protocol relating to the Torremolinos International Convention for the Safety of Fishing Vessels of 1977, adopted in Cape Town on 11 October 2012, not in force.

50. GISIS <https://gisis.imo.org/Public/ST/Treaties.aspx> accessed 31 December 2022. At the time of writing, the CTA has been ratified by 17 States and is likely to enter into force in the coming years. A similar pattern may be identified with regard to the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel, adopted in London in 1995, so far ratified by merely 35 States, amounting to less than 9% of the world gross tonnage. GISIS <https://gisis.imo.org/Public/ST/Treaties.aspx> accessed 31 December 2022.

A similar trend can be traced with regard to labour standards laid down in instruments adopted under the auspices of the International Labour Organization (ILO). Indeed, while the 2006 Maritime Labour Convention (MLC)[51] is ratified by 101 of States worldwide,[52] it explicitly excludes fishing vessels from its scope of application.[53] By contrast, the Work in Fishing Convention (WFC)[54] - the sister instrument adopted the year after the MLC and specifically addressing labour conditions on board fishing vessels - has so far received very little endorsement.[55] Accordingly, its rules and standards cannot be incorporated into the UNCLOS system via the rule of reference under Article 94 of UNCLOS. In addition, the WFC only applies to fishing vessels engaged in commercial fishing,[56] expressly defined as excluding recreational and subsistence fishing.[57] Therefore, a consistent number of fishing vessels not meeting these criteria are left outside of the material scope of the WFC, further reducing the effective number of fishers protected under such an instrument.

Overall, even though it would seem common sense to think that ensuring the protection of individuals at sea is amongst the primary ob-

51. Maritime Labour Convention (no. 186), adopted in Geneva on 23 February 2006, entered into force on 20 August 2013, 2952 UNTS 3 (MLC).

52. ILO, 'Normlex - MLC, 2006 - Maritime Labour Convention, 2006 (MLC, 2006)' <https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11300:0::NO::P11300_INSTRUMENT_ID:312331> accessed 31 December 2022.

53. MLC, Article II(4).

54. Work in Fishing Convention (no. 188), adopted in Geneva on 14 June 2007, entered into force on 16 November 2016, 3209 UNTS 1 (WFC).

55. Only 20 States have ratified it so far, with Kenya being the last State to do so in February 2022. ILO, 'Normlex - Ratification of C188 - Work in Fishing Convention, 2007 (No. 188) <https://www.ilo.org/dyn/normlex/en/f?p=1000:11300:0::no:11300:p11300_instrument_id:312333> accessed 31 December 2022.

56. WFC, Article 2(1).

57. ibid., Article 1(a).

jectives of States, when it comes to people on board fishing vessels the reality is different: human rights and law of the sea norms protecting the individual exist, but States tend to be little inclined to enforce them on board fishing vessels, since their actual implementation would come with higher costs for shipowners, ship operators and charterers, potentially resulting in the national registry's loss of attractiveness.[58] In particular, while the enforcement of States' obligations under human rights law highly depends on the circumstances of the case, IMO and ILO instruments applying to persons on board fishing vessels only bind a very limited number of States, thus contributing very little to their effective protection.

Under this perspective, it is submitted that fishing activities carried out without ensuring the protection of fishers and other crewmembers on board might be as illegal as those in breach of the norms on the conservation and management of marine living resources. Put differently, the States' failure to protect people on board fishing vessels under both international human rights law and the law of the sea arguably affects the lawfulness and sustainability of the concerned fishing activities. Accordingly, the protection of the individual should also be taken into account when assessing the legality of fishing activities. The next section discusses such an argument more thoroughly, first exploring the notion of IUU fishing and then advocating for the adoption of a broader notion of illegal fishing with a view to addressing the human and social dimension of fishing activities and enhancing the protection of people involved in such activities.

58. Robin Churchill, Vaughan Lowe, and Amy Sander, The Law of the Sea (Manchester University Press, 2022) 458.

3. Illegal Fishing: A Limited Concept

3.1 Illegal, Unreported and Unregulated fishing

The early 90s witnessed a fundamental development in the international fisheries law regime as crystallised in the UNCLOS. In the aftermath of the 1992 Rio Declaration, the growing attention for the problems of overfishing and fish-stock depletion progressively led to the adoption of hard- and soft-law instruments aimed at combating environmentally unsustainable fishing practices, thus prompting the formation of a framework to fight the phenomenon of IUU fishing.[59] This concept made its first appearance at the regional level, during the works of the Commission for the Conservation of Antarctic Marine Living Resources.[60] IUU fishing refers to any form of non-compliant behaviour or contravention with international, regional and national rules relating to the sustainable man-

59. The literature on IUU fishing is vast. For a complete overview on IUU fishing, see *inter alia* Rachel Baird, *Aspects of Illegal, Unreported and Unregulated Fishing in the Southern Ocean* (Springer, 2006); Palma, Tsamenyi and Edeson (n 6); Mercedes Rosello, *IUU Fishing as a Flag State Accountability Paradigm - Between Effectiveness and Legitimacy* (Brill Nijhoff, 2021); see also, *inter alia*, Fish Piracy - 'Combating Illegal, Unreported and Unregulated Fishing' (Organization for Economic Co-operation and Development Publishing, 2004); Andrew Serdy, 'Pacta Tertiis and Regional Fisheries Management Mechanisms: The IUU Fishing Concept as an Illegitimate Short-Cut to a Legitimate Goal' (2017) 48 Ocean Development and International Law 345.

60. William Edeson, 'The International Plan of Action on Illegal Unreported and Unregulated Fishing: The Legal Context of a Non-Legally Binding Instrument' (2001) 16 The International Journal of Marine and Coastal Law 603, 605. In this regard, it is worth mentioning that already Article 21(11)(a-i) of the 1995 UNFSA identified and qualified as 'serious violation' a series of conducts carried out in breach of the existing regulatory framework for the conservation and management of marine living resources. This provision, arguably, constitutes the seed for the subsequent IUU fishing paradigm.

agement and conservation of marine living resources.[61] The notion was later codified in the IPOA-IUU,[62] a soft-law instrument adopted in 2001 under the auspices of the FAO aimed at providing States with a set of rules and measures to undertake with a view to deterring and eliminating unlawful and irresponsible fishing practices.[63] Notably, the IPOA-IUU is a voluntary instrument and, accordingly, leaves States with a wide margin of appreciation in crafting implementation strategies at the national level to tackle the numerous illicit practices falling under IUU fishing.

The IPOA-IUU is also the first official instrument providing a definition of IUU fishing, or at least an explanation or description of it.[64]

61. Numerous scientific studies have been conducted on the IUU fishing phenomenon, trying to appreciate its root causes and its adverse effects on State economy and on environmental and food security. For an economic analysis of IUU fishing, see David Agnew and Colin Barnes, 'Economic Aspects and Drivers of IUU Fishing: Building a Framework', (OECD Publishing 2004); Carl-Christian Schmidt, 'Economic Drivers of Illegal, Unreported and Unregulated (IUU) Fishing' (2005) 20 The International Journal of Marine and Coastal Law 479. See also Sjarief Widjaja, Tony Long and Hassan Wirajuda, 'Illegal, Unreported and Unregulated Fishing and Associated Drivers' (World Research Institute 2019). As to IUU fishing economic impact, see David Agnew and others, 'Estimating the Worldwide Extent of Illegal Fishing' (2009) 4 PLOS ONE e4570. See also Rob Tinch, Ian Dickie, and Bruno Lanz, 'Costs of Illegal, Unreported and Unregulated (IUU) Fishing in EU Fisheries' (Economics for the Environment Consultancy Ltd 2008). As to its impact on environmental and food security, see *inter alia*, Jonathan White, 'Part I: Illegal Fishing – A Threat to National, Economic, and Food Security Worldwide' (Global Fishing Watch, 19 September 2017) <https://globalfishingwatch.org/news-views/illegal-fishing-economic-food-security/> accessed 31 December 2022.

62. IPOA-IUU (n 7). For an account on the IPOA-IUU see, *inter alia*, Edeson (n 60).

63. The IPOA-IUU lists all such measures in Section IV under seven distinct categories. See paras 10–84 IPOA-IUU. Some of these measures uphold duties enshrined in existing international instruments, thus reflecting the evolution and consolidation of the fisheries conservation and management legal regime. By contrast, others are rather innovative, e.g. the internationally agreed market measures, thus constituting an important effort to push forward the international regime on sustainable fisheries.

64. Edeson (n 60) 620. See also Palma, Tsamenyi and Edeson (n 6) 37. See also Jens Theilen, 'What's in a Name? The Illegality of Illegal, Unreported and Unregulated Fishing' (2013) 28 The International Journal of Marine and Coastal Law 533, 534; see also Serdy (n 59) 353.

The IPOA-IUU spells out the meaning of the single components of IUU fishing by describing the conducts attracted within the scope of each of them and committed in breach or disregard of national, regional, or international regulations and standards. Thus, illegal fishing refers to fishing in a given area without the authorisation of the coastal State or competent regional fisheries management organisation (RFMO), as well as fishing in breach of the rules specifically adopted with respect to a given season, species or maritime area. Unreported fishing consists of any conduct of misreporting or not reporting data on a given catch. Unregulated fishing refers to fishing activities in an area not subject to any applicable rules for the conservation and management of fisheries resources, provided that such activities are conducted in a manner that is not consistent with States' responsibilities regarding sustainable fishing.[65]

Even though the conducts qualifying as IUU fishing are certainly not new,[66] the IPOA-IUU is to be praised for it provides policy makers with a toolbox of actions to be undertaken with a view to addressing the challenges underlying the fisheries conservation regime.[67] Yet, it is worth noting that the distinction among the three components admittedly appears at times blurred, with some commentators arguing that unreported and unregulated fishing are mere sub-categories of illegal fishing.[68] In particular, the first source of uncertainty lies with the overlapping meaning

65. See the notions of illegal, unreported and unregulated fishing under para 3 IPOA-IUU.

66. Indeed, some of these conducts were identified in previous international fisheries law instruments, notably Article 21(11) UNFSA. See note 60.

67. Edeson (n 60) 623.

68. See Theilen (n 64) 543. See also Edeson (n 60) 619. In this regard, it is worth noting that the three components are treated as a single phenomenon throughout the whole text of the IPOA-IUU, while being referred to separately only in Paragraph 3. See *contra*, Serdy, who holds that 'the assumption that unregulated fishing is also illegal is groundless.' Serdy (n 59) 355.

of illegal and unregulated fishing.[69] The very text of Paragraph 3.4 IPOA-IUU fuels such uncertainty, hinting that some forms of unregulated fishing do in fact constitute illegal fishing. In addition, Van Der Marel suggests that a given conduct may qualify both as 'unregulated' and as 'illegal' depending on the national or international law point of view adopted.[70] By the same token, conducting fishing operations in an area under the competence of a RFMO may fall under the label of 'illegal' or 'unregulated' fishing depending on whether the concerned fishing vessel is registered under a State Party to the UNFSA or not.[71] Thus, the uncertain distinction between the two components contributes to their conflation also at the level of policy-making,[72] resulting in the narrow and, arguably, wrong understanding of unregulated fishing as a form of illegal fishing.[73] Most importantly, it shows that the bounds and content of illegal fishing are arguably less defined than what they seem.

Overall, the foregoing considerations highlight that the notion of IUU fishing as crystallised in the IPOA-IUU is concerned with virtually any illicit conduct undermining the environmental and economic security of

69. See Serdy (n 59) 354. Paragraph 3.4 IPOA-IUU reads as follows: '3.4 Notwithstanding paragraph 3.3, certain unregulated fishing may take place in a manner which is not in violation of applicable international law, and may not require the application of measures envisaged under the International Plan of Action`(IPOA)."

70. Eva Van Der Marel, 'Problems and Progress in Combating IUU Fishing' in Richard Caddell and Erik Molenaar (eds), *Strengthening International Fisheries Law in an Era of Changing Oceans* (Hart Publishing, 2019) 294.

71. ibid., 295–297.

72. See the European Commission's Communication on a New Strategy for the Community to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing 2007 [COM(2007) 601] paras 2 and 4 cited in Edeson (n 60) 623. Paragraph 3.4 IPOA-IUU reads as follows: '3.4 Notwithstanding paragraph 3.3, certain unregulated fishing may take place in a manner which is not in violation of applicable international law, and may not require the application of measures envisaged under the International Plan of Action`(IPOA).'

73. See *inter alia* Theilen (n 64) 543.

the State.[74] Thus, in line with the broader tendency in the international fisheries regime, the IUU fishing paradigm entirely overlooks the social and human dimension of fishing activities. Put differently, IUU fishing frames unlawful fishing activities only in terms of lack of compliance with the environmental, and economic principles and rules enshrined in the fisheries regime; whether said fishing activities undermine the protection of individuals does not strictly affect their lawfulness or sustainability. For instance, a vessel may carry out fishing operations within a foreign exclusive economic zone (EEZ) in full respect of the coastal State's regulations on sustainable fishing, yet, the very same regulations might overlook the cultural rights of an indigenous population inhabiting the coast adjacent to the concerned fishing area, meaning that the concerned fishing operations will inevitably undermine the rights and interests of the coastal community. By the same token – and more relevant for the purpose of the present paper – while duly respecting the RFMO's regime for conducting fishing activities in a given area on the high seas, fishers on board might be subject to the most brutal forms of ill-treatment and abuse, thus questioning the legality of such activities in terms of the lack of enforcement of human rights and safety/labour standards on board.

Thus, certain fishing operations may be lawful under the IUU fishing lens, yet, they do not respect the international law obligations on the protection of the individual discussed in the previous section. Accordingly, the notion of legality that the IUU fishing paradigm aims to attain is too narrow, for it is limited to environmental, and economic sustainability, while leaving aside the human dimension of fishing. In the author's view, this conclusion is highly problematic, in light of the serious – and in some cases extreme – situations suffered by persons on

74. UN General Assembly, 'Report of the Secretary-General on the Oceans and the Law of the Sea' (10 March 2008) UN Doc A/63/63, 98. In this regard, see also Natalie Klein, *Maritime Security and the Law of the Sea* (Oxford University Press 2011).

board fishing vessels. The next section will offer some arguments in favour of rethinking the paradigm of IUU fishing so as to incorporate the protection of the individual on board and reconcile the social dimension of fishing with the economic and environmental ones.

3.2 Illegal Fishing: A Broader Paradigm?

Arguing that human rights norms and standards and, more generally, human security concerns should be attracted within the scope of illegal fishing is not a novelty. Oral suggested integrating international and transnational criminal law mechanisms and practices into those legal regimes concerned with the sustainable conservation and management of marine living resources and the broader law of the sea.[75] Likewise, Fitzmaurice and Rosello submitted that human rights treaties should be used to inform the meaning and scope of unregulated fishing, with a view to better protecting indigenous populations and contributing to a new and more inclusive understanding of IUU fishing.[76] Arguably, rethinking the paradigm of IUU fishing is a moral imperative today:[77]

75. Notably, the FAO and the IMO, traditionally tasked with ocean-related works, as well as the World Trade Organization (WTO), which has recently promoted the adoption of the Agreement on Fisheries Subsidies (AFS). Nilufer Oral, 'Reflections on the Past, Present, and Future of IUU Fishing under International Law' (2020) 22 International Community Law Review 368, 373–374.

76. Malgosia Fitzmaurice and Mercedes Rosello, 'IUU Fishing as a Disputed Concept and Its Application to Vulnerable Groups: A Case Study on Arctic Fisheries' (2020) 22 International Community Law Review 410.

77. The social and human dimension in the law of the sea, which comprises the protection of the individual in the fisheries sector, is included among the main drivers of change in the law of the sea, expected to apply pressure to it for the next thirty years. See Aloupi and Göttsche-Wanli (n 4) 22. The protection of fishers on board vessels is also the subject of the inter-institutional cooperation among the FAO, the IMO and the ILO. In this regard, see the joint report 'Joining Forces to Shape the Fishery Sector of Tomorrow' (n 12).

both the adoption of the UN Sustainable Development Goals in 2015 and the persistent and emerging challenges for the international legal order – e.g. climate change – require States to rethink their actions and give thorough consideration to the protection of the individual, including in the context of fishing activities and the broader sustainable fisheries regime.[78]

Against this background, at least four arguments may be advanced with a view to broadening the definition of illegal fishing so as to incorporate compliance with the State's obligations on the protection of individuals on board fishing vessels. The starting point is the arguably open nature of the IUU fishing notion. As mentioned above, the IPOA-IUU is a voluntary instrument for policy making, containing a list of measures to strengthen the management of fisheries resources and discourage certain illicit behaviours. In this respect, some authors argue that it does not set forth a definition, but rather a description or explanation of the IUU fishing phenomenon.[79] Notably, IUU fishing is a hybrid concept, comprising both political and normative components.[80] Thus, in spite of

78. In this regard see, for instance, Christine Voigt, who suggests that the sustainable fisheries legal regime needs to be diligently revisited so as to include as well considerations for the global climate change threat. See Christina Voigt, 'Oceans, IUU Fishing, and Climate Change: Implications for International Law' (2020) 22 International Community Law Review 377. See also Kate Cook, Kenneth Rosenbaum and Florence Poulain, *Building Resilience to Climate Change and Disaster Risks for Small-Scale Fisheries Communities: A Human-Rights-Based Approach to the Implementation of Chapter 9 of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication* (FAO 2021).

79. See (n 64).

80. Eve De Coning, 'Fisheries Crime' in Lorraine Elliott and William Schaedla (eds.), *Handbook of Transnational Environmental Crime* (Edward Elgar Publishing 2016) 157–158.with the IPOA-IUU, the United States have crafted their own definition of IUU fishing under the High Seas Driftnet Fishing Moratorium Protection Act, [2011] 76 FR 2011 <https://www.federalregister.gov/documents/2011/01/12/2011-507/high-seas-driftnet-fishing-moratorium-protection-act-identification-and-certification-procedures-to > accessed 31 December 2022.

being accepted nearly universally[81] and being incorporated into two subsequent hard law instruments,[82] the IPOA-IUU notion of IUU fishing may by its very nature be open to incorporating new elements, including the protection of the individual.

Second, a teleological approach may further support this conclusion. Paragraph 1 of the IPOA-IUU recognises that the notion of IUU fishing was crafted with a view to addressing not only the environmental, and economic dimensions of irresponsible fishing practices, but also the social one.[83] Given that the latter is traditionally associated with employment aspects, suggesting that 'illegal fishing' also attracts within its scope those fishing operations conducted in full disregard of the protection of people working on board would not be entirely at odds with the text of the IPOA-IUU. The Code of Conduct for Responsible Fisheries[84] - within which the IPOA-IUU was conceived - further supports this conclusion. The Code mentions the social dimension of fishing on numerous occasions throughout its text, including in the part dedicated to its ob-

81. It is worth mentioning two notable exceptions: first, Council Regulation (EC) No 1005/2008 of 29 September 2008, establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing (EU Regulation on IUU Fishing), which endorses the definitions of illegal, unreported and unregulated fishing as laid down respectively in paragraphs 3.1, 3.2 and 3.3 of the IPOA-IUU, yet without including a provision equivalent to paragraph 3.4. In this regard, see Serdy (n 59). 'EU Regulation on IUU Fishing' [2008] OJ L286/1 <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:286:0001:0032:EN:PDF> accessed 31 December 2022. Second, in stark contrast with the IPOA-IUU, the United States have crafted their own definition of IUU fishing under the High Seas Driftnet Fishing Moratorium Protection Act, [2011] 76 FR 2011 <https://www.federalregister.gov/documents/2011/01/12/2011-507/high-seas-driftnet-fishing-moratorium-protection-act-identification-and-certification-procedures-to > accessed 31 December 2022.

82. Namely the 2009 FAO Port State Measures Agreement (PSMA) and the 2022 WTO Agreement on Fisheries Subsidies.

83. IPOA-IUU, Para 1.

84. Code of Conduct for Responsible Fisheries, Rome, FAO, 1995 (Code of Conduct).

jectives;[85] yet, subsequent instruments have entirely put this aside. Thus, the precise content and scope of the notion of 'illegal fishing' ought to be informed by references to national and regional laws and regulations adopted by States with a view to discharging their obligations on the protection of the individual on board fishing vessels discussed in Section 1 *supra*.

Finally, the very notion of illegal fishing under the IPOA-IUU may contain itself an element for an expansive interpretation, in contrast with the notions of unreported and unregulated fishing: while the latter specifically refers to 'fishing activities', the former only mentions 'activities', thereby suggesting a broader range of meanings that could be subsumed under it.[86] Put differently, illegal fishing may actually be interpreted as referring to breaches of norms and regulations other than those strictly related to the conservation and management of fisheries resources such as, *inter alia*, human rights norms as well as safety and labour rules and standards, all closely related or even instrumental to the conduct of fishing operations. Accordingly, compliance with such norms and standards may become a factor against which to assess the lawfulness and sustainability of fishing activities, thereby constituting an opening for the incorporation of concerns for the protection of the individual into the notion of illegal fishing.

Last but not least, recent investigations carried out by both international and non-governmental organisations are bringing to the forefront the link between IUU fishing and numerous instances of human

85. 'The objectives of the Code are to: a) establish principles, in accordance with the relevant rules of international law, for responsible fishing and fisheries activities, taking into account all their relevant biological, technological, economic, social, environmental and commercial aspects'. In addition to this, see, inter alia, also Articles 6.4 and 6.14.

86. IPOA-IUU, Paras 3.1, 3.2 and 3.3.

rights violations and crimes,[87] commonly referred to as 'fisheries crime'.[88] Under this perspective, fisheries crime and IUU fishing address distinct but complementary phenomena. Indeed, the two notions have partially overlapping scopes: fisheries crimes also include some forms of economic and environmental misconducts,[89] yet put the accent on their criminal nature and on the best strategy to punish perpetrators.[90] By way of exam-

87. See, *inter alia*, 'Transnational Organized Crime in the Fishing Industry' (United Nations Office on Drugs and Crime 2011) Issue Paper; 'Caught at Sea' (n 13); 'Report on Human Trafficking, Forced Labour and Fisheries Crime in the Indonesian Fishing Industry' (International Organization for Migration 2016). As to the legal scholarship, see *inter alia*, Anastasia Telesetsky, 'Laundering Fish in the Global Undercurrents: Illegal, Unreported, and Unregulated Fishing and Transnational Organized Crime' (2014) 41 Ecology Law Quarterly 939; De Coning (n 80); Teresa Fajardo, 'To criminalise or not to criminalise IUU fishing: The EU's choice' (2022) 144 Marine Policy 1. See contra Mary Mackay, Britta Denise Hardesty and Chris Wilcox, 'The Intersection Between Illegal Fishing, Crimes at Sea, and Social Well-Being' (2021) 7 Frontiers in Marine Science 1.

88. This is 'an umbrella term' used for any crime within the fisheries sector and along the supply chain, 'including food fraud at consumer levels […] money laundering, document fraud, corruption, human trafficking or modern slavery.' INTERPOL, 'Strengthening Law Enforcement Cooperation Against Fisheries Crime' (INTERPOL, Environmental Security Programme 2021) 4. <https://www.interpol.int/es/content/download/16314/file/INTERPOL%20ENS%20Fisheries%20Crime%20Prospectus%202021.pdf>. For an account on fisheries crime, see Mary Ann Palma-Robles, 'Fisheries Crime: Bridging the Conceptual Gap and Practical Response' (*Center for International Maritime Security*, 2014) <http://cimsec.org/fisheries-crime-bridging-conceptual-gap-practical-response/12338>; Henrik Österblom, 'Catching Up on Fisheries Crime' (2014) 28 Conservation Biology 877; De Coning (n 19); Eve De Coning, Emma Witbooi, 'Towards a new 'fisheries crime' paradigm: South Africa as an illustrative example' (2015) 60 Marine Policy 208; Valentin Schatz, 'The Battle against Transnational Fisheries Crime' (*Völkerrechtsblog*, 3 March 2017) <https://voelkerrechtsblog.org/the-battle-against-transnational-fisheries-crime/> accessed 31 December 2022; Patrick Vrancken, Emma Witbooi and Jan Glazewski, 'Introduction and Overview: Transnational Organised Fisheries Crime' (2019) 105 Marine Policy 116. De Coning clarifies that 'fisheries crimes' was initially used as 'a "term of convenience" to facilitate the coming together of the necessary expertise to deal with a number of interrelated problems that seem to have caused a compliance gap in the fisheries sector.' De Coning (n 80) 147.

89. See, *inter alia*, the discussion in Palma-Robles (n 88). See also De Coning, who acknowledges the possible environmental dimension of fisheries crime, yet also highlights that it 'does not necessarily always involve an element of environmental harm.' De Coning (n 80) 161.

90. De Coning, ibid., 151–152.

ple, fishing with false documents (e.g. fishing licence or authorisation) meets the notion of 'illegal fishing' under the IUU fishing paradigm because it implies fishing without the coastal State or RFMO's authorisation,[91] but may also constitute a breach of the criminal legislation on fraud. Likewise, fishing a particular species may both constitute IUU fishing and be attracted under the scope of the environmental crimes legislation that prohibits the harvest and trade of protected species.[92]

Thus, the emergence of the fisheries crime paradigm not only uncovers the profound and severe consequences that fishing activities may have on individuals, including persons on board fishing vessels; it also displays both the limits of the traditional IUU fishing paradigm and the blurriness of its boundaries, arguably raising some questions about its scope and further reinforcing the call for rethinking the notion of illegal fishing.

4. Conclusion

The analysis above showed that the social dimension of fishing is entirely left out of both the current regime on the conservation and management of marine living resources and the related IUU fishing paradigm, which is instead built upon economic and environmental rules and principles. However, living and working conditions on board fishing vessels are particularly worrisome and require urgent action on the part of the international community. The notion of IUU fishing currently fails to address

91. IPOA-IUU, Para 3.1.

92. As far as it concerns environmental crimes, see 'Environmental Crime: A Threat to Our Future' (Environmental Investigation Agency 2008). For an overview on trasnational environmental crimes, see Lorraine Elliott and William Schaedla (eds), *Handbook of Transnational Environmental Crime* (Edward Elgar Publishing, 2016).

the social aspects of fishing activities, including the safety of persons on board fishing vessels, thereby displaying the limits of the sustainability paradigm applied to fisheries.

Under this perspective, it has been suggested that fishing without paying due consideration to the fundamental rights and interests of individuals involved in it is far from being a lawful and sustainable practice. Accordingly, the paper has called for the rethinking of the notion of illegal fishing so as to encompass respect for human rights norms as well as for safety and labour standards on board, thereby giving them equal relevance as environmental, and economic rules and principles. The adoption of a broader notion of illegal fishing would require the implementation of costly cross-border coordination and cooperation strategies and is not exempt from critique.[93] However, it may ultimately serve two purposes: on the one hand, it might help reconcile the existing paradigms of IUU fishing and fisheries crime, whose compliance strategy at times leads to opposite outcomes.[94] For instance, States' action to deter and eliminate IUU fishing would require a State Party to the PSMA to deny access to vessels involved with IUU fishing.[95] By contrast, the fisheries crime paradigm would instead lead port States to encourage foreign fishing vessels to enter their ports with a view to enforcing criminal law more easily – i.e. boarding and inspecting the vessel and the crew as well as carrying out investigations and, eventually, proceedings.[96] On the

93. De Coning argues that any attempt at criminalizing fishing activities on the basis of a broad and undefined notion of illegal fishing may fail the legality test at the basis of modern criminal law systems. De Coning (n 80) 158.

94. ibid., 152.

95. PSMA, Article 9(4).

96. De Coning (n 80) 152. Arguably, implementing policies aimed at protecting individuals would most likely lean towards the fisheries crime paradigm in this case, since the vessel entry into port might help victims file a complaint to local authorities and have them investigate the matter, thus triggering justice mechanisms.

other hand, the adoption of a broader notion of illegal fishing might help strengthen the protection of individuals involved in the fisheries sector as a whole, making it more inclusive and human rights-based while striking a new balance among the economic, environmental, and social dimension of sustainable fishing.

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III

Reflections on the Human-Fish Nexus in the Law of the Sea: Innovations in Legal Doctrine for Sustainable Fisheries

*Chin-Chia Tien**

Abstract

As one of the major human activities at sea, fisheries can be seen as the embodiment and materialisation of the Anthropocene. The impacts of the commercial fishing industry range from the direct depletion and degradation of fish stocks and the marine environment to the indirect human toll that is the result of exploitive business models. There should be little doubt that humans now possess the ability to alter the seas forever, but such an ability is clearly unsustainable and needs to be restricted through international law. As a classical branch of international law, the law of the sea is moulded by the constant struggles between established practices and emerging challenges. This struggle has been greatly illuminated in various international law forums and legislation attempts since the conclusion of the United Nations Convention on the Law of the Sea, with one of the most recent examples being 'Goal 14: Life below Water' of the United Nations Sustainable Development Goals. However,

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while the international community has accepted that there is a goal to promote sustainable fisheries, the methods of achieving that goal remain under debate. Meanwhile, linear approaches that call for intensified law enforcement and higher fines have not been entirely adequate. This is mainly because the human-fish nexus is a complex system that requires systematic reform for not only the industry but also the legal framework as a whole. In essence, there needs to be a fundamental change to the legal doctrines of the law of the sea. There have already been several attempts in international forums that seek to shift from the flawed 'business as usual' model with new approaches that prioritise the preservation of fish and environment, such as the moratorium on the Central Arctic Ocean and the 30 by 30 movement. This paper will analyse these innovative attempts in connection with corresponding theories, with a goal of mapping a pathway to establish truly sustainable fisheries.

Keywords: Sustainable Fisheries, Anthropocene, UNCLOS, Degrowth, Rewilding

1. Introduction

The regulation of fishing in the ocean and the goal of establishing sustainable fisheries has been an ongoing project since the adoption of the United Nations Convention on the Law of the Sea (UNCLOS) in 1982.[1] This

1. As indicated in the UNCLOS (adopted 10 December 1982, entered into force 16 November 1994) Preamble paragraph 4: recognizing the aim to establish "a legal order for the seas and oceans which will facilitate…the conservation of their living resources and the study, protection and preservation of the marine environment."; Robin Churchill, 'The LOSC regime for protection of the marine environment – fit for the twenty-first century?' in Rosemary Rayfuse (ed), *Research Handbook on International Marine Environmental Law* (Edward Elgar, 2015) 3.

issue has also received considerable attention in recent years following the global movement for stronger and better environmental protection. As a result of the attention, a growing body of research aimed at clarifying the parameters of the issue and facilitating the realisation of such goals has also been presented. However, despite the numerous works surrounding the topic, worrying signs of marine environment degradation and marine living resource depletion continue to persist.[2] This paper intends to examine sustainable fisheries under this premise, with a focus on human perceptions towards fish and fishing. I would argue that our relationship with fish (i.e. the human-fish nexus) is a decisive factor when it comes to the development and implementation of legal regimes and that the arrival of the Anthropocene is an opportunity for us to really reflect on the topic.

For the purpose of this analysis and reflection, the following content will be divided into three main sections. Firstly, I will examine several aspects of the existing human-fish nexus that are problematic and may hinder the process of building sustainable fisheries. Secondly, the understanding of the Anthropocene, its implications, and what sustainability means within this context will be examined. The third section involves the presentation of two emerging concepts that provide solutions that correspond with the sustainability we need and possess the potential to be incorporated into the relevant legal regimes. This section will be accompanied with several examples of recent developments in international law that have exhibited similar underlying logic and ways of thinking with the corresponding concepts, a further indication that such concepts could greatly enforce such sustainability measures if they are further embedded into the framework of the law of the sea.

2. Food and Agriculture Organization of the United Nations (UNFAO), *The State of World Fisheries and Aquaculture 2022: Towards Blue Transformation* (FAO, 2022) 47.

2. Problematic Aspects of the Human-Fish Nexus

There are three specific aspects that I would like to focus on in this particular section. These aspects all pertain to the issue of sustainable fisheries and may provide insight in explaining why the fishing industry is still operating in unsustainable and environmentally damaging manners, despite the continuous calls and increased legislative efforts for sustainability.

2.1 Uncertainty in Knowledge

This first aspect is connected with the scientific side of fisheries regulations, where scientific research is generally recognised as the major supplier of knowledge that is used as the basis of decision-making, especially in the case where an international legal regime establishes scientific/technical bodies as part of the decision-making system.[3] However, when it comes to the scientific knowledge of fish and fisheries, there is always a certain degree of uncertainty that is the result of the limits of our perception as human beings. This limited perception is perhaps best demonstrated by the phenomenon known as 'shifting baseline syndrome'.

Pauly coined the term in an attempt to describe the unreliable and sometimes problematic underlying nature of the current methods of estimating targets for management, such as Maximum Sustainable Yield MSY, annual total allowable catch (TAC), or individual transferable quotas (ITQ).[4] The syndrome occurs because each generation of fisheries scientists accept the stock size and species composition that they observe

3. Steinar Andresen and Jon Birger Skjærseth, 'Science and Technology: From Agenda Setting to Implementation' in Daniel Bodansky, Jutta Brunnée and Ellen Hey (eds) *The Oxford Handbook of International Environmental Law* (OUP, 2007) 189-190.

4. Daniel Pauly, 'Anecdotes and the Shifting Baseline Syndrome of Fisheries' (1995) 10(10) TREE 430, 430.

at the start of their career as the reference point by which they measure and evaluate change. When the fish stocks decline and a new generation of scientists enter the field, they will accept that declined state as their own baseline. Such a downward spiral means that we gradually accommodate the disappearance of species as normal, and without an accurate reference point, we will also be unable to determine the damage or devise effective conservation measures.[5] Subsequent studies also found that fishermen were equally affected by the syndrome, as older fishermen were able to identify significantly more species and fishing sites that were once productive but were now depleted.[6] On a more emotional note, Roberts laments that if we were to really feel the cumulative burden of loss and damage over millennia, it would be unbearable. The shifting baseline syndrome shields us from that revelation because one cannot regret the loss of something that one never knew existed; but that is also why the syndrome is dangerous, because it also lowers our ambition to reverse the impact of our own actions and allow the damaging activities to persist.[7]

In the context of fisheries conservation, the concept is actually considered to be a 'truly fundamental and revolutionary idea' that hold the responsibility for past destruction and for shaping the future. Relevant to this paper, it is a gateway that pushes for an interdisciplinary approach that utilises a wide variety of data to estimate past changes and to understand those changes in a social, historical, and scientific context.[8] Around

5. id.

6. Jeremy Jackson and Jennifer Jaquat, 'The Shifting Baseline Syndrome: Perception, Deception, and the Future of Our Oceans' in Villy Christensen and Jay Maclean (eds), *Ecosystem Approaches to Fisheries: A Global Perspective* (CUP 2011) 129. (A difference of four times more fish species and five times more fishing sites between older and younger Mexican fishermen).

7. Callum Roberts, 'Shifting Baselines' (2020) 153 Granta 13, 20-21.

8. Jeremy Jackson and Karen Alexander, 'Introduction: The Importance of Shifting Baselines' in Jeremy Jackson, Karen Alexander and Enric Sala (eds), *Shifting Baselines: The Past and the Future of Ocean Fisheries* (Island Press 2011) 3.

the same time that Pauly created the concept, some marine scientists expressed extremely pessimistic views on the effectiveness of fish stock assessments and the use of such data as the basis of conservation measures.[9] The existence of a knowledge and capacity gap concerning the oceans is also recognized in the World Ocean Assessment published by the United Nations.[10] As such, this aspect should be a constant reminder that there is little room for optimism when it comes to regulating fisheries.

2.2 Burdens of Past Perspectives

This second aspect of the nexus relates to the historical process of fisheries regulations development. The fact that fishing is a crucial part of human history is often overlooked, as it is the last surviving ancient way of obtaining food after the development of agriculture and stock raising replaced foraging and hunting.[11] This history of fishing before the UNCLOS has led to the development of fisheries regulation approaches that have lasting impacts, commonly known as the freedoms of the seas, including the freedom of fishing, first promoted by Hugo Grotius in the early 17th century.

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9. Carl Walters, 'Designing Fisheries Management Systems that do not Depend upon Accurate Stock Assessment' in Tony Pitcher, Paul Hart and Daniel Pauly (eds), *Reinventing Fisheries Management* (Fish and Fisheries Series Vol. 22, Kluwer Academic 1998) 284-285 (pointing out that most stock assessment systems have failed because fish simply cannot be directly counted, while indirect methods often result in distorted data, and the cost of developing and implementing better survey methods often outweigh the value of the fisheries subject to assessment); Donald Ludwig, Ray Hilborn and Carl Walters, 'Uncertainty, Resource Exploitation, and Conservation: Lessons from History' (1993) 260 Science 17, 36 (Pointing out that scientific certainty does not guarantee the prevention of overexploitation and destruction of resources, and while scientists can identify the problem, we should not rely on them to remedy the problem. Furthermore, claims of sustainability should not be trusted.).

10. United Nations, *The Second World Ocean Assessment* (Vol. 1, UN 2021) 14-15.

11. Brian Fagen, *Fishing: How the Sea Fed Civilization* (Yale University Press, 2017) ix (Also points out that literature concerning the history of fishing from a global perspective is lacking.).

As a cornerstone of the modern law of the sea, it is natural to start the discussion of fisheries regulations with Grotius and his view expressed in the *Mare Liberum*, mentioning fisheries in two specific passages. In the first passage, he states that the sea is common to all, and that as such fishing and navigation are open to everyone.[12] In the second passage, he further points out that the right to fish has and will continue to exist as a 'community right', instead of being attached to individuals, while also underlining the inexhaustible nature of fishery resources.[13]

This Grotian approach towards fisheries dominated the discourse throughout the 18th and 19th centuries.[14] The resulting unhindered exploitation of fish stocks was famously supported by Thomas Huxley when he served as the President of the Royal Society, where he and other prominent marine scientists were responsible for repealing regulations intended to protect various fish species.[15] In 1883, Huxley was recorded giving a speech at the Inaugural Address of the Fisheries Exhibition of London, in which he noted that the 'great sea fisheries are inexhaustible' and regulating them was, therefore, 'useless'.[16] He even went as far as recommending punishment for certain legislators responsible of designing laws and regulations bringing unnecessary burden on fishers.[17]

This anti-regulatory tendency endured the changes and codification attempts in the 20th century, and its impact on fishery's management

12. Hugo Grotius, *The Freedom of the Seas or the Right which Belongs to the Dutch to Take Part in the East Indian Trade* (Ralph Van Deman Magofin tr, OUP, 1916) 28.

13. ibid., 57.

14. Tullio Treves, 'Historical Development of the Law of the Sea' in Donald Rothwell et. al. (eds), *The Oxford Handbook of the Law of the Sea* (OUP, 2015) 5.

15. DG Webster, *Beyond the Tragedy in Global Fisheries* (MIT Press, 2015) 239.

16. International Fisheries Exhibition, *Inaugural Meeting of the Fishery Congress: Address by Professor Huxley, F. R. S.* (William Clowes and Sons, 1883) 16.

17. ibid., 18-19.

and conservation can still be felt today.[18] Whereas the freedoms of the seas, including the freedom to fish, were already codified within two of the Geneva Conventions on the Law of the Sea,[19] since 1958 the content and scope of such freedoms underwent several changes, some of which were prompted by an important restyling of the modern law of the sea architecture (e.g. the emergence of the exclusive economic zone's regime, and the Area).

In the UNCLOS, the freedom of fishing is listed in Article 87 as one of the six freedoms of the high seas, and shall be exercised with due regard to other States' rights and obligations in the same maritime zone.[20] This legislative approach, however, has proven to be problematic. On the one hand lies the centuries-old belief and practice of freedom to fish on the sea, which was easily accepted and followed by the fishing industry and politicians alike; on the other hand lies the abstract restriction of 'due regard', which was not fully clarified until very recently by inter-

18. Ellen Hey, 'Conceptualizing Global Natural Resources: Global Public Goods Theory and the International Legal Concepts' in Holger P. Hestermeyer and others (eds), *Coexistence, Cooperation and Solidarity: Liber Amicorum Rüdiger Wolfrum. Volume 1* (Martinus Nijhoff, 2012) 888.

19. In particular, the Convention on the High Seas, and the Convention on Fishing and Conservation of the Living Resources of the High Seas (Geneva, 29 April 1958).

20. UNCLOS, Article 87 (Freedom of the high seas): 1. The high seas are open to all States, whether coastal or land-locked. Freedom of the high seas is exercised under the conditions laid down by this Convention and by other rules of international law. It comprises, inter alia, both for coastal and land-locked States: (a) freedom of navigation; (b) freedom of overflight; (c) freedom to lay submarine cables and pipelines, subject to Part VI; (d) freedom to construct artificial islands and other installations permitted under international law, subject to Part VI; (e) freedom of fishing, subject to the conditions laid down in section 2; (f) freedom of scientific research, subject to Parts VI and XIII. 2. These freedoms shall be exercised by all States with due regard for the interests of other States in their exercise of the freedom of the high seas, and also with due regard for the rights under this Convention with respect to activities in the Area.

national courts and tribunals,[21] which put emphasis on the flag State's due diligence obligation, *inter alia*, to 'ensure' that fishing vessels flying its flag operate in a sustainable way, irrespective of where they are – i.e. within or beyond national jurisdiction of States.[22]

Another major reversal towards the traditional principle of the freedom to fish can be seen in the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (Fish Stock Agreement, FSA). Through the obligation to join Regional Fisheries Management Organisations, and the expansion of enforcement methods, the FSA effectively introduced a change in concept and substantial regulatory innovations into the UNCLOS regime.[23] What is more, it signalled that marine living resources are no longer open to 'free for all' harvesting, and that free riders that undermine the effectiveness of regional conservation measures would no longer be tolerated.[24]

21. See *Case Concerning Pulp Mills on the River Uruguay* (Argentina v. Uruguay), Judgment, Merits, ICGJ 425 (ICJ 2010), 20th April 2010, International Court of Justice, para 193, 68; Request for an Advisory Opinion Submitted by the Sub-Regional Fisheries Commission (SRFC Advisory Opinion), Advisory Opinion of Apr. 2, 2015, ITLOS; and *South China Sea Arbitration* (The Republic of Philippines v. The People's Republic of China), Award, Merits, Permanent Court of Arbitration, 12 July 2016.

22. Tim Stephens, 'ITLOS Adivisory Opinion: Coastal and Flag State Duties to Ensure Sustainable Fisheries Management' (2015) 19(8) ASIL Insight <https://www.asil.org/insights/volume/19/issue/8/itlos-advisory-opinion-coastal-and-flag-state-duties-ensure> accessed 31 December 2022; Julia Gaunce, 'The South China Sea Award and the duty of "due regard" under the United Nations Law of the Sea Convention' (The JCLOS Blog, 9 September 2016) <http://site.uit.no/jclos/2016/09/09/the-south-china-sea-award-and-the-duty-of-due-regard-under-the-united-nations-law-of-the-sea-convention/> accessed 31 December 2022.

23. Tullio Scovazzi, *The Evolution of the Law of the Sea: New Issues, New Challenges* (Brill Nijhoff, 2000) 142-143.

24. See Sean D. Murphy (ed), 'Contemporary Practice of the United States Relating to International Law' (1999) 93 Am. J. Int'l L. 470, 494-496 (Speech titled "New International Initiatives to Restore and Sustain Fisheries" given by Mary Beth West at a Wildlife Fund Conference in Lisbon on 15 September 1998); Tullio Scovazzi (n 23) 143.

2.3 Inertia of Current Regulation to Fisheries

Following the innovation in reversing the impacts of the principle of freedom of fishing, this third aspect of the human-fish nexus will dive deeper into the persistent nature of existing fisheries regulations and the difficulty of putting a stop to unsustainable conducts.

This aspect can be demonstrated by the controversy surrounding the fishing method known as trawling. Invented as early as 1376, the fishing method was seen in a complaint brought before Edward III of England, asking for the banning of a new and destructive fishing gear, with clear descriptions of how the dredging instrument destroyed the seabed while scooping up all the fish regardless of size and species. The complaint led to an investigation and some loose restrictions on the usage of the instrument with no legal force.[25] After this incident, similar complaints were raised sporadically throughout the centuries as trawling methods became more advanced and proliferated, as elaborated by Roberts.[26] Fast-forwarding to 1863, when yet another Royal Commission was appointed to address complaints against trawling, this time including a young Thomas Huxley. After the investigation, the Commission advised to repeal all Acts of Parliament that regulate or restrict the modes of fishing in the open seas in order to permit unrestricted freedom of fishing.[27] This led to the result of more than fifty Acts of Parliament being repealed, allowing fishing to take place whenever, wherever, and with whatever methods as the industry saw fit.[28]

25. Callum Roberts, *The Unnatural History of the Sea: The Past and Future of Humanity and Fishing* (Gaia 2007) 136-137.

26. ibid., 138-149.

27. *Report of the Commissioners Appointed to Inquire into the Sea Fisheries of the United Kingdom* (Vol. 1, Her Majesty's Stationary Office 1866) cvi.

28. Callum Roberts (n 33) 149.

One specific point was accepted by the Commission in regard to the impact of trawling: the testimony of a witness by the name of James Page, who testified that the industry believed that 'the trawl acts in the same way as a plough on land. It is just like the farmers tilling their ground. The more we turn it over the greater of food there is, and the greater quantity of fish we catch.'[29] This presumption and metaphor was actually revisited in 2012, and it was found that trawling did in fact resemble the ploughing of farmland, but not in the positive sense. Instead, the high frequency of industrial trawling contributes to the erosion, transport, and deposition of sediment that erases the original complex features, resulting in a smooth seabed similar to land subjected to agricultural ploughing, which can affect the functioning of the ecosystem.[30] It was later discovered that this type of disturbance to the seafloor causes large-scale carbon emissions comparable to the emissions of farming, with far-reaching effects on the carbon cycle, productivity, and biodiversity.[31]

In recent literature, Clover dedicated the opening page of his book to a colourful picture of two immense all-terrain vehicles, with a net strung between them, driving across a plain scooping up all sorts of animals along the way, like a 'Mad Max movie'.[32] The analogy was also picked up by Urbina when he contemplated the drastic actions (dropping boulders on the seabed) that Greenpeace had taken in an attempt to halt the trawlers in the North Sea.[33]

29. *Report of the Commissioners* (n 35) xxxvii-xxxviii.

30. Pere Puig and others, 'Ploughing the Deep Sea Floor' (2012) 489 Nature 286, 288-289.

31. Enric Sala, and others, 'Protecting the Global Ocean for Biodiversity, Food and Climate' (2021) 592 Nature, 397, 399.

32. Charles Clover, *The End of The Line: How Overfishing is Changing the World and What We Eat* (Ebury, 2004) 1.

33. Ian Urbina, *The Outlaw Ocean: Crime and Survival in the Last Frontier* (The Bodley Head, 2019) 212-213.

In contrast to the first aspect where scientific knowledge is flawed and the second aspect where outdated principles present lasting impact, this third aspect highlights the difficulty in prohibiting a single fishing method, even with the support of material evidence that such a method is clearly unsustainable. The combination of these three aspects makes up the obstacles that must be overcome for sustainable fishing to become a reality, and this would have to be achieved in the age of the Anthropocene.

3. Contemplating Fisheries Against the Backdrop of the Anthropocene

3.1 Understanding the Anthropocene

For the legal profession and discourses in international law, the concept of the Anthropocene is a relatively new discovery, and one that has certainly provided an opening for innovative thinking within the discipline. However, it is also true that the roots of the concept itself can be traced back to the early stages of the industrial age, when the impact of humans on the planet was already noticed by the scientists of that time and considered to be a cause for both celebration and concern.[34]

In more recent times, the explicit use of the term is most often attributed to the Nobel laureate Paul Crutzen, first at the International Geosphere-Biosphere Programme Conference in February 2000,[35] followed

34. Christophe Bonneuil, Jean-Baptiste Fressoz, *The Shock of the Anthropocene* (Verso, 2017) 3-5.

35. Christophe Bonneuil, Jean-Baptiste Fressoz (n 42) 3; Paul J. Crutzen, 'Geology of Mankind' (2002) 415 Nature 23, 23 (pointing out that *"The Anthropocene could be said to have started in the latter part of the eighteenth century, when analyses of air trapped in polar ice showed the beginning of growing global concentrations of carbon dioxide and methane. This date also happens to coincide with James Watt's design of the steam engine in 1784."*).

by his article two years later, in which he assigned the term to the 'present, in many ways human-dominated, geological epoch'.[36] In comparison to the previous (or formally still current) epoch of the Holocene, which is characterised by the longest period of stable environmental conditions since the appearance of humankind, the Anthropocene marks an age of change, uncertainty, and instability in the earth system.[37]

Over the course of its usage, the term has been accepted as describing the fact that 'human imprint on the global environment has now become so large and active that it rivals some of the great forces of Nature in its impact on the functioning of the earth system.'[38] While there is debate on the usefulness and validity of prescribing a brand new epoch,[39] it is evident that the concept has transcended its original scientific setting, becoming part of the vocabulary and discussions of international law scholars. As Stephens points out, 'the Anthropocene upends many traditional assumptions about the purposes and functions of environmental law at national, regional, and global levels.'[40] Vidas also observes

36. Paul J. Crutzen (n 43) 23.

37. Jan Zalasiewicz, Paul Crutzen, Will Steffen, "The Anthropocene" in Felix Gradstein and others (eds), *The Geological Time Scale 2012. Volume 2* (Elsevier, 2012) 1033-1040; Mark Williams and others, 'The Anthropocene Biosphere' (2015) 2(3) The Anthropocene Review 196, 197.

38. Will Steffen, and others, 'The Anthropocene: Conceptual and Historical Perspectives' (2011) 369(1938) Philosophical Transactions of the Royal Society A 842, 842.

39. Peter Brannen, 'The Anthropocene is a Joke' *The Atlantic* (13 August 2019) <https://www.theatlantic.com/science/archive/2019/08/arrogance-anthropocene/595795/> accessed 31 December 2022; Scott Wing and others, 'Letters: "The Anthropocene is not Hubris"' *The Atlantic* (11 October 2019) <https://www.theatlantic.com/letters/archive/2019/10/readers-defend-the-anthropocene-epoch/597571/> accessed 31 December 2022; Peter Brannen, 'What Made Me Reconsider the Anthropocene' *The Atlantic* (11 October 2019) <https://www.theatlantic.com/science/archive/2019/10/anthropocene-epoch-after-all/599863/> accessed 31 December 2022. (The published communications between Brannen and a group of the Anthropocene Working Group Scientists).

40. Tim Stephens, 'What is the Point of International Environmental Law Scholarship in the Anthropocene?' in Ole Pedersen (ed), *Perspectives on Environmental Scholarship: Essays on Purpose, Shape and Direction* (CUP, 2018) 122.

that the law of the sea was tailored for the Holocene and aimed at resolving changing political and economic circumstances, but unprepared for changes in natural conditions, and the arrival of the Anthropocene may result in the re-evaluation of the foundations and parameters of the legal regime.[41]

Although the concept of the Anthropocene is mostly directed towards discussions concerning climate change, it is the opinion of this paper that the issue of sustainable fisheries would also benefit from the adoption of this concept. The mere fact that mankind has exploited fish stocks for millennia and already in several instances caused the collapse of such stocks is proof that we are capable of altering entire ecosystems.[42] Coincidentally, two recent reports can provide further evidence on the scale of human impact on fisheries. The first is the Global Assessment Report on Biodiversity and Ecosystem Services published by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES); and the second is the Ocean and Cryosphere in a Changing Climate report by the Intergovernmental Panel on Climate Change (IPCC). These two reports both enforce the fact that we are in the Anthropocene, with the IPBES report pointing out that '[i]n marine ecosystems, direct exploitation of organisms (mainly fishing) has had the largest relative impact, followed by land-/sea-use change',[43] accompanied

41. Davor Vidas, 'International Law at the Convergence of Two Epochs: Sea-Level Rise and the Law of the Sea for the Anthropocene' in Carlos Espósito and others (eds), *Ocean Law and Policy: 20 Years under UNCLOS* (Brill Nijhoff ,2016) 121.

42. The most well-known example of fisheries collapse would be the well documented incident of Newfoundland cod. Dean Bavington, *Managed Annihilation: An Unnatural History of the Newfoundland Cod Collapse* (UBC Press, 2010) 1-2; Mark Kurlansky, *Cod: A Biography of the Fish that Changed the World* (Penguin Books 1998) 1-14; Callum Roberts, *The Unnatural History of the Sea: The Past and Future of Humanity and Fishing* (Gaia Thinking, 2007) 207.

43. IPBES, *The Global Assessment Report on Biodiversity and Ecosystem Services: Summary for Policy Makers* (IPBES 2019) 12 <https://ipbes.net/sites/default/files/2020-02/ipbes_global_assessment_report_summary_for_policymakers_en.pdf> accessed 31 December 2022.

with an estimation of 33% of fish stocks now being overexploited and 60% maximally sustainably fished (2015 statistics), and more than 55% of the ocean area subject to exploitation of industrial fishing fleets.[44] From the perspective of climate change, the IPCC report estimated that due to ocean warming and other factors, the 'global-scale biomass of marine animals across the food web is projected to decrease by 15.0 ± 5.9% (very likely range) and the maximum catch potential of fisheries by 20.5–24.1% by the end of the 21st century'.[45] It is also accepted that these situations are caused by cumulative human impacts and that if the current trajectories continue, not only will certain ocean regions be pushed beyond the tipping point of sustainability,[46] there is also a risk of triggering biosphere tipping points across entire ecosystems.[47]

It is the opinion of this paper that through the lens of the Anthropocene, it would be possible to unify the existing regulations and future actions under a common perspective. In short, the Anthropocene will force us to rethink the relations between humans, fish, and the marine environment, where most of the reflection needs to be placed on humanity itself (i.e. the *Anthropos*) and our own actions.

44. ibid., 28.

45. IPCC, 'Summary for Policy Makers' in H.-O. Pörtner and others (eds) *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate* (IPCC 2019) 22 (paragraph B.5.1) <https://www.ipcc.ch/site/assets/uploads/sites/3/2019/11/03_SROCC_SPM_FINAL.pdf> accessed 31 December 2022.

46. Benjamin Halpern, and others, 'Recent Pace of Change in Human Impact on the World's Ocean' (2019) 9 Scientific Reports 11609.

47. Timothy Lenton, and others, 'Climate tipping points-too risky to bet against' (2019) 575 Nature 592, 593.

3.2 The Meaning of 'Sustainability'

The concept of sustainability has proliferated throughout the entire body of international law since its first appearance in a joint report presented by the United Nations Environmental Programme (UNEP), the World Wildlife Fund (WWF), and the International Union for Conservation of Nature (IUCN) in 1980,[48] to the more well-known adoption in the Brundtland Report that defined sustainable development as: 'to ensure development meets the needs of the present without compromising the ability of future generations to meet their own needs.'[49] The report also mentions two limits that should be imposed by the concept, the first being the status of technology and social organisation on environmental resources, and the second being the ability of the biosphere to absorb human activities.[50] The concept was further adopted in the Rio Declaration on Environment and Development and became one of the leading concepts of international environmental policy.[51] Turning to recent examples, the Sustainable Development Goal (SDG) 14.C set a target to:

> [e]nhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want.[52]

48. IUCN, UNEP and WWF, *World Conservation Strategy: Living Resource Conservation for Sustainable Development* (IUCN 1980).

49. World Commission on Environment and Development, *Our Common Future* (OUP, 1987) 8.

50. id.

51. Patricia Birnie, Alan Boyle and Catherine Redgwell, *International Law & the Environment* (OUP, 2009) 53.

52. UNGA 'Transforming Our World: The 2030 Agenda for Sustainable Development' A/RES/70/1 <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> accessed 31 December 2022.

It is thus clear that the discussion of sustainable fishing should be carried out in the scope of the wider discourse of sustainable development. However, it is the opinion of this paper that the term 'development' should be omitted for fisheries-specific discussions. This is simply because modern fisheries no longer have any room for 'development'; the entire global ocean is already subject to fishing activities, the fishing methods have become extremely efficient (as seen in the above discussions concerning trawling), and most fish stocks are already overfished or maximally sustainably fished,[53] and it is also a fact that the quantity of marine captured fisheries have stagnated since the 1990s.[54] We already possess the capability and have in fact exploited the majority of fish stocks to the full extent of their biological limits and beyond (i.e. beyond the ability of the biosphere to absorb our exploitation).

Such an omission would also be an ethical decision, as Persson and Savulescu point out, because while science and technology have radically altered the living conditions of mankind, our moral psychology has largely remained unchanged, and the relatively primitive morality of humans makes it easier to harm than to benefit each other. Furthermore, we now possess the power to extinguish life forever, either through weapons of mass destruction or environmental degradation.[55] Feichtner and Ranganathan observe that the concept of global commons has become central in the quest for political economics that are less exploitive and less ecologically exploitive, but existing initiatives such as 'blue growth' that are built on commercialisation and even colonisation are still considered to be a solution to conflict and environmental destruction.[56] The terms

53. Food and Agriculture Organization of the United Nations (n 2) 47.

54. ibid., 4.

55. Ingmar Persson, Julian Savulescu, *Unfit for the Future: The Need for Moral Enhancement* (OUP, 2012) 1-2.

56. Isabel Feichtner, Surabhi Ranganathan, 'International Law and Economic Exploitation in the Global Commons: Introduction' (2019) 30(2) European Journal of International Law 541, 541.

'blue growth' or 'blue economy' are thus equivalent to 'development', which in the case of fisheries suggests that the fishing sector may continue to conduct business as usual and even maintain a certain rate of economic growth, despite various challenges that have already been identified.[57]

The inclusion of the term 'development' in sustainable fisheries is thus highly undesirable and problematic. This can be further supported by the fact that the progress of realising SDG goals is clearly off track in maintaining the biological sustainable levels of fish stocks as reported in 2019,[58] with a subsequent report in 2022 showing that we are still far from sustainable fisheries.[59] It should be abundantly clear that including development in the discussions will always draw attention away from the basic problems and present a false hope that we may 'grow out'[60] of the problem.

57. World Bank Group, *The Potential of the Blue Economy: Increasing Long-term Benefits of the Sustainable Use of Marine Resources for Small Developing States and Coastal Least Developed Countries* (World Bank 2017) ix (Highlighting challenges that limits the development of blue economy, including: (1) the current economic trends that degrade ocean resources through unsustainable extraction of marine resources; (2) the lack of investment in human capital in innovative blue economy sectors; and (3) the inadequate evaluation of marine resources, isolated sectoral management of activities in the oceans, and lack of full implementation of the UNCLOS and relevant instruments).

58. FAO, *Tracking Progress on Food and Agriculture-related SDG Indicators: A Report on the Indicators under FAO Custodianship* (2019) 25-29 <http://www.fao.org/sdg-progress-report/en/#chapeau> accessed 31 December 2022; UN, The Sustainable Development Goals Report 2019 (United Nations, 2019) 51 <https://unstats.un.org/sdgs/report/2019/The-Sustainable-Development-Goals-Report-2019.pdf> accessed 31 December 2022. (It should be pointed out that despite relying on the same statistics, the tones of the two reports are drastically different, with the FAO report being cautious and less enthusiastic about the achievements, and the general UN report being significantly more optimistic and certain of success, which could also be seen as evidence of different implied values towards fisheries).

59. FAO, *Tracking Progress on Food and Agriculture-related SDG Indicators 2022* (FAO, 2022) 102.

60. J. G. Frazier, 'Sustainable Development: Modern Elixir or Sack Dress?' (1997) 24(2) Environmental Conservation 182, 182 & 188 (pointing out that "in nearly all discourses of sustainable development is the axiom of continual growth", also referring to the concept of maximum sustainable yield (MSY) as 'the ideal of taking as much as possible of a resource, essentially forever, and have a scientific stamp to do so.').

In turn, the context of sustainability for the Anthropocene should at least include the concepts of sustainable use (or sustainable utilisation) and the precautionary principle (or precautionary approach). For fisheries, both of these concepts have been conveyed within numerous relevant legal instruments. For example, the terms 'conservation of living resources' and MSY (although the effectiveness of this concept is questionable)[61] that were incorporated in the UNCLOS, or the term 'long-term sustainability' that was used in the FSA are thought to contain the common notion of sustainable use.[62] On the other hand, the precautionary principle has also been found to be a deciding element in the new paradigm established by the FSA whereby the conservation of the marine ecosystem became a basic consideration in fishing operations.[63]

Apart from the legal perspective, I would also highlight an observation on sustainability made by Pauly, as he points out that mankind has rarely acted in a sustainable manner towards any natural resource. For fish, the image of sustainability in historical accounts simply meant the humans of that period lacked the technology, capital, or market to expand the fishery and degrade the resource base.[64] Thus, the quest of sustainable fisheries should include one new aspect: the reshaping of how

61. Ellen Hey, 'The Persistence of a Concept: Maximum Sustainable Yield' in David Freestone (ed), *The 1982 Law of the Sea Convention at 30: Successes, Challenges and New Agendas* (Martinus Nijhoff, 2013) 89. (Arguing that the focus on open access and catch-based management of MSY resulted in unsustainable fisheries governance.).

62. Marion Markowski, 'The International Legal Standard for Sustainable EEZ Management' in Gerd Winter (ed), *Towards Sustainable Fisheries Law: A Comparative Analysis* (IUCN Environmental Policy and Law Paper No. 74, IUCN 2009) 4; Patricia Birnie, Alan Boyle and Catherine Redgwell (n 59) 199.

63. David Freestone, 'International Fisheries Law since Rio: The Continued Rise of the Precautionary Principle' in Alan Boyle, David Freestone (eds), *International Law and Sustainable Development* (OUP, 1999) 164.

64. Daniel Pauly, 5 *Easy Pieces: The Impact of Fisheries on Marine Ecosystems* (Island Press, 2010) 93.

individuals act and how they relate to other people, to their surrounding environment, and to the fish they are exploiting.[65]

4. Innovative Approaches with Doctrinal Implications

Expanding on the backdrop of the previous section, the focus of this section will be the emerging concepts that provide promising visions and pathways for sustainable fisheries.

It should be noted that the purpose of introducing these emerging concepts is not to completely replace the institutions or legal instruments within the framework of the UNCLOS, but rather to provide an entry point to better highlight and address the problematic aspects discussed above. As Churchill points out, the conservation provisions of the UNCLOS were inadequate, leading to the adoption of a wide range of hard and soft-law instruments as remedy.[66] The two concepts discussed below is part of the developmental process of the UNCLOS that is currently undergoing a paradigm shift as a governmental framework and part of international environmental law, responding to the unprecedented environmental changes of our time with new perspective and awareness.[67]

65. Patrick Bresnihan, *Transforming the Fisheries: Neoliberalism, Nature and the Commons* (University of Nebraska Press, 2016) 15.

66. Robin Churchill (n 1) 19-20 (listing a wide range of examples including the FSA).

67. Sandra Cassotta, 'The Development of Environmental Law within a changing Environmental Governance Context: Towards a New Paradigm Shift in the Anthropocene Era' (2019) Vol. 30 No. 1 Yearbook of International Environmental Law 54, 67.

4.1 Rewilding the Ocean

The concept of rewilding is more of a social movement than a clearly defined policy or legislation. As one of the most prominent promoters of the concept, Monbiot describes the concept as the large-scale restoration of the ecosystem or natural processes.[68] In terms of marine ecology, it is argued that the rewilding process will be easier than terrestrial ecosystems, due to the fact that few marine animals have actually become extinct, and even a small surviving population can regenerate if given the chance; and that marine species are capable of reintroducing themselves to habitats.[69] Clover also championed the concept in his latest work, offering a broad definition of rewilding as 'any effort that improve the health of the ocean by restoring habitats and species or by leaving them alone to recover.'[70]

For a more detailed depiction of the concept, Jørgensen provides a comprehensive account as she meticulously examined the different meanings of rewilding when used in different contexts and concluded a total of six different meanings, each with its own time reference points and geographical applicability, including: (1) cores, corridors, carnivores; (2) Pleistocene mega-fauna replacement; (3) island taxon replacement; (4) landscape through species reintroduction; (5) productive land abandonment; and (6) releasing captive-bred animals into the wild, where each definition has its own time reference points and geographical applicability.[71] She also pointed out that due to the un-scientific use of the term (e.g. by environmental activists), the term took on 'plastic' meanings, as

68. George Monbiot, *Feral: Rewilding the Land, the Sea, and Human Life* (University of Chicago Press, 2014) 8.

69. ibid., 248.

70. Charles Clover, *Rewilding the Sea: How to Save Our Oceans* (Witness Books, 2022) 12.

71. Dolly Jørgensen, 'Rethinking Rewilding' (2015) 65 Geoforum 482, 485.

a term that was developed for discrete scientific ideas was subsequently moved into daily use and took on different meanings according to context.[72] In conclusion, she noted that compared to some previous interpretations of rewilding that were based on an exclusionary approach, it would be a positive turn if the visions of a rewilded world were based on an inclusive approach, where humans and non-humans co-exist and co-inhabit in the same space.[73]

Lastly, considering the political and ethical implications of the concept of rewilding, Jepson and Blyth pointed out that rewilding actually embodies advances in interdisciplinary conservation science. Serving as a new environmental narrative, rewilding presents the degraded status of nature as the outcome of complex long-term interactions between nature, culture, politics, and economy. Through this display, we can start to take stock, reassess, and do something that can shape a better future.[74]

For the purpose of sustainable fisheries, it would seem at first sight that rewilding would inevitably mean the complete prohibition of fishing, and in the case of certain seriously degraded marine areas or depleted fish stocks, that would be true. However, this extreme scenario only exists because human beings have long ignored the impacts of our actions, and it would be merely a minor inconvenience if such a concept becomes the norm.

4.2 Degrowth in Fisheries

The definition of the concept of regrowth is much more concise. As Hickel points out, degrowth is 'a planned downscaling of energy and re-

72. id.

73. ibid., 487.

74. Paul Jepson, Cain Blyth, *Rewilding: The Radical New Science of Ecological Recovery* (Icon Books 2020) 103, 109.

source use to bring the economy back into balance with the living world in a safe, just and equitable way.'[75] One aspect of degrowth, according to Hickel, is the decommodification of public goods and expansion of the commons,[76] an action that is also mentioned by Büscher and Fletcher, who advocate that in parallel to the degrowth of global economy and the de-accumulation of political economy, communal forms must be redeveloped on a basis of egalitarian, democratic decision-making and resource allocation.[77]

Hadjimichael, on the other hand, introduced the concept of degrowth into the context of ocean governance as a counter to the term blue growth, and came up with 'blue degrowth'.[78] It is argued that blue degrowth is a concept that emerges from the need to confront the blue growth imperative and the quest for an alternative imagery for the use of, access to, and relations with the ocean by society. It is also a framework that can be socially and ecologically transformative.[79]

Concerning IUU fishing and fisheries, there is certainly a need for degrowth, as we have already witnessed the impact of the fishing industry's excessive capacity. Again, this obviously does not mean we are to abandon all fishing operations and stop eating fish. Instead, we need to reclaim the commons from the government officials and fishing industry that act like they have an established right of access to fish and in some sense own the productive capability of the fish stocks, as Walters strongly

75. Jason Hickel, *Less is More: How Degrowth will Save the World* (William Heinemann 2020) 29.

76. ibid., 228-229.

77. Bram Büscher, Robert Fletcher, *The Conservation Revolution: Radical Ideas for Saving Nature Beyond the Anthropocene* (Verso, 2020) 154.

78. Maria Hadjimichael, 'A call for blue degrowth: Unravelling the European Union's Fisheries and maritime policies' (2018) 94 Marine Policy 158, 159.

79. Irmak Ertör, Maria Hadjimichael, 'Editorial: Blue degrowth and the politics of the sea: rethinking the blue economy' (2020) 15 Sustainability Science 1, 4.

advised, and reassert the public right to establish safe and sustainable management measures, regardless of how those measures may impact the fishermen to whom we grant the privilege of access to fishing.[80]

4.3 Emerging Practices of Evolving Legal Doctrines

4.3.1 Utilising Marine Protected Areas

In relation to the concept of rewilding, the establishment of marine protected areas (MPAs) is considered to be one of the most effective methods when it comes to the conservation and protection of the marine environment. As it is acknowledged in the Convention on Biological Diversity (CBD)'s online overview towards the issue:

> [p]rotected areas are the cornerstone of biodiversity conservation; they maintain key habitats, provide refugia, allow for species migration and movement, and ensure the maintenance of natural processes across the landscape. Not only do protected areas secure biodiversity conservation, they also secure the well-being of humanity itself.[81]

It is also a fact that MPAs are gaining popularity and wide adoption in the international community. The establishment of MPAs has become more and more common and also larger in size. This ongoing trend has received an equal amount of coverage and praise in academic research, as well as in the media.[82] Such an increase is attributed to the continued depletion of fish stocks and decline in marine fish resources, which is a trend that needs

80. Carl Walters (n 9) 288 (Also pointing out that large closed areas and short fishing seasons are perhaps the most promising steps towards sustainable fisheries for the future).

81. CBD, 'Protected Areas – An Overview' <https://www.cbd.int/protected/overview/> accessed 31 December 2022.

82. Marine Deguignet, and others, *2014 United Nations List of Protected Areas* (UNEP-WCMC Cambridge UK 2014) 13.

to be reversed through the reduction of fishing pressure and the establishment of areas permanently or temporarily closed for fishing.[83]

In terms of the provision and obligations within the UNCLOS itself, it is observed in the *South China Sea* award on the merits that the Arbitral Tribunal adopted dynamic approach in interpreting the wording of Article 192 of the 1982 Convention,[84] reading in connection with other provisions of Part XII (Article 194(5),[85] in particular), in establishing the obligation for States to 'ensure that activities within their jurisdiction and control do not harm the marine environment.'[86] Furthermore, the Tribunal also relied on the holding of the *Chagos Marine Protected Area* Arbitration and the definitions of the CBD to reason that the measures referred to in Part XII are not limited to measures aimed strictly at controlling marine pollution.[87] As observed by Harrison, this interpretive approach has opened the possibility of an obligation to restore degraded marine ecosystems through the designation of MPAs.[88]

In the latest development, Greenpeace and scholars from the University of Oxford and University of York produced a study that maps how to protect 30% of the world's oceans by 2030 and also explores the possibility of extending that protection to 50%.[89]

83. Kjell Grip, Sven Blomqvist, 'Marine Nature Conservation and Conflicts with Fisheries' (2020) 49 Ambio 1328, 1332.

84. UNCLOS, Article 192: States have the obligation to protect and preserve the marine environment.

85. ibid., Article 194(5): 'The measures taken in accordance with this Part shall include those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life.'

86. South China Sea Arbitration (n 26), ¶ 944.

87. ibid., ¶ 945.

88. James Harrison, 'The Protection of Species, Ecosystems and Biodiversity under UNCLOS in light of the South China Sea Arbitration: An Emergent Duty of Marine Ecosystem Restoration?' (2019) No. 2019/20 Edinburgh School of Law Research Paper Series 12-16.

89. Greenpeace, *30x30 A Blueprint for Ocean Protection: How we can protect 30% of our oceans by 2030* (Greenpeace 2019).

Subsequently, in January 2021, the High Ambition Coalition for Nature and People, which includes more than 50 States, pledged to protect at least 30% of the planet's land and oceans prior to the One Planet Summit in Paris.[90] The President of the United States, Joe Biden, also announced commitments to protect 30% of land and ocean, and simultaneously launched a process for stakeholder engagement (including fishermen) to identify strategies that could facilitate broad participation.[91]

On another note, it has been observed that the zonal approach of the UNCLOS is the source of controversy over the interpretation of existing international law instruments as well as relevant issues of a new international instrument on the designation and management of MPAs at the United Nations Biodiversity Beyond National Jurisdiction (BBNJ) meetings over the last decade.[92] However, I would argue that by designating MPAs, the fragmentation that is created by the zonal approach could be averted and reversed, similar to the development that led to the elimination of freedom of fishing. States and competent authorities in any given zone now have (or will have in the near future) the power to establish no-take MPAs, and after these protected areas are established, fishing would be effectively excluded from these areas, regardless of their

90. Patrick Greenfield, Fiona Harvey, 'More than 50 countries commit to protection of 30% of Earth's land and oceans' (*The Guardian*, 2021) <https://www.theguardian.com/environment/2021/jan/11/50-countries-commit-to-protection-of-30-of-earths-land-and-oceans> accessed 31 December 2022.

91. Briefing Room, 'FACT SHEET: President Biden Takes Executive Actions to Tackle the Climate Crisis at Home and Abroad, Create Jobs, and Restore Scientific Integrity Across Federal Government' (*The White House*, 27 January 2021) <https://www.whitehouse.gov/briefing-room/statements-releases/2021/01/27/fact-sheet-president-biden-takes-executive-actions-to-tackle-the-climate-crisis-at-home-and-abroad-create-jobs-and-restore-scientific-integrity-across-federal-government/> accessed 31 December 2022.

92. Su Jin Park, Ki Hyeon Kim, 'The Legal Framework and Relevant Issues on the Marine Protected Areas in the Areas beyond National Jurisdiction' in Myron Nordquist, John Morton Moore and Ronán Long (eds), *The Marine Environment and United Nations Sustainable Development Goal 14: Life Below Water* (Brill Nijhoff, 2018) 173.

original zonal status. Also taking into consideration the development trajectory of the no-take MPA, the level of enforcement, monitoring, and protection would be highly uniform, leaving little wriggle room for illegal operations. In short, neighboring MPAs in the high seas and any given exclusive economic zone would overwrite the legal differences prescribed by the UNCLOS, leaving one homogenous area that would simultaneously provide the highest level of protection to the fish stocks and the marine environment.

In fact, a promising development in the Arctic along these lines have already been seen, with Canada designating the Tuvaijuittuq Marine Protected Area which borders the Central Arctic Ocean. This indicates that the treaty area of the Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean, which is the first regional fisheries agreement that is adopted prior to any fishing activities being carried out in the region and also imposes a temporary fishing moratorium,[93] is now adjacent to a highly protected area where 'no new or additional human activities will be allowed to occur in the area for up to five years'.[94] This can and should be regarded as a promising development for the use of MPAs, as well as a precursor for further rewilding efforts.

4.3.2 Removing Support for Harmful Fishing

For the case of degrowth, two recent developments concerning the financing and operation of fishing vessels can be seen as substantial efforts that may initiate the process of reducing unsustainable fishing effort and guide the fishing industry towards sustainable practices.

93. Valentin Schatz, Alexander Proelss, Nengye Liu, 'The 2018 Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean: A critical Analysis' (2019) 34 International Journal of Marine and Coastal Law 195, 197.

94. Government of Canada, 'Tuvaijuittuq Marine Protected Area (MPA)' <https://www.dfo-mpo.gc.ca/oceans/mpa-zpm/tuvaijuittuq/index-eng.html> accessed 31 December 2022.

The first development is the World Trade Organization (WTO) Agreement on Fisheries Subsidies, which was adopted at the 12th Ministerial Conference on 17 March 2022, indicating a positive step towards ocean sustainability by prohibiting harmful fisheries subsidies, which is one of the factors responsible for the depletion of global fish stocks.[95] With negotiations spanning over two decades, the ending of harmful fisheries subsidies is in fact a target of the SDGs (Target 14.6), and may soon be one of the first global targets to be achieved.[96] The conclusion of the Fisheries Subsidies Agreement has been considered as a turning point for fisheries, fishers, and fish alike, establishing an international commitment to improve ocean equity and sustainability.[97]

The second development is the 'Vessel Viewer' scheme, which involves global maritime insurers. Under the scheme, participating maritime insurance providers may utilise the product (i.e. Vessel Viewer) to assess the risk of illegal fishing posed by clients' fishing vessels. This would result in the loss of insurance coverage, making it harder for shipowners to continue the operation of such vessels.[98] This development could be further utilized in connection with the use of Automatic Identification Systems (AIS). The AIS was originally a tool for adverting maritime collisions, but it's use as a fisheries monitoring tool has also been recognized, due to the phenomenon of illegal fishing vessels switching off their AIS (i.e.

95. WTO, 'Agreement on Fisheries Subsidies' <https://www.wto.org/english/tratop_e/rulesneg_e/fish_e/fish_e.htm#:~:text=The%20WTO%20Agreement%20on%20Fisheries,of%20the%20world's%20fish%20stocks> accessed 31 December 2022.

96. Andrés Cisneros-Montemayor, and others, 'A constructive critique of the World Trade Organization draft agreement on harmful fisheries subsidies' (2022) 135 Marine Policy 104872.

97. Andrés Cisneros-Montemayor, and others, 'Changing the narrative on fisheries reform: Enabling transitions to achieve SDG 14.6 and beyond' (2020) 117 Marine Policy 103970.

98. Robert Wright, 'New tool aims to hook illegal fishing by raising alarm for insurers' Financial Times (London, 25 September 2022) <https://www.ft.com/content/863a9719-ca02-4f8c-a9a9-53b0f0139291> accessed 31 December 2022.

'going dark').[99] Thus, if insurers were permitted to investigate a vessels AIS compliance history as part of the insurance risk assessment process, the conduct of going dark would be deterred, which would consequently reduce illegal fishing.[100]

It is obvious that both of these developments are just in their infancy, and any implications or effectiveness analysis at his stage would not be feasible. However, it would be proper to acknowledge that these developments are both contributing to the degrowth of the current overgrown fishing industry, and are thus worthy of further observation.

5. Conclusion

In conclusion, I would like to refer back to the words and reflections of certain leading scholars in international law that are both illuminating and pertinent to the issue at hand. Firstly, Allott pointed out that 'ideas meet material reality to produce law, but the reality itself is a product of many other meetings between […] humanity and the natural world.'[101]

This statement can be accompanied by the proposition of Judge Wolfrum that: '[t]he development of general concepts like the freedom of the high seas or the common heritage principle reflects the spirit of a given historic period (*Zeitgeist*).'[102]

99. Priyal Bunwaree, 'The Illegality of Fishing Vessels 'Going Dark' and Methods of Deterrence' (2023) Vol. 72 ICQL 179, 179-180.

100. ibid., 211.

101. Philip Allott, 'Mare Nostrum: A New International Law of the Sea' (1992) 86(4) AJIL 764, 765.

102. Rüdiger Wolfrum, 'The Principle of the Common Heritage of Mankind' (1983) 43 Zeitschrift für ausländisches öffentliches Recht und Völkerrecht 312,312.

As this paper indicates, we are now facing a new reality concerning fisheries and how to make such an activity sustainable. The human-fish nexus and the problematic aspects of our current relationship is but a glimpse of that complex meeting between humans and the natural world. Furthermore, it is also my strong belief that mankind is now firmly in the age of the Anthropocene; that is our *Zeitgeist*. It is our mission to approach this historical period with an open mind and strive to understand the rapidly changing environment that we depend on for survival. This would be the only way to produce truly innovative legal approaches that can usher in sustainability in the ocean and lead to a sustainable future for all mankind.

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IV

The Central Arctic Ocean Fisheries Agreement – Legislating for Resilience? An Analysis of the CAOF Agreement from a Socio-Ecological Systems Resilience Perspective

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Abstract

The Central Arctic Ocean is faced with the prospect of ice-free summers by the end of the century, and unregulated fisheries present a risk for its ecosystems and fish stocks. The 2018 Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean (CAOFA) aims to prevent irreversible damage to yet unknown ecosystems caused by future fisheries. In this article, the merits of the CAOFA are subjected to a resilience-based analysis. The results of this analysis suggest that the CAOFA provides a significant amount of flexibility and supports iterativity, which enhances the resilience of the CAO as an emerging socio-ecological system. However, the Agreement also has significant shortcomings, lacking

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The author wishes to thank Dr. Froukje Maria Platjouw (Norwegian Institute for Water Research) for her critical remarks on the idea of this paper in its original stages. Many thanks also to Associate Prof. Beatriz Martinez Romera (University of Copenhagen) for her feedback in different stages of the drafting process, as well as to the two anonymous reviewers for their excellent comments and suggestions.

opportunities for the participation of non-State actors, and non-Parties in decision-making, as well as provisions guaranteeing equal access to resources for affected communities should a fishery be established. The analysis also identifies the law-science nexus as a key area of future research. Although the Agreement strongly relies on science and other forms of knowledge to map out the future of the CAO, and although socio-ecological resilience is a science-based concept, much ambiguity surrounds the role of science in the assessment of the implementation of the Agreement and future proceedings. Investigating the law-science nexus in more detail thus provides an opportunity to contribute to the growing body of knowledge on the CAOFA and to the larger law and resilience literature.

Keywords: CAOFA, Fisheries, Law-science nexus, Resilience, Arctic, Central Arctic Ocean, Participation, UNCLOS

1. Introduction

Climate change is leading to a warming of the Arctic at an alarming rate, currently around four times as fast as on the rest of the planet.[1] This warming process, the effects of which are already emerging today, will alter the environment in the terrestrial and the marine Arctic irreversibly.[2] One of the major changes is related to sea ice. While the Arctic

1. Mika Rantanen and others, 'The Arctic has warmed nearly four times faster than the globe since 1979' (2022) 3 Communications Earth & Environment 1, 6.

2. M. Meredith and others, 'Polar Regions' in H.-O- Pörtner and others (eds), *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate* (Cambridge University Press 2019) 205.

Ocean has been entirely covered by sea ice in the past, the sea ice cover is retreating at rapid speed, and estimates project a heightened likelihood of Arctic Ocean ice-free summers by the end of the century at the latest.[3]

An increase in open water also increases the prospect for different economic opportunities, such as shipping and fishing. Although there is currently very little information about the Central Arctic Ocean (CAO)'s ecosystems and their potential to support future fisheries,[4] northwards expansion of species' ranges and habitats due to global warming[5] may mean that some species will be populating the CAO to an extent that will enable commercial fisheries in the future.[6] Reduced, or completely disappeared, sea ice cover over the CAO due to climate change could open up the possibilities for new fishing grounds,[7] which are of interest to a variety of states. If they were to come into existence, these fishing grounds could generate income and contribute to food security, as blue food 'plays an increasing role in global nutrition systems.'[8] Hence, the

3. Thomas I Van Pelt and others, 'The missing middle: Central Arctic Ocean gaps in fishery research and science coordination' (2017) 85 Marine Policy 79 ; N. Abram and others, 'Framing and Context of the Report' in H.-O. Pörtner and others (eds), *The Ocean and Cryosphere in a Changing Climate: Special Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press 2019). See also Todd C Stevenson and others, 'An examination of trans-Arctic vessel routing in the Central Arctic Ocean' (2019) 100 Marine Policy 83, 83.

4. Pauline Snoeijs-Leijonmalm and others, 'Review of the research knowledge and gaps on fish populations, fisheries and linked ecosystems in the Central Arctic Ocean (CAO)' (2020), 45.

5. See e.g. Scott C Doney and others, 'Climate change impacts on marine ecosystems' (2012) 4 Annual review of marine science 11, 20; H.-O Pörtner and others, 'Summary for Policymakers' in H.-O Pörtner and others (eds), *Climate Change 2022: Impacts, Adaptation, and Vulnerability* (Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press 2022) 9.

6. Snoeijs-Leijonmalm and others (n 4) 11.

7. ibid., 7.

8. Michelle Tigchelaar and others, 'The vital roles of blue foods in the global food system' (2022) 33 Global Food Security 100637, 2.

future stocks in the CAO could economically benefit those able to access them, especially in view of declining stocks elsewhere.[9]

Large parts of the CAO are considered high seas, meaning that these waters fall under the freedom of the high seas as specified by Article 87 of the UN Convention on the Law of the Sea (UNCLOS), such as the freedom to fish, subject to conservation considerations.[10] Although a plethora of legislation applied to the CAO (such as rules under the UNCLOS, the UN 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 (UNFSA)[11] as well as the Ilulissat Declaration)[12] already before the Agreement, there was an important regulatory gap. There was no regional fisheries management organization (RFMO) to manage the hypothetical future fisheries in the high seas part of the CAO, which posed a threat of potential stock collapse.[13] Reminiscent of the collapse of the Bering Sea Pollock fisheries in the mid-1990s, the situation caused great concern among the scientific community,[14] resulting in a call for legislative action, aligned with the obligation of state

9. Erik J Molenaar, 'Participation in the central arctic ocean fisheries agreement', *Emerging Legal Orders in the Arctic* (Routledge 2019) 133; Beth Baker, 'Scientists Move to Protect Central Arctic Fisheries' (2012) 62 BioScience 852, 852; Elizabeth Mendenhall and others, 'Climate change increases the risk of fisheries conflict' (2020) 117 Marine Policy 103954, 2.

10. UN Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397.

11. 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 2167 UNTS 3.

12. Valentin J Schatz, Alexander Proelss and Nengye Liu, 'The 2018 agreement to prevent unregulated high seas fisheries in the Central Arctic Ocean: A critical analysis' (2019) 34 The International Journal of Marine and Coastal Law 195, 201.

13. David Dubay, 'Round Two for Arctic Fishing?' in Myron H Nordquist and Ronán Long, *Marine Biodiversity of Areas beyond National Jurisdiction* (Brill Nijhoff 2021) 333.

14. Andrew J. Norris and Patrick McKinley, 'The central Arctic Ocean-preventing another tragedy of the commons' (2017) 53 Polar Record 43, 47.

parties to UNFSA to cooperate and act upon the emergence of possible new fisheries.[15]

Based on the conviction that fisheries management ought to take a precautionary and ecosystem-based approach,[16] the 'Arctic Five'[17] and a group of five other States,[18] most of which are also part of the UNFSA initiated a two-year negotiating process to prevent unregulated high seas fishing in the CAO. This process resulted in the 2018 Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean (CAOFA), which entered into force in June 2021.[19] The CAOFA reflects the decision of the participating states to 'prevent the start of unregulated fishing' in the high seas area of the CAO.[20] Due to its sunset clause, it is currently only valid for a period of 16 years. After this period, the Agreement will continue to be in force for five-year periods, unless objected by any of the State Parties.

The Agreement has been described as a forerunner in legally adaptive, science-based governance of fisheries,[21] and as a 'landmark in both conservation and Arctic governance'[22] that is based on 'a commitment to legal and political stability and to wise stewardship.'[23] What previous

15. UNFSA, Article 6 (6).

16. Rosemary Rayfuse, 'The role of law in the regulation of fishing activities in the Central Arctic Ocean' (2019) 110 Marine Policy 103562, 2.

17. Canada, Denmark, Norway, Russia and the United States of America.

18. China, the European Union (EU), Iceland, Japan and Republic of Korea. See Molenaar (n 9) 133.

19. Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean (Ilulissat, Oct 3 2018, entered into force Jun 25 2021). Notably, the Agreement does not apply to sedentary species, as these are jurisdictionally attached to the continental shelves. See art 1 (b) CAOFA and its reference to Article 77 UNCLOS.

20. ibid., Article 2.

21. Rayfuse (n 16).

22. Peter Harrison and others, 'How non-government actors helped the Arctic fisheries agreement' (2020) 2 Polar Perspectives, 12.

23. Alexander N Vylegzhanin, Oran R Young and Paul Arthur Berkman, 'The Central Arctic Ocean Fisheries Agreement as an element in the evolving Arctic Ocean governance complex' (2020) 118 Marine Policy 104001, 9.

research fails to address, however, is the contribution of the CAOFA to the socio-ecological resilience of the area it governs. This calls for a closer look at the CAOFA from a resilience perspective.

This paper aims to contribute to the growing body of law-and-resilience literature that assesses the role of law in (socio-ecological) systems' resilience. After a brief overview of what resilience thinking entails, and which factors contribute to the resilience from a legal perspective, this paper assesses the merits of the CAOFA from a resilience perspective. Next to this assessment, the paper offers a theoretical contribution to the law-and-resilience literature, in arguing that a vital step is lacking in resilience analysis so far: the connection between science and law-making. In order to assess to what extent law contributes to resilience of the system it intends to govern, it is important to understand the role science plays in law-making processes, and in the implementation and later workings of the laws created. The role of the law-science nexus in the law and resilience literature is currently only marginal, despite that fact that ample research has been conducted on the role of science in policy processes. It therefore becomes important to include the law-science nexus into legal resilience analyses, and to explore possible avenues for future research in this area.

2. Methodological Background

The CAOFA has two important components: The first is the precautionary approach underlying the Agreement, and the second is the strong focus on scientific research. While the CAOFA does not entail a moratorium on fishing *per se*,[24] Parties agree to abstain from commercial fishing

24. Schatz, Proelss and Liu (n 12) 222.

in the absence of the knowledge of the CAO's ecosystem's capacities to support commercial fisheries until a conservation mechanism has been established and is operative.[25] Although it may be argued that the threshold for such an Agreement was lower than in other areas, considering the (currently) low probability that commercial fisheries will ever be established,[26] the Agreement is a strong departure from other, more traditional ways of ocean management, as State Parties chose to regulate before initiating fisheries.[27]

2.1 Rationale Behind the Resilience-Focused Approach

While the Agreement aims to safeguard healthy marine ecosystems in the long term,[28] it does not refer to specific approaches that have the potential to contribute to ecosystem preservation. Ecosystem stewardship is an example of such an approach, which the Arctic Five expressly recognised in the Ilulissat Declaration. The term describes 'an action-oriented framework intended to foster the social–ecological sustainability of a rapidly changing planet',[29] which aims to achieve 'ecosystem resilience and human wellbeing.'[30] Reading Article 2 of the Agreement in light of its Preamble, as well as the obligations set forth in Part XII of UNCLOS,

25. CAOFA, Article, 3 (1) (a). Note that parties have reserved the right to commence 'negotiations on the establishment of one or more additional regional or sub regional fisheries management organizations' in Article 14(3) of the CAOFA.

26. ibid., Preamble.

27. Timo Koivurova, Pirjo Kleemola-Juntunen and Stefan Kirchner, 'Emergence of a New Ocean: How to React to the Massive Change?' in Ken S. Coates and Carin Holroyd (eds), *The Palgrave Handbook of Arctic Policy and Politics* (Springer 2020) 409, 420.

28. CAOFA, Article 2.

29. F. Stuart Chapin III and others, 'Ecosystem stewardship: sustainability strategies for a rapidly changing planet' (2010) 25 (4) Trends in ecology & evolution 241, 241.

30. F. Stuart Chapin III and others, 'Ecosystem stewardship: A resilience framework for arctic conservation' (2015) 34 Global Environmental Change 207, 2.

under the FAO Code of Conduct for responsible fisheries, and under the 2003 FAO technical guidelines for Responsible Fisheries Management[31] supports the use of the stewardship approach, as this entails understanding the Agreement in light of the obligations to protect the marine environment and respect ecosystem capacities, while nevertheless considering fish as a resource necessary for human wellbeing.

As resilience is conceptually included in the ecosystem stewardship approach, analysing the Agreement from a resilience perspective therefore has the benefit of contributing to answering the question whether the Agreement is indeed fit for purpose.

2.2 Socio-Ecological Systems and Resilience Theory

The core idea underlying resilience theory is systems' reaction to stresses.[32] In socio-ecological systems theory, these systems are a combination of social and ecological factors. In other words, they refer to a 'multi-scale pattern of resource use around which humans have organised themselves in a particular social structure.'[33] The CAO is in itself emerging as a socio-ecological system, as currently many players are organising around possibilities to exploit or protect its resources once the area becomes accessible. Such a systemic view of the CAO is supported by the preamble of the Agreement, in which State Parties not only regulate their own activities, but also recall the 'interests of Arctic Residents' (social side) in

31. FAO, 'FAO Technical Guidelines for Responsible Fisheries – Fisheries management 2: The ecosystem approach to fisheries' (Rome, 2003).

32. What the exact stress is depends on the system, but examples are climate change, or pollution.

33. Resilience Alliance 2015. Key concepts. Available at <http://www.resalliance.org/index.php/key_concepts> in Gloria Gallardo and others, 'We adapt… but is it good or bad? Locating the political ecology and social-ecological systems debate in reindeer herding in the Swedish Sub-Arctic' (2017) 24 Journal of political ecology 667, 670.

'long-term conservation and sustainable use […] and in healthy marine ecosystems'[34] (ecological side).

Based on this systemic view, resilience theory describes the way in which systems are able 'to cope with a hazardous event or trend or disturbance, responding or reorganising in ways that maintain [their] essential function, identity and structure as well as biodiversity in case of ecosystems.'[35] In the light of climate change, coping with disturbances appears to be necessary, and desirable.[36] According to Folke (*et al.*), 'resilience can be depicted as set of capacities that filter and direct development pathways determining whether systems adapt or transform in response to change.'[37]

Throughout the literature, resilience is described as a mix of persistence, adaptability, and transformability.[38] While persistence describes the system's ability to continue its functioning without significant deteriorations that may lead to a systemic shift,[39] adaptability (or adaptive capacity) describes a system's capacity to adapt to changing situations[40] in order to maintain vital elements. Notably, the definition of resilience has recently

34. CAOFA, Preamble.

35. H.-O Pörtner and others, 'Summary for Policymakers' (n 5) 5.

36. This is also reflected in the importance of the notion of 'Climate Resilient Development' in the most recent IPCC report. See R. Ara Begum and others, 'Point of Departure and Key Concepts' in H.-O. Pörtner and others (eds), Climate Change 2022: *Impacts, Adaptation, and Vulnerability* (Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press 2022) 135.

37. Carl Folke and others, 'Resilience and social-ecological systems: A handful of frontiers' (2021) 71 Global Environmental Change 1024000, 1.

38. ibid., 1.

39. Beth Schaefer Caniglia and Brian Mayer, 'Socio-Ecological Systems', *Handbook of Environmental Sociology* (Springer 2021) 527; Peter J Mumby and others, 'Ecological resilience, robustness and vulnerability: how do these concepts benefit ecosystem management?' (2014) 7 Current Opinion in Environmental Sustainability 22, 24.

40. F. Stuart Chapin and others, 'Resilience-based stewardship: strategies for navigating sustainable pathways in a changing world' in Carl Folke, Gary P. Kofinas and F. Stuart Chapin (eds), *Principles of ecosystem stewardship* (Springer 2009) 319, 335.

shifted, partly replacing the notion of persistence with transformability. Previously, transformability was considered as conflicting with resilience and adaptability, since transformation requires changes in systemic structures, which is at odds with the idea of persistence.[41] However, the current line of thought is that persisting and adapting is not enough, and that instead a combination of adaptation and transformation is needed.[42] In line with these developments, the analysis conducted in the following paragraphs focuses also on resilience as a form of adaptation and transformation, while not ignoring the fact that a certain basic amount of stability is needed to ensure the ongoing existence of the system under study.

Traditionally, the study of resilience takes a governance approach. Law is an element of governance and has, as such, gained more interest in relation to resilience in the last decade,[43] as it allows for the direction of human behaviour and, thus, influences resilience. This merits the consideration of the role of law in resilience separately. In order to give some context to the legal analysis, the background of operationalising socio-ecological systems resilience needs to be given first. This is followed by a translation of these criteria into legal terms, which form the basis for the analysis of the CAOFA.

2.3 Elements of Resilience

The definition of socio-ecological systems resilience necessitates the consideration of factors across various scales, and across the socio-ecological realm. For the sake of the analysis of the CAOFA, only factors

41. Brian Walker and others, 'Resilience, adaptability and transformability in social–ecological systems' (2004) 9 Ecology and society, 2.

42. Pörtner and others, 'Summary for Policymakers' (n 5) 5. Folke also refers to this as 'resilience for transformation' (Folke and others (n 37) 1).

43. Emilie Beauchamp and others, 'Twenty priorities for future social-ecological research on climate resilience' (2020) 15 Environmental Research Letters 105006, 5.

that impact the CAO directly in terms of fisheries will be taken into account.[44]

In order to strengthen socio-ecological resilience, factors related to ecosystems, as well as the social systems that surround and influence them, must be considered. From an ecological perspective, resilience relies mainly on biodiversity as well as adaptive capacity of the ecosystem itself.[45] To give a simple example: the higher the biodiversity, the more the pressure of natural selection is spread, which allows the system to remain stable and adaptive.[46] This also means that governance should be structured in order to foster ecological resilience.

Several system characteristics can contribute to the social side of socio-ecological resilience (flexibility, participation, diversity and redundancy, iterativity, and equal access to resources). These merit a brief description.[47] If a system is *flexible*, those who are affected by changes within (e.g. Arctic residents) can adapt more quickly to a changing situation. Thus, in order to govern towards resilience, resilience theory demands 'flexibility in social systems and institutions to deal with chang-

44. It needs to be noted in this regard that the recession of sea ice will also enable to other industrial activities on the CAO, such as shipping, which may also impact the resilience of the CAO and fisheries there. As the impact of these activities have not been considered within the CAOFA, the legal frameworks that apply to these activities have been omitted from this analysis.

45. Steve Carpenter and others, 'From metaphor to measurement: resilience of what to what?' (2001) 4 Ecosystems 765, 778.

46. ibid.; See also Owen L Petchey, Eoin J O'Gorman and Dan FB Flynn, 'A functional guide to functional diversity measures' (2009) Biodiversity, Ecosystem Functioning, & Human Wellbeing Naeem S, Bunker DE, Hector A, Loreau M, Perrings C, eds Oxford University Press, Oxford 49.

47. In socio-ecological systems literature, the individual criteria are more complex and multi-faceted. For the purpose of this paper, the explanation of the criteria has been limited to what is necessary in order to construct a legal analysis.

es.'[48] *Iterativity* is necessary in order to revisit decisions made based on new knowledge,[49] and to adopt new strategies based on new information.[50] Especially in cases such as the CAO, iterativity is important, since much is unknown about the area, and the effect of climate change in the present and future. An iterative framework also includes opportunities for social learning and the inclusion of different kinds of knowledge, both western and traditional ecological knowledge (TEK),[51] such as *Inuit Qaujimajatuqangit* (Inuit knowledge). Recognising the value of TEK is not only important from a decolonialist point of view, but also because it usually constitutes a body of knowledge that has co-evolved with the system over a long time and thus provides valuable information on system properties and resilience aspects.[52]

Systemic resilience also depends on actors' opportunities for *participation*, as effective and broad participation ensures all actors are heard and involved in decision-making processes.[53] To that end, it is also necessary to include a diverse array of stakeholders and allow for *diversity* in

48. Jonas Ebbesson, 'The rule of law in governance of complex socio-ecological changes' (2010) 20 Global Environmental Change 414, 414. See also Stephanie Domptail and Marcos H Easdale, 'Managing socio-ecological systems to achieve sustainability: A study of resilience and robustness' (2013) 23 Environmental Policy and Governance 30, 39.

49. Reinette Biggs and others, 'Toward principles for enhancing the resilience of ecosystem services' (2012) 37 Annual review of environment and resources 421, 434; Cristina Gonzalez-Quintero and V Sophie Avila-Foucat, 'Operationalization and measurement of social-ecological resilience: a systematic review' (2019) 11 Sustainability 6073, 7.

50. Catherine Blanchard, Carole Durussel and Ben Boteler, 'Socio-ecological resilience and the law: exploring the adaptive capacity of the BBNJ agreement' (2019) 108 Marine Policy 103612, 1.

51. Erik Gómez-Baggethun, Esteve Corbera and Victoria Reyes-García, 'Traditional ecological knowledge and global environmental change: research findings and policy implications' (2013) 18 Ecology and society: a journal of integrative science for resilience and sustainability, 72.

52. ibid., 73.

53. Brita Bohman, *Legal design for social-ecological resilience* (Cambridge University Press 2021) 68.

solutions to stressors that challenge resilience, which furthers *redundancy* of solutions at different levels to compensate for approaches that may be ineffective.[54] Lastly, from a more justice-focused point of view, *equal access to resources* also plays an important role in resilience to stressors. The more 'social, economic and other resources' communities have available to them, the better able they are to cope with stressors.[55] Importantly, this access to resources must be equal[56] to benefit the entire community.

The aforementioned criteria relate to adaptation and adaptive capacity. Since the consideration of transformation is still relatively recent, it can only be said that governance for resilience must support transformation, where necessary, and possibly stabilise new elements of the system, should they arise.[57]

Notably, all these elements must recognise that resilience is a multi-scalar, multi-nodular concept (also referred to as *panarchy*).[58] This means that processes can occur at different scales and paces simultaneously, which must be accounted for when governing for systemic resilience.

54. ibid., 66; 68.

55. James D Ford and Barry Smit, 'A framework for assessing the vulnerability of communities in the Canadian Arctic to risks associated with climate change' (2004) Arctic 389, 393.

56. Brita Bohman, 'Legitimacy and the role of law for social and ecological resilience' in Timothy Cadman, Margot Hurlbert and Andrea C. Simonelli (eds), *Earth System Law: Standing on the Precipice of the Anthropocene* (Routledge 2021) 148, 156.

57. Carl Folke, 'Resilience (republished)' (2016) 21 Ecology and Society, 5.

58. Tracy-Lynn Humby, 'Law and resilience: mapping the literature' (2014) 4 Seattle J Envtl L 85, 93; Ahjond S Garmestani and Melinda Harm Benson, 'A framework for resilience-based governance of social-ecological systems' (2013) 18 Ecology and Society 1, 3.

3. Evaluating Legislation from a Resilience Perspective

Much work has already been done on translating socio-ecological resilience criteria into legal terms.[59] This section therefore provides only a brief synthesis of the existing literature, before moving on to the analysis of the CAOFA.

Again, the analysis of transformation is brief. Faced with larger changes, it is essential that the legal framework is, to some extent, forward looking, and allows for (or at least does not hinder) transformation when necessary.

In order to preserve ecological adaptive capacity, and thus systemic resilience, it seems natural that the legal framework ought to respect and protect the characteristics of the ecosystems that it regulates. This can mean protecting biodiversity, or using the ecosystem approach in order

59. See e.g. Craig Anthony Arnold and Lance H Gunderson, 'Adaptive law and resilience' (2013) 43 Envtl L Rep News & Analysis 10426, for an overview of how adaptive law can strengthen resilience; See Olivia Odom Green and others, 'Barriers and bridges to the integration of social–ecological resilience and law' (2015) 13 Frontiers in Ecology and the Environment 332 for suggestions on the role of law in adaptive governance; See also Ahjond S Garmestani, Craig R Allen and Melinda H Benson, 'Can law foster social-ecological resilience?' (2013) 18 Ecology and Society; Marleen Van Rijswick and Willem Salet, 'Enabling the contextualization of legal rules in responsive strategies to climate change' (2012) 17 Ecology and Society 1; Joseph Wenta, Jan McDonald and Jeffrey S McGee, 'Enhancing resilience and justice in climate adaptation laws' (2019) 8 Transnational Environmental Law 89; Humby (n 58); Barbara A Cosens, 'Legitimacy, adaptation, and resilience in ecosystem management' (2013) 18 Ecology and Society; Ebbesson (n 48); Niko Soininen and Froukje Maria Platjouw, 'Resilience and adaptive capacity of aquatic environmental law in the EU: An evaluation and comparison of the WFD, MSFD, and MSPD' in David Langlet and Rosemary Rayfuse (eds), *The Ecosystem Approach in Ocean Planning and Governance* (Brill Nijhoff 2018); Bohman, *Legal design for social-ecological resilience*; Brita Bohman, 'The ecosystem approach as a basis for managerial compliance: an example from the regulatory development in the Baltic Sea Region' in David Langlet and Rosemary Rayfuse (eds), *The Ecosystem Approach in Ocean Planning and Governance: Perspectives from Europe and Beyond* (Brill Nijhof 2019).

to do justice to the system's interconnectedness with stakeholders and the wider environment.

Ideally, law includes enough flexibility to accommodate for changes and adaptation in the ecological and social realm. Flexibility can be substantial, for example, by including adaptive goals in the legal instrument[60] or using open-textured norms[61] that leave room for interpretation.[62] Flexibility can also be procedural, for example by using reflexive approaches that focus on mechanisms, instead of the desired outcome, to facilitate resilient outcomes[63] or allowing for evolution of the law in accordance with changes in substantive goals,[64] for example by virtue of amendments.[65]

However, flexibility comes with one caveat, namely that one of law's central roles is the provision of stability and legal certainty, while the characteristics of socio-ecological resilience demand a high degree of 'flexibility and responsiveness.'[66] The challenge of law is therefore to balance these two core values against one another. The assessment of any legal framework in a resilience context will need to consider this balance.

As the system that law aims to govern is connected to other systems on various scales within the *panarchy*, legislating for resilience (and consequently also analysing law from a resilience perspective) means recog-

60. Blanchard, Durussel and Boteler (n 50) 4.

61. Ebbesson, Cited in Blanchard, Durussel, and Boteler (n 50) 'Socio-ecological resilience and the law: exploring the adaptive capacity of the BBNJ agreement,' 4.

62. Brita Bohman, 'Adaptivity, Flexibility and Transformability' in Brita Bohman (ed), *Legal Design for Social-Ecological Resilience* (Cambridge University Press 2021) 82.

63. Garmestani and Benson (n 58) 11.

64. Ahjond Garmestani and others, 'Untapped capacity for resilience in environmental law' (2019) 116 Proceedings of the National Academy of Sciences 19899, 19901.

65. Bohman (n 62) 82.

66. David Langlet and Rosemary Gail Rayfuse, *The ecosystem approach in ocean planning and governance*, vol 87 (Brill Nijhoff 2019) 450.

nising this interconnectedness. One of the challenges in international law in that regard 'consists in including as many states as possible—if not all—covered by the social-ecological contexts, while not diluting the Agreement with the increase in the number of parties.'[67] Next to the ecosystem approach within law, a legal system that supports multilevel governance across different temporal and spatial scales fosters resilience from the *panarchy* point of view. This is because such a system can connect different levels and provides for redundancy of legal options, that can stand in for one-another should one fail to work. This is especially relevant since socio-ecological systems connect the social and ecological aspects, which entails that law needs to recognise feedbacks between the two, as well as the limitations within the ecosystem to support the social system's needs.[68]

Iterativity is somewhat connected to flexibility, in the sense that iterations contribute to generating the knowledge based on which adaptation of the legal framework occurs. In a legal context, iterativity 'encompasses those principles relating to the generation, processing and application of knowledge.'[69] More concretely, this includes a focus on learning,[70] which is connected to constant monitoring of the physical system that the legal system governs.[71]

In order to enhance participation, a legal framework should include participatory mechanisms at all stages of legal decision-making processes,

67. Jonas Ebbesson and Carl Folke, 'Matching Scales of Law with Social-Ecological Contexts to Promote Resilience' in Ahjond Garmestani and Craig Allen (eds), *Social-Ecological Resilience and Law* (Columbia University Press 2014) 265, 283.

68. Humby (n 58) 85.

69. Margot Hill Clarvis, Andrew Allan and David M Hannah, 'Water, resilience and the law: from general concepts and governance design principles to actionable mechanisms' (2014) 43 Environmental Science & Policy 98, 102.

70. Soininen and Platjouw (n 59) 26.

71. ibid., 27.

and across the various levels of the system.[72] A forum for participation could be, for example, the decision-making body of the legal instrument in question.[73] From a legal point of view, participation serves two aspects: enhancing justice[74] and ensuring legitimacy.[75] Effective participatory mechanisms ideally include a wide range of stakeholders to ensure all interests are effectively addressed. The justice aspect also ties in closely with the requirement of equal access to resources. Law regulating for resilience needs to recognise the need for an equal distribution of resources in the area it aims to govern, in order to ensure the social system's resilience.

Thus, in order for law to be conducive to resilience building, it needs to: (1) facilitate transformation when necessary, (2) protect the ecosystems that it covers to safeguard biodiversity, (3) allow for adaptability and flexibility while securing a certain amount of stability, (4) recognise and work towards connectivity across different scales, (5) be iterative, (6) include mechanisms for monitoring, (7) allow for participation on various stages of the decision-making processes by various interested parties, and (8) ensure justice and equal access to resources.

72. Wenta, McDonald and McGee (n 59) 112.

73. Siddharth Shekhar Yadav and Kristina Maria Gjerde, 'The ocean, climate change and resilience: Making ocean areas beyond national jurisdiction more resilient to climate change and other anthropogenic activities' (2020) 122 Marine Policy 104184, 6.

74. Wenta, McDonald and McGee (n 59) 100.

75. ibid., 109; Ebbesson and Folke (n 67) 273.

4. The CAOFA from a Resilience Perspective

Assessing whether the CAOFA is beneficial to socio-ecological resilience building in the Central Arctic Ocean requires a consideration of the various factors individually.

4.1 Transformation

As the Agreement was established to regulate commercial fisheries prior to knowledge of the ecosystem in the CAO, it can be said to actively support an ongoing process of transformation, from an ice-covered area to an area that may in the future be used for fisheries. The Agreement lays an important ground for future developments by regulating scientific monitoring, requiring Parties to establish first conservation mechanisms for exploratory fisheries, and preventing State Parties from establishing commercial fisheries before the creation of a fisheries management regime in the CAO following Article 5(1)(c)(ii) of the CAOFA. While Article 8 (1) (3) stipulates that parties shall deter activities of vessels of non-state parties, the strength of this provision (and possibly therefore also the Agreement's transformative potential) is limited due to the general freedom of the high seas established in Article 87(1)(e) of UNCLOS. Nevertheless, UNCLOS also sets forth the duty to cooperate to protect marine living resources under Articles 117 and 118, which may in turn strengthen the role that the Agreement will play in the future. Despite the prevalence of conditional rights to fishing under UNCLOS, the Agreement in itself therefore supports transformation, and already aims to create a framework for new elements, in the wake of the CAO's expected physical changes. Notably, this also implies that the Parties to the Agreement expect the ecosystem to change fundamentally, which makes a focus on stability unlikely, and supports a resilience analysis from a more dynamic, adaptive perspective, such as that conducted in the following paragraphs.

4.2 Ecosystem Protection to Safeguard Biodiversity

The CAOFA strives to recognise the role of 'healthy and sustainable' marine ecosystems in the Central Arctic Ocean, within a 'long-term strategy.'[76] Although it is unclear from the Agreement itself what that strategy entails, the Agreement is placed in and directly refers to the framework set out under UNCLOS and UNFSA (which emphasises the protection of marine ecosystems), as well as joint instruments adopted under the auspices of the UN.[77]

Due to its focus on the precautionary principle and an ecosystem-based approach to fisheries, the Agreement is unprecedented.[78] However, there is surprisingly little substantive protection for ecosystems and biodiversity in the text of the CAOFA itself. Arguably, biodiversity protection is implicitly safeguarded by Article 3(1) of the CAOFA, which makes the commencement of commercial fisheries contingent on conservation and sustainable management of fish stocks, which in turn relies on the ecosystem approach.[79] A similar and more direct notion can be found in Article 3(6), which requires State Parties and others to cooperate in the conservation and management measures of fish stocks across maritime zones to conserve them in their entirety. This arguably recognises the interconnectedness within ecosystems, and can be argued to also be beneficial to the protection of biodiversity.

76. CAOFA, Preamble.

77. See Vylegzhanin, Young and Berkman (n 23) 7. The effectiveness of these agreements in protecting biodiversity is, however, limited.

78. Nengye Liu, Alexander Proelss and Valentin Schatz, 'Regulating Exceptions for Research and Exploratory Fishing in Southern Ocean Marine Protected Areas: A Comparative Analysis on Balancing Conservation and Commercial Use' (2022) 53 Ocean Development & International Law 60, 81.

79. Rayfuse (n 16) 2.

However, currently, the only direct obligation to consider ecosystem impacts in activities that are being undertaken and are regulated by the CAOFA can be found in Articles 3(4) and 5(1)(d)(ii), which require Parties to forego scientific activities that undermine ecosystem protection, and limit the impact of exploratory fishing on stocks and ecosystems. Additionally, Article 5(1)(c) of the CAOFA stipulates that the distribution, migration, and abundance of fish in the area may require additional conservation and management measures in respect of those stocks. While this additional layer of protection may be beneficial for the protection of some species, it fails to recognise the importance of other species whose influence on the ecosystem is currently not known. Overall, this suggests that the role of the CAOFA in protecting biodiversity, and hence enhancing the adaptive capacities of the ecosystem is currently limited. One reason for this may be the very limited amount of direct involvement by environmental NGOs in the negotiation processes.[80] Another argument worth considering is that the CAOFA is only a first step towards a management of the fisheries in the CAO, and therefore cannot be analysed as critically as a future agreement with more substantive provisions on environmental protection or fisheries management. Yet, a third argument is that biodiversity concerns are already addressed through other agreements and institutional arrangements, such as the Arctic Council,[81] and that an inclusion of biodiversity into the CAOFA would lead to increased institutional fragmentation. However, considering the direct referral to marine ecosystems in the text of the Agreement, it is striking that direct biodiversity considerations are lacking in the Agreement itself. Thus, in

80. See Schatz, Proelss and Liu (n 12) 208.

81. It needs to be noted here that the general lack of stronger state commitments to address biodiversity protection in the High Seas is currently being addressed in the ongoing BBNJ processes. However, it is likely that fisheries will be excluded from the BBNJ treaty itself (see Article 8(2) of the most recent draft, available at <https://www.un.org/bbnj/sites/www.un-.org.bbnj/files/igc_5_-_further_revised_draft_text_final.pdf> accessed 31 December 2022).

order to fulfil the aims of the Agreement, and contribute to resilience, ecosystem protection will need to be considered, while taking into account other institutional arrangements and commitments of States under other international frameworks related to biodiversity.

4.3 Adaptive Capacity and Flexibility

The fact that the Agreement has little substantive content and merely sets out a framework of interim conservation measures and research efforts leaves much room for the implementation of other measures, which contributes to the adaptability of the Agreement. From the standpoint of adaptability, the possibility of legal evolution following advanced knowledge on the CAO also needs to be commended. Following Article 5(1)(a), State Parties meet and review the implementation of the CAOFA at least every two years, and consider whether or not the data gathered in the meantime allow for sustainable commercial fisheries (as stipulated in Article 5(1)(c)). Additionally, Article 5(1)(d) of the CAOFA allows the parties to amend the conservation and management measures from time to time, when necessary. This provides for flexibility as scientific knowledge progresses, and thus benefits adaptability.

Arguably, the distinction between majority and consensus votes mentioned in Article 6 can be understood as an opportunity to balance flexibility with stability. While only a majority vote is needed for decision-making in terms of procedure, consensus is needed for more substantial measures. This ensures that issues that Parties deem substantive are not taken hastily, which supports stability of regulation. Especially in scenarios where some States may be in favour of commencing fisheries, and others may be against it,[82] this mechanism could ensure the stabil-

82. Erik J Molenaar, 'The CAOF Agreement: Key Issues of International Fisheries Law' in Tomas Heidar (ed), *New Knowledge and Changing Circumstances in the Law of the Sea* (Brill Nijhoff 2020) 446, 462.

ity needed to protect ecosystems adequately. Yet, one could also argue that the same mechanism precludes flexibility to move forward in times of drastic change following global warming in order to, for example, establish more stringent regulations once the time comes to establish a regional fisheries management organisation or a marine protected area.[83]

4.4 Connectivity

When analysing adaptability and flexibility, a brief look at the capacity of the Agreement to recognise interconnectedness of the area across different spatial and temporal scales is necessary. This is because systems do not exist in isolation, and hence neither do adaptive processes governing them. The CAOFA seems to recognise temporal interconnectedness through the long-term approach to management mentioned in Article 2, as well as spatial interconnectedness of ecosystems to some extent through the requirement to protect fish stocks jointly in the high seas and coastal areas as stipulated by Article 3(6). Additionally, although the Agreement does not directly mention or support multi-level governance, the possibility to establish a fisheries management organisation under Article 5(1)(c) of the CAOFA exists, which could connect the Agreement to other fisheries management areas, benefitting multi-level governance approaches.

However, the number of Parties to the Agreement is quite limited. Notably, Finland and Sweden, both by definition Arctic states, are not listed as State Parties. This may negatively influence the spatial interconnectedness and larger ecosystem protection within the CAO, and therefore resilience. While this may limit the Agreement's power to establish

83. Problems with this approach are already visible, as demonstrated by the inability to establish marine protected areas under the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), due to a lack of consensus by state parties.

connectivity, this concern may be mitigated by general obligations to cooperate in protecting the marine environment as established by the surrounding legal framework. Article 192 of UNCLOS sets out State obligation to protect the marine environment, and following Article 197, States must do so in cooperation. Although it is beyond the scope of this paper to debate to what extent Article 192 of UNCLOS can further connectivity, it has been argued that Article 197 of UNCLOS can be read as an argument for pursuing a 'coherent and holistic approach'[84] which arguably indirectly would support the idea of connectivity. Additionally, State Parties to UNFSA would also have the duty to cooperate and strengthen existing RFMOs under Article 13 of the UNFSA, which would also apply to a potential CAO RFMO, if it were to be established.

4.5 Iterativity

Iterativity plays an important role in the CAOFA. First, the strong focus on science and monitoring in Article 4 puts forward the gathering and use of knowledge within the Joint Program on Scientific Research and Monitoring (JPSRM). Importantly, this is not only limited to scientific and technical knowledge, but also includes indigenous and local forms of knowledge.[85] The Agreement stipulates that Parties shall hold scientific meetings in order to review information, as well as adopt terms of reference for the functioning of joint scientific meetings.[86] These procedural rules have provisionally been developed within the first meeting of the Provisional Scientific Coordinating Group that took place in 2020. However, the Agreement remains silent on the role of scientific advice in

84. Erik J. Molenaar and Alex G. Oude Elferink, 'Marine protected areas in areas beyond national jurisdiction-the pioneering efforts under the OSPAR convention' (2009) 5(1) Utrecht Law Review 5, 10.

85. CAOFA, Article 4 (4).

86. ibid., Article 4(6).

decision-making surrounding the commencement of negotiations and establishment of fisheries management organisations under Article 5(1)(c)(ii). Article 5(1)(c) specifies that Parties should consider whether the conditions support commercial fisheries *'on the basis of scientific information and other relevant sources.'*[87] However, the Agreement does not define the extent to which the scientific advice should be followed, nor the weight that is given to the individual sources of scientific knowledge (joint program, national scientific programs, and 'other relevant sources').

The Agreement also does not detail the status of indigenous knowledge vis-à-vis western science and technology. The current draft terms of reference of the Provisional Scientific Coordination Group specify that future delegations are to be appointed by State Parties and are to include a mix of indigenous and non-indigenous scientists and knowledge holders.[88] This solution is also supported by the Inuit Circumpolar Council,[89] which had warned of a split between western and indigenous knowledge that would give indigenous knowledge a different status than western forms of knowing.[90] Nevertheless, the Agreement does not specify the normative weight of the individual knowledge types, which is especially interesting in the light of the fact that the delegations to the meetings of the JPSRM are appointed by the signatories. This could possibly lead to

87. Emphasis added.

88. PSCG On the Central Arctic Ocean, 'Report of the 1st meeting of the Provisional Scientific Coordinating Group (PSCG) of the Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean', retrieved from <https://apps-afsc.fisheries.noaa.gov/documents/Arctic_fish_stocks_fifth_meeting/13200_109215706.pdf>, 10, accessed 31 December 2022.

89. Letter from the President of the Inuit Circumpolar Council, Alaska, 2020. Available at <https://apps-afsc.fisheries.noaa.gov/documents/Arctic_fish_stocks_fifth_meeting/13200_109215706.pdf> accessed 31 December 2022.

90. ibid.

the fact that western knowledge is prioritised already by virtue of choosing the scientific delegation. Thus, although the Agreement is iterative in the sense that it supports the generation and use of new and different forms of knowledge, it remains silent on the extent to which the knowledge will be used.

4.6 Monitoring

Monitoring plays an important role in ensuring that the law is indeed fit for the intended purpose. Article 5(1)(a) provides for a regulatory monitoring process, in which the Parties are required to review the Agreement's implementation. Reading this together with the obligations under Article 4, it seems as if this also includes a review of the workings of the JPSRM itself. There are also monitoring requirements for State Parties regarding the use of exploratory fishing in Article 5(1)(d)(5). However, the CAOFA does not specify, what exactly these monitoring obligations entail, nor how they will take place. While the monitoring requirements of the Agreement therefore are conducive from a resilience point of view, it is questionable to what extent the monitoring effectively contributes to resilience-building, if the procedures are not specified.

4.7 Participation

There are three aspects of participation that need to be considered separately within the framework of the CAOFA: participation of third State Parties, participation of indigenous actors, and participation of other non-state actors (e.g. local communities).

The Agreement does not allow for the participation of non-party states in any capacity, which also significantly limits the reach of the CAOFA, as it is only upon binding State Parties. This means that in principle, the Agreement is limited to the Arctic Five plus five as mentioned in Article

9, with the only exemption being that other States can be invited to join the Agreement if they show 'real interest' in accession (Article 10(1)).

In the preamble, the Agreement does specifically reference the rights and interests of two non-State groups of people, namely indigenous people as well as 'Arctic residents.' The rights of indigenous peoples under the 2007 UN Declaration on the Rights of Indigenous Peoples (UNDRIP)[91] are also specifically mentioned. Especially relevant in relation to the CAOFA are Articles 18 (right to participate) and 19 (obligation to obtain free, prior and informed consent) of the UNDRIP. However, these rights seem to have only been realised indirectly, if at all, as there is no direct possibility for indigenous participation in the CAOFA's framework. Although there is recognition of indigenous forms of knowledge in Articles 4(4), 5(4)(1)(b) and (c), the decision as to whether indigenous parties can participate in decision-making processes lies at the hands of State Parties. The wording of Article 5(2) ('may') implies that it is in fact up to the parties to decide the extent of this participation. This is also reflected in the proposed rules of procedure of the JPSRM, which read that the delegations to the provisional scientific decision group include 'scientists and holders of indigenous and local knowledge *as the respective Signatory deems appropriate*.'[92] Hence, the CAOFA only contains an ambition to include indigenous knowledge, but only weak obligations considering the way in which this knowledge is gathered.[93]

Even more important, the Agreement contains little room for indigenous peoples or their representatives to participate in review, the decision

91. UN General Assembly, United Nations Declaration on the Rights of Indigenous Peoples: resolution / adopted by the General Assembly, 2 October 2007, A/RES/61/295.

92. SCG On the Central Arctic Ocean (n 88), 50 (emphasis added).

93. Valentin Schatz, 'Incorporation of Indigenous and Local Knowledge in Central Arctic Ocean Fisheries Management' (2019) 10 Arctic Review 130, 133; Nigel Bankes, 'Arctic Ocean Management and Indigenous Peoples: Recent Legal Developments' (2020) 11 The Yearbook of Polar Law Online 81, 114.

to take further steps, or the general decision-making processes under Articles 5 and 6. This means that although their knowledge is taken into account, they have no individual vote or other form of deciding power in the way fisheries are developed under the auspices of the Agreement, should this become a matter of discussion in the future. While Article 19 of the UNDRIP recognises the duty of States to obtain free, prior, and informed consent from indigenous peoples affected by their legislative or administrative measures, the CAOFA does not provide for such a mechanism at all. It would be interesting to see whether the obligation to obtain free, prior, and informed consent, as well as the inclusion and participation of indigenous peoples, is also taken into account when monitoring for implementation under Article 5(1)(a) of the CAOFA. As the Agreement only entered into force a year ago, this remains to be seen.[94]

The Agreement also does not provide any specific provisions to include other Arctic residents in decision-making beyond the opportunities that these residents have available through national means. This also means that participation is significantly limited in this regard.

4.8 Equality and Equal Access to Resources

There is little to say about justice and equality concerns from the perspective of the CAOFA, as it does not directly contain a right to equal access of resources in its provisions. A reason for this might be, similarly to biodiversity protection, the limited amount of participation of indigenous peoples during the negotiation process,[95] possibly affecting the negotiating leverage of indigenous groups during the CAOFA negotiations.

94. See also Malgosia Fitzmaurice and Mercedes Rosello, 'IUU Fishing as a Disputed Concept and Its Application to Vulnerable Groups: A Case Study on Arctic Fisheries' (2020) 22 International Community Law Review 410, 421.

95. See Schatz, Proelss and Liu (n 12) 208.

Despite this direct lack of rights to equal access to resources, a reference to the interests of small-scale fisheries and indigenous groups can be found in Article 24(2)(b) of the UNFSA. This provision requires State Parties to the UNFSA to consider the impacts of fisheries management under UNFSA on small-scale and artisanal fisheries as well as indigenous peoples of developing States, especially small-island developing States. However, consideration of impacts is no guarantee of actual equal access to resources – even less so considering the fact that the UNFSA covers only straddling and migratory fish stocks, and thus not discrete stocks, to which the CAOFA does apply also.[96] Therefore the only recourse to fair access of resources seems to be under Articles. 18 and 19 of the UNDRIP, as the application of these provisions would enable indigenous people to participate in resource distribution processes, and thus influence them.

The question of resource distribution would come into play in the moments in which the individual State Parties give licenses to fish on the CAO following the establishment of a regime under the processes of the CAOFA. Articles 18 and 19 of the UNDRIP require participation as well as free, prior, and informed consent of indigenous peoples on a national level. As the Agreement itself, despite the explicit reference to the UNDRIP in the preamble, lacks direct justice and fairness considerations in its wording, and does not contain explicit reference to the notion of free, prior and informed consent, incorporating these notions into a future management regime that deals with quota distribution would greatly benefit indigenous rights, and thus increase resilience.

96. CAOFA, Article 3 (6).

5. The Missing Piece: The Law-Science Nexus

Although the Agreement strongly builds on science and one of the main provisions and current effective programs is the JPSRM, there are several uncertainties regarding the role and value of scientific knowledge in the final decision-making processes. This leads to the final point of this analyses, namely the importance of the law-science nexus in resilience studies.

The role of science in decision-making has already been explored through the study of science-policy interfaces. These interfaces are 'relations between scientists and other actors in the policy process, and which allow for exchanges, co-evolution, and joint construction of knowledge with the aim of enriching decision-making,'[97] as well as institutions that define and guide the linkage of science to policy through the individual actors in the respective domains.[98] Yet, the CAOF is a legal instrument, and law differs significantly from policy. Law is, for example, generally more formal and possibly also more focused on stability than policies.[99] Policies on the other hand have the advantage that they are more flexible and less formal, but also provide fewer substantive rights that can be claimed by those governed by them. This makes the study of the role of science in law-making as well as the implementation of law significantly different from the study of science in policy-making, and requires a new approach: the law-science nexus.

97. Sybille Van den Hove, 'A rationale for science–policy interfaces' (2007) 39 Futures 807, 815.

98. Thomas Koetz, Katharine N Farrell and Peter Bridgewater, 'Building better science-policy interfaces for international environmental governance: assessing potential within the Intergovernmental Platform for Biodiversity and Ecosystem Services' (2012) 12 International environmental agreements: politics, law and economics 1, 2.

99. Eva Erman, 'A function-sensitive approach to the political legitimacy of global governance' (2020) 50 British Journal of Political Science 1001, 1009.

Knowledge on the law-science nexus is in its infancy, despite vast knowledge on science-policy interfaces. Cosens describes the law-science interface in the context of natural resources disputes and litigation, arguing that a reform of the litigation system is needed to meet the shortcomings of law in addressing complex problems.[100] Platjouw, Steindahl, and Borch's research centres on the role of the AMAP as a scientific expert body in establishing the Minamata Convention.[101] Woker describes different aspects of the relationship between law and science (reference to science, influence of legal interpretation by scientific knowledge, and regulation of science).[102] Orangias focuses on the role of scientific bodies in treaty-making and the implications of this process for international law.[103]

From a resilience perspective, investigating questions relating to the inclusion of science into the framework post-implementation is relevant, as scientific knowledge is vital to the ongoing fit of law to the system it aims to regulate. While the significant role of science within the decision-making framework has been highlighted throughout this paper, it is unclear how this will play out in practice in the years to come. The fact that little is known on the law-science nexus from a scholarly perspective makes the developments in the CAO especially interesting, as they could provide an example based on which the current literature on law and

100. Barbara Cosens, 'Resolving conflict in non-ideal, complex systems: solutions for the law-science breakdown in environmental and natural resource law' (2008) Natural Resources Journal 257.

101. Froukje Maria Platjouw, Eirik Hovland Steindal and Trude Borch, 'From Arctic science to international law: The road towards the Minamata Convention and the role of the Arctic Council' (2018) 9 Arctic Review 226, 267.

102. Hilde J Woker, 'The Law-Science Interface in the Arctic: Science and the Law of the Sea' (2022) 13 The Yearbook of Polar Law Online 341.

103. Joseph Orangias, 'The Nexus between International Law and Science: An Analysis of Scientific Expert Bodies in Multilateral Treaty-Making' (2022) 1 International Community Law Review 1.

resilience can be expanded. As mentioned, the Agreement is silent on the exact role of scientific advice on the decision-making processes, and lacks explicit balance between the different scientific traditions that are to be included. Future research could therefore focus on evaluating to what extent scientific bodies are listened to, and what the role of science is in assessing effectivity of legal implementation. These and similar questions are especially relevant in the light of resilience to fast-moving and multi-level stressors, such as climate change.

6. Conclusion

This article demonstrates that while the CAOFA must be commended regarding its adaptive capacity and flexibility, substantive provisions are lacking when it comes to biodiversity protection and ecosystem protection across scales, especially regarding participation of non-State groups and equal access to resources. Several arguments have been put forward for why this may be the case, amongst which the argument that the CAOFA is only a first step towards a management of fisheries in the CAO, and therefore cannot be analysed as critically as an agreement with more substantive provisions on environmental protection or fisheries management. However, even if this were to be the case, the outcomes of this analysis still point towards factors that ought to be considered by State Parties in drafting subsequent agreements under the framework of the CAOFA.

The article furthermore highlights one of the important tensions in research on the role of law and resilience: the tension between flexibility and stability. The CAOFA is adaptive and flexible, as it has very few substantive requirements it needs to safeguard, and because few parties must be considered in decision-making processes. However, this comes at the

expense of stability and applicable rights or provisions for ecosystem protection, which are also needed to ensure resilience.

The analysis of the CAOFA points towards another element of resilience research that has, so far, been neglected in the law-and-resilience literature: the nexus between law and science. The Agreement strongly relies on science for decision-making moving forward, data sharing and inclusion of various forms of knowledge. Yet, questions remain regarding the extent that State Parties to the Agreement are required to consider and implement the scientific legal advice given by the JPSRM. Moving forward, research into this area will therefore not only be relevant from the perspective of supporting resilience in the CAOFA, but will also allow to contribute to developing the law-and-resilience literature. Although a CAO commercial fishery is unlikely to be established in the near future, the analysis suggests several opportunities, both for research, as well as for a potential regulatory framework surrounding future fisheries that merit consideration as the CAO becomes more and more accessible in the years to come.

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V

Development and Innovation in Fisheries and Aquaculture in Brazil: A Legal Analysis

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Abstract

The Brazilian State seeks the promotion and development of fisheries and aquaculture in a sustainable manner to provide social inclusion, environmental conservation, and economic growth. To set up a feasible model of sustainable development, it is necessary to have an appreciation for and encouragement of research and innovation environments in educational and research institutions, as well as in the productive sector. Scientific knowledge of the oceans and coastal areas is a prerequisite for the proper management, protection, and sustainable use of their resources. The present work focuses on providing a comprehensive panoramic

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of the international and national legal framework concerning research, development and innovation activities in fisheries and aquaculture, as well as discusses on the importance of consolidating a research, development, and innovation structure to support the sustainable development of fisheries and aquaculture in relation to the decision-making process, enhancement of governance, and sound and effective policies in this area. Despite the progress made in promoting and implementing research, development, and innovation activities relating to fisheries and aquaculture, there are still significant challenges to be overcome.

Keywords: Governance, Policies, Scientific Research, Sustainable Development

1. Introduction

Sustainable food production has become one of the greatest challenges for nations in the 21st century. Food security, in terms of production, distribution, and the population's right of access to quality food, associated with the economic efficiency of production systems and their potential environmental impacts, urgently demands the development of integrated policies that ensure environmental conservation as a basis for production systems. The achievement of sufficient and sustainable food production for the current and future generations will need an information exchange among scientists from different disciplines and stakeholders from government and productive sectors and the broad public. Additionally, food security must be permanently included in the global research agenda.[1]

1. Jan Jansa and others, 'Future Food Production as Interplay of Natural Resources, Technology, and Human Society' (2010) 14 Journal of Industrial Ecology 6, 877.

According to the Food and Agriculture Organization (FAO) of the United Nations,[2] fisheries and aquaculture sectors have been increasingly recognised for their essential contribution to global food security and nutrition. In the past seven decades, the total fisheries and aquaculture production has significantly increased from 19 million tonnes in 1950 to 178 million tonnes in 2020. For fisheries and aquaculture, sustainable development must consider the exploitation of fisheries resources together with environmental conservation, maintenance of stocks, fisheries management, sustainable management of aquaculture, proper disposal of processing waste, use of best practice management, and appreciation of fishermen and aquaculture producers, and the need to develop research, innovation, and new technologies that support these factors.

The 2015 United Nations Sustainable Development Summit adopted the 2030 Agenda for Sustainable Development,[3] which includes a set of 17 Sustainable Development Goals (SDGs). The 2030 Agenda defines global sustainable development priorities and aspirations for 2030 and seeks to mobilise global efforts to benefit people, planet, prosperity, peace, and partnership. The SDGs include an aim to end poverty and hunger, further development of agriculture, support for economic development and employment, restoration and sustainable management of natural resources and biodiversity, a reduction in inequality and injustice, and action on climate change by 2030. It commits stakeholders to work together to promote sustained and inclusive economic growth, social development, and environmental protection.

2. Food and Agriculture Organization of the United Nations, 'The State of World Fisheries and Aquaculture (SOFIA) 2022' (2022), 5 <https://www.fao.org/publications/sofia/2022/en/> accessed 31 December 2022 (FAO).

3. The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. United Nations General Assembly Resolution 70/1. Transforming our world: the 2030 Agenda for Sustainable Development.

According to the FAO,[4] several SDGs are relevant for fisheries and aquaculture and for the sustainable development of the sector, but SDG 14[5] is of particular relevance. SDG 14 focuses expressly on oceans, underlining the importance of the conservation and sustainable use of oceans and seas and their resources for sustainable development, including their contributions to poverty eradication, sustained economic growth, food security, and the creation of livelihoods and decent work.

To confront this reality, the Brazilian State policies seek to organise, promote, and develop fisheries and aquaculture activities sustainably to provide income, job creation, social inclusion, environmental conservation, and economic growth, understanding that to establish this sustainable developmental model, strong support for and encouragement of research and innovation is needed in educational and research institutions as well as within the productive sector.[6]

The importance of oceans, seas, and coasts, including their resources and ecosystems as utilised by fisheries and aquaculture, is now widely recognised by the international community. This statement can be verified by noting the wide range of mandatory and voluntary instruments to regulate the use of oceans, seas, and their resources to comply with the precepts of sustainable development. Considering that scientific research and the transfer of technology are components present in all of these instruments, they should necessarily be observed when proposing public policies related to the promotion of research, development, and innovation in fisheries and aquaculture for sustainable development.

4. FAO, *The State of World Fisheries and Aquaculture 2016. Contributing to Food Security and Nutrition for All* (FAO 2016).

5. United Nations, 'SDG 14: Conserve and Sustainably Use the Oceans, Seas and Marine Resources for Sustainable Development' <https://sdgs.un.org/goals/goal14> accessed 31 December 2022.

6. Eric A B Routledge and others, 'Ações e Desafios para Consolidação das Políticas de PD&I em Pesca e Aquicultura' (Parcerias Estratégicas, 2011) vol 16, 167.

The present work focuses on providing a comprehensive panoramic of the international and national legal framework concerning research, development and innovation activities in fisheries and aquaculture, as well as discusses on the importance of consolidating a research, development, and innovation structure to support the sustainable development of fisheries and aquaculture in relation to the decision-making process, enhancement of governance, and sound and effective policies in this area.

2. International Legal Framework Related to Fisheries and Aquaculture in the Context of Scientific Research

Until the 1950s, marine scientific research was not regulated by any international treaty, so customary law provided the main source of law in this field. The increase in scientific research in the oceans and technological development after the Second World War, together with its gradual application to exploration and exploitation of resources and military purposes, led the international community to develop and codify the international legal framework in this regard.[7]

The term 'marine scientific research' can be referred to as a variety of scientific disciplines dedicated to the study of the oceans and their marine flora and fauna, including their physical, chemical, and geological characteristics, the objective of which is 'to observe, to explain, and eventually to understand sufficiently well how to predict and explain changes in the natural (marine) world.'[8] Marine scientific research thus contrib-

7. United Nations Division for Ocean Affairs and the Law of the Sea, *Marine Scientific Research: A Revised Guide to the Implementation of the Relevant Provisions of the United Nations Convention on the Law of the Sea* (UNP 2010) vol. 10 and 12.

8. Marko Pavliha and Norman Gutiérrez, 'Marine Scientific Research and the 1982 United Nations Convention on the Law of the Sea' (2010) 16 Ocean & Coastal Law Journal 4, 115-133.

utes to the rational exploitation of the sea's resources and the preservation of the marine environment. For example, the sustainable exploitation of fish stocks can be achieved after appropriate marine scientific research provides the necessary data to avoid overfishing.[9]

The scope of this work was to focus on the legal instruments framework currently in force and established by international organisations, as well as by current national legislation in Brazil. Although this review has sought to be as comprehensive as possible, it worth be noted that a new legally binding instrument for the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction (BBNJ) is being negotiated between UN member states. In this regard, BBNJ aims to preserve vulnerable marine ecosystems, use the ocean and marine species sustainably, legally regulate access to and benefit sharing of marine genetic resources in international waters, and strengthen ocean science and marine technology throughout the world.[10]

2.1 Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973)

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)[11] is an international agreement aimed at ensuring that wild plant and animal species are not threatened by interna-

9. Florian Wegelein, *Marine Scientific Research: The Operation and Status of Research Vessels and Other Platforms in International Law* (vol 49, Brill – Nijhoff, 2005) 14-15.

10. Ina Wysocki and Alice Vadrot, 'The Voice of Science on Marine Biodiversity Negotiations: A Systematic Literature Review' (2020) 7 Front. Mar. Sci., 614282.

11. CITES was drafted as a result of a resolution adopted in 1963 at a meeting of the members of the World Conservation Union (IUCN). The text of the Convention was finally agreed upon at a meeting of representatives of 80 countries in Washington, D.C. on March 3, 1973. On July 1, 1975 CITES entered into force.

tional trade. It works through the regulation and control of international trade in selected species. Such determinations indicate that all import, export, re-export, and introduction from the sea of species covered by the Convention must be authorised through a licensing system. Each Party to the Convention must designate its Management Authority, responsible for administering this licensing system and its Scientific Authority, whose function is to provide advice on the effects of this trade on the status of the species.[12] The species covered by CITES are listed in three Appendices, according to the degree of protection they need.

A Secretariat is provided by the Executive Director of the United Nations Environment Programme. The functions of the Secretariat include undertaking scientific and technical studies in accordance with programs authorised by the Conference of the Parties (CoP) that will contribute to the implementation of the Convention, such as studies concerning standards for appropriate preparation and shipment of living specimens and the means of identifying specimens, and making recommendations for the implementation of the aims and provisions of the Convention, including the exchange of information of a scientific or technical nature.[13]

Many marine species that are traded internationally are highly migratory, often crossing national borders, so their conservation and sustainable exploration and exploitation can only be achieved if Member States work collaboratively. Thus, CITES provides a legal framework to regulate international trade in species, ensuring its sustainability and promoting cooperation between Parties. Therefore, the Parties to the Convention, upon prior consultation with their Scientific Authorities, submit proposals for voting on the inclusion of new species in the Appendices,

12. Convention on International Trade in Endangered Species of Wild Fauna and Flora, Article IX (CITES).

13. ibid., Article XII (CITES).

demonstrating that the CITES listing criteria are met in each case. Prior to the vote, Parties receive advice from the FAO, the International Union for Conservation of Nature, and the CITES Secretariat, among others.[14]

2.2 United Nations Convention on the Law of the Sea (1982)

Marine scientific research was first considered during the first United Nations Conference on the Law of the Sea in 1958,[15] although the term marine scientific research is not defined in the United Nations Convention on the Law of the Sea (UNCLOS),[16] despite the number of proposals that were made for a definition during the negotiations for the Convention, particularly during the Third United Nations Convention on the Law of the Sea.[17] Compared to the 1958 Geneva Conventions, the UNCLOS has increased the geographic scope of the regulation of marine scientific research by including the most important areas for its development by Member States.

The UNCLOS sets out the legal framework within which all activities in the oceans and seas must be carried out. It is the most comprehensive international legal system for the oceans and seas of the world,

14. Kim Friedman and others, 'Informing CITES Parties: Strengthening Science-Based Decision-Making When Listing Marine Species' (2019) 21 Fish & Fisheries 1, 13-31.

15. The four 1958 Conventions adopted in Geneva on April 29, 1958 are: the Geneva Conventions on the High Seas, on the Territorial Sea and Contiguous Zone, on the Continental Shelf, and on Fishing and Conservation of the Living Resources of the High Seas.

16. UNCLOS was opened for signature on December 10, 1982 in Montego Bay, Jamaica. This marked the culmination of more than 14 years of work involving participation by more than 150 countries representing all regions of the world, all legal and political systems, and the spectrum of socio/economic development. The Convention entered into force in accordance with its article 308 on November 16, 1994, 12 months after the date of deposit of the sixtieth instrument of ratification or accession.

17. The Conference, in which 160 states participated, held eleven sessions between 1973 and 1982.

establishing rules governing many of the uses of the oceans as well as the exploration and exploitation of their living and non-living resources. In addition, it provides the framework for international cooperation on delimitation of ocean space, environmental control, marine scientific research, economic and commercial activities, transfer of technology, and the settlement of disputes relating to ocean matters.

Currently, the most important legal source governing marine scientific research is Part XIII of the UNCLOS, and its provisions are closely related to Part XIV, which regulates the development and transfer of marine technology. The General Assembly of the United Nations has consistently highlighted the importance of marine science for eradicating poverty, contributing to food security, conserving the world's marine environment and resources, promoting the sustainable development of the oceans and seas, and helping to understand, predict, and respond to natural events.

The conduct of marine scientific research is a right for all States and competent international organisations, which are called on to promote and facilitate the development of research activities in accordance with the UNCLOS.[18] The general principles for the conduct of marine scientific research take into consideration that it is to be conducted exclusively for peaceful purposes and with appropriate scientific methods and means compatible with the Convention.[19] Moreover, in accordance with the principle of respect for sovereignty and jurisdiction, and on the basis of mutual benefit, States and competent international organisations are required to promote international cooperation in marine scientific research for peaceful purposes.[20]

18. United Nations Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994), 1833, 1834, 1835 UNTS 3 (UNCLOS), Articles 238 & 239.

19. ibid., Article 240.

20. ibid., Article 242.

In the exercise of their sovereignty, coastal States have the exclusive right to regulate, authorise, and conduct marine scientific research in their territorial seas and their exclusive economic zones (EEZs), as well as on their continental shelf, in accordance with the relevant provisions of this Convention.[21] Beyond their EEZs, under the principle of freedom of the high seas, the UNCLOS grants all nations the freedom to conduct scientific research. Furthermore, states are strongly encouraged to harmonise their national legislation with the provisions of the Convention and, where applicable, relevant agreements and instruments, to ensure the consistent application of those provisions.[22] Moreover, States are called on to cooperate, directly or through competent international organisations, in accordance with their capabilities to promote actively the development and transfer of marine science and marine technology on fair and reasonable terms and conditions.[23]

2.3 Convention on Biological Diversity (1992)

The Convention on Biological Diversity (CBD)[24] indicates that among its objectives 'are the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant

21. ibid., Articles 245 and 246.

22. United Nations General Assembly Resolution 63/111, ¶ 5 (UNGA).

23. UNCLOS, Article 266.

24. The CBD was opened for signature on June 5, 1992 at the United Nations Conference on Environment and Development (the Rio 'Earth Summit'). It remained open for signature until June 4, 1993, by which time it had received 168 signatures. The Convention entered into force on December 29, 1993, 90 days after the 30th ratification.

technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.'[25]

States are required to establish and maintain programs for scientific and technical education and training in measures for the identification, conservation, and sustainable use of biological diversity and its components, and to provide support for such education and training for the specific needs of developing countries. They are also required to promote and encourage research that contributes to the conservation and sustainable use of biological diversity, inter alia, in accordance with decisions of the CoP taken in consequence of recommendations of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA),[26] and to promote and cooperate in the use of scientific advances in biological diversity research in developing methods for conservation and sustainable use of biological resources.[27]

The increasing interrelations between science and policy for the purpose of the biodiversity governance have been gaining attention. There is a general view that the interface between science and policy must be strengthened, in particular at the international level, in support of more effective biodiversity governance. In this context, the official interface between science and policy of the CBD is the SBSTTA. Established as an open-ended intergovernmental multidisciplinary scientific advisory body for the CoP of the CBD, the SBSTTA was envisaged as an advisory mechanism with a strong scientific character.[28] One of SBSTTA's operating principles is to continuously 'improve the quality of its advice by

25. Convention on Biological Diversity (adopted 5 June 1992, entered into force 29 December 1993) 1760 UNTS 3, Article 1 (CBD).

26. ibid., Article 25.

27. ibid., Article 12.

28. Thomas Koetz and others, 'The role of the Subsidiary Body on Scientific, Technical and Technological Advice to the Convention on Biological Diversity as Science–Policy Interface' (2008) 11 J Environmental Science & Policy 6, 506-516.

improving scientific, technical and technological input into, debate at, and work of, meetings of the Subsidiary Body.'[29]

States recognising that both access to and transfer of technology are essential elements for achieving the objectives of the Convention undertaken to provide and/or facilitate access to and transfer of technologies that are relevant to the conservation and sustainable use of biological diversity or those that make use of genetic resources and do not cause significant damage to the environment.[30] Furthermore, States are required to promote international technical and scientific cooperation in the field of conservation and sustainable use of biological diversity and to promote the establishment of joint research programs and joint ventures for the development of technologies relevant to the objectives of the Convention.[31] It was envisaged that the fundamental contribution of the CBD to science would be the conservation of the resource base for life sciences, that is, biological diversity.

2.4 United Nations Fish Stocks Agreement (1995)

The Agreement for the Implementation of the Provisions of the UNCLOS Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks[32] sets out the principles

29. Conference of the Parties, Decision VIII/10, Annex III, paragraph 4 (CoP).

30. CBD, Article 16.

31. ibid., Article 18.

32. The Agreement was adopted on August 4, 1995, by the United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks and was opened for signature on December 4, 1995. It remained open for signature until December 4, 1996, and was signed by 59 states and entities. The Agreement entered into force on December 11, 2001, 30 days after the date of deposit of the thirtieth instrument of ratification or accession, in accordance with Article 40 (1) of the Agreement.

for the conservation and management of those fish stocks based on a precautionary approach and the best available scientific information. It elaborates on the fundamental principle, established in the UNCLOS, which States should cooperate to ensure conservation and promote the objective of the optimum utilisation of fisheries resources both within and beyond EEZs.

Seeking the conservation and management of fish stocks, States are required, when giving effect to their duty to cooperate in accordance with the UNCLOS, to adopt measures to ensure long-term sustainability, promote the objective of their optimum utilisation, ensure that such measures are based on the best scientific evidence available, and promote and conduct scientific research and develop appropriate technologies in support of fishery conservation and management.[33]

States are also required to collect and exchange scientific, technical, and statistical data with respect to fish stocks; ensure that data are collected in sufficient detail to facilitate effective stock assessment; and take appropriate measures to verify the accuracy of such data. Consistent with Part XIII of the UNCLOS, States are required to cooperate to strengthen scientific research capacity in the field of fisheries and to promote scientific research related to the conservation and management of fish stocks for the benefit of all. Furthermore, States are called on to actively promote the publication and dissemination to any interested States of the results of the research and information relating to its objectives and methods and, to the extent practicable, to facilitate the participation of scientists from those interested States in such research.[34]

33. 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 (adopted 4 August 1995, entered into force 11 December 2001) 2167 UNTS 3, art 5 (Fish Stocks Agreement).

34. ibid., Article14.

2.5 Code of Conduct for Responsible Fisheries (1995)

The FAO Code of Conduct for Responsible Fisheries[35] is voluntary, but certain parts of it are based on relevant rules of international law, including the UNCLOS, and contain provisions that may be or have already been given binding effect by means of other obligatory legal instruments among the Parties, such as the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas.[36]

Global in scope, the Code is directed toward FAO Members and non-Members; fishing entities; subregional, regional, and global organisations, whether governmental or non-governmental; and all persons concerned with the conservation of fisheries resources and management and development of fisheries, such as fishermen, those engaged in processing and marketing of fish and fisheries products, and other users of the aquatic environment in relation to fisheries. The Code provides principles and standards applicable to the conservation, management, and development of all fisheries. It also covers fishing operations, aquaculture, fisheries research, the integration of fisheries into coastal area management, and the capture, processing, and trade of fish and fisheries products.

35. The Code was initiated in 1991 by the FAO Committee on Fisheries and was unanimously adopted on October 31, 1995, by the over 170 member governments of the FAO Conference.

36. This Code sets out principles and international standards of behavior for responsible practices with a view to ensuring the effective conservation, management, and development of living aquatic resources, with due respect for the ecosystem and biodiversity. The Code recognises the nutritional, economic, social, environmental, and cultural importance of fisheries, and the interests of all those concerned with the fishery sector. The Code considers the biological characteristics of the resources and their environment and the interests of consumers and other users. States and all those involved in fisheries are encouraged to apply the Code and give effect to it.

Among its objectives are to facilitate and promote technical, financial, and other forms of cooperation in the conservation of fisheries resources and fisheries management and development and to promote research on fisheries and associated ecosystems and relevant environmental factors.[37] In that regard, States are required to recognise that responsible fisheries require the availability of a sound scientific basis to assist fisheries managers and other interested parties in making decisions. Therefore, States are responsible for ensuring that appropriate research is conducted into all aspects of fisheries, including biology, ecology, technology, environmental science, economics, social science, aquaculture, and nutritional science. States also have a responsibility to ensure the availability of research facilities and to provide appropriate training, staffing, and institution building to conduct the research, taking into account the special needs of developing countries.[38]

3. National Legal Framework Related to Fisheries and Aquaculture in the Context of Scientific Research

Adequate governance of fisheries and aquaculture is necessary to guarantee the sustainability of these activities and overall ocean health. The sustainable growth of fish production is a challenge, the importance of which is evident in the face of the continuous increase in demand, both domestically and worldwide. In this regard, fisheries and aquaculture legislation assumes a fundamental role in the definition of policies to encourage these activities, social outreach policies in support of fishermen

37. Code of Conduct for Responsible Fisheries (adopted 31 October 1995), Article 2.
38. ibid., Article 12.

and aquaculture farmers, and ordering, inspection, and control measures.

To ensure the contribution of fisheries and aquaculture activities to sustainable development, poverty eradication, and food security, adequate management is necessary, as well as the effective conservation of the living aquatic resources used. Social, economic, institutional, and political circumstances are responsible for conditioning the effectiveness and performance of measures for the conservation and management of fisheries resources. The sectoral governance of fisheries and aquaculture encompasses complex social, institutional, and political processes whose dimensions at international, national, and local levels require legal, social, environmental, economic, and political considerations. In addition, it necessarily involves interactions between governments and civil society, including fishermen, aquaculture farmers, industry, and the private sector in general, as well as other groups that may be related to the issues in some way.[39]

3.1 Law No. 6938 of 31 August 1981

The Law No. 6938 of the National Environmental Policy (*Política Nacional do Meio Ambiente* - PNMA)[40] aims to preserve, improve, and restore the environmental quality of Brazil in order to ensure conditions for socioeconomic development, the interests of national security, and

39. FAO, 'Management and Conservation of Aquatic Resources: Background to Division's' Activities <www.fao.org/fishery/topic/16032/en> accessed 31 December 2022.

40. *Lei* nº 6.938, *de* 31 *de agosto de* 1981. *Dispõe sobre a Política Nacional do Meio Ambiente, seus fins e mecanismos de formulação e aplicação, e dá outras providências.* <www.planalto.gov.br/ccivil_03/leis/L6938.htm> accessed 31 December 2022.

the protection of the dignity of human life, one of its principles being the encouragement of the study and research of technologies oriented toward the rational use and protection of environmental resources.[41]

The PNMA's goals include the development of research activities and technologies aimed at the rational use of environmental resources and the diffusion of environmental management technologies.[42] Under this policy, the governmental organisations, entities, and programs intended to promote scientific and technological research consider, among their priority goals, the support of projects that aim to acquire and develop applicable basic knowledge in environmental and ecological areas.[43] Thus, the search for sustainable development should be the orientation of all environmental science and scientific research practice.

The PNMA was inspired by the Stockholm Conference[44] and represents a milestone in the advancement of environmental protection. The insertion of an environmental theme into the Brazilian political agenda reveals a posture by the government in relation to environmental issues in which the reconciliation between economic growth and environmental preservation is possible and necessary, which is the central objective of the policy.[45]

41. ibid., Article 2.

42. ibid., Article 4.

43. ibid., Article 13.

44. The 1972 United Nations Conference on the Environment in Stockholm was the first world conference to make the environment a major issue. The participants adopted a series of principles for sound management of the environment including the Stockholm Declaration and Action Plan for the Human Environment as well as several resolutions. One of the major outcomes of the Stockholm conference was the creation of the United Nations Environment Program.

45. Pollyana M Santos and Maria das D S de Loreto, 'Política Nacional do Meio Ambiente Brasileira: Uma Análise à Luz do Ciclo de Políticas Públicas' (2020) 13 Perspectivas em Políticas Públicas 25, 297-335.

3.2 Decree No. 96000 of 2 August 1988

Decree No. 96.000[46] provides for the conduct of scientific research on the Continental Shelf and in waters under Brazilian jurisdiction, as well as on foreign research vessels and aircraft visiting Brazilian ports or airports during transit across Brazilian jurisdictional waters or in overlying airspace.

The activities covered by this decree, restricted to the Continental Shelf and to the waters under Brazilian jurisdiction, may not contradict the provisions of the National Maritime Policy, the National Policy for Marine Resources, or the PNMA, but the decree does not apply to research included in the monopoly of the Brazilian Government nor to those activities regulated by specific legislation.[47] The Brazilian Navy is the competent body to authorise and monitor the development of research activities and scientific investigation carried out on the Continental Shelf and in waters under Brazilian jurisdiction, and the contribution to national scientific and technological development is a fundamental condition for granting such authorisation.[48]

Scientific research, for the purposes of this decree, comprises any works carried out with a purely scientific purpose using ships, aircraft, and other means, through recording, filming, probing, and other operations.[49] Scientific research on the Continental Shelf and waters under Brazilian jurisdiction may only be carried out for exclusively peaceful

46. *Decreto* nº 96.000, *de* 2 *agosto de* 1988. *Dispõe sobre a realização de pesquisa e investigação científica na plataforma continental e em águas sob jurisdição brasileira, e sobre navios e aeronaves de pesquisa estrangeiros em visita aos portos ou aeroportos nacionais, em transito nas águas jurisdicionais brasileiras ou no espaço aéreo sobrejacente.* <www.planalto.gov.br/ccivil_03/decreto/1980-1989/D96000.htm> accessed 31 December 2022.

47. ibid., Article 1.

48. ibid., Article 2.

49. ibid., Article 3.

purposes and in accordance with the provisions of Brazilian law or the international acts to which Brazil is bound.[50]

3.3 Law No. 8617 of 4 January 1993

The Law No. 8617 (Law of the Sea)[51] adopted concepts and parameters agreed in the UNCLOS relating to the territorial sea, contiguous zone, EEZ, and continental shelf. In the exercise of its jurisdiction within the EEZ and the continental shelf, Brazil has the exclusive right to regulate marine scientific research, the protection and preservation of the marine environment, and the construction, operation, and use of all types of artificial islands and structures. Marine scientific research in the EEZ and continental shelf may only be conducted by other States with the prior consent of the Brazilian government, in accordance with the legislation in force that regulates the matter.[52]

3.4 Decree No. 1265 of 11 October 1994

The Decree No. 1265 of the National Maritime Policy (*Política Marítima Nacional* - PMN)[53] aims to guide the development of maritime activities in Brazil in an integrated and harmonious manner, aiming at the effec-

50. ibid., Article 5.

51. *Lei* nº 8.617, *de 4 de janeiro de* 1993. *Dispõe sobre o mar territorial, a zona contígua, a zona econômica exclusiva e a plataforma continental brasileiros, e dá outras providências.* <www.planalto.gov.br/ccivil_03/leis/L8617.htm> accessed 31 December 2022.

52. ibid., Articles 8 and 13.

53. *Decreto* nº 1.265, *de 11 de outubro de* 1994. *Aprova a Política Marítima Nacional* (PMN). <www.planalto.gov.br/ccivil_03/decreto/1990-1994/D1265.htm> accessed 31 December 2022 (PMN).

tive, rational, and full use of the seas and inland waterways in accordance with national interests. Its objectives include the research and development of national technology in the field of maritime activities and the research, exploration, and rational exploitation of living and non-living resources in the water column, bed, and subsoil of the seas, rivers, and navigable lakes where significant commercial activities for the maritime power[54] are carried out.

Among the actions related to research and development are the following: encouraging national companies related to maritime activities to incorporate the results of national scientific and technological research efforts; encouraging research that contributes to obtaining or developing national technology in the field of maritime activities; supporting universities, research centres, associations, congresses, and entities responsible for technical publications that contribute to the development of national technology in the field of maritime activities; encouraging the establishment or development of research institutions in the field of maritime activities; and aiming to maintain, in an integrated way, databases on the capture, production, and marketing of fish and fish products.

54. Maritime Power is understood as the component of National Power that the nation has to achieve its purposes linked to or dependent on the sea, which are of a political, economic, military and social nature and include, among many others, the maritime consciousness of the people and the political class, the Merchant Navy and the War Navy, the shipbuilding industry, ports and the structure of the maritime trade. The Naval Power is the military component of the Maritime Power.industry, ports and the structure of the maritime trade. The Naval Power is the military component of the Maritime Power.

3.5 Decree 5377 of 23 February 2005

The Decree No. 5377 of the National Policy for Marine Resources (*Política Nacional para os Recursos do Mar* - PNRM)[55] is intended to guide the development of activities aimed at the effective use, exploration, and exploitation of the living and non-living resources of the territorial sea, the EEZ, and the continental shelf in accordance with national interests in rational and sustainable development for the socioeconomic development of the Brazilian State, generating employment and income and contributing to social integration. The PNRM aims to establish principles and objectives for the elaboration of governmental plans, programs, and actions in the field of human resources training; for the development of marine research, science, and technology; and for the exploration and sustainable exploitation of marine resources.

Its strategy is formed by a set of actions to be undertaken to achieve the objectives of the PNRM. The actions are carried out under the guidance and coordination of the bodies comprising the Interministerial Commission for Marine Resources in accordance with their legally established specific competences and in line with the guidelines of this collegiate. Actions related to marine scientific research are highlighted below.

a) Human resources training actions:
   - strengthening teaching and research institutions in the field of marine science.
   - expanding internal and external technical and scientific exchange, aiming at the exchange and dissemination of data and information related to the training of human resources in marine science and technology, research, exploration, and sustainable use of marine resources.

55. *Decreto* nº 5.377, *de* 23 *de fevereiro de* 2005. *Aprova a Política Nacional para os Recursos do Mar - PNRM*. <www.planalto.gov.br/ccivil_03/_Ato2004-2006/2005/Decreto/D5377.htm> accessed 31 December 2022.

b) Marine research, science, and technology actions:
- encouraging the creation of teaching and research institutions dedicated to the study of the sea.
- promoting studies and research for knowledge, inventory, potential assessment, sustainable use, management, and ordering of the use of living and non-living resources existing in maritime areas under jurisdiction and of national interest.
- establishing, implementing, and maintaining a system for the collection, processing, and dissemination of data relating to the living resources of the sea.
- promoting the development and dissemination of technology with a view to increasing fish production and reducing waste, and promoting studies and research for knowledge, inventory, and assessment of the biotechnological potential of marine organisms existing in maritime areas under jurisdiction and of national interest.
- stimulating the exchange of scientific and technological data and information between teaching and research institutions at national and international levels regarding sea resources, exploration, and sustainable use.
- establishing the conditions for international cooperation in research, exploration, and exploitation of sea resources in maritime areas under national jurisdiction and ensuring effective Brazilian participation in all phases of these activities.
- encouraging the development of technologies and national production of materials and equipment necessary for research and exploration activities and sustainable use of sea resources.
- inducing technological projects in marine resources, aiming at the effective insertion of institutions and companies into the national efforts at research, development, and innovation in marine technology.
- fostering technological training in institutions linked to marine science necessary for the development of studies and research related to sea resources, their exploitation, and sustainable use.

c) Exploration and sustainable use of marine resources actions:
   • incorporating the principles of sustainability from a social, economic, environmental, and cultural point of view in all programs, projects, and initiatives for research, evaluation, exploration, and use of marine resources.
   • promoting the construction of vessels, platforms, attracting buoys, artificial reefs, and other floating and submerged means for teaching, research, exploration, and sustainable use of sea resources.

3.6 Law No. 11959 of 29 June 2009

The Law No. 11959 of the National Policy for the Sustainable Development of Aquaculture and Fisheries (*Política Nacional de Desenvolvimento Sustentável da Aquicultura e da Pesca* - PNAP)[56] was formulated and implemented to promote the sustainable development of fisheries and aquaculture in harmony with the preservation and conservation of the environment and biodiversity; the planning, promotion, and monitoring of fishing activities; the preservation, conservation, and recovery of fisheries resources and aquatic ecosystems; and socioeconomic, cultural, and professional development for people engaged in fisheries and aquaculture activities and their communities.[57]

Fishing activities comprise all the processes of fishing, including research into fishing resources.[58] The sustainable development of fishing

56. *Lei* nº 11.959, *de* 29 *de junho de* 2009. *Dispõe sobre a Política Nacional de Desenvolvimento Sustentável da Aquicultura e da Pesca, regula as atividades pesqueiras, revoga a Lei* nº 7.679, *de* 23 *de novembro de* 1988, *e dispositivos do Decreto-Lei* nº 221, *de* 28 *de fevereiro de* 1967, *e dá outras providências.* <www.planalto.gov.br/ccivil_03/_ato2007-2010/2009/lei/l11959.htm> accessed 31 December 2022.

57. ibid., Article 1.

58. ibid., Article 4.

activities will take place through the research of resources, techniques, and methods relevant to such activities, among other things.[59] Aquaculture activities are classified as scientific or demonstrative when practiced solely for the purpose of research, studies, or demonstrations by an entity legally qualified for these purposes.[60] Fisheries research will be conducted to obtain and provide, on a permanent basis, information and scientific data that allow the sustainable development of fishing activities.[61]

3.7 Law No. 13123 of 20 May 2015

The Law No. 13123 (Law of Biodiversity)[62] regulates Article 1, Article 8 (line j), Article 10 (line c), Article 15, and Article 16 (lines 3 and 4) of the CBD; it provides for access to genetic heritage, protection of and access to associated traditional knowledge, and the sharing of benefits for the conservation and sustainable use of biodiversity. The objective of this law is to promote the sustainable use of the genetic resources of biodiversity and to increase the interest of companies in the use and regularisation of their activities through a self-declaratory system of registration of activities that use Brazilian biodiversity.

59. ibid., Article 7.

60. ibid., Article 19.

61. ibid., Article 30.

62. *Lei* nº 13.123, *de* 20 *de maio de* 2015. *Regulamenta o inciso* II *do §* 1º *e o §* 4º *do art.* 225 *da Constituição Federal, o Artigo* 1, *a alínea j do Artigo* 8, *a alínea c do Artigo* 10, *o Artigo* 15 *e os §§* 3º *e* 4º *do Artigo* 16 *da Convenção sobre Diversidade Biológica, promulgada pelo Decreto* nº 2.519, *de* 16 *de março de* 1998; *dispõe sobre o acesso ao patrimônio genético, sobre a proteção e o acesso ao conhecimento tradicional associado e sobre a repartição de benefícios para conservação e uso sustentável da biodiversidade; revoga a Medida Provisória* nº 2.186-16, *de* 23 *de agosto de* 2001; *e dá outras providências.* <www.planalto.gov.br/ccivil_03/_Ato2015-2018/2015/Lei/L13123.htm> accessed 31 December 2022 (Law No. 13123).

According to its definitions of access to genetic heritage and research, the law covers all activities carried out using Brazilian biodiversity. To develop any of these activities, registration in the National System for the Management of Genetic Heritage and Associated Traditional Knowledge is required. Regarding the sharing of benefits, the rules are clear and prefixed, with the National Fund for Benefit Sharing, linked to the Ministry of the Environment, established for those of a financial nature.

4. Conclusion

As observed in the international legal frameworks, the importance of oceans, seas, and coasts, including their resources and ecosystems utilised by fisheries and aquaculture, is widely recognised by the international community. This statement can be verified by noting the wide range of mandatory and voluntary instruments available to regulate the use of oceans, seas, and their resources to comply with the precepts of sustainable development. Given that scientific research and the transfer of technology are components present in all of these instruments, it is necessary to bear them in mind when proposing public policies related to the promotion of research, development, and innovation (RD&I) in fisheries and aquaculture for the purpose of sustainable development, and it is possible to note a strong tendency for the promotion and strengthening of RD&I in new technologies for the productive activities of fisheries and aquaculture, mainly through international laws and soft laws.

The CITES came into effect to protect the species of wild fauna and flora against over-exploitation through international trade. The determination of which trade is harmful to the survival of these species is one of the major difficulties in the implementation of CITES by national authorities, partly due to limited knowledge and understanding of the

species' biology, management, and the impacts of harvesting. However, some of this knowledge could be acquired through targeted scientific research.[63]

The UNCLOS defines the rights and responsibilities of nations with respect to the oceans of the world, establishing guidelines for, among others, the conservation and use of the marine living resources, marine scientific research, and the development and transfer of marine technology. The importance attached to marine scientific research and to the development and transfer of marine technology is such that the UNCLOS itself devotes Parts XIII and XIV to dealing exclusively with proposing actions and measures that promote and regulate these matters.

The CBD is an international legally binding treaty with three main goals: conservation of biodiversity, sustainable use of biodiversity, and fair and equitable sharing of the benefits arising from the use of genetic resources. Likewise, it is worth noting that the CBD also dedicates some of its Articles to the promotion and development of scientific research, including Article 12 (Research and Training), Article 16 (Access and Transfer of Technology), Article 17 (Exchange of Information), and Article 18 (Technical and Scientific Cooperation).

The Fish Stocks Agreement marked a major step forward in the development of a comprehensive legal regime for the long-term conservation and sustainable use of straddling and highly migratory fish stocks. Item 3 of Article 14 states that 'Consistent with Part XIII of the Convention, States shall cooperate, either directly or through competent international organisations, to strengthen scientific research capacity in the field of fisheries and promote scientific research related to the conservation and management of straddling fish stocks and highly migratory fish stocks for the benefit of all.'

63. Matthew Smith and others, 'Assessing the impacts of international trade on CITES-listed species: Current practices and opportunities for scientific research' (2011) 144 Biological Conservation 82, 82.

In relation to the Code of Conduct for Responsible Fisheries, it is necessary to ensure that all people working in fisheries and aquaculture commit themselves to its principles and goals and take practical measures to implement them. Governments, in cooperation with their industries, fish farmers, and fishing communities, have a responsibility to implement the Code, which will be most effectively achieved if governments incorporate its principles and goals into national fisheries policies, regulations, and legislation. Furthermore, Article 12 of the Code is dedicated exclusively to fisheries research; it is worth highlighting Item 2, which indicates that 'States should establish an appropriate institutional framework to determine the applied research which is required and its proper use.'

As a Member State of the United Nations and a signatory to these international instruments, Brazil has been seeking to align its national policies to the precepts of sustainable development advocated by the international community. Observing the Brazilian national policies dedicated to the conservation and sustainable use of marine resources, as well as regarding the fisheries and aquaculture activities, it is generally noted that RD&I is a present component, as observed in the international instruments above.

The PMN and PNRM are the main Brazilian national policies that deal specifically with the marine sciences, having been elaborated simultaneously with the international discussions on the UNCLOS.[64] Since the marine sciences are an important tool in providing information on how to better approach the marine environment, these national policies take advantage of this field of knowledge to guide the exploitation of marine resources and to develop new maritime technologies.

The sustainable growth of fish production is a challenge, the importance of which is evident in the face of the continuous increase in demand, both domestic and worldwide. In this sense, fishing and aquaculture legislation assumes an essential role in defining policies to encourage these activities, in social policies to support fishermen and aquaculture, and in management, surveillance, and control measures.[65] The PNAP became

the main legal instrument to be established on fisheries and aquaculture in Brazil, aiming to ensure the sustainable use of fishery resources and optimise the resulting economic benefits, in harmony with the protection of the environment and biodiversity; to promote the development, promotion, and monitoring of fishing activity and the preservation, conservation, and recovery of fishery resources and aquatic ecosystems; and to stimulate the socioeconomic, cultural, and professional development of those who carry out fishing activities.

However, in the field of research and innovation, a challenge worth highlighting is the difficulty of combining the focus of RD&I activities on the real needs of the productive sectors, through survey research lines and the definition of priority species, with the involvement of the productive, governmental, and academic sectors.[66] On the part of the federal government, it is necessary to develop public policies that encourage the formation of an innovation environment and the approximation of the academia with the productive sector.

One governmental report of the federal government Court of Auditors[67] focused on the management of the sustainable use of fisheries resources in the country has highlighted structural problems affecting the success of the sustainable management in the country in terms of

64. Andrei Polejack, 'Enhancing the Policies in Support of the Marine Sciences in Brazil' (2010) Division for Ocean Affairs and the Law of the Sea, 18-19.

65. Câmara dos Deputados, *Legislação Sobre Pesca e Aquicultura: Dispositivos Constitucionais, Leis e Decretos Relacionados à Pesca e Aquicultura* (Série Legislação n 137, Edições Câmara 2015), 14.

66. *supra* 3, 180.

67. Brazilian Court of Audit (*Tribunal de Contas da União* - TCU). *Relatório de Levantamento de Auditoria TC* nº 034.633/2011-1. *Avaliação da internalização, nas políticas públicas nacionais, dos objetivos e compromissos assumidos pelo país em decorrência da Conferência Rio-92, análise no âmbito da Agenda 21 e das convenções sobre Mudança do Clima, Diversidade Biológica e Combate a Desertificação: estudo de caso sobre a gestão dos usos sustentável dos recursos pesqueiros, determinações e recomendações. Brasília: TCU*, 2012.

the lack of use of available technical and scientific knowledge to support decision making, the weakening of governmental research centres of fishery resources, and the absence of a government policy aimed at the continued generation of scientific data and information on the marine ecosystem and its resources.[68]

The consolidation of Brazil as an important player in the South Atlantic oceanic fisheries can only be achieved if the entire fishing development effort is adequately grounded in conducting scientific research and using technical information capable of contributing to the competitiveness and efficiency of the national fleet.[69]

Despite the progress made in the promotion and implementation of actions in RD&I in recent years, there are significant challenges related to research in fisheries and aquaculture that need to be evaluated and reworked, such as the lack of trained human resources, the need to define the focus of the research lines, the lack of integration of the academic and the productive sectors, the need for networking, and the need to define a suitable methodology for evaluating the results of RD&I projects in order to permit corrections in direction and technology transfer to the productive sector.

Therefore, the main goal of the present work was to significantly contribute to a comprehensive overview of the international and national legal framework concerning research, development and innovation activities in fisheries and aquaculture, as well as to deepen discussions on the importance of consolidating a research, development, and innovation structure to support the sustainable development of fisheries and aquaculture in relation to the decision-making process, enhancement of governance and sound and effective policies in this area.

68. João P Viana, 'Recursos Pesqueiros do Brasil: Situação dos Estoques, da Gestão e Sugestões para o Futuro' (2013) Instituto de Pesquisa Econômica Aplicada, 53.

69. Fábio H V Hazin and Paulo E Travassos, 'Aspectos Estratégicos para o Desenvolvimento da Pesca Oceânica no Brasil' (2006) 23 Parcerias Estratégicas 11, 306.

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The Italian Exclusive Economic Zone

*Tullio Scovazzi**

1. The Trend Towards the Establishment of Exclusive Economic Zones

It seems that, as a consequence of Law 14 June 2021, No. 91,[1] the process towards the establishment of an Italian exclusive economic zone[2] has taken a step forward. However, it has not yet reached its final destination.

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This paper, which is updated at December 2022, is a revised version of Scovazzi, 'The Italian Exclusive Economic Zone', Questions of International Law (2022) 39 (electronic format). The annexed map is published in Ilaria Tani, Stefano Ferrero, Nicolo Marco Pizzeghello (eds.), *Atlas of Maritime Limits and Boundaries in Central Mediterranean: Legal Texts and Illustrative Maps*, Genoa, 2020. The author wishes to thank the editor-in-chief of Questions of International Law and the Hydrographical Institute of the Italian Navy (*Istituto Idrografico della Marina*) for having granted the relevant permissions.

1. *Gazzetta Ufficiale della Repubblica Italiana* No. 148 of 23 June 2021. On law 91/2021 see Antonio Leandro (a cura di), *La zona economica esclusiva italiana: ragioni, ambito, delimitazioni e sfide* (Cacucci Editore, 2021), with contributions by Leandro, Di Stasio, Schiano di Pepe, Caffio, Bosio; Antonio Leandro, 'Verso una economica esclusiva italiana' (2021) Rivista di Diritto Internazionale, Vol. CIV, Fasc. 4, 1081.

2. On such a zone see, in the Italian legal literature, Benedetto Conforti , La zona economica esclusiva (Giuffrè, 1983); Angela Del Vecchio, *Zona economica esclusiva e Stati costieri* (Le Monnier, 1984); Guido Camarda, *Traffici marittimi, zona economica esclusiva e cooperazione transfrontaliera nei mari chiusi e semichiusi* (Lega Navale Italiana, 1988); Umberto Leanza, Luigi Sico, *Zona economica esclusiva e Mare Mediterraneo* (Editoriale Scientifica, 1989); and, with special regard for the Italian position, Tullio Treves, *Il diritto del mare e l'Italia* (Giuffrè, 1995); Tullio Treves, 'Italy and the Law of the Sea', in Tullio Treves, Laura Pineschi (eds.), T*he Law of the Sea – The European Union and its Member States* (Martinus Nijhoff Publishers, 1997) 341.

Already after the adoption of the United Nations Convention on the Law of the Sea (UNCLOS) on 10 December 1982, in Montego Bay,[3] it became evident that its provisions on the exclusive economic zone were generally accepted by both developing and developed States as customary international law. Italy ratified the UNCLOS on 13 January 1995 (Law 2 December 1994, No. 689).[4] The report attached by the Italian government to the bill for the UNCLOS ratification acknowledged the customary character of the exclusive economic zone and prefigured, although in a hypothetical way, a future 'expansion' of Italian rights by the creation of an exclusive economic zone:

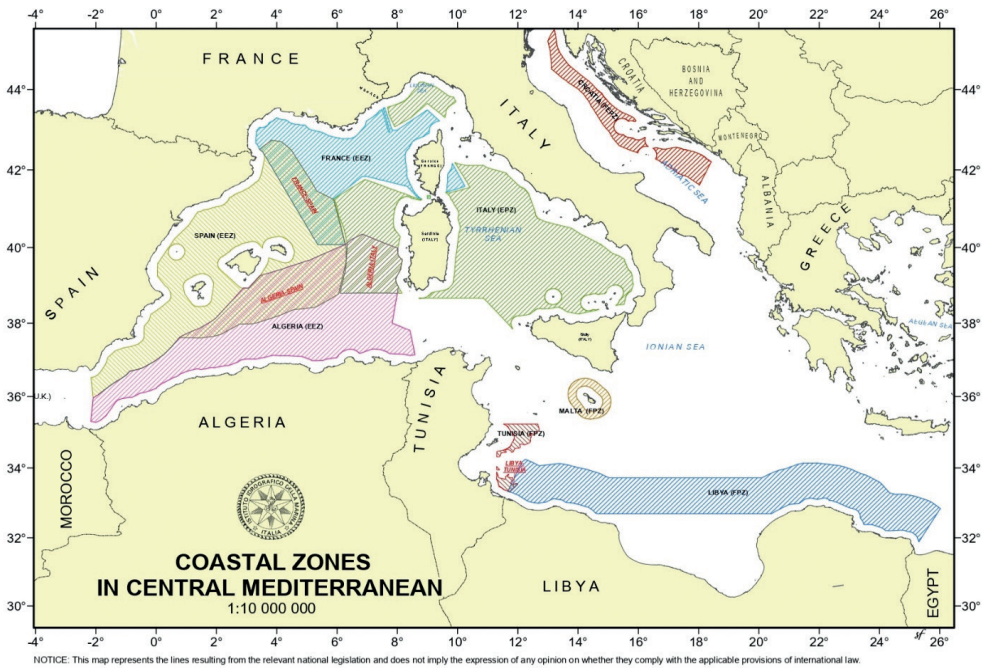
> Nelle sue grandi linee la normativa contenuta nella Convenzione già corrisponde oggi al diritto consuetudinario: ciò è vero in particolare, secondo quanto affermato tra l'altro dalla Corte Internazionale di Giustizia, per l'istituzione della zona economica esclusiva […] Infine, non si può trascurare che la Convenzione consente anche all'Italia espansioni dei suoi poteri sulle zone marittime adiacenti alle sue coste […] Si potrà, inoltre – salvo il tracciare i necessari confini con i nostri vicini – pensare all'istituzione di una zona economica esclusiva, o eventualmente di una zona in cui si eserciterebbero solo alcuni dei poteri previsti per tale zona […][5]

3. Hereinafter: UNCLOS. During the negotiations for the UNCLOS, 'the Italian position moved from opposition during the U.N. General Assembly's Seabed Committee to cautious and later full acceptance' (Treves (n 2, *Italy*) 341).

4. *Gazzetta Ufficiale della Repubblica Italiana* suppl. to No. 164 of 19 December 1994.

5. *Atti parlamentari, Senato della Repubblica, XII legislatura, Disegno di legge n. 810*, 8 September 1994 (also reproduced in Treves (n 2, Il diritto) 133). Unofficial translation: 'Broadly speaking, the legislation contained in the Convention already corresponds today to customary law: this is true in particular, according to what has been affirmed by the International Court of Justice, among other things, for the establishment of the exclusive economic zone [...] Finally, it cannot be overlooked the fact that the Convention also allows Italy to expand its powers over the maritime zones adjacent to its coasts [...] It will also be possible - except for drawing the necessary borders with our neighbors - to think of the establishment of an exclusive economic zone, or possibly of an area in which only some of the powers envisaged for that area would be exercised.'

In the Mediterranean Sea, several States have today established their exclusive economic zones beyond the 12-mile territorial sea, namely Morocco in 1981, Egypt in 1983, Syria in 2003, Cyprus in 2004, Israel and Lebanon in 2011, France in 2012, Spain in 2013, Algeria in 2018, and Croatia in 2021. Others have adopted legislation for the future establishment of such a zone, namely Tunisia in 2005,[6] Montenegro in 2007, Libya in 2009[7] and Malta in 2021.[8] Fishing zone of different extension have been established by Tunisia in 1951 (50-meter isobath), Malta in 2014 (25 n. m.), and Libya in 2005 (62 n. m.).



6. Tunisia has established in 1951 a fishing zone, delimited according to the 50-meter depth criterion (Decree of 26 July 1951, as modified by Law 30 December 1963, No. 63-49).

7. Libya has established in 2005 a 62-mile fisheries protection zone (General People's Committee Decision No. 37 of 24 February 2005).

8. Malta has established in 2014 a 25-mile fishing zone (Act XXXII of 1971, as amended by Act XXIX of 2014).

2. Interpreting the Italian Position

The attitude of Mediterranean States towards the establishment of an exclusive economic zone is related in many cases to the geographical situation of this semi-enclosed sea. As there is no point that is located at a distance of more than 200 n. m. from the nearest land or island, if all the coastal States established their own exclusive economic zones, the high seas would completely disappear in the Mediterranean.

One possible explanation of the Italian long-standing hesitation towards establishing an exclusive economic zone could be the concern for freedom of navigation[9] and freedom of military exercises[10] in view of a trend towards the 'territorialisation' of enclosed or semi-enclosed seas as a result of the 'creeping jurisdiction' of coastal States. In addition, Italy could possibly fear that the establishment of exclusive economic zones (or fishing zones) by some other Mediterranean States would determine heavy social repercussions on certain fishing activities that are carried out by vessels flying the Italian flag in waters closer to the coasts of such other States.[11]

9. 'L'eventuale istituzione di zone economiche esclusive nell'ambito del Mare Mediterraneo porterebbe al risultato di un mare costituito esclusivamente dalle zone economiche esclusive degli Stati costieri. Ma, ciò è assolutamente in contrasto con la posizione geografica del Mediterraneo, che si pone al centro perlomeno di tre importantissime vie d'acqua internazionali (…)' (Umberto Leanza, 'Zona economica esclusiva e cooperazione marittima nel Mediterraneo', in Leanza, Sico (n 2) 6).

10. 'A quel tempo [= i primi anni Ottanta del secolo scorso], nell'ambito della NATO, era stato evidenziato il pericolo che la proclamazione della ZEE [= zona economica esclusiva] autorizzasse certi Paesi a limitare le attività navali straniere subordinandole ad autorizzazione per tutelare l'ambiente marino e le risorse ittiche. Di qui, l'orientamento italiano non favorevole all'istituzione di ZEE nel Mediterraneo' (Fabio Caffio, 'Quali confini per la nostra zona economica esclusiva', in Leandro (n 2, *La zona*) 77).

11. 'Stando così le cose, in termini di costi-benefici la proclamazione di una ZEE italiana, che inevitabilmente comporterebbe l'istituzione di analoghe zone da parte degli Stati adiacenti e frontisti, è da considerarsi negativamente. La proclamazione di una nostra ZEE dovrebbe quindi essere vista solo come *extrema ratio*, cioè come misura da intraprendere qualora gli Stati vicini proclamassero una ZEE, a seguito dell'insuccesso di ogni tentativo diplomatico volto a scoraggiare una tale linea d'azione' (Natalino Ronzitti, *Le zone di pesca nel Mediterraneo e la tutela degli interessi italiani, in Rivista Marittima* (Rivista Marittima, 1999) 67).

In this global picture, one possible option for Italy was to take the lead in a process of establishment of exclusive economic zones by Mediterranean coastal States, trying to maximise the advantages and to minimise the disadvantages of the new situation. After all, the UNCLOS grants rights to other States[12] in the exclusive economic zone, in particular the freedoms of navigation and overflight and of the laying of submarine cables and pipelines, as well as the (rather mysterious) 'other internationally lawful uses of the sea related to these freedoms, such as those associated with the operation of ships, aircraft and submarine cables and pipelines' (Article 58, paragraph 1). The UNCLOS also binds the coastal State to give other States access to the surplus of the allowable catch of living resources in its exclusive economic zone, taking into account some relevant factors, including 'the need to minimize economic dislocation in States whose nationals have habitually fished in the zone or which have made substantial efforts in research and identification of stocks' (Article 62, paragraph 3). In this case, the establishment of exclusive economic zones would be considered as an opportunity to open new channels of cooperation, especially on the regional level, involving the competent international organisations (for example, the General Fisheries Commission for the Mediterranean).[13] Far from being the manifestation of excessive unilateralism, the establishment of a coherent jurisdictional framework in the form of exclusive economic zones could lead to the strengthening of regional co-operation in the Mediterranean Sea with the aim of managing living resources and addressing environmental concerns. It is

12. Meaning States different from the coastal State.

13. The General Fisheries Commission for the Mediterranean (GFCM) was established in 1949 as an institution within the framework of the Food and Agriculture Organization of the United Nations (FAO). According to the 2014 amendments, the objective of the GFCM Agreement is to ensure the conservation and sustainable use, at biological, social, economic and environmental level, of living marine resources, as well as the sustainable development of aquaculture in the area of application (all marine waters of the Mediterranean and Black Seas).

difficult to see how future Mediterranean governance could be built on the vacuum determined by the persistence of high seas areas or on the confusion created by different kinds of coastal zones.[14]

Another option for Italy was to keep still and wait, hoping that the worst would come as late as possible, and reserving the right to react whenever it would be impossible to avoid a reaction. The latter option seems to have been the choice of Italy, either consciously or unconsciously.

This being said, it is not here assumed that Italy chose a bad option and disregarded a good one. The good option could simply have not been feasible, at least as regards fisheries. Since long time, Italy, as well as the other member States, have transferred competences in certain matters to the European Union.[15] In particular, the European Union is entitled to an exclusive competence with regard to the conservation and management of sea fishing resources and shares competences with its Member States with regard to the prevention of marine pollution.[16] The European Union's competence relates also to the negotiation and conclusion of international treaties. It could have been difficult for Italy to foresee the results of two successive and complex negotiations: the first inside the European Union in order to define a commonly agreed position and the second with the non-member States concerned (for example, Tunisia or Libya), in order to determine the conditions of access in their coastal waters of fishing vessels flying the flag of European Union Member States (in fact, mostly the Italian flag). Considering that the second set of nego-

14. See Tullio Scovazzi, 'Harlequin and the Mediterranean', in Rüdiger Wolfrum, Maja Seršić, Trpimir M. Šosić (eds.), *Contemporary Developments in International Law – Essays in Honour of Budislav Vukas* (Brill/Nijhoff, 2016) 291.

15. See, in general, Robin Churchill, Daniel Owen, *The EC Common Fisheries Policy* (Oxford University Press, 2010).

16. See the declaration made on 1st April 1998 by the European Community (now European Union) upon formal confirmation of the UNCLOS.

tiations were to be carried out exclusively by the European Union, Italy would have almost completely lost its control over the matter.[17]

3. Italian Reactions

The first situation where there was a need for Italy to react occurred in 2004, when France created an ecological protection zone in the Mediterranean[18] (Decree No. 2004-33 of 8 January 2004,[19] adopted on the basis of Law No. 2003-346 of 15 April 2003).[20] Due to the risk of pollution created by the navigation of foreign ships avoiding the waters falling under the French ecological protection zone and deliberately entering into the high seas waters located between the external limit of this zone and the external limit of the 12-mile Italian territorial sea, Italy was practically forced to provide for the establishment of a corresponding ecological protection zone. Such a risk is a consequence of the exclusive jurisdiction of the flag State on the high seas, including States granting the so-called flags of convenience. Moreover, as at that time bilateral negotiations with France had already started for an all-purpose delimitation of the respective coastal zones, inaction by Italy could have been understood as a lack of interest for the waters in question.

17. An important aspect of the question is that some 'programmes of cooperation' in fishing activities have been concluded by the Fisheries Production District (*Distretto Produttivo della Pesca*) of Mazara del Vallo and public or private entities of Mediterranean coastal States: see Vincenzo Fazio, Antonio Ricciardi (eds.), *Il Distretto della pesca di Mazara del Vallo – Una buona pratica di cooperazione tra aziende internazionali* (Franco Angeli, 2009).

18. *Sui generis* zones, such as the fishing zone or the ecological protection zone, are not mentioned in the UNCLOS. But they are not prohibited either. They encompass only some of the rights that can be exercised in the exclusive economic zone. The right to do less is implied in the right to do more (*in maiore stat minus*).

19. *Journal Officiel de la République Française* of 10 January 2004.

20. *Journal Officiel de la République Française* of 16 April 2003.

Italy adopted Law No. 61 of 8 February 2006,[21] according to which the Council of Ministers, on proposal submitted by the Minister of environment, in concert with the Minister of foreign affairs and after having heard the Minister for cultural properties and activities, has the power to establish ecological protection zones (in plural) (Article 1, paragraph 2). Within such zones, Italy applies the relevant rules of Italian law, European Union law and international treaties in force, as regards the prevention and sanction of all kinds of marine pollution, as well as the protection of marine mammals, biodiversity and archaeological and historical heritage (Article 2, paragraph 2). It was further provided that the law did not apply to fishing activities (Article 2, paragraph 3), probably to make it clear that the Italian ecological protection zone had nothing to do with an exclusive economic zone.

The first (and, for the time being, only) Italian ecological protection zone was established under Presidential Decree 27 October 2011, No. 209.[22] It covers the waters of the Ligurian Sea, Tyrrhenian Sea and West Sardinian Sea.[23] The waters of the Channel of Sicily, the Ionian Sea and the Adriatic Sea are not included in the ecological protection zone.

It is important to notice that, according to Article 2-bis of Decree-Law 24 June 2014, No. 91, converted into Law 11 August 2014, No. 116,[24]

21. *Gazzetta Ufficiale della Repubblica Italiana* No. 52 of 3 March 2006. See Umberto Leanza, 'L'Italia e la scelta di rafforzare la tutela dell'ambiente marino: l'istituzione di zone di protezione ecologica' (2006) *Rivista di Diritto Internazionale*, Vol. 89, No. 2, 309; Gemma Andreone, 'La zona ecologica italiana' (2007) Il Diritto Marittimo, 3-27, 3; Angela Del Vecchio, 'In maiore stat minus: A Note on the EEZ and the Zone of Ecological Protection in the Mediterranean Sea' (2008) Ocean Development and International Law, Vol. 39, Issue 3, 287-297, 287.

22. *Gazzetta Ufficiale della Repubblica Italiana* No. 293 of 17 December 2011.

23. See the map attached to this article.

24. *Gazzetta Ufficiale della Repubblica Italiana* No. 192 of 20 August 2014, supplement No. 72.

the already mentioned paragraph 3 of Article 2 of Law 61/2006 – that is the paragraph according to which this legislation did not apply to fishing activities –, was replaced by a new one, providing that European Union Regulation (EU) 1380/2013 on the common fisheries policy is applicable to fishing activities. The consequences of such an amendment are not completely clear. However, in view of the fact that Regulation (EU) 1380/2013 covers activities carried out 'in Union waters, including by fishing vessels flying the flag of, and registered in, third countries' (Article 1, paragraph 2, b) and that 'Union waters' means 'the waters under the sovereignty and jurisdiction of Member States' (Article 4, paragraph 1, sub-paragraph 1), it should be understood in the sense that the Italian ecological protection zones are to be considered today also as fishing zones. The result is something that is very close to an exclusive economic zone, but not yet tantamount to it.[25]

The second situation where there was a need to react occurred in 2018, when Algeria (Presidential Decree 20 March 2018, No. 18-96)[26] established an exclusive economic zone that goes as far as almost 12 n. m. from the coast of the Italian island of Sardinia, determining an overlapping of about 39,604 square kilometers with the Italian ecological protection zone.[27] On 28 November 2018, the Permanent Mission of Italy to the United Nations sent a note to the United Nations Secretariat as regards the Algerian Presidential Decree, stating that:

25. A precedent in this regard is the ecological and fisheries protection zone established by Croatia under Parliamentary Decision of 3 October 2003, as amended by Parliamentary Decision of 3 June 2004. It was subsequently repealed by Parliamentary Decision of 5 February 2021, proclaiming an exclusive economic zone.

26. *Journal Officiel de la République Algérienne Démocratique et Populaire* No. 18 of 21 March 2018.

27. The Algerian exclusive economic zone also determines an even bigger overlapping with the Spanish exclusive economic zone off the coasts of the Balearic Islands (Spain).

> …the Italian Government expresses its opposition to the definition of the Algerian EEZ, as indicated by the abovementioned Decree, since it unduly overlaps on zones of legitimate and exclusive national Italian interests. The Italian Government reiterates that, in accordance with Article 74 of the United Nations Convention on the Law of the Sea, the delimitation of the exclusive economic zone shall be effected by agreement to achieve an equitable solution. Pending Agreement, the concerned States shall make every effort to enter into provisional arrangements of practical nature and, during the transitional period, not jeopardize or hamper the reaching of final agreement. Therefore, the Italian Government expresses its readiness to enter into negotiations to reach such an agreement of mutual satisfaction on the matter, according to Article 74 of the United Nations Convention on the Law of the Sea, as recalled by Article 2 of the said Decree.[28]

The reaction avoids that, lacking an Italian position, Algeria could assume that it is entitled to englobe in its exclusive economic zone all the waters up to the external limit of the Italian territorial sea in the area south-west of Sardinia. However, strangely enough, the Italian note does not state the simple truth, that is that the Algerian exclusive economic zone overlaps with the Italian ecological protection zone. It vaguely recalls 'zones of legitimate and exclusive national Italian interests', as if the Italian ecological protection zone did not exist,[29] without pointing out how a delimitation should be effected.

28. Text in United Nations, Division for Ocean Affairs and the *Law of the Sea, Law of the Sea Bulletin*, No. 98, 2019, 21.

29. The Spanish note of 12 July 2018 (*ibid.*, 18) is clearer: 'The Government of Spain, in the spirit of friendship and understanding which characterize its relations with Algeria, wishes to register its opposition to the delimitation of that exclusive economic zone, some sections of which are clearly disproportionate in relation to the equidistant median line between the territory of Algeria and the mainland and insular territory of Spain […] The Spanish Government considers that the equidistant line between the baselines from which the breadth of the territorial sea is measured is the most equitable solution for delimiting, by mutual agreement, the exclusive economic zones between States with opposite or adjacent coasts, as established in article 74 of the United Nations Convention on the Law of the Sea.'

The note of reply by Algeria of 20 June 2019 is equally vague on this point:

> [t]he Government of Algeria wishes to point out that the establishment of the exclusive economic zone of Algeria is set against the background of national law and the exercise by Algeria of its sovereign rights in that zone, as recognized under the United Nations Convention on the Law of the Sea and international law. As a result, the delimitation of the exclusive economic zone of Algeria took into consideration the objective rules and relevant principles of international law, thus ensuring the just and equitable delimitation of maritime spaces between Algeria and Italy, in accordance with article 74 of the United Nations Convention on the Law of the Sea. The Government of Algeria, bearing in mind the bonds of friendship and cooperative relations between our two countries, assures the Government of Italy of its complete readiness to participate in joint efforts to find, through dialogue, an equitable and mutually-acceptable solution regarding the outer limits of the exclusive economic zone of Algeria and the maritime space of Italy, in accordance with article 74 of the United Nations Convention on the Law of the Sea.[30]

The perspective that fishermen or enterprises that wanted to exploit the waters or the seabed just 13 n.m. off the coasts of south-west Sardinia were required to ask licences to the authorities of a foreign State (Algeria) also prompted Italy to adopt Law 91/2021, that is the legislation enabling the government to establish an exclusive economic zone.

30. Text in United Nations, Division for Ocean Affairs and the Law of the Sea, *Law of the Sea Bulletin*, No. 101, 2020, 49.

4. The Headache of Delimitations

In fact, by Law 91/2021 the Parliament has only authorised the government, on proposal by the Minister of foreign affairs,[31] to establish such an exclusive economic zone, if and when the government deems it appropriate. The government can also choose if the future exclusive economic zone should encompass the waters adjacent to the whole Italian territory or only those adjacent to some parts of it.[32]

Probably, granting the government such a broad margin of discretion[33] was deemed necessary to enable it to effectively carry out negotiations with several States with which Italy shares a future exclusive economic zone boundary (Albania, Algeria, Croatia, France, Greece, Malta, Libya, Montenegro, Spain, and Tunisia).[34] More than the regulation of fishing activities or the protection of the marine environment, it seems that the boundary of the exclusive economic zone is the first and foremost Italian concern. The present situation is the following.

a) Greece is the only State with which Italy has already settled the problem of the delimitation of its future and hypothetical exclusive economic zone by an agreement concluded in Athens on 9 June 2020,[35] and entered into force on 8 November 2021.[36] According to Article

31. Unlike what is provided in Law 61/2006 for the ecological protection zones, no other Ministers are involved in the decision to establish an exclusive economic zone.

32. According to Article 1, paragraph 2, of Law 91/2021, the exclusive economic zone 'covers all or part of the waters surrounding the Italian territorial sea.'

33. This is indeed a great restriction to the sovereign powers of the Parliament.

34. With Slovenia Italy has only a territorial sea boundary. The territorial sea of Bosnia and Herzegovina is enclosed inside the internal waters of Croatia.

35. Text in *Gazzetta Ufficiale della Repubblica Italiana* No. 149 of 24 June 2021. See Irini Papanicolopulu, 'Greece – Italy', in Edward Lathrop, 'International Maritime Boundaries' (2021) Report No. 8-4(2) (electronic format).

36. Information provided in *Gazzetta Ufficiale della Repubblica Italiana* No. 281 of 25 November 2021.

1, paragraph 1, 'the boundary line of the maritime zones to which the two countries are entitled to exercise, respectively, their sovereign rights or jurisdiction under international law shall be the continental shelf boundary established under' the previous agreement on the delimitation of the continental shelf (Athens, 24 May 1977).[37]

b) An agreement between France and Italy for the delimitation of the territorial seas and the zones under national jurisdiction was signed in Caen on 21 March 2015. However, it has not entered into force.[38]

c) Agreements for the delimitation of the continental shelf are in force between Italy and, respectively, Tunisia (Tunis, 20 August 1971),[39] Spain (Madrid, 19 February 1974)[40] and Albania (Tirana, 18 December 1992).[41] However, they do not delimit the superjacent waters. It is questionable whether a future boundary of the exclusive economic zones should necessarily follow the same line that was agreed for the seabed.[42]

37. According to Article 2, 'once a Party has taken the initiative to proclaim a maritime zone extending up to the boundary line of article 1 of this Agreement, it shall inform the other Party as early as possible.'

38. Cfr. Umberto Leanza, 'Il confine marittimo tra Italia e Francia: il negoziato dell'accordo di Caen' (2017) La Comunità Internazionale, 5.

39. On the agreement see Tullio Scovazzi, Giampiero Francalanci, 'Italy – Tunisia', in Jonathan I. Charney, Lewis M. Alexander, *International Maritime Boundaries* (Martinus Nijhoff, 1993) 1611.

40. On the agreement see Tullio Scovazzi, Giampiero Francalanci, 'Italy – Spain', in Charney, Alexander (n 39) 1601.

41. On the agreement see Tullio Scovazzi, Giampiero Francalanci, 'Albania – Italy', in Charney, Alexander (n 39) 2447.

41. On the agreement see Tullio Scovazzi, Giampiero Francalanci, 'Albania – Italy', in Charney, Alexander (n 39) 2447.

42. On the question see Irini Papanicolopulu, *Il confine marino: unità o pluralità?* (Giuffrè, 2005).

d) An agreement for the delimitation of the continental shelf (Rome, 8 January 1968)[43] and an agreement on accurate determination of the delimitation line (Rome, 22-29 July 2005) are in force for Croatia and Italy. Recently, an agreement between the two States on the delimitation of the exclusive economic zone has been concluded (Rome, 24 May 2022).[44] However, it has not yet entered into force.
e) A provisional understanding on the continental shelf delimitation was concluded by Italy and Malta by an exchange of notes of 31 December 1965 and 29 April 1970.[45] It relates only to a partial boundary in the Malta Channel.
f) No agreements have been concluded between Italy and, respectively, Algeria, Libya, and Montenegro.[46]

Some of the pending delimitations seem particularly difficult because of the geographical context and because more than two States could be involved in the matter. In particular:

a) In the area located west of Sardinia, the 1974 delimitation of the continental shelf between Italy and Spain has been effected through

43. The agreement was concluded by the former Yugoslavia. On the agreement see Tullio Scovazzi, Giampiero Francalanci, 'Italy - Yugoslavia (Continental Shelf)', in Charney, Alexander (n 39) 627. According to Article 43, paragraph 2 of the Maritime Code of Croatia of 27 January 1994, 'the boundary line of the continental shelf between the Republic of Croatia and the Republic of Italy has been established by the agreement between Italy and the former Federative Socialist Republic of Yugoslavia in 1968.'

44. Available on the internet.

45. Text in Ilaria Tani, Stefano Ferrero, Nicolo Marco Pizzeghello (eds.), *Atlas of Maritime Limits and Boundaries in Central Mediterranean: Legal Texts and Illustrative Maps* (Genoa, 2020) 251.

46. The memorandum between Italy and Montenegro on the succession of Montenegro to the bilateral treaties concluded before the proclamation of independence (Podgorica, 19 October 2012) does not list the 1968 agreement on continental shelf delimitation between Italy and the former Yugoslavia among the treaties that remain in force between Italy and Montenegro.

the application of the equidistance criterion.[47] The equidistance line is drawn between the islands of Sardinia (Italy) and Menorca (Spain), despite the fact than the former is much bigger than the latter. As Algeria does not recognise any effect to islands for the purpose of the delimitation of exclusive economic zones, the already mentioned Algerian exclusive economic zone[48] overlaps with the Italian and Spanish maritime zones. It is understandably difficult for Italy, which has already agreed to give to Menorca a full weight against Sardinia (to the benefit of Spain), to agree now that Sardinia has no weight at all (to the benefit of Algeria).[49]

b) In the area located south-west of Sicily (another Italian big island), a complete delimitation of exclusive economic zones would involve four States, namely Italy, Libya, Malta, and Tunisia. The already mentioned 1971 agreement for the delimitation of the continental shelf between Italy and Tunisia follows the equidistance criterion with the exception of the almost null effect attributed to four Italian small islands (Pantelleria, Linosa, Lampione, and Lampedusa).[50] Malta, a

47. According to Article 1, paragraph 1, 'la linea di delimitazione della piattaforma continentale tra l'Italia e la Spagna viene stabilita con il criterio della equidistanza dalle linee di base rispettive.' On the contrary, the already mentioned 2015 agreement between France and Italy, which has not entered into force, follows 'le principe d'équidistance dans la délimitation de leurs mers territoriales et le principe d'équité dans la délimitation de leurs espaces maritime sous juridiction' (preamble). On the question, which is still open today, whether a delimitation in this area should be based on the equidistance criterion or on the determination of a quadruple point France-Italy-Algeria-Spain see Tullio Scovazzi, 'La delimitazione dei confini marittimi tra Francia e Italia', and Giampiero Francalanci, 'La delimitazione della piattaforma continentale tra Italia e Francia: storia, considerazioni e prospettive', both in Andrea De Guttry, Natalino Ronzitti, *I rapporti di vicinato tra Italia e Francia* (CEDAM, 1994) 63 and 85.

48. *supra*, paragraph 3.

49. To tell the truth, to equalise Sardinia (24,100 km2 and 1,592,730 inhabitants) to a rock that cannot sustain human habitation or economic life of its own (see Article 121, paragraph 3, UNCLOS) seems somehow exaggerated.

50. See map No. 2 (Italy – Tunisia, continental shelf).

small island-State located between Italy, Tunisia and Libya, claims that a corresponding null effect should be attributed to Linosa in a future delimitation between Italy and itself.[51] Italy disagrees and claims maritime zones in both the areas south-west and south-east of Malta, as defined in a map depicting the Italian claim and reproduced in the judgment of the International Court of Justice of 3 June 1985 on the *Continental shelf* case between Malta and Libya.[52] The decision on this case, to which Italy was not a party, delimited only partially the continental shelf between Malta and Libya, as the Court decided that its judgment was to be 'limited in geographical scope so as to leave the claims unaffected, that is to say that the decision of the Court must be confined to the area in which, as the Court has been informed by Italy, that State has no claims to continental shelf rights.'[53] In fact, due to the position of Malta, a maritime boundary line between Libya and Italy could be longer or shorter, depending on whether or not the criterion of equidistance is used in a delimitation between Italy and Malta. Moreover, the acceptance or rejection of the closing line of the Libyan Gulf of Sidra, claimed by Libya as historic waters,[54] has an effect on a future maritime delimitation between Italy and Libya.[55]

51. Notably, Act No. XLVII of 2021 (*Gazzetta tal Govern ta' Malta*, Suppl., 23 July 2021), according to which the Prime Minister is empowered by the Parliament to establish a Maltese exclusive economic zone, provides that 'the Government of Malta may extend the exclusive economic zone boundary beyond the median line in accordance with international law.' This seems to be an implicit reference to the reduced effect that, in the view of Malta, should be attributed to Linosa.

52. International Court of Justice, *Reports of Judgments, Advisory Opinions and Orders* (1985) 18.

53. Paragraph 21 of the judgment.

54. General People's Committee Decision No. 104 of 20 June 2005 (United Nations, Division for Ocean Affairs and the Law of the Sea, *Law of the Sea Bulletin*, No. 59, 2005, 15). On the question of historic waters see Ilaria Tani, *Le baie storiche – Un'anomalia nel rapporto tra terra e mare* (Giappichelli Editore, 2020).

55. And between Greece and Libya as well.

Given this global picture, the best that can be said is that the geographical and political headache of delimitations between Italy, Malta, Libya and Tunisia is worse than the geographical and political headache of delimitations between Algeria, Italy, Spain.[56] It is uncertain when will they be finally settled, also considering the normally slow pace of diplomacy.[57]

In the meantime, Law No. 91/2021 provides that, until the date of entry into force of agreements between Italy and the other States concerned, the external limits of the Italian exclusive economic zone are established in order not to jeopardise or hamper the final agreement (Article 1, paragraph 3). Such wording recalls Article 74, paragraph 3, of the UNCLOS,[58] even though the UNCLOS provision refers to 'provisional arrangements of a practical nature' between the States concerned, while the Italian law envisages something of a generic nature that could be either an international provisional arrangement or an Italian unilateral enactment. However, with or without provisional measures, the difficulties behind the delimitations remain the same and any kind of measures, especially if they are unilateral, is likely to determine objections by one or more other States.

5. Other Aspects of Law 91/2021

A few comments may be added on other aspects of Law No. 91/2021.

The law points out that ratification of delimitation agreements with the other States concerned is subject to the parliamentary authorisation

56. France could also be added, at least until the 2015 agreement with Italy enters into force.

57. Judicial settlement is another option. But it is also unlikely, given the plurality of States involved.

58. 'Pending agreement as provided for in paragraph 1, the States concerned, in a spirit of understanding and cooperation, shall make every effort to enter into provisional arrangements of a practical nature and, during this transitional period, not to jeopardize or hamper the reaching of the final agreement. Such arrangements shall be without prejudice to the final delimitation.'

provided by Article 80 of the Italian Constitution. This may be seen as a confirmation of the assumption that maritime delimitation treaties fall into the category of treaties 'entailing changes in the territory' that need scrutiny and authorisation by the Parliament.[59] In order words, even if the government has a broad margin of discretion in establishing an exclusive economic zone, the agreements for its delimitation remain subject to approval by the Parliament.

The law specifies that, inside the exclusive economic zone, Italy exercises the sovereign rights provided for by international rules in force (Article 2) and that, in conformity with international customary and treaty law, the freedoms of navigation, overflight, laying of submarine pipelines and cables and the other rights provided for by international rules in force are not jeopardised (Article 3). The identification of the 'other rights' in question remains unclear, considering that Article 58, paragraph 1, of UNCLOS is unclear in this regard as well.[60] However, the content of some of these rights may perhaps be inferred from the declaration made by Italy on 13 January 1995, when ratifying the UNCLOS:

> [a]ccording to the Convention, the coastal State does not enjoy residual rights in the exclusive economic zone. In particular, the rights and jurisdiction of the coastal State in such zone do not include the right to obtain notification of military exercises or manoeuvres or to authorize them. Moreover, the rights of the coastal State to build and to authorize

59. This assumption was not followed only in the case of the already mentioned 1968 agreement with the former Yugoslavia, whose ratification was authorised not by a law, but by presidential Decree 22 May 1969, No. 830 (*Gazzetta Ufficiale della Repubblica Italiana* No. 302 of 29 November 1969).

60. It mysteriously refers to 'other internationally lawful uses of the sea related to these freedoms [= freedoms of navigation, and overflight and of the laying of submarine cables and pipelines], such as those associated with the operation of ships, aircraft and submarine cables and pipelines, and compatible with the other provisions of this Convention.'

> the construction, operation and the use of installations and structures in the exclusive economic zone and on the continental shelf is limited only to the categories of such installations and structures as listed in art. 60 of the Convention.

It thus appears that Italy welcomes unnoticed military exercises or manoeuvres by foreign powers in its own future exclusive economic zone.[61] It also appears, looking at Article 60 of UNCLOS,[62] that no authorisation is needed for the construction, operation and use of installations and structures on the seabed of the future Italian exclusive economic zone, if they are not used for the purposes provided for in Article 56 UNCLOS[63] and other economic purposes and if they do not interfere with the exercise of the rights of Italy in this zone. What purposes are this kind of installations and structures used for?[64]

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61. It is open to question how this could be reconciled with the coastal State's right to grant licences to fishermen for the exploitation of the living resources of its own exclusive economic zone. In fact, the fishermen could discover that they are fishing in troubled waters where unexpected military exercises or manoeuvres are taking place.

62. 'In the exclusive economic zone, the coastal State shall have the exclusive right to construct and to authorize and regulate the construction, operation and use of: (a) artificial islands; (b) installations and structures for the purposes provided for in article 56 and other economic purposes; (c) installations and structures which may interfere with the exercise of the rights of the coastal State in the zone' (Article 60, paragraph 1).

63. 'In the exclusive economic zone, the coastal State has: (a) sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds; (b) jurisdiction as provided for in the relevant provisions of this Convention with regard to: (i) the establishment and use of artificial islands, installations and structures; (ii) marine scientific research; (iii) the protection and preservation of the marine environment; (c) other rights and duties provided for in this Convention' (Article 56, paragraph 1).

64. See Tullio Treves, 'Military, Installations, Structures, and Devices on the Seabed' (1980) American Journal of International Law, Vol. 74, No. 4, 808-857, 808.

Law 91/2021 makes no reference to the coordination between its provisions and the already mentioned Law 61/2006 on the ecological protection zones,[65] as if the latter did not exist. In particular, it is not clear whether the future establishment of one or more exclusive economic zones will supersede the previous ecological protection zones, wherever established. The question is not a trivial one, considering that within the scope of the jurisdiction that Italy can exercise in its ecological protection zones also the protection and preservation of archaeological and historical heritage is included, which is not listed in Article 56, paragraph 1, of the UNCLOS among the sovereign rights and jurisdiction that the coastal States has in the exclusive economic zone. In any case, as Law 61/2006 has not been abrogated, a patchwork of ecological protection zones, exclusive economic zones and extents of high seas could become another option open to the discretion of the Italian government, as regards the legal condition of the waters beyond 12 nautical miles from the baselines of the Italian territorial sea.

6. Conclusion

Even though a recent policy instrument seems to assume its existence,[66] for the time being the Italian exclusive economic zone exists only on paper. The government has not yet established it.[67]

65. *supra*, paragraph 3.

66. The national plan of prompt intervention for the defence of the sea and the coasts from pollution from oil and other hazardous and noxious substances, adopted by Decree of the President of the Council of Ministers of 11 October 2022 (available on the website of the Italian Ministry of the environment and of energy security) is applicable 'inside the waters under Italian jurisdiction between the coast and the external limit of the ecological protection zones and the exclusive economic zone […]'.

67. *supra*, paragraph 4.

To properly implement Law No. 91/2001 would require a change in the Italian traditional attitude and an innovating effort to which the European Union should also contribute as regards the subjects of fisheries and protection of the marine environment. In particular, it would require the rejection of an approach confined to national interests and the growth of the awareness that the disappearance of the high seas in the Mediterranean is an opportunity to build new ways of cooperation for the common interest of bordering countries. The crucial issue of boundary delimitation is a prerequisite for establishing a regime of cooperation oriented towards the sustainable exploitation of marine resources and the protection of the marine environment.[68] Time will tell whether such a change is feasible.

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68. See Fabio Caffio, 'La certezza dei confini marittimi del Mediterraneo – Fattore di sicurezza, stabilità e sviluppo' (2021) *Rivista Marittima (December)*, 3.

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Enforcement Jurisdiction Against Ships Without Nationality Fishing on the High Seas

*Pierandrea Leucci**

1. Introduction

About ten years ago, I was asked to conduct research on illegal, unreported, and unregulated (IUU) fishing from a regional and macro-comparative perspective. The research allowed me to access a significant bulk of information on fishing activities carried out by ships without nationality, a conduct falling within the scope of the IUU fishing definition at large. At the time of my research, academic literature on stateless vessels engaging in fisheries was not extensive. For that reason, in 2016, I decided to put together some of the research findings and shared them in the form of a working paper. The objective of that draft was twofold: first, encouraging a critical discussion on the topic; and second, assessing the way some of the major international legal instruments governing fisheries addressed the threat posed by stateless vessels to the conservation of marine living resources on the high seas, and provided for related mechanisms of en-

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forcement. The research focused on high seas enforcement in reason of the underlying tension existing between freedom to fish and conservation duties in areas beyond national jurisdiction. In other words, whereas flag States are responsible for ensuring compliance with international rules, including fishery rules, by vessels flying their flag on the high seas, how can compliance with such rules be ensured on board stateless vessels operating outside the effective control and jurisdiction of a State? Someone may argue that, under the law of the sea, 'freedoms' are for States only, and therefore stateless vessels would not enjoy the freedom to fish on the high seas in the first place.[1] Others would say that vessels without nationality, like pirate ships, should be subject to the universal jurisdiction of States.[2] Finally, as easy as it sounds, someone may argue that without extraterritorial jurisdiction, no enforcement action could be taken against stateless vessels operating in those waters. My research did not aim to answer the above question, although some of the findings support the view, largely based on the practice of regional fisheries management organisations (RFMOs), that a certain degree of unilateral enforcement action against stateless vessels fishing on the high seas is possible.

This paper is a consolidated version of my 2016 research. Why? Because after many years of studies and publications on IUU fishing, the topic still raises some important questions, which the research findings may help to clarify.

The topic's examination will develop as follows: section 2 will provide preliminary comments on the definition and status of 'ship without nationality' under international law; section 3 will examine some of the rules in place at international and regional legal levels on fisheries enforcement against stateless vessels operating on the high seas; and finally,

1. Bernard H. Oxman, 'Human Rights and the United Nations Convention on the Law of the Sea' (1997) 36 Colum. J. Transnat'l L. 399-429, 428.

2. See 2.4 'Universal Jurisdiction.'

section 4 will wrap up the discussion and draw some conclusions based on the research's finding. This article will not deal with vessels without nationality other than fishing vessels.

2. Stateless Vessels and International Law – Use of Terms and Definitions

The threat to the long-term conservation of marine biological resources posed by vessels without nationality fishing on the high seas is expressly recognised (twice) in the text of the latest 'sustainable fisheries' resolution, adopted by the UN General Assembly (UNGA) on 9 December 2022.[3] Paragraph 100 of the Resolution holds that in order to prevent and deter stateless vessels to 'undermine the relevant legal framework' in place at regional and international levels, all States are encouraged to take the 'necessary measures', including the adoption of relevant enforcement legislation, against those ships.[4] The Resolution is silent about the

3. United Nations General Assembly (UNGA), 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 (9 December 2022). A/RES/77/118. Available at <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N22/746/22/PDF/N2274622.pdf?OpenElement> accessed 31 December 2022.

4. ibid., A/RES/77/118, Paragraph 92: '*Notes* the challenges posed by vessels determined under international law to be without nationality that are fishing, including conducting fishing -related activities, on the high seas and that such vessels operate without governance and oversight, undermine relevant legal frameworks and are engaging in illegal, unreported and unregulated fishing activities as defined in the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing of the Food and Agriculture Organization of the United Nations, and encourages States to take necessary measures where appropriate, consistent with international law, in order to prevent and deter vessels without nationality from engaging in or supporting illegal, unreported and unregulated fishing, such as enacting domestic legislation, including on enforcement, sharing information and prohibiting the landing and preventing trans-shipment, at sea or in port, of fish and fish products by such vessels.'

specific circumstances under which those measures should be taken – they just need to be 'consistent with international law'. This calls for two preliminary comments: first, consistency with international law logically entails the application of international rules and principles governing the use of force in (fisheries) enforcement operations, including the principles of necessity and proportionality;[5] and second, to be consistent with international law, any such measure shall find its legal justification into law. As such, enforcement action taken against stateless vessels fishing on the high seas needs to be assessed against the backdrop of those regional and international legal instruments setting out rules on fisheries, such as the UN Convention on the Law of the Sea (UNCLOS),[6] the UN Fish Stocks Agreement (UNFSA),[7] and the RFMOs legislation, including regional rules adopted to give effect to non-legally binding instruments to prevent, deter, and eliminate IUU fishing, such as those adopted under the auspices of the Food and Agriculture Organization (FAO) of the UN.

Before dwelling on the fishery's regulatory framework in place at international and regional levels, some preliminary comments on the meaning, scope, and legal status of ships without nationality are herein necessary.

5. For more information, see Pierandrea Leucci, 'Enforcing Fisheries Legislation in the Exclusive Economic Zone of non-Parties to UNCLOS: a Commentary to Article 73', in Pierandrea Leucci, Ilaria Vianello (eds.), *ASCOMARE Yearbook on the Law of the Sea, Volume 1: Law of the Sea, Interpretation and Definitions* (Luglio Editore, 2022), 342-345.

6. United Nations Convention on the Law of the Sea (Montego Bay, 10 December 1982, in force, 16 November 1994) 1833 UNTS 397.

7. 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 (UNFSA). Adopted in New York on 4 August 1995. In force, 11 December 2001. 2167 UNTS 3.

2.1 Definition of 'Ship'

Academic literature extensively touches upon the definition of 'ship' under the law of the sea, especially in the context of recent discussions on unmanned vehicles.[8] While often reaching very different conclusions on the topic, publicists seem to converge on at least a few points: first, the terms 'ship' and 'vessel' can be used interchangeably;[9] second, the term 'ship' arguably covers most, if not all sea-going (including underwater) vehicles,[10] while aircrafts fall outside the scope of such a term;[11] third, there is no universally agreed and all-purpose definition of 'ship' under the law of the sea. The meaning of this term may change over time, also depending on the legal context where it is used.[12] In this regard, Noyes observed that:

8. Henning Jessen, 'The Legal Understanding of the Term 'Ship' Under the United Nations Convention on the Law of the Sea (UNCLOS)', in Leucci, Vianello (n 5); Sabrina Hasan, 'Analysing the Definition of "ship" to Facilitate Marine Autonomous Ships as Ship under the Law of the Sea (2022) Australian Journal of Maritime & Ocean Affairs; Junghwan Choi, Sangil Lee, 'Legal Status of the Remote Operator in Maritime Autonomous Surface Ships (MASS) Under Maritime Law' (2021) Ocean Development & International Law, Vol. 52, Issue 4; George K. Walker, John E. Noyes, 'Definitions for the 1982 Law of the Sea Convention – Part II' California Western Int'l Law Journal, Vol. 33, No. 2, Art 4, 316-322; Simon McKenzie, 'When a Ship is a Ship? Use by State Armed Forces of Uncrewed Maritime Vehicles and the United Nations Convention on the Law of the Sea' (2020) MelbJlIntLaw 13, Vol. 21, 373-402; Gotthard Mark Gauci, 'Is it a Vessel, a Ship or a Boat, Is it Just a Craft, or Is It Merely a Contrivance?' (2016) Journal of Maritime Law and Commerce, Vol. 47, No. 4, 479-499; Jeremia Humolong Prasetya, 'The Operation of Unmanned Vessel in Light of Article 94 of the Law of the Sea Convention: Seamanning Requirement' (2020) Indonesian Journal of International Law, Vol. 18, No. 1, Art 5, 105-123;

9. Walker, Noyes (n 8) 318; McKenzie (n 8) 383; Gauci (n 8) 479-480; Prasetya (n 8) 107;

10. Walker, Noyes (n 8) 321; McKenzie (n 8) 376, 393; Gauci (n 8) 498;

11. For instance, UNCLOS, MARPOL, and SOLAS expressly distinguish vessels/ships rules from those applicable to aircraft. Interestingly, COLREGs include in Rule 3 ('General definitions') a definition of 'seaplane' covering 'aircraft designed to manoeuvre on the water.' It is questionable as to whether sea-going aircraft would fall within the definition of 'ship' for the purposes of legal instruments not specifically referring to them.

12. Walker, Noyes (n 8) 320-321; McKenzie (n 8) 393-394; Gauci (n 8) 479-481;

> I fear that […] any one definition [of ship] proposed for use in the 1982 Law of the Sea Convention, may be either too broad or too narrow, depending on the context in which it is used. The interpretation of "ship" may well vary from issue to issue, and when we seek a definition that applies to as wide a range of situations and issues as does the Law of the Sea Convention, it becomes particularly difficult to agree on an acceptable definition.[13]

Provided the limited scope of this research - focusing on stateless vessels to be used for 'fisheries' purposes only - the term '*ship* without nationality' under this paper should be interpreted broadly.

2.2 Definition of 'Nationality'

The case-law of international courts and tribunals openly recognised the interlink existing between the 'nationality' of a ship and its 'registration' in the national register of a State.[14] This is consistent with the language used by Article 91 ('Nationality of ships') of UNCLOS, as well as the drafting history of that provision.[15] As long as the conditions for the reg-

13. Walker, Noyes (n 8) 317.

14. M/V 'SAIGA' (No.2) (Saint Vincent and the Grenadines v. Guinea) (Judgment of 1 July 1999) ITLOS Report 1999, 36-37, paras 63-65; M/V 'Virginia G' (Panama v. Guinea-Bissau) (Judgment of 14 April 2014) ITLOS Report 2014, 44-45, paras 110-115. See also Malgosia Fitzmaurice, Ignacio Arroyo, Norman A. Martìnez Gutiérrez, Elda Belja, *The IMLI Manual on International Maritime Law: Shipping Law. Volume II* (Oxford University Press, 2016) 27-28; Deirdre M. Warner-Kramer, Krista Canty, 'Stateless Fishing Vessels: The Current International Regime and a New Approach' (2000) 5 Ocean & Coastal L.J., Vol.5:227, 228-230; Olav S. Stokke, *Governing High Seas Fisheries. The Interplay of Global and Regional Regimes* (Oxford University Press, 2001) 54; Tullio Scovazzi, 'ITLOS and Jurisdiction Over Ships', in Henrik Ringbom, 'Post-UNCLOS Developments in the Law of the Sea' (Brill Nijhoff, 2015), 390-393.

15. See also Tullio Treves, 'Historical Development of the Law of the Sea', in Donald R. Rothwell, Alex G. Oude Elferink, Karen N. Scott, Tim Stephens, *The Oxford Handbook of the Law of the Sea* (Oxford University Press, 2015), 17-18; Separate Opinion Judge Rüdiger Wolfrum in M/V 'SAIGA' (No.2') (n 14).

istration of a ship are met - or whenever such a registration is not mandatory (e.g. for small vessels) and alternative conditions are fulfilled[16] - the ship obtaining the nationality of a State is subject to its effective jurisdiction and control.[17] This provides the flag State with the right/obligation to take the necessary action to ensure compliance by vessels registered in its territory with certain international rules, including those governing the conservation and management of marine living resources on the high seas. It follows that vessels that are not registered in the national register of any State, including vessels that do not comply with the minimum requirements for the registration or other alternative conditions (whenever the registration is not compulsory), should be considered to be without nationality.[18] If a ship 'sails under the flags of two or more States, using them according to convenience', that vessel will be 'assimilated to a ship without nationality.'[19] Vessels *assimilated* to a ship without nationality are different from stateless vessels, as they may still benefit from the protective jurisdiction and diplomatic protection of (one of) the States of registration.[20] As such, vessels assimilated to a ship without nationality

16. UNCLOS, Article 94(2)(a).

17. UNCLOS, Article 94(1). See Proshanto K. Mukherjee, Mark Brownrigg, *Farthing on International Shipping. WMU Studies in Maritime Affairs, Vol 1* (Springer, 2013) 199.

18. See Warner-Kramer, Canty (n 14) 230; Julie Mertus, 'The Nationality of Ships and International Responsibility: The Reflagging of the Kuwaiti Oil Tankers' (1988) 17 Denv. J. Int'l L. & Pol'y 207, 218-221; Himanil Raina, 'A Unified Understanding of Ship Nationality in Peace and War' (2022) American Journal of International Law, 116(4), 731-739, 734.

19. UNCLOS, Article 92(2).

20. For instance, a vessel registered in State A, and using the flags of States A, B and C would be 'assimilated' to a ship without nationality for the purposes of Article 92(2) UNCLOS, but it would not necessary be stateless for the purposes of other international law provisions and legal instruments, unless otherwise provided in the national legislation of State A. According to Meyers, also vessels that do not fully comply with certain national rules – e.g. fees for the registration, renewal, use of flag – may be 'assimilated' to stateless vessel without, however, losing their nationality, such as in the case of the *M/V Saiga*. Herman Meyers, *The Nationality of Ships* (Martinus Nijhoff, 1967) 133-136.

retaining a jurisdictional link will not *ipso facto* fall under the scope of the relevant rules applicable to stateless vessels, including those related to unregulated/IUU fishing, unless otherwise provided by law.[21]

2.3 Ships Without Nationality and IUU Fishing

Paragraph 3.3.1 of the International Plan of Action to Prevent, Deter and Eliminate IUU Fishing (IPOA-IUU)[22] includes in the definition of 'unregulated fishing' the act of fishing (and related activities) conducted by ships without nationality in the area of application of an RFMO. 'Unregulated fishing' is part of the triumvirate of conducts informing the content of the IUU fishing definition at large.[23] It follows that fishing with a stateless vessel in the convention area of an RFMO *may* constitute IUU fishing – with all that implies in terms of applicable international rules and standards. However, Paragraph 3.3.1 makes clear that not all fishing activities carried out by stateless vessels in the Convention area of an RFMO automatically qualify as IUU fishing, but only those conducted 'in a manner that is not consistent with or contravenes the conservation and management measures of that organization'. More specifically, three conditions shall be met: first, the vessel needs to be without nationality; second, it shall engage in fisheries in the area of an RFMO; and

21. For instance, ICCAT, IOTC and WCPFC discussed below in this article, adopted legislation on vessels without nationality which expressly covers both stateless ships and vessels assimilated to ships without nationality.

22. International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing. Adopted by FAO on 23 June 2001. Available at <https://www.fao.org/3/y1224e/y1224e.pdf> accessed 31 December 2022.

23. The IPOA-IUU is a non-legally binding instrument. Nevertheless, the definition of IUU fishing included in Paragraph 3 of its text has been progressively encapsulated – often verbatim/by reference – in most of the legally binding instruments setting out rules on IUU fishing. As such, today, the definition of 'unregulated fishing' can be considered as having a general application status.

finally, fisheries shall be conducted in a way that is not consistent with the conservation and management measures (CMMs) adopted by the RFMO. The IPOA-IUU provides for a specific definition of CMMs in Paragraph 6(d): 'measures to conserve one or more species of living marine resources that are adopted and applied consistent with the relevant rules of international law.' Even if this is not specified within the text of the provision, the CMMs' definition arguably covers only legally binding measures. As such, fisheries conducted by stateless vessels either in accordance with the legally binding CMMs in place or in a way not consistent with the non-legally binding rules adopted by an RFMO on the high seas reasonably fall outside the scope of the IUU fishing definition.

2.4 Universal Jurisdiction

Universal jurisdiction is a well-developed principle under international law, including the law of the sea. UNCLOS encapsulates the principle in Article 105 of its text, in respect of piratical acts.[24] However, no generally accepted definition of 'universal jurisdiction' exists under international law.[25] Randall defines this term as the legal principle 'allowing or requir-

24. UNCLOS, Article 105: 'On the high seas, or in any other place outside the jurisdiction of any State, every State may seize a pirate ship or aircraft, or a ship or aircraft taken by piracy and under the control of pirates, and arrest the persons and seize the property on board. The courts of the State which carried out the seizure may decide upon the penalties to be imposed, and may also determine the action to be taken with regard to the ships, aircraft or property, subject to the rights of third parties acting in good faith.'

25. Steven W. Becker, 'Universal Jurisdiction. Global Report' (2008) Erès – Revue Internationale de droit penal, Vol. 79, 159-172, 160; Dalila V. Hoover, 'Universal Jurisdiction not so Universal: A Time to Delegate to the International Criminal Court (2011) Cornell Law School Inter-University Graduate Student Conference Papers, 52, 2-31, 6; Roger O'Keefe, 'Universal Jurisdiction. Clarifying the Basic Concept' (2004) Journal of International Criminal Justice 2, 735-760, 744-745. See also Dissenting opinion of Judge *ad hoc*, Van den Wyngaert, in *Case Concerning the Arrest Warrant of 11 April 2000* (Democratic Republic of the Congo v. Belgium), International Court of Justice, 14 February 2002, I.C.J. Reports 2002, 3.

ing a state to bring criminal proceedings in respect of certain crimes irrespective of the location of the crime and the nationality of the perpetrator or the victim.'[26] Similarly, the Princeton Principles on Universal Jurisdiction refer to it as the 'criminal jurisdiction based solely on the nature of the crime, without regard to where the crime was committed, the nationality of the alleged or convicted perpetrator, the nationality of the victim, or any other connection to the state exercising such jurisdiction.'[27] What these definitions have in common are, in particular, the extraterritorial and criminal nature of the offence, as well as the possibility to exercise enforcement jurisdiction without any active personality link.

Because of the absence of a country of registration responsible for ships without nationality, certain States have justified the use of universal jurisdiction on those vessels, simply based on the argument that the jurisdictional vacuum left by their statelessness condition could be filled by any State, especially when rendered necessary by security concerns.[28] Without going into too much detail on the issue at stake, the application of the universal jurisdiction principle to stateless vessels fishing on the high seas is problematic for at least two reasons. First, the principle requires

26. Kenneth C. Randall, 'Universal jurisdiction under international law' (1988) Texas Law Review, No. 66, 785–8, in Xavier Philippe, 'The Principles of Universal Jurisdiction and Complementarity: How Do the Two Principles Intermesh?' (2006) International Review of the Red Cross, Vol.88, N. 862, 377.

27. The Princeton Principles on Universal Jurisdiction (Program in Law and Public Affairs of the Princeton University, 2001). Available at <https://icj2.wpenginepowered.com/wp-content/uploads/2001/01/Princeton-Principles-Universal-Jurisdiction-report-2001-eng.pdf> accessed 31 December 2022.

28. E.g., USA and Norway. See Warner-Kramer, Canty (n 14) 230, 236-7; and in Myres S. McDouglas, William T. Burke, I. A. Vlasic, 'The Maintenance of Public Order at Sea and the Nationality of Ships' (1960) Faculty Scholarship Series. Paper 2610, 76-77; Barry H. Dunner, Mary Carmen Arias, 'Under International Law, Must a Ship on the High Seas Fly the Flag of a State in Order to A void Being a Stateless Vessel? Is a Flag Painted on Either Side of the Ship Sufficient to Identify it?' (2017) 29 U.S.F. Mar. L. J. 99, 114-117, 120; Allyson Bennet, 'That Sinking Feeling: Stateless Ships, Universal Jurisdiction, and the Drug Trafficking Vessel Interdiction Act' (2012) The Yale Journal of Int'l Law, Vol. 37, 433-461, 441-442 and 460-461.

the commission of a *criminal* offence. However, in many cases fisheries violations are classified as *administrative* infringements under national law.[29] What is more, nothing in the text of the relevant legal instruments suggests that the mere act of sailing with a ship without nationality or engaging in IUU fishing at large would constitute by itself a 'crime' under international law.[30] This interpretation is supported by the language of Article 90 of UNCLOS, providing for the 'right' of every State to sail ships flying its flag, and not for the duty to do so. Second, as observed

29. For instance, with regards to the 22 coastal Member States of the European Union, the 'Study on the Sanctioning Systems of Member States for Infringements of the Rules of the Common Fisheries Policy' published by the European Commission in 2021 reports that: 'Nearly all Member States under study have both administrative and criminal sanctions in their legal systems. Exceptions are Ireland, which only has criminal sanctions (besides the points system), and Lithuania, Poland and Slovenia, which only have administrative sanctions. In practice, 13 Member States use administrative sanctions in the vast majority of cases while three Member States use administrative sanctions exclusively (Lithuania, Poland and Slovenia) … In those Member States which have the two types of sanctions, the coordination of these proceedings is clear. In the vast majority of Member States, only one procedure can be applied for the same infringement.' European Commission, Directorate-General for Maritime Affairs and Fisheries, Angevin, F., Borrett, C., Moreira, G., et al., *Study on the sanctioning systems of Member States for infringements to the rules of the Common Fisheries Policy: EU overall report: final report* (Publications Office, 2021) 14. See also 'Administrative Sanctions in Fisheries Law' (2003) FAO Fisheries and Aquaculture Legislative Study No. 82. Available at <https://www.fao.org/3/y5063e/y5063e.pdf> accessed 31 December 2022; Mercedes Rosello, 'Regional Fisheries Management Organisation Measures and the Imposition of Criminal and Administrative Sanctions in respect of High Seas Fishing' (2022) Marine Policy, 144, 1-6, 4-5; Gabriela A. Oanta, 'The Application of Administrative Sanctions in the Fight Against IUU Fishing: An Assessment of Spanish Practice' (2022) Marine Policy 144 (2022) 105211, 1-7; and Blaise Kuemlangan, Elizabeth-Rose Amidjogbe, Julia Nakamura, Alessandra Tommasi, Rudolph Hupperts, Buba Bojang, Teresa Amador, 'Enforcement Approaches Against Illegal Fishing in National Fisheries Law' (2023) Marine Policy 149 (2023) 105114, 1-12.

30. Efthymios Papastavridis, 'Enforcement Jurisdiction in the Mediterranean Sea: Illicit Activities and the Rule of Law on the High Seas' (2010) 25(4) The International Journal of Marine and Coastal Law 569-599, 582-586; Pieter van Welzen, 'State Responsibility for Nationals Engaged in IUU Fishing?', in Froukje Maria Platjouw, Alla Pozdnakova, *The Environmental Rule of Law for Oceans. Designing Legal Solutions* (Cambridge University Press, 2023), 228. Julio Jorge Urbina, 'Towards an International Legal Definition of the Notion of Fisheries Crime' (2022) Marine Policy 144 (2022) 105214, 1-6, 2-3.

by Bennet, the qualification of a conduct as a crime for which universal jurisdiction could be invoked by States should primarily depend on the gravity of the offence: the so called element of 'atrocity'.[31] In other words, when the human rights or security implications of an offence are so serious as to constitute a universal concern for the international community, then the application of the principle of universal jurisdiction may be justified.[32] This is, for instance, the case of piracy, slave trade, genocide and a number of war crimes.[33] Hence, despite the serious concern posed by certain fishing activities conducted by stateless vessels on the high sea, the gravity of that conduct would hardly trigger the application of the principle by itself.[34] Referring to certain universal jurisdiction crimes, Judge Guillaume observed in its separate opinion to the *Arrest Warrant* case:

> …at no time has it been envisaged that jurisdiction should be conferred upon the courts of every State in the world to prosecute such crimes, whoever their authors and victims and irrespective of the place where the offender is to be found. To do this would, moreover, risk creating total judicial chaos. It would also be to encourage the arbitrary, for the benefit of the powerful, purportedly acting as agent for an ill-defined "international community". Contrary to what is advocated by certain

31. Bennet (n 28) 451-452.

32. Talking about the 'universal jurisdiction' principle, Powell noted that: '[a]lthough this principle is well settled as a jurisdictional basis, defining its contours is contentious. The standard is so high that even terrorist activities are not prescribed under this jurisdiction', in Eric Powell, 'Taming the Beast: How the International Legal Regime Creates and Contains Flags of Convenience' (2013) Annual Survey of International & Comparative Law: Vol. 19: Iss. 1, Article 12, 285-286.

33. Madeline H. Morris, 'Universal Jurisdiction in a Divided World: Conference Remarks' (2001) New England Law Review, Vol. 35:2, 337-361, 341-351; and Ian Patrick Barry, 'The Right of Visit, Search and Seizure of Foreign Flagged Vessels on the High Seas Pursuant to Customary International Law: A Defense of the Proliferation of Security Initiative' (2004) Hofstra Law Review: Vol. 33: issue 1, Article 6, 299-330, 313-315 and 327.

34. Dunner, Arias (n 28) 119.

> publicists, such a development would represent not an advance in the law but a step backward.[35]

Some commentators, however, hold a very different position in that respect.[36]

3. Enforcement Jurisdiction on the High Seas

This section will provide a quick examination of the relevant provisions of UNCLOS, UNFSA, and RFMOs rules that may be interpreted as setting out the legal grounds for taking enforcement action on ships without nationality fishing on the high seas. The terms 'enforcement action' and 'enforcement measures' are used interchangeably in this section to describe the range of tools – including boarding, inspection, and the use of force – that the competent authorities of States may take to ensure compliance with the applicable rules.

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35. *Arrest Warrant* case (n 25), Sep. Op. Guillaume, para 15, 43.

36. For instance, Kramer and Canty note that '[a]lthough "statelessness" is not per se repugnant to the law of nations, in order to protect the international regime of the high seas, stateless vessels are generally subject to the jurisdiction of all nations", in Deirdre M. Warner-Kramer, Krista Canty, 'Stateless Fishing Vessels: The Current International Regime and a New Approach' (2000) 5 Ocean & Coastal L.J., Vol.5:227, 230. For similar positions, see also Stuart Kaye, 'Maritime Jurisdiction and the Right to Board' (2020) JCULawRw 4, 18; Dunner, Arias (n 28) 118; Robert C.F. Reuland, 'Interference with Non-National Ships on the High Seas: Peacetime Exceptions to the Exclusivity Rule of Flag-State Jurisdiction' (1989) 22 Vanderbilt Law Review 1161, 1202. In addition, it is noteworthy the position of Balloun looking at the principle of non-interference on the high seas in connection with the concept of punishability under international law. More in details Balloun notes that: '[t]his principle practically nullifies the ability of a vessel to sail the high seas without registering with a nation. If a vessel is not registered, i.e., retains no nationality, there is no state to advocate for it inside the international legal system. Unrelated nations can interfere with, i.e., search and seize, these so-called stateless vessels with impunity because vessels do not have direct standing under international law to protest the interference…" in O. Shane Balloun, 'The True Obstacle to the Autonomy of Seasteads: American Law Enforcement Jurisdiction over Homesteads on the High Seas' (2012) USFMLJ Vol.24 No. 2, 409-462, 431.

3.1 UNCLOS

As of today, the so-called 'constitution for the oceans'[37] is the main multilateral legal instrument in place to regulate maritime spaces and activities, including fisheries. The conservation of marine living resources, whether in areas within or beyond national jurisdiction, is one of the core objectives of the Convention, as laid down by its Preamble.[38]

UNCLOS devotes several provisions of Part VII ('High seas') to fisheries on the high seas. Notably, Articles 87(1)(e) and 116 of UNCLOS provide to 'all States' the freedom/right for their 'nationals' to engage in fishing on the high seas subject to compliance with the conservation duties established under Articles 117 to 120 of the Convention, and with the general obligations set out in Part XII ('Protection and preservation of the marine environment').[39] The term 'national' in the relevant UN-

37. Tommy T.B. Koh, 'A Constitution for the Oceans' (Remarks of Singapore President of the Third United Nations Conference on the Law of the Sea, 1982). Available at <https://www.un.org/depts/los/convention_agreements/texts/koh_english.pdf> accessed 31 December 2022.

38. UNCLOS, Preamble (5): 'Recognizing the desirability of establishing through this Convention, with due regard for the sovereignty of all States, a legal order for the seas and oceans which will facilitate international communication, and will promote the peaceful uses of the seas and oceans, the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment.'

39. Since the 1999 ITLOS *Southern Bluefin Tuna Order*, the 'conservation of marine living resources' has been recognised by international courts and tribunals as an element of the duty of States to protect and preserve the marine environment. See Southern Bluefin Tuna case (New Zealand v. Japan; Australia v. Japan), Order, Provisional Measures, ITLOS Case No 3, (1999) 38 ILM 1624, ICGJ 337 (ITLOS 1999), ITLOS reports 1999, 27th August 1999, International Tribunal for the Law of the Sea (ITLOS), para 70, 295; and South China Sea arbitration (Philippines v China), Final Award, PCA Case No 2013- 19, ICGJ 495 (PCA 2016), 12th July 2016, paras 490-491.

CLOS provisions is used as a synonym of 'ship' – not individuals.[40] This interpretation is supported by the history of UNCLOS,[41] including the language of Article 1 of the 1958 Geneva Convention on Fishing and Conservation of the Living Resources on the High Seas (the 1958 Fishing Convention), which is reproduced almost verbatim in Article 116 of UNCLOS. In that respect, Article 14 of the 1958 Fishing Convention clarified that: '…the term "nationals" means fishing boats or craft of any size having the nationality of the State concerned, according to the law of that State, irrespective of the nationality of the members of their crews.'

The same meaning was accorded to that term by the International Law Commission (ILC) in its commentary to the 1958 Fishing Convention draft text.[42] That would not preclude, in any case, the application of the active personality principle in the event of certain fisheries-related crimes committed by individuals on the high seas.[43]

Besides the rules on fisheries on the high seas, UNCLOS explicitly refers to 'ships without nationality' in Articles 92 and 110 of its text. The former provision was already mentioned in the context of the definition of 'nationality', as it concerns vessels *assimilated* to a ship without nationality,[44] while the latter regulates the 'right of visit' – i.e. the power of duly

40. Some scholars hold different positions on this point. For instance, Honniball observed that '[w]hile the drafting history of UNCLOS suggested that the term 'nationals' referred to vessels and the flag state's duty, the decision to deviate from the former practice and excluding a provision defining nationals as flagged vessels has left the door open to progressive interpretation and modification.' Arron N. Honniball, 'Engaging Asian States on Combatting IUU Fishing: The Curious Case of the State of Nationality in EU Regulation and Practice' (2021) Transnational Environmental Law 10(3), 543-569, 566.

41. Yoshifumi Takei, 'Filling Regulatory Gaps in High Seas Fisheries: Discrete High Seas Fish Stocks, Deep-Sea Fisheries and Vulnerable Marine Ecosystems' (2008) G.J. Wiarda Instituut voor Rechtswetenschappelijk Onderzoek, 26-27, note 70.

42. International Law Commission, *Articles concerning the Law of the Sea with commentaries, Yearbook of the International Law Commission* (1956) Volume II, 286.

43. See Honniball (n 40); van Welzen (n 30), 231.

44. See above 2.2 'Definition of 'nationality'.'

authorised vessels or aircraft to board a ship on the high seas if there is reasonable ground for suspecting that, inter alia, the ship is 'without nationality.'[45] Article 110 provides a legal basis for boarding stateless vessels on the high seas, insofar as all the relevant conditions for the use of the 'right of visit' are met.[46] The provision is silent about the action that the visiting-State may take against the visited-ship once the statelessness condition has been confirmed. However, a joint reading of paragraphs 1 and 2 of Article 110 suggests that only that action that is necessary to confirm the suspicion of statelessness could be taken.[47] This is confirmed by the fact that, whenever further action by the inspecting State is allowed as a consequence of a 'visit' carried out under Article 110, the Convention openly provides for that power (e.g. Article 109(4) UNCLOS for unauthorised broadcasting). This is without prejudice, in any case, to those measures and procedures that are incidental to the primary purpose of carrying out the 'visit'. For instance, in its 'Manual for Criminal Justice Practitioners', the UN Office on Drugs and Crime (UNODC) identified certain enforcement powers and procedures that would be compatible, in principle, with the text of Article 110 of UNCLOS.[48] The list includes:

> …the conduct of a security sweep of the vessel; temporary confiscation or control of discovered weapons; temporary control of the steering and propulsion systems; and access to and interrogation of ship navigation

45. UNCLOS, Article 110(1)(d).

46. Anne Bardin, 'Coastal State's Jurisdiction Over Foreign Vessels' (2002) Pace Int'l Rev, Vol. 14, Issue 1, Art 2, 27-76, 49-50.

47. Douglas Guilfoyle, 'Human Rights Issues and Non-Flag State Boarding of Suspect Ships in International Waters', in Clive R. Symmons, Selected Contemporary Issues in the Law of the Sea (Martinus Njhoff Publishers, 2011) 83-84; Alexander Proelß. *The United Nations Convention on the Law of the Sea: A Commentary* (Beck/Hart/Nomos, 2017), 771-772.

48. UN Office on Drugs and Crime, *Maritime Crime: A Manual for Criminal Justice Practitioners* (UN, 2020), Third Edition, 185-186. Available at <https://www.unodc.org/documents/Maritime_crime/GMCP_Maritime_3rd_edition_Ebook.pdf> accessed 31 December 2022.

49. id.

> and data systems for the purpose of verifying any claims made in respect of or related to nationality and registration.[49]

Finally, under UNCLOS, measures of enforcement could be taken against a stateless vessel fishing on the high seas anytime the ship started fishing (illegally) in the waters of a coastal State and then moved to the high seas. In that case, the coastal State may decide to enforce its fisheries rules beyond the *locus delicti*, subject to the conditions on the use of 'hot pursuit' under international law and UNCLOS.[50]

3.2 UNFSA

On 4 August 1995, the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks adopted the 'Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks' (UNFSA).[51] The UNFSA is a 'freestanding treaty'[52] that was adopted to ensure the long-term conservation and sustainable use of straddling fish stocks and highly migratory fish stocks. The Agreement only limitedly applies to areas within national jurisdiction,[53] as most of its provisions are designed exclusively for the high seas.

Part VI ('Compliance and enforcement') of the UNFSA[54] lays down rules on enforcement and compliance by fishing vessels with CMMs

50. UNCLOS, Article 111.

51. 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 (1995); 2167 UNTS 3.

52. Contracting parties to UNCLOS do not become automatically contracting parties to the UNFSA and vice versa. See James Harrison, *Making the Law of the Sea: A Study in the Development of International Law* (Cambridge University Press, 2011), 103.

53. UNFSA, Articles 3, 5, 6 and 7.

54. UNFSA Articles 19 to 23.

adopted in the regulatory area of RFMOs. Almost all the provisions included in this Part are flag State centric, as they either empower a flag State in respect of activities conducted by its own vessels or entail the (procedural) participation of a flag State in case of measures taken unilaterally by other UNFSA contracting Parties against a vessel flying its flag. Notwithstanding that, Article 21(17) of the Agreement indicates that:

> [w]here there are reasonable grounds for suspecting that a fishing vessel on the high seas is *without nationality*, a State may board and inspect the vessel. Where evidence so warrants, the State may take such action as may be appropriate in accordance with international law (emphasis added).

Prima facie, the scope of application of Article 21(17) is broader than that of Article 110 of UNCLOS,[55] as it also allows UNFSA contracting parties to 'take such action as may be appropriate with international law' - besides boarding and inspecting the vessel to confirm its statelessness condition.[56] The former provision, however, is silent about the content of any action to be considered as 'appropriate' for the purposes of the Agreement, leaving the relevant determination to 'international law.'

3.3 RFMOs Rules

The former Secretary General of the North East Atlantic Fisheries Commission, Mr Ásmundsson, defined RFMOs as those regional fishery

55. See above, 3.1 'UNCLOS'.

56. Nothing precludes contracting parties to UNCLOS to go beyond the text of Article 110 insofar as the action taken is in accordance with international law. The same Convention expressly states in its Preamble that what is not covered by its text is still regulated by international law. As such, it could be argued that, in the end, the language of Article 21(17) of UNFSA is not much broader in scope, practically speaking, of the one under Article 110 of UNCLOS. On the narrow interpretation of Article 21(17) UNFSA, see also Ichiro Nomura, *Background, Negotiation History and Article-by-Article Analysis of the United Nations Agreement on Fish Stocks and the FAO Compliance Agreement* (Nomura, 2019), 87-88.

bodies (RFBs) providing 'a forum for states to fulfil their duty to cooperate regarding fisheries in the high seas, as set out in [UNCLOS] and described further in the 1995 UN Fish Stocks Agreement.'[57]

RFMOs are intergovernmental organisations with the mandate to adopt legally binding rules[58] concerning fishing operations and other related activities at sea. The mandate of RFMOs covers a delimited geographic area - the regulatory or Convention area - extending in full or in part to the high seas. RFMOs can be divided in two macro-categories depending on the nature and scope of their mandate: generic RFMOs, and specific-species RFMOs.[59] Their rules normally apply both to Contracting Parties, and Cooperating non-Contracting Parties to those organisations – although, other forms of memberships may exist under RFMOs.[60] This section will examine the legislation of nine major RFMOs to determine how high seas enforcement action against stateless vessels is regulated.

3.3.1 North East Atlantic Fisheries Commission

The North East Atlantic Fisheries Commission (NEAFC) is a 'generic' regional fishery body established under the Convention on Future

57. Stéfan Ásmundsson, 'Regional Fisheries Management Organisations (RFMOs): Who are they, what is their geographic coverage on the high seas and which ones should be considered as General RFMOs, Tuna RFMOs and Specialised RFMOs?' (2016) CBD-SOIOM, 2. Available at <https://www.cbd.int/doc/meetings/mar/soiom-2016-01/other/soiom-2016-01-fao-19- en.pdf.> accessed 31 December 2022.

58. The power to adopt legally binding rules, is one of the aspects distinguishing RFMOs from Regional Fisheries Advisory Bodies (RFABs), although both RFMOs and RFABs belong to the broader category of RFBs.

59. Terje Løbach, T., Petersson, M., Haberkon, E. and Mannini, P., 'Regional fisheries management organizations and advisory bodies. Activities and developments, 2000–2017' (2020) FAO Fisheries and Aquaculture Technical Paper No. 651, 8.

60. For instance, the 'acceding States' under CCAMLR, or the 'participating territories' of WCPFC.

Multilateral Cooperation in North East Atlantic Fisheries (1980).[61] The regulatory area of NEAFC covers those parts of the North East Atlantic Ocean as defined in Article 1(a)(1) of the NEAFC Convention.[62] The objective of NEAFC is to ensure 'the long-term conservation and optimum utilisation of the fishery resources in the Convention area, providing sustainable economic, environmental and social benefits.'[63] The species ('fishery resources') managed under its mandate are 'all fish, molluscs, and crustaceans', including sedentary species, but excluding highly migratory species listed in Annex I of UNCLOS, as well as anadromous species.[64] As of today, NEAFC has six Contracting Parties (CPs),[65] and three Cooperating non-Contracting Parties (CNCPs).[66]

Rules on compliance with and enforcement of the conservation and management measures adopted by NEAFC are primarily laid down by the NEAFC Scheme of Control and Enforcement.[67] The NEAFC Scheme applies to '*all vessels* used or intended for use for fishing activities' (emphasis added) in the regulatory area of NEAFC.[68] Ships without nationality are expressly mentioned in the definition of 'non-Contracting

61. Convention on Future Multilateral Co-operation in North-East Atlantic Fisheries (NEAFC Convention); 1285 UNTS 129. Adopted on 8 December 1980. In force, 1982. Available <http://www.neafc.org/system/files/Text-of-NEAFC-Convention-04.pdf> accessed 31 December 2022.

62. Except for those parts of the North East Atlantic listed at Article 1(a)(1) NEAFC Convention, including the Baltic Sea and the Mediterranean Sea.

63. NEAFC Convention, Article 2.

64. ibid., Article 1(b).

65. Denmark (in respect of Faroe Islands and Greenland), European Union, Iceland, Norway, Russian Federation and UK. Available at <https://www.neafc.org/about> accessed 31 December 2022.

66. Bahamas, Canada and Panama. Id.

67. Latest changes to the NEAFC Scheme of Control and Enforcement made at the 40th NEAFC Annual Meeting, in November 2021.

68. NEAFC Scheme of Control and Enforcement, Article 2.

Party vessel.' The definition covers 'any vessel engaged in fishing activities that is not flagged in a Contracting Party of NEAFC, including vessels for which there are reasonable grounds for suspecting them to be without nationality.'[69] As such, rules applicable to non-Contracting Parties (NCPs) vessels shall also apply to ships (suspected of being) without nationality operating in the regulatory area of NEAFC. Chapter VII of the Scheme provides 'Measures to promote compliance by non-Contracting Party fishing vessels.' Most of the provisions included in the NEAFC Scheme, including those in Chapter VII, require the procedural participation of a flag State, and therefore are not applicable to stateless vessels. Two provisions, however, are relevant for the purposes of this discussion. First, Article 38 ('Inspections at sea'), allowing NEAFC inspectors to inspect any NCP vessel in the regulatory area of NEAFC, including stateless vessels, subject to the consent of the vessel's master.[70] In case of refusal, the vessel shall be presumed to have engaged in IUU fishing.[71] Second, Article 44 ('IUU Vessels Lists'), providing for the inclusion of NCP vessels fishing on the high seas without any authorisation, and vessels identified as engaging in IUU fishing under Article 38, either in a provisional list of IUU vessels (List A) or in a confirmed list of IUU vessels (List B).[72] To date, 67 vessels with no or unknown nationality are listed in the IUU List B of NEAFC,[73] while two are currently listed in its IUU List A.[74] The listing of a ship without nationality in the relevant

69. ibid., Article 1(h).

70. ibid., Article 38(1).

71. ibid., Article 38(3).

72. ibid., Article 44(1).

73. NEAFC, IUU List B. Available at <https://www.neafc.org/system/files/Confirmed%20IUU%20List%20B%20vessels%20listed%20by%20other%20RFMOs%20Article%2044.6_13-January-2023.pdf > accessed 31 December 2022.

74. None of the NEAFC IUU List A is with unknown nationality. Available at <https://www.neafc.org/system/files/NEAFC_IUU_A-list_Article-44.6_13-January-2023.pdf> accessed 31 December 2022.

IUU list is not sufficient to take unilateral enforcement action against it on the high seas, as virtually all the follow-up measures that CPs and CNCPs would be allowed to take under the Scheme (closed list) require a territorial or jurisdictional link with the vessel.[75]

3.3.2 Northwest Atlantic Fisheries Organization

The Northwest Atlantic Fisheries Organization (NAFO) is a 'generic' regional fishery body established in 1978 under the Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries (NAFO Convention).[76] The objective of NAFO is 'to ensure the long term conservation and sustainable use of the fishery resources in the Convention Area and, in so doing, to safeguard the marine ecosystems in which these resources are found.'[77] The regulatory area of NAFO covers that part of the Northwest Atlantic Ocean specifically delimited in Article IV(1) of the NAFO Convention.[78] The fishery resources covered by the NAFO mandate are 'all fish, molluscs and crustaceans', excluding sedentary species, as well as catadromous, anadromous, and highly migratory species listed in Annex I of UNCLOS insofar as they are regulated under other

75. NEAFC Scheme, Article 45.

76. Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries (1978); 1135 UNTS 369. Available at <https://treaties.un.org/doc/Publication/UNTS/Volume%201135/volume-1135-I-17799-English.pdf> accessed 31 December 2022.

77. NAFO Convention, Article II.

78. ibid., Article IV(1): 'This Convention applies to the waters of the Northwest Atlantic Ocean north of 35°00' N and west of a line extending due north from 35°00' N and 42°00' W to 59°00' N, thence due west to 44°00' W, and thence due north to the coast of Greenland, and the waters of the Gulf of St. Lawrence, Davis Strait and Baffin Bay south of 78°10' N.'

international agreements.[79] As of today, NAFO has 12 CPs[80] and no officially recognised CNCPs.[81]

The Conservation and Enforcement Measures (CEM) adopted under Article VI(9) of the NAFO Convention lay down rules on enforcement and compliance with the relevant NAFO conservation and management measures. Similarly to that observed in 3.3.1 for NEAFC:

a. Ships suspected of being without nationality are included in the CEM definition of 'non-Contracting Party vessel'.[82]
b. In principle, the CEM provisions apply to 'all fishing vessels' operating in the NAFO area,[83] although most of those provisions dealing with enforcement require the procedural intermission of a flag State, and therefore are not applicable to stateless vessels.[84]
c. Chapter VIII ('Non-Contracting Party Scheme') of the CEM provides for specific rules to prevent, deter, and eliminate IUU fishing by non-Contracting Party vessels. The term 'IUU fishing' is defined at Article 1(11) of the CEM by reference to Paragraph 3 of the IPOA-IUU.[85] Article 50(1) of the CEM is relevant for the purposes of

79. ibid., Article I(f).

80. Canada, Cuba, Denmark (in respect of Faroe Islands and Greenland), European Union, France (in respect of St. Pierre et Miquelon), Iceland, Japan, Norway, Republic of Korea, Russian Federation, Ukraine, UK, and USA. Available at <https://www.nafo.int/About-us> accessed 31 December 2022.

81. This does not prevent non-contracting Parties States from complying with the relevant CMMs adopted by the organization.

82. NAFO Conservation and Enforcement Measures, Article 1(14).

83. ibid., Article 2(1).

84. For instance, those concerning inspection, boarding, surveillance, and follow-up for serious violations under Chapter VI ('At-Sea Inspection and Surveillance Scheme') of the Conservation and Enforcement Measures.

85. NAFO Conservation and Enforcement Measures, Article 1(11). As it was mentioned above the term *inter alia* covers fishing activities carried out by stateless vessels ('unregulated fishing').

enforcement at sea, as it allows CPs to inspect a non-Contracting Party vessel, including a stateless vessel, presumed of having carried out IUU fishing on the high seas upon consent. Vessels sighted or presumed of having carried out IUU fishing shall be listed in the Provisional IUU Vessels List of NAFO, in case of suspected IUU fishing,[86] or in the (Confirmed) IUU Vessels List, in case of confirmed IUU fishing.[87] To date, 28 vessels with no or unknown nationality are currently listed in its Provisional IUU List,[88] while six are listed in the (Confirmed) IUU List of NAFO.[89] Once a vessel has been placed in the (Confirmed) IUU Vessels List of NAFO, CPs are required to take 'all measures necessary to prevent, deter and eliminate IUU fishing' from that vessel.[90] None of the measures laid down in the non-exhaustive list ('in particular') at Article 54(1), however, provide for unilateral action to be taken against IUU fishing vessels on the high seas.[91] This provision is without prejudice to the text of Article 48(2)(a) of the CEM, which preserves the 'sovereign rights' of the CPs to take 'additional measures to prevent, deter and eliminate IUU fishing' by non-Contracting Party vessels. The latter provision, however, expressly refers to 'sovereign rights', arguably limiting its scope of application to areas within national jurisdiction of the CPs.

86. ibid., Article 52.

87. ibid., Article 53.

88. NAFO, Provisional IUU List. Available at <https://www.nafo.int/Portals/0/PDFs/Fisheries/IUU/NAFO%20IUU%20Provisional%20List.pdf> accessed 31 December 2022.

89. NAFO, (Confirmed) IUU List. Available at <https://www.nafo.int/Fisheries/IUU> accessed 31 December 2022.

90. NAFO Conservation and Enforcement Measures, Article 54(1).

91. The list mostly concerns port State and administrative measures.

3.3.3 South East Atlantic Fisheries Organisation

The South East Atlantic Fisheries Organisation (SEAFO) is a 'generic' fisheries body established in 2001 by the Convention on the Conservation and Management of Fishery Resources in the South East Atlantic Ocean (SEAFO Convention).[92] The objective of SEAFO is 'to ensure the long-term conservation and sustainable use of the fishery resources in the Convention Area through the effective implementation of this Convention.'[93] The regulatory area of SEAFO covers all waters beyond national jurisdiction in that part of the South East Atlantic defined in Article 4 of the SEAFO Convention.[94] The fishery resources covered by the SEAFO mandate are those 'resources of fish, molluscs, crustaceans and other sedentary species', except those sedentary species covered by Article 77(4) of UNCLOS and highly migratory species listed in Annex I of UNCLOS.[95] As of today, SEAFO has seven CPs,[96] and no officially recognised CNCPs.[97]

Article 16 of the SEAFO Convention requires CPs to establish a system of enforcement to ensure compliance by vessels flying their flag with

92. Convention on the Conservation and Management of Fishery Resources in the South East Atlantic Ocean (2001); 39489 UNTS 2221.

93. SEAFO Convention, Article 2.

94. ibid., Article 4: '…beginning at the outer limit of waters under national jurisdiction at a point 6° South, thence due west along the 6º South parallel to the meridian 10° West, thence due north along the 10º West meridian to the equator, thence due west along the equator to the meridian 20° West, thence due south along the 20º West meridian to a parallel 50° South, thence due east along the 50º 7 South parallel to the meridian 30° East, thence due north along the 30º East meridian to the coast of the African continent.'

95. ibid., Article 1(l).

96. Angola, European Union, Japan, Republic of Korea, Namibia, Norway and South Africa. Available at <http://www.seafo.org/About/Contracting-Parties> accessed 31 December 2022.

97. This does not prevent non-contracting Parties States from complying with the relevant CMMs adopted by the organization.

the conservation and management measures adopted for the regulatory area of SEAFO. The latter provision exclusively refers to 'flag States' and 'vessels flying their flag.'[98] Besides, the SEAFO Convention also provides for specific rules on 'non-parties' to the Convention. Notably, Article 22(3) states that:

> [t]he Contracting Parties may, either directly or through the Commission, take measures, which are consistent with international law, and which they deem necessary and appropriate, to deter fishing activities by fishing vessels of non-parties to this Convention which undermine the effectiveness of conservation and management measures adopted by the Commission.

In that respect, the 'System of Observation, Inspection, Compliance and Enforcement' (SEAFO System) adopted by the organisation in 2019 pursuant to Article 16 of the SEAFO Convention provides a definition of 'non-Contracting Party vessel', which includes also 'vessels for which there are reasonable grounds for suspecting them to be without nationality.'[99] Special rules for non-Contracting Party vessels are laid down in Chapter VII ('Measures to promote compliance') of the SEAFO System. Similarly to those described for NEAFC and NAFO, these rules primarily deal with identification of acts of non-compliance with SEAFO measures,[100] and listing of non-Parties vessels into IUU Vessels Lists.[101] In that respect, Article 27(4)(h) of the SEAFO System qualifies ships without nationality that 'harvest fishery resources covered by the [SEA-

98. SEAFO Convention, Article 16(1).

99. SEAFO System, Article 2(1)(f).

100. ibid., Article 26.

101. ibid., Article 27.

FO] Convention in the Convention area' as vessels presumed to have carried out IUU fishing, requiring CPs to include them in the relevant (Confirmed) IUU Vessels List of SEAFO.[102] This list is adopted every year at the SEAFO Annual Meeting, based on the information included in the Draft and Provisional IUU Vessels Lists.[103] To date, 20 vessels with no or unknown nationality are listed in the (Confirmed) IUU Vessels List of SEAFO.[104] Once a vessel has been placed in that list, CPs are required to take all necessary measures under their applicable legislation and pursuant to Paragraphs 56 and 66 of the IPOA-IUU (concerning port State and import/trade measures) to achieve one or more of the objectives laid down by Article 27(17) of the SEAFO System.[105] None of these objectives, however, support unilateral enforcement action against IUU fishing vessels without nationality fishing on the high seas within the Convention area of SEAFO.

102. ibid., Article 27(16).

103. ibid., Article 27(5) and (9).

104. SEAFO, (Confirmed) IUU List. Available at <http://www.seafo.org/media/68d804c6-932d-4780-9d18-f3a6985e558b/SEAFOweb/pdf/IUU/SEAFO%20IUU%20vessel%20list%202022_pdf> accessed 31 December 2022.

105. SEAFO System, Article 27(17): '…(a) ensure that its vessels do not participate in any transhipment with, support or re-supply vessels on the IUU Vessel List; (b) ensure that vessels on the IUU Vessel List that enter ports voluntarily are not authorized to land, tranship, refuel or re-supply therein but are inspected upon entry; (c) prohibit the chartering of a vessel on the IUU Vessel List; (d) refuse to grant their flag to vessels on the IUU Vessel List; (e) prohibit commercial transactions, imports, landings and/or transhipment of fisheries resources covered by the Convention from vessels on the IUU Vessel List; (f) encourage traders, importers, transporters and others involved, to refrain from transactions in, and transhipment of, fishery resources covered by the SEAFO Convention caught by vessels on the IUU Vessel List; and (g) collect, and exchange with other Contracting Parties, any appropriate information with the aim of searching for, controlling and preventing false import/export certificates for fishery resources covered by the Convention from vessels on the IUU Vessel List.'

3.3.4 South Pacific Regional Fisheries Management Organisation

The South Pacific Regional Fisheries Management Organisation (SPRFMO) is a 'generic' fishery body established in 2009 under the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean (SPRFMO Convention).[106] The objective of SPRFMO is 'through the application of the precautionary approach and an ecosystem approach to fisheries management, to ensure the long-term conservation and sustainable use of fishery resources and, in so doing, to safeguard the marine ecosystems in which these resources occur.'[107] The regulatory area of SPRFMO covers waters beyond national jurisdiction of the Pacific Ocean, as delimited under Article 5(1) and (2) of the Convention. The fishery resources covered by the SPRFMO mandate are 'all fish within the Convention area, including molluscs, crustaceans, and other marine living resources as may be decided by the [SPRFMO] Commission', except those sedentary species covered by Article 77(4) of UNCLOS, highly migratory species listed in Annex I of UNCLOS, anadromous and catadromous species, marine mammals, marine reptiles, and sea birds.[108] As of today, SPRFMO has 16 CPs[109] and three CNCPs.[110]

106. Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean (2009). Available at <https://www.sprfmo.int/assets/Basic-Documents/Convention-web.pdf> accessed 31 December 2022.

107. SEAFO Convention, Article 2.

108. ibid., Article 1(1)(f): '…addressing IUU fishing activities, including by identifying vessels engaging in IUU fishing activities, and by adopting appropriate measures to prevent, deter and eliminate IUU fishing, such as the development of an IUU vessels list, so that owners and operators of vessels engaging in such activities are deprived of the benefits accruing from those activities.'

109. Australia, Chile, China, Cook Islands, Cuba, Ecuador, European Union, Denmark, Republic of Korea, Nea Zealand, Panama, Peru, Russian Federation, Chinese Taipei, USA and Vanuatu. Available at <https://www.sprfmo.int/about/participation/> accessed 31 December 2022.

110. Belize, Curaçao, and Liberia. Id.

Article 27(1) of the SPRFMO Convention entrusts the SPRFMO Commission to establish appropriate rules, inter alia, to ensure compliance with the conservation and management measures adopted by the organisation, including appropriate rules to prevent, deter, and eliminate IUU fishing in the Convention area of SPRFMO.[111] The term IUU fishing is defined by reference to Paragraph 3 of the IPOA-IUU.[112]

The SPRFMO Convention also provides specific rules on 'non-Parties.' Notably, Article 32(1) states that CPs:

> …shall take measures, individually or collectively, consistent with this Convention and international law to deter activities of such vessels which undermine the effectiveness of conservation and management measures applicable in the Convention Area, and shall report to the Commission any action taken in response to fishing in the Convention Area by non-Contracting Parties.

The provision is silent about the type of measures that CPs would be allowed to take to discharge their obligation under Article 32. Nonetheless, a number of rules adopted pursuant to Article 27(1) provide more clarity in that respect. In particular:

a. CMM 11-2015 relating to boarding and inspection procedures in the SPRFMO Convention area.[113] The CMM apply *mutatis mutandis* Articles 21 and 22 of the UNFSA to the SPRFMO Convention area, including, therefore, the text of Article 21(17) of the UNFSA discussed above, which provides for the power to board, inspect, and

111. SPRFMO Convention, Article 27(1)(f).

112. ibid., Article 1(1)(j). As it was mentioned above the term inter alia covers fishing activities carried out by stateless vessels ('unregulated fishing').

113. Available at <https://www.sprfmo.int/assets/Fisheries/Conservation-and-Management-Measures/2021-CMMs/CMM-11-2015-Boarding-and-Inspection-Formatted-May2019.pdf> accessed 31 December 2022.

take certain action against fishing vessels suspected of being without nationality.[114]

b. CMM 15-2016 on vessels without nationality in the SPRFMO Convention area.[115] Besides reaffirming the IUU fishing status of stateless vessels fishing in a way not consistent with the SPRFMO rules,[116] CMM 15-2016 encourages CPs and CNCPs to take measures and action against such vessels to 'prevent and deter' them from conducting fishing activities in the Convention area.[117] The measures and actions laid down in the CMM include information sharing, port State measures, and the adoption of relevant legislation. The list is not exhaustive ('including'), and therefore it is reasonable to believe that further action could be taken against stateless vessels operating at sea. Nevertheless, the soft language ('encouraged') used by CMM 15-2016 affects the practical and uniform application of the rule.
c. CMM 04-2020 establishing a list of vessels presumed to have carried out IUU fishing the SPRFMO Convention area.[118] The CMM put in place a IUU fishing listing system for vessels presumed and then confirmed to have engaged in IUU fishing,[119] similar to the one already established under SEAFO.[120] Paragraph 1(h) expressly

114. ibid., Preamble and Paragraph 1.

115. Available at <https://www.sprfmo.int/assets/Fisheries/Conservation-and-Management-Measures/2021-CMMs/CMM-15-2016-Stateless-Vessels_FormattedMay2019.pdf> accessed 31 December 2022.

116. ibid., Paragraph 1.

117. ibid., Paragraphs 2 and 3.

118. Available at < https://www.sprfmo.int/assets/Fisheries/Conservation-and-Management-Measures/2021-CMMs/CMM-04-2020-IUU-Vessel-List-31Mar20.pdf> accessed 31 December 2022.

119. ibid., Paragraphs 5 to 15.

120. See 3.3.3 'South East Atlantic Fisheries Organisation.'

includes in the list of vessels presumed to have engaged in IUU fishing vessels that 'are without nationality and engage in fishing for fisheries resources in the Convention area.' To date, zero vessels are listed in the (Confirmed) IUU Vessels List of SPRFMO.[121] Once a vessel has been placed in that list, CPs and CNCPs are required to take all necessary measures under their applicable legislation and international law to achieve one or more of the objectives laid down by Paragraph 16 of CMM 04-2020.[122] None of these objectives, however, support unilateral enforcement action against IUU fishing vessels without nationality fishing on the high seas within the Convention area of SPRFMO.

121. SPRFMO, (Confirmed) IUU List. Available at <https://www.sprfmo.int/assets/Fisheries/IUU-Lists/SPRFMO-2022-Final-IUU-Vessel-List.pdf> accessed 31 December 2022.

122. CMM 04-2020, Article 27(17): '…a) to remove or withdraw any fishing authorisations for fisheries resources under the competence of SPRFMO granted to vessels on the IUU Vessel List and not to grant fishing licenses, permits or licenses to those vessels; b) so that the fishing vessels, support vessels, refuelling vessels, the motherships and the cargo vessels flying their flag do not assist in any way, engage in fishing processing operations or participate in any transhipment or joint fishing operations with vessels included on the IUU Vessel List; c) so that vessels on the IUU Vessel List are not authorised to land, tranship, re-fuel, re-supply, or engage in other commercial transactions in their ports, except in case of force majeure; d) to prohibit the entry into their ports of vessels included on the IUU Vessel List, except in case of force majeure; e) to prohibit the chartering of a vessel included on the IUU Vessel List; f) to refuse to grant their flag to vessels included in the IUU Vessel List, except if the vessel has changed owner and the new owner has provided sufficient evidence demonstrating the previous owner or operator has no further legal, beneficial or financial interest in, or control of, the vessel, or having taken into account all relevant facts, the flag Member or CNCP determines that granting the vessel its flag will not result in IUU fishing; g) to prohibit the imports, or landing and/or transhipment, of species covered by the Convention from vessels included in the IUU Vessel List; h) to encourage the importers, transporters and other sectors concerned, to refrain from transaction, transhipment and processing of species covered by the Convention caught by vessels included in the IUU Vessel List; i) to collect and exchange with other Members and CNCPs any appropriate information with the aim of searching for, controlling and preventing false import/export certificates regarding species covered by the Convention from vessels included in the IUU Vessel List.'

3.3.5 General Fisheries Commission for the Mediterranean

The General Fisheries Commission for the Mediterranean (GFCM) is a 'generic' fishery body established in 1949 under Article XIV of the FAO Constitution. The objective of the organisation, as laid down in the GFCM Agreement,[123] is 'to ensure the conservation and sustainable use, at the biological, social, economic and environmental level, of living marine resources, as well as the sustainable development of aquaculture in the area of application.'[124] The regulatory area of GFCM covers all marine waters of the Mediterranean Sea and the Black Sea, including large parts of the high seas.[125] The GFCM Agreement does not provide a list of fishery resources covered by the mandate of the organisation, as in principle all marine living resources falling within the regulatory area of GFCM are covered. As of today, the organisation has 23 CPs[126] and six CNCPs.[127]

Article 5 of the GFCM Agreement, inter alia, entrusts its CPs, through the GFCM Commission, to take the appropriate measures to ensure compliance with the GFCM Recommendations in place to deter and eradicate IUU fishing.[128] The term IUU fishing is defined by reference to Paragraph 3 of the IPOA-IUU.[129] Some of the Recommendations adopt-

123. Available at <https://www.fao.org/3/i5450e/i5450e.pdf> accessed 31 December 2022.

124. GFCM Agreement, Article 2(2).

125. ibid., Article 3(1).

126. Albania, Algeria, Bulgaria, Croatia, Cyprus, Egypt, European Union, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Montenegro, Morocco, Romania, Slovenia, Spain, Syria, Tunisia, and Türkiye. Available at <https://www.fao.org/gfcm/about/membership/en/> accessed 31 December 2022.

127. Bosnia and Herzegovina, Georgia, Jordan, Republic of Moldova, Saudi Arabia, and Ukraine. Id.

128. ibid., Article 5(f).

129. ibid., Article 1(j). As it was mentioned above the term *inter alia* covers fishing activities carried out by stateless vessels ('unregulated fishing').

ed by GFCM specifically address fishing vessels without nationality and enforcement procedures at sea. In particular:

a. Recommendation GFCM/41/2017/7 on a regional plan of action to combat IUU fishing in the GFCM area.[130] The Recommendation sets out rules to prevent, deter and eliminate IUU fishing in the GFCM regulatory area. Paragraph 13 expressly requests CPs to take 'measures consistent with international law in relation to vessels without nationality involved in IUU fishing activities, according to [Paragraph] 20 of the IPOA-IUU.'[131] No further detail on the nature and type of measures that CPs would be allowed to take against ships without nationality is provided for by the text of the provision. The remaining paragraphs of the Recommendation lay down rules for flag States (in respect of vessels flying its flag), coastal States, and port States, which therefore would not be applicable in respect of stateless vessels operating on the high seas.
b. Recommendation GFCM/44/2021/19 establishing a list of vessels presumed to have carried out IUU fishing.[132] The Recommendation provides rules on the identification and listing of IUU fishing vessels. The list of vessels presumed to have carried out IUU fishing includes vessels 'being without nationality and harvesting fish in the GFCM area of application.'[133] Similarly to those observed for other RFMOs,

130. Available at <https://gfcm.sharepoint.com/CoC/Decisions%20Texts/Forms/AllItems.aspx?id=%2FCoC%2FDecisions%20Texts%2FREC%2EMCS%5FGFCM%5F41%5F2017%5F7%2De%2Epdf&parent=%2FCoC%2FDecisions%20Texts&p=true&ga=1> accessed 31 December 2022.

131. Paragraph 20 of the IPOA-IUU reads as follows: 'States should take measures consistent with international law in relation to vessels without nationality on the high seas involved in IUU fishing.'

132. Repealing Recommendation GFCM/33/2009/8. Available at <https://gfcm.sharepoint.com/CoC/Decisions%20Texts/Forms/AllItems.aspx?id=%2FCoC%2FDecisions%20Texts%2FREC%2EMCS%5FGFCM%5F44%5F2021%5F19%2De%2Epdf&parent=%2FCoC%2FDecisions%20Texts&p=true&ga=1> accessed 31 December 2022.

133. GFCM/44/2021/19, Paragraph 1(f).

the process of identification and listing runs through a number of procedural phases,[134] which may end up with the inclusion of a vessel presumed to have engaged in IUU fishing in the GFCM IUU Vessel List adopted by the organisation.[135] To date, 45 vessels with no or unknown nationality are placed in the list.[136] Once a vessel has been placed there, CPs are required to take all necessary measures to achieve one or more of the objectives laid down by Paragraph 16 of the Recommendation.[137] None of these objectives, however, support unilateral enforcement action against IUU fishing vessels without nationality fishing on the high seas within the regulatory area of GFCM.

3.3.6 Commission for the Conservation of Antarctic Marine Living Resources

The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) is a 'generic' fishery body established in 1980 under the Convention on the Conservation of Antarctic Marine Living Re-

134. ibid., Paragraphs 6 to 12.

135. ibid., Paragraph 13.

136. They constitute the majority of vessels placed on the list, as only 22 of the ships listed in the GFCM IUU List have nationality. Available at <https://gfcmsitestorage.blob.core.windows.net/contents/DB/IUU/Html.htm> accessed 31 December 2022.

137. Recommendation GFCM/44/2021/19, Paragraph 16: 'The CPCs shall take all necessary measures in respect of vessels that do not fly their flag to: a) ensure that vessels included in the GFCM IUU vessel list are not authorized to land, refuel, re-supply or engage in other commercial transactions; b) prohibit the entry into their ports to vessels included in the GFCM IUU vessel list, except in case of force majeure; c) refuse to grant their flag to vessels included in the GFCM IUU vessel list, except if a vessel has changed owner and/or operator and sufficient evidence has been provided to demonstrate that the previous owner or operator has no further legal, beneficial or financial interest in, or control of, the vessel, or if the flag CPC, after considering all relevant facts, determines that granting the vessel its flag will not result in any IUU fishing activity; and d) prohibit the imports, landing and/or transshipment of any fish from vessels included in the GFCM IUU vessel list.'

sources (CCAMLR Convention).[138] The objective of CCAMLR is 'the conservation of Antarctic marine living resources.'[139] The regulatory area of the organisation covers the area south of 60° South latitude up to the point of Antarctic Convergence.[140] The fishery resources covered by the CCAMLR mandate are 'fin fish, molluscs, crustaceans and all other species of living organisms, including birds, found south of the Antarctic Convergence.'[141] As of today, CCAMLR has 27 CPs[142] and 10 acceding States.[143]

All CPs shall take, through the CCAMLR Commission, 'appropriate measures' to ensure compliance by vessels with CCAMLR legislation,[144] as well as establish a system of observation and inspection to ensure observance of the provisions of the CCAMLR Convention.[145] CCAMLR has adopted several measures addressing, either directly or indirectly, the threat posed by IUU fishing vessels - including stateless vessels – operating in the Convention area of CCAMLR. In particular:

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138. Convention on the Conservation of Antarctic Marine Living Resources (1980); 22301 UNTS 1329.

139. CCAMLR Convention, Article II(1).

140. ibid., Article I(1).

141. ibid., Article I(2).

142. Argentina, Australia, Belgium, Brazil, Chile, China, Ecuador, European Union, France, Germany, India, Italy, Japan, Republic of Korea, Namibia, the Netherlands, New Zealand, Norway, Poland, Russian Federation, South Africa, Spain, Sweden, Ukraine, UK, USA, and Uruguay. Available at <https://www.ccamlr.org/en/organisation/members> accessed 31 December 2022.

143. Bulgaria, Canada, Cook Islands, Finland, Greece, Mauritius, Pakistan, Panama, Peru, and Vanuatu. Article VII(2)(b) of the CCAMLR Convention indicates that: "…each State Party which has acceded to this Convention pursuant to Article xxix shall be entitled to be a Member of the Commission during such time as that acceding Party is engaged in research or harvesting activities in relation to the marine living resources to which this Convention applies." List of acceding States available at <https://www.ccamlr.org/en/organisation/acceding-states> accessed 31 December 2022.

144. CCAMLR Convention, Article XXI(1).

145. ibid., Article XXIV(1).

a. CCAMLR System of Inspection.[146] First adopted at the CCAMLR-VII meeting in 1988 and then amended several times. The System of Inspection, inter alia, establishes rules and procedures on inspection and boarding of fishing vessels in the Convention area of CCAMLR. The same system specifically applies only 'to flag vessels of all Members of the Commission and Contracting Parties.'[147] Hence, non-Contracting Party vessels, including stateless vessels, fall outside the scope of application of the provisions of the system.
b. Conservation Measure 10-07 establishing a Scheme to promote compliance by non-Contracting Party vessels with CCAMLR conservation measures.[148] The Scheme provides rules on the identification and placing of IUU fishing vessels of non-Contracting Parties (NCP) in an NCP-IUU Vessel List.[149] No definition of 'non-Contracting Party vessel' is provided for in the text of the Scheme. In addition, Paragraph 9 of the Scheme does not expressly include the act of fishing with a vessel without nationality in the list of actions constituting (presumed) IUU fishing.[150] Nonetheless, the latest NCP-IUU Vessel List adopted by CCAMLR for 2022/2023 shows that 12 out of the 17 vessels listed therein actually have no or unknown nationality.[151] As such, ships without nationality operating in the regulatory area of CCAMLR arguably fall within the scope of the relevant provi-

146. Available at <https://www.ccamlr.org/en/system/files/e-pt9_3.pdf> accessed 31 December 2022.

147. CCAMLR System of Inspection, ft 2.

148. Available at <https://www.ccamlr.org/en/measure-10-07-2016> accessed 31 December 2022.

149. CCAMLR Scheme, Paragraphs 14-17.

150. Although, it is worth nothing that Paragraph 9(v) and (vi) cover all vessels undermining the CCAMLR objectives or fishing in a way non-consistent with the CCAMLR measures, which lato sensu would also cover stateless vessels illegally fishing in the CCAMLR area.

151. Available at <https://www.ccamlr.org/en/compliance/iuu-vessel-lists> accessed 31 December 2022.

sions of the Scheme. Once a vessel has been placed in the NCP-IUU Vessel List, CPs are required to take 'all necessary measures, subject to and in accordance with their applicable laws and regulations and international law' to achieve one or more of the objectives laid down by Paragraph 22 of the Scheme.[152] None of these objectives, however, support unilateral enforcement action against IUU fishing vessels without nationality fishing on the high seas within the regulatory area of CCAMLR.

152. CCAMLR Conservation Measure 10-07: 'Contracting Parties shall take all necessary measures, subject to and in accordance with their applicable laws and regulations and international law, in order that: (i) the issuance of a licence to vessels on the NCP-IUU Vessel List to fish in waters under their fisheries jurisdiction is prohibited; (ii) fishing vessels, support vessels, refuel vessels, mother-ships and cargo vessels flying their flag do not in any way assist vessels on the NCP-IUU Vessel List by participating in any transhipment or joint fishing operations, supporting or resupplying such vessels; (iii) vessels on the NCP-IUU Vessel List should be denied access to ports unless for the purpose of enforcement action or for reasons of force majeure or for rendering assistance to vessels, or persons on those vessels, in danger or distress. Vessels allowed entry to port are to be inspected in accordance with relevant conservation measures; (iv) where port access is granted to such vessels: (a) documentation and other information, including DCDs where relevant are examined, with a view to verifying the area in which the catch was taken; and where the origin cannot be adequately verified, the catch is detained or any landing or transhipment of the catch is refused; and (b) where possible: i. in the event catch is found to be taken in contravention of CCAMLR conservation measures, catch is confiscated; ii. all support to such vessels, including non-emergency refuelling, resupplying and repairs is prohibited; (v) the chartering of vessels on the NCP-IUU Vessel List is prohibited; (vi) granting of their flag to vessels on the NCP-IUU Vessel List is refused; (vii) imports, exports and re-exports of Dissostichus spp. from vessels on the NCP-IUU Vessel List are prohibited; (viii) 'Export or Re-export Government Authority Validation' is not certified when the shipment (of Dissostichusspp) is declared to have been caught by any vessel on the NCP-IUU Vessel List; (ix) importers, transporters and other sectors concerned are encouraged to refrain from dealing with and from transhipping of fish caught by vessels on the NCP-IUU Vessel List; (x)any appropriate information which is suitably documented is collected and submitted to the Executive Secretary, to be forwarded to Contracting Parties and non-Contracting Parties, entities or fishing entities cooperating with the Commission by participating in the CDS, with the aim of detecting, controlling and preventing the importation or exportation of, and other trade-related activities relating to, catches from vessels on the NCP-IUU Vessel List intended to circumvent this conservation measure.'

c. Resolution 25/XXV on measures to combat IUU fishing in the Convention area by the flag vessels of non-Contracting Parties.[153] The Resolution sets rules on cooperation with non-Contracting Parties in respect of IUU fishing carried out by vessels flying their flag. The relevant provisions, therefore, are not applicable to stateless vessels.
d. Resolution 35/XXXIV on vessels without nationality.[154] In 1997, in its Meeting Report, the CCAMLR Standing Committee on Observation and Inspection (SCOI)[155] noted that: 'the attention of the Committee was drawn to an [International Convention for the Conservation of Atlantic Tuna (ICCAT)] provision that, where there were reasonable grounds for suspecting that a fishing vessel targeting an ICCAT species on the high seas was stateless, a Contracting Party may board and inspect the vessel.'[156] Almost two decades later, on 30 November 2015, CCAMLR adopted Resolution 35/XXXIV, setting out rules on fishing vessels without nationality operating in the Convention area of CCAMLR. First, the Resolution qualifies stateless vessels as IUU fishing vessels for the purposes of CCAMLR legislation. Secondly, it 'encourages' CPs and NCPs to 'take measures in accordance with their applicable domestic legislation and international law' against such vessels. Similarly to those already observed above in respect of CMM 15-2016 of SPRFMO, the measures laid down in Resolution 35/XXXIV include information sharing, port State measures, and the adoption of relevant legislation.[157] The list is not exhaustive ('including'), and there-

153. Available at <https://cm.ccamlr.org/en/resolution-25/xxv-2006> accessed 31 December 2022.

154. Available at <https://cm.ccamlr.org/sites/default/files/r35-xxxiv_10.pdf> accessed 31 December 2022.

155. Now called Standing Committee on Implementation and Compliance (SCIC).

156. SCOI Meeting Report (1997), Annex 5, Paragraph 1.46. Available at <https://meetings.ccamlr.org/en/scoi-97> accessed 31 December 2022.

157. Resolution 35/XXXIV, Paragraphs 2 and 3.

fore it is reasonable to believe that further action could be taken against stateless vessels operating at sea. Nevertheless, the soft language used by the Resolution affects the practical and uniform application of the rule.

3.3.7 International Commission for the Conservation of Atlantic Tuna

The International Commission for the Conservation of Atlantic Tuna (ICCAT) is a 'specific species' fishery body established in 1966 under the International Convention for the Conservation of Atlantic Tuna (ICCAT Convention).[158] The objective of ICCAT is to maintain the population of tuna and tuna-like species at levels that will permit the maximum sustainable catch for food and other purposes.[159] The regulatory area of ICCAT covers 'all the waters of the Atlantic Ocean, including the adjacent Seas.'[160] The fishery resources covered by the ICCAT mandate are tuna and tuna-like fishes and certain by-catch species caught in the ICCAT Convention area and not already regulated under other RFMOs.[161] As of today, ICCAT has 52 CPs[162] and five CNCPs.[163]

158. International Convention for the Conservation of Atlantic Tunas (1966); 673 UNTS 63. Available at <https://www.iccat.int/Documents/Commission/BasicTexts.pdf> accessed 31 December 2022.

159. ICCAT Convention, Preamble.

160. ibid., Article I.

161. ibid., Articles IV and VIII.

162. Albania, Algeria, Angola, Barbados, Belize, Brazil, Canada, Cabo Verde, China, Côte d'Ivoire, Curaçao, Egypt, El Salvador, Equatorial Guinea, European Union, France, Gabon, Ghana, Grenada, Guatemala, Guinea, Guinea-Bissau, Honduras, Iceland, Japan, Liberia, Libya, Mauritania, Mexico, Morocco, Namibia, Nicaragua, Nigeria, Norway, Panama, Philippines, Republic of Korea, Russian Federation, Saint Vincent and the Grenadines, Sao Tome and Principe, Senegal, Sierra Leone, South Africa, Syrian Arab Republic, Trinidad and Tobago, Tunisia, Türkiye, UK, USA, Uruguay, Vanuatu, and Venezuela. Available at <https://www.iccat.int/en/contracting.html> accessed 31 December 2022.

163. Bolivia, Chinese Taipei, Suriname, Guyana, and Costa Rica. Id.

In order to achieve its objective, ICCAT is allowed to make legally binding recommendations.[164] CPs are required to 'take all necessary action to ensure enforcement' of the ICCAT Convention (Article IX), including relevant legislation adopted to give effect to it. So far, the organisation has adopted several recommendations addressing, either directly or indirectly, the threat posed by IUU fishing vessels – including stateless vessels – operating in the Convention area of ICCAT. In particular:

a. Recommendation 19-09 on vessels sightings.[165] This Recommendation incorporates and updates Recommendation 97-11 on transshipments and vessel sightings, which inspired the comment made in 1997 by CCAMLR/SCOI on the boarding and inspection of stateless vessels.[166] The purpose of Recommendation 19-09 is twofold: first, establishing rules on the collection and sharing of information on foreign-flagged vessels and ships without nationality carrying out IUU fishing in the Convention area of ICCAT;[167] and second, providing for a mechanism of enforcement in the event of suspected non-compliance.[168] In particular, the Recommendation indicates that: when there 'are reasonable grounds to suspect that a vessel is without nationality, a [CP] is encouraged to board the vessel to confirm its nationality.'[169] Then, if the boarded vessel is confirmed to be stateless, the same CP is encouraged to 'inspect the vessel, consistent with in-

164. ICCAT Convention, Article VIII(1)(a).

165. Available at <https://www.iccat.int/Documents/Recs/compendiopdf-e/2019-09-e.pdf> accessed 31 December 2022.

166. See above 3.3.6 'Commission for the Conservation of Antarctic Marine Living Resources.'

167. ICCAT Recommendation 19-09, Paragraph 1. The definition of IUU fishing is provided by reference to Recommendation 18-08, now amended by Recommendation 21-13, which includes in the list of IUU fishing activities at Paragraph 1(j) also the act of fishing with a stateless vessel.

168. ICCAT Recommendation 19-09, Paragraphs 3-4.

169. ibid., Paragraph 3.

ternational law and, if evidence so warrants […] to take such action as may be appropriate, in accordance with international law.'[170] The provision applies in the whole Convention area of ICCAT, including on high seas. The text of Recommendation 19-09 is more prudent than the one of its predecessors (i.e. Recommendation 97-11), which allowed CPs to board, inspect, and take further action against any vessel suspected of being without nationality, as long as reasonable grounds for the suspicion existed.[171]

b. Recommendation 21-12 on vessels without nationality.[172] This Recommendation considers any fishing or fishing related activity conducted by stateless vessels in contravention of ICCAT legislation to be IUU fishing and to constitute a 'serious violation' of the conservation and management measures adopted by the organisation.[173] In that respect, the Recommendation states that those violations 'shall be subject to action consistent with relevant national and international law', including enforcement measures taken under Article IX of the ICCAT Convention.[174] No further specification on the nature and type of such an action, however, is provided for by the text of the Recommendation. Finally, the fact that preambular provision 1 refers to stateless vessels by, among other things, mentioning Article 92 of UNCLOS, suggests that also vessels *assimilated* to ships without nationality are covered by the scope of the Recommendation.
c. Recommendation 21-13 establishing a list of vessels presumed to have

170. ibid., Paragraph 3.

171. ICCAT Recommendation 97-11, Paragraph 2 (now repealed by Recommendation 19-09). Available at <https://www.iccat.int/Documents/Recs/compendiopdf-e/1997-11-e.pdf> accessed 31 December 2022.

172. Available at <https://www.iccat.int/Documents/Recs/compendiopdf-e/2021-12-e.pdf> accessed 31 December 2022.

173. ICCAT Recommendation 21-12, Paragraphs 1 and 2.

174. ibid., Paragraph 2.

engaged in IUU fishing.[175] This Recommendation provides rules on the identification and placing of IUU fishing vessels in a Final IUU Vessel List adopted by ICCAT on a yearly basis.[176] Paragraph 1(i) of the Recommendation expressly includes the act of fishing with a vessel without nationality in the list of actions constituting (presumed) IUU fishing. To date, 111 vessels with no or unknown nationality are placed in the list.[177] Once a vessel has been placed there, CPs are required to take all necessary measures to achieve one or more of the objectives laid down by Paragraph 9 of the Recommendation.[178] None

175. Available at <https://www.iccat.int/Documents/Recs/compendiopdf-e/2021-13-e.pdf> accessed 31 December 2022.

176. ICCAT Recommendation 21-13, Paragraphs 6-7.

177. ICCAT IUU List. Available at <https://www.iccat.int/en/IUUlist.html> accessed 31 December 2022.

178. ICCAT Recommendation 21-13, Paragraph 9: 'CPCs shall take all necessary measures, under their applicable legislation to: – ensure that the fishing vessels, support vessels, refuelling vessels, the mother-ships and the cargo vessels flying their flag do not assist in any way, engage in fishing processing operations or participate in any transhipment or joint fishing operations with vessels included on the IUU Vessels List; – ensure that IUU vessels are not authorized to land, tranship re-fuel, re-supply, or engage in other commercial transactions; prohibit the entry into their ports of vessels included on the IUU list, except in case of force majeure, unless vessels are allowed entry into port for the exclusive purpose of inspection and effective enforcement action; – ensure the inspection of vessels on the IUU list, if such vessels are otherwise found in their ports, to the extent practicable; – prohibit the chartering of a vessel included on the IUU vessels list; – refuse to grant their flag to vessels included in the IUU list, except if the vessel has changed owner and the new owner has provided sufficient evidence demonstrating the previous owner or operator has no further legal, beneficial or financial interest in, or control of, the vessel, or having taken into account all relevant facts, the flag CPC determines that granting the vessel its flag will not result in IUU fishing; – prohibit the import, or landing and/or transhipment, of tuna and tuna-like species from vessels included in the IUU list; 4 – encourage the importers, transporters and other sectors concerned, to refrain from transaction and transhipment of tuna and tuna-like species caught by vessels included in the IUU list; – collect and exchange with other CPCs any appropriate information with the aim of searching for, controlling and preventing false documentation (including import/export certificates) regarding tunas and tuna-like species from vessels included in the IUU list; and – monitor vessels included in the IUU list and promptly submit any information to the Executive Secretary related to their activities and possible changes of name, flag, call sign and/or registered owner.'

of these objectives, however, support unilateral enforcement action against IUU fishing vessels without nationality fishing on the high seas within the regulatory area of ICCAT.

3.3.8 Indian Ocean Tuna Commission

The Indian Ocean Tuna Commission (IOTC) is a 'specific species' fishery body established in 1993 under the Agreement for the Establishment of the Indian Ocean Tuna Commission (IOTC Agreement).[179] The objective of IOTC is 'to ensuring the conservation of tuna and tuna-like species in the Indian Ocean and promoting their optimum utilisation, and the sustainable development of the fisheries.'[180] The regulatory area of IOTC covers the Indian Ocean and adjacent seas, as indicated in Article II of the IOTC Agreement.[181] The fishery resources covered by the IOTC mandate are those tuna and tuna-like species and sharks listed in Annex B to the IOTC Agreement.[182] As of today, the organisation has 30 CPs[183] and one CNCP.[184]

179. Agreement for the Establishment of the Indian Ocean Tuna Commission (1993); 32888 UNTS 1927. Available at <https://www.fao.org/fishery/docs/DOCUMENT/iotc/Basic/IOTCA_E.pdf> accessed 31 December 2022.

180. IOTC Agreement, Preamble.

181. ibid., Article II: 'The area of competence of the Commission (hereinafter referred to as the "Area") shall be the Indian Ocean (defined for the purpose of this Agreement as being FAO statistical areas 51 and 57 as shown on the map set out in Annex A to this Agreement) and adjacent seas, north of the Antarctic Convergence, insofar as it is necessary to cover such seas for the purpose of conserving and managing stocks that migrate into or out of the Indian Ocean.'

182. ibid., Article III.

183. Australia, Bangladesh, China, Comoros, Eritrea, European Union, France (OT), India, Indonesia, Iran, Japan, Kenya, Republic of Korea, Madagascar, Malaysia, Maldives, Mauritius, Mozambique, Oman, Pakistan, Philippines, Seychelles, Somalia, Sri Lanka, South Africa, Sudan, Tanzania, Thailand, UK, and Yemen. List available at <https://iotc.org/about-iotc/structure-commission> accessed 31 December 2022.

184. Liberia. id.

The IOTC Agreement entrusts CPs, through the IOTC Commission, to adopt conservation and management measures in accordance 'with the principles expressed in the relevant provisions of the United Nations Convention on the Law of the Sea'[185] and to take the necessary action to ensure their effective implementation.[186] The organisation has adopted several resolutions addressing, either directly or indirectly, the threat posed by IUU fishing vessels – including stateless vessels – operating in the Convention area of IOTC. In particular:

a. Resolution 18/03 establishing a list of vessels presumed to have carried out IUU fishing.[187] The Resolution provides rules on the identification and placing of IUU fishing vessels in the IOTC IUU Vessel List.[188] Paragraph 4(i) includes in the definition of vessels presumed to have carried out IUU fishing also ships 'engaged in fishing or fishing related activities whilst being without nationality.' To date, 143 out of the 173 vessels listed in the IOTC IUU Vessel List have no or unknown nationality.[189] Once a vessel has been placed in the list, CPs are required to take all necessary measures to achieve one or more of

185. Arguably, those laid down in Articles 63, 64 and 118-119 of UNCLOS.

186. ICCAT Agreement, Articles V(2) and X.

187. Available at <https://faolex.fao.org/docs/pdf/mul180722.pdf> accessed 31 December 2022.

188. IOTC Resolution 16/05, Paragraph 3.

189. IOTC IUU Vessel List. Available at <https://iotc.org/vessels#iuu> accessed 31 December 2022.

the objectives laid down by Paragraph 21 of the resolution.[190] None of these objectives, however, support unilateral enforcement action against IUU fishing vessels without nationality fishing on the high seas within the regulatory area of IOTC.

b. Resolution 16/05 on vessels without nationality.[191] The Resolution characterises as IUU fishing vessels those stateless vessels operating in the Convention area of IOTC in a way not consistent with its conservation measures.[192] As such, CPs and NCPs 'are encouraged' under the resolution to 'take effective action in accordance with international law, including, where appropriate, enforcement action' against

190. IOTC Resolution 18/03, Paragraph 21: 'A CPC shall take all necessary measures, in accordance with its legislation: a) to ensure that no vessel flying its flag, including any fishing vessel, support vessel, refuelling (supply) vessel, mother-ship or cargo vessel, provides assistance to a vessel included in the IUU Vessel List in any way, or engages in fishing processing operations with such a vessel or participates in transhipment or joint fishing operations with such a vessel, except for the purpose of rendering assistance where such a vessel, or any person on that vessel, is in danger or distress; b) to refuse entry into its ports by any vessel included on the IUU Vessel List, except in case of force majeure or where the vessel, or any person on that vessel, is in danger or distress, unless vessels are allowed entry into port for the exclusive purpose of inspection and effective enforcement action; c) to consider giving priority to the inspection of vessels on the IUU Vessel List, if such vessels are otherwise found in their ports; d) to prohibit the chartering of a vessel included on the IUU Vessel List; e) to refuse to grant their flag to vessels included in the IUU Vessel List, except if the vessel has changed Owner and the new Owner has provided sufficient information demonstrating the previous Owner or Operator has no further legal, beneficial or financial interest in, or control of, the vessel; or having taken into account and documented all relevant facts, the flag State determines that granting the vessel its flag will not result in IUU fishing; f) to prohibit the import, landing or transhipment, of tuna and tuna-like species from vessels included in the IUU Vessel List; g) to encourage importers, transporters and other sectors concerned, to refrain from engaging in transactions, including transhipments, relating to tuna and tuna-like species caught by vessels included in the IUU Vessel List; h) to collect and exchange with other Contracting Parties or Cooperating Non Contracting Parties any appropriate information with the aim of detecting, controlling and preventing false import/export certificates for tunas and tuna-like species from vessels included in the IUU Vessel List.'

191. Available at <https://faolex.fao.org/docs/pdf/mul165148.pdf> accessed 31 December 2022.

192. IOTC Resolution 18/03, Paragraph 2.

such vessels.[193] Similarly to those already observed above for other RFMOs, the measures laid down in Resolution 18/03 include information sharing, port State measures, and the adoption of relevant legislation.[194] The list is not exhaustive ('including'), and therefore it is reasonable to believe that further action could be taken against stateless vessels operating at sea. Nevertheless, the soft language used by the Resolution affects the practical and uniform application of the rule. Finally, the fact that Paragraph 1 refers to stateless vessels by, among other things, mentioning Article 92 of UNCLOS, suggests that also vessels *assimilated* to ships without nationality are covered by the scope of the resolution.

3.3.9 Western and Central Pacific Fisheries Commission

The Western and Central Pacific Fisheries Commission (WCPFC) is an intergovernmental fishery body established in 2004 under the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPFC Convention).[195] The objective of WCPFC is 'to ensure, through effective management, the long-term conservation and sustainable use of highly migratory fish stocks in the western and central Pacific Ocean', in accordance with UNCLOS and the UNFSA.[196] The regulatory area of WCPFC covers all waters of the Pacific Ocean, as delimited in Article

193. ibid., Paragraph 3.

194. ibid., Paragraphs 3 to 6.

195. Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (2000); 2275 UNTS 43. Available at <https://www.wcpfc.int/doc/convention-conservation-and-management-highly-migratory-fish-stocks-western-and-central-pacific> accessed 31 December 2022.

196. WCPFC Convention, Articles 2 and 4.

3(1) of the WCPFC Convention.[197] The fishery resources covered by the WCPFC mandate are 'all stocks of highly migratory fish within the Convention Area except sauries.'[198] As of today, WCPFC has 26 CPs,[199] seven participating territories,[200] and eight CNCPs.[201]

Article 5 of the WCFPC Convention requires CPs to adopt certain measures for the conservation and management of fishery resources in the Convention area[202] and to ensure their effective implementation and enforcement.[203] In that respect, the WCPFC Convention devotes the whole Part VI of its text to 'compliance and enforcement.' Most of the provisions thereof are flag State or port State centric,[204] and therefore do not apply to stateless vessels on the high seas. However, Article 26(1) entrusts CPs, through the WCPFC Commission, to establish a specific

197. ibid., Article 3(1): '…From the south coast of Australia due south along the 141° meridian of east longitude to its intersection with the 55° parallel of south latitude; thence due east along the 55° parallel of south latitude to its intersection with the 150° meridian of east longitude; thence due south along the 150° meridian of east longitude to its intersection with the 60° parallel of south latitude; thence due east along the 60° parallel of south latitude to its intersection with the 130° meridian of west longitude; thence due north along the 130° meridian of west longitude to its intersection with the 4° parallel of south latitude; thence due west along the 4° parallel of south latitude to its intersection with the 150° meridian of west longitude; thence due north along the 150° meridian of west longitude.'

198. ibid., Article 3(3).

199. Australia, China, Canada, Cook Islands, European Union, Micronesia, Fiji, France (OT), Indonesia, Japan, Kiribati, Republic of Korea, Marshall Islands, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Philippines, Samoa, Solomon Islands, Chinese Taipei, Tonga, Tuvalu, USA, and Vanuatu. List of contracting parties, available at <https://www.wcpfc.int/about-wcpfc> accessed 31 December 2022.

200. American Samoa, Commonwealth of the Northern Mariana Islands, French Polynesia, Guam, New Caledonia, Tokelau, and Wallis and Futuna.

201. Curacao, Ecuador, El Salvador, Liberia, Nicaragua, Panama, Thailand, and Vietnam. Id.

202. WCPFC Convention, Article 5(a), (f), (g).

203. ibid., Article 5(j).

204. ibid., Articles 25 and 27.

mechanism of enforcement of the WCPFC rules to be applicable also on the high seas. The provision reads as follows:

> [f]or the purposes of ensuring compliance with conservation and management measures, the Commission shall establish procedures for boarding and inspection of fishing vessels on the high seas in the Convention Area. All vessels used for boarding and inspection of fishing vessels on the high seas in the Convention Area shall be clearly marked and identifiable as being on government service and authorized to undertake high seas boarding and inspection in accordance with this Convention.

The content of the boarding and inspection procedures is not directly defined by the text of the provision, which indicates that pending the adoption of those procedures by WCPFC, Articles 21 and 22 of the UNFSA apply.[205] On 15 December 2006, the organisation adopted CMM 2006-08, establishing high seas boarding and inspection procedures to give effect to Article 26(1) of the WCPFC Convention.[206] Stateless vessels operating on the high seas would be covered by the scope of the relevant provisions, also falling within the list of 'priority boarding and inspection' vessels at Paragraph 10 of the same instrument.[207]

With regards to other specific measures adopted by WCPFC, which address, either directly or indirectly, the threat posed by IUU fishing vessels – including stateless vessels – operating in the Convention area of WCPFC:

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205. ibid., Article 26(2).

206. Available at <https://www.wcpfc.int/doc/cmm-2006-08/western-and-central-pacific-fisheries-commission-boarding-and-inspection-procedures> accessed 31 December 2022.

207. In particular, under points '(a) fishing vessels that are not on the WCPFC Record of Fishing Vessels and are flagged to Members of the Commission;' and '(b) fishing vessels reasonably believed to engage or to have been engaged in any activity in contravention of the Convention or any conservation and management measure adopted thereunder;'

a. CMM 2009-09 on vessels without nationality.[208] Vessels without nationality operating in the Convention area of WCPFC qualify as IUU fishing vessel under the CMM.[209] In that respect, Paragraph 4 'encourages' CPs and NCPs to 'take all necessary measures' to prevent stateless vessels operating on the high seas to undermine the conservation measures adopted by WCPFC. No further detail on the type and content of such measures is laid down by CMM 2009-09, although nothing in the WCPFC legislation suggests that unilateral enforcement action could not be taken against stateless vessels on the high seas, as long as such action is consistent with the relevant provisions of UNCLOS and UNFSA.[210] Finally, the fact that Paragraph 3 refers to stateless vessels by, among other things, mentioning Article 92 of UNCLOS, suggests that also vessels *assimilated* to ships without nationality are covered by the scope of the Resolution.
b. CMM 2019-07 establishing a list of vessels presumed to have carried out IUU fishing.[211] The instrument provides rules on the identification and placing of IUU fishing vessels in the WCPFC IUU Vessel List.[212] Ships without nationality fishing in the WCPFC Convention area are expressly included in the list of vessels presumed to have carried out IUU fishing.[213] To date, three vessels are listed in the WCPFC IUU Vessel List. All of them have no or unknown nationality.[214] Once a vessel has been placed in the IUU Vessel list, CPs are required

208. Available at <https://www.wcpfc.int/doc/cmm-2009-09/conservation-and-management-measure-vessels-without-nationality> accessed 31 December 2022.

209. WCPFC CMM 2009-09, Paragraphs 1-3.

210. See WCPFC Convention, Article 4.

211. Available at <https://www.wcpfc.int/doc/cmm-2019-07> accessed 31 December 2022.

212. WCPFC CMM 2019-07, Paragraph 20.

213. ibid., Paragraph 3(h).

214. WCPFC IUU Vessel List. Available at <https://www.wcpfc.int/doc/wcpfc-iuu-vessel-list> accessed 31 December 2022.

to take all necessary measures to achieve one or more of the objectives laid down by Paragraph 22 of CMM 2019-07.[215] None of these objectives, however, support unilateral enforcement action against IUU fishing vessels without nationality fishing on the high seas within the regulatory area of WCPFC.

4. Conclusion

This article provided an up-to-date overview of the way some of the major international legal instruments governing high seas fisheries address the threat posed by stateless vessels to the conservation of marine living resources and provide for mechanisms of enforcement action at sea. The article started with a preliminary assessment of the definition and status of 'ships without nationality.' The paper observed that vessels which do not comply with the registration's requirements – or alternative condi-

215. WCPFC CMM 2019-07, Paragraph 22: 'CCMs shall take all necessary non-discriminatory measures under their applicable legislation, international law and each CCMs' international obligations, and pursuant to paras 56 and 66 of the IPOA-IUU to: a. ensure that fishing vessels, support vessels, mother ships or cargo vessels flying their flag do not participate in any transshipment or joint fishing operations with, support or re-supply vessels on the WCPFC IUU Vessel List; b. ensure that vessels on the WCPFC IUU Vessel List that enter ports voluntarily are not authorized to land, tranship, refuel or re-supply therein but are inspected upon entry; c. prohibit the chartering of a vessel on the WCPFC IUU Vessel List; d. refuse to grant their flag to vessels on the WCPFC IUU Vessel List in accordance with para 1f, Section A, in Conservation and Management Measure 2018-06 or its replacement measure; e. prohibit commercial transactions, imports, landings and/or transshipment of species covered by the WCPFC Convention from vessels on the WCPFC IUU Vessel List; f. encourage traders, importers, transporters and others involved, to refrain from transactions in, and transshipment of, species covered by the WCPFC Convention caught by vessels on the WCPFC IUU Vessel List; g. collect, and exchange with other CCMs, any appropriate information with the aim of searching for, controlling and preventing false import/export certificates for species covered by the WCPFC Convention from vessels on the WCPFC IUU Vessel List.'

tions – set out by States for the granting of nationality should be stateless. Ships without nationality generally differ from vessels 'assimilated' to ships without nationality (Article 92 of UNCLOS) to the extent that the latter may still benefit from the protective jurisdiction of the flag State. Whenever ships without nationality fish in the regulatory area of an RFMO in a way not consistent with the conservation rules adopted by that organisation, their action constitutes IUU fishing. Neither the statelessness condition of those vessels nor the fact of having carried out IUU fishing would arguably qualify as a universal 'crime' under international law, for which unilateral enforcement action by all States might be justified.

UNCLOS and UNFSA provide a legal basis for boarding and inspecting stateless vessels fishing on the high seas, subject to certain conditions. The same instruments, nonetheless, are silent on the follow-up measures that the inspecting State would be allowed to take against such vessels engaging in IUU fishing. Some of the major RFMOs regulating fisheries in the Atlantic Ocean (NEAFC, NAFO, SEAFO, ICCAT), Pacific Ocean (SPRFMO, WCPFC), Indian Ocean (IOTC), Southern Ocean (CCAMLR), and Mediterranean and Black Seas (GFCM), build on the UNCLOS and UNFSA provisions to adopt rules applying, either directly or indirectly (IUU fishing ships), to stateless vessels. Five out of the nine RFMOs examined in this paper adopted *ad hoc* legislation on 'vessels without nationality',[216] sometime also covering vessels 'assimilated' to ships without nationality.[217] The scope of the relevant provisions is broad enough to cater for enforcement action against stateless vessels illegally fishing on the high seas. Besides the general condition of being 'in accordance' with international law, the content of such action, however, is not defined by law. That leaves a margin of discretion to States

216. SPRFMO, CCAMLR, ICCAT, IOTC, and WCPFC.

217. ICCAT, IOTC, and WCPFC.

in identifying the appropriate follow-up measures to be taken against stateless vessels on the high sea for compliance purposes.

All the RFMOs examined in this paper have in place a system for the identification and listing of IUU fishing vessels, requiring CPs and CNCPs to take certain measures against ships placed in the IUU Vessels Lists established under the auspices of those RFMOs. When it comes to ships without nationality included in IUU Vessels Lists, and without prejudice to the specific rules mentioned above, the range of enforcement measures that could be taken by CPs and CNCPs on the high seas is rather slim due to the port State/flag State centric nature of the relevant rules.

The findings of this research shows that over 69.7% (aggregated data) of ships currently listed in the relevant IUU Vessels Lists have no or unknown nationality. This number does not reveal the true dimension of the problem, which for large parts remains undetected. A problem going beyond conservation *per se* but touching upon the fundamentals of the law of the sea at large, including the principle of freedom on the high seas, flag State responsibility, and the jurisdictional nature of certain mechanisms of enforcement.

The plethora of possible solutions is wide enough; the choice of any appropriate means depending, however, on a prioritisation process finding its core justification in the specific objective to be achieved. Whether the objective is preventing unregulated fishing, then reinforcing a coordinated approach to fishery control and surveillance on the high seas, including the use of dissuasive measures such as patrolling, boarding and inspection, might be sufficient. By contrast, if the objective is directly depriving offenders of the equipment used to conduct IUU fishing or the benefits accrued from illegal activities, then further work at regulatory level is needed, both regionally and internationally.

The above, of course, does not prevent States from strengthening the system of control and enforcement against stateless vessels voluntarily

entering their ports, in accordance with the rules and instruments of international fishery law. This approach is already embedded in the DNA of RFMOs building on the relevant provisions of the FAO Port State Measures Agreement.

Switching the normative focus from 'vessels' to 'individuals', for instance by reinforcing the role of the active personality principle, could also be an option to address the threat posed by IUU fishing vessels without nationality operating on the high seas.[218] This second approach rests on the consideration that 'the high seas is no longer the province of the *laissez-faire*', as noted by Scovazzi already two decades ago,[219] and therefore the interest of achieving sustainability with other means should be pursued.

Allowing inspecting-States to take enforcement action on the high seas against individuals holding their nationality could contribute to filling the gap existing between determination of the stateless condition of the vessel (e.g. triggered by Article 110 of UNCLOS or similar rules under RFMOs) and action to be taken for illegal activities detected on-board. Yet, the legal and practical implications of extending certain fishery rules to individuals are open to debate. Doubts exist, in fact, on the scope of application of the principle, which would still be limited by its 'criminal' dimension; as well as, on the way the protection of individuals' interests on the high seas could be reconciled with the traditional enforcement mechanism and procedures in place under international law. This article did not touch upon that part of the discussion, which for complexity and importance would deserve a separate and detailed examination.

218. On passive personality principle and IUU fishing see also Honniball (n. 40).

219. Tullio Scovazzi, 'The Enforcement in the Mediterranean of United Nations Resolutions on Large Scale Driftnet Fishing', (1998) Max Planck Yearbook of United Nations Law, Vol. 2, 365-385, 383.

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Concluding Remarks

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'There is no escaping the world when human life is envisioned as a geological force in and of itself.'[1] This is not a quote from *Panic in the Year Zero!* but what Grove and Chandler scathingly observed talking about the Anthropocene. The consequences of this human-dominated epoch, however, may turn out to be not so different from those suffered by the Baldwin family in the famous '60s cult movie, except for the threat of a nuclear catastrophe, which, still and all, the recent invasion of Ukraine brings back to the scene.

Let's be clear: as humans, being in the driving seat is not necessarily a misfortune, so long as we are not driving the truck ('our planet') off the cliff. Is this what's happening right now? Many would see in the ongoing climate crisis the sign of this looming tragedy. Still, the overexploitation of marine living resources has been warning us for centuries about the

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1. Kevin Grove, David Chandler, 'Introduction: Resilience and the Anthropocene: The Stake of "Renaturalising" politics' (2017) Resilience, Vol.5, No.2, 79-91, 81.

risks of anthropocentrism and the resultant planetary pressures, such as biodiversity losses, economic dislocation, social imbalances, and food insecurity. In 1997, the international community even found a name for this phenomenon: illegal, unreported, and unregulated (IUU) fishing. A modern three-headed Cerberus plundering the world's oceans and seas of its marine life and ecosystems and costing the global economy up to $23 billion annually.[2] The result? According to the Food and Agriculture Organization of the United Nations, one-third of the world's marine fishery stocks fished at unsustainable levels (25% more than 50 years ago),[3] many of which are very close to collapse, together with the lives of the millions of people who depend on them, either directly or indirectly.

Fortunately, this is not the end of the story (yet). Scholars have noted that rebuilding global fisheries would actually take no more than 12 years, with an estimated net gain of $600 to 1,400 billion over fifty years after rebuilding.[4] These numbers are echoed by a publication study prepared by the International Union for Conservation of Nature in 2015.[5] Inverting the trend would, nonetheless, require strong political will, a fitter-for-purpose legislative framework, and a better understanding of the environmental, human rights, socio-economic, and security implications of fishing and fishing related activities regulation under international law.

It is against this backdrop that we have decided to focus this year's publication on a critical reflection of the changing role and impact of

2. Food and Agriculture Organization, '*Report of the Expert Workshop to Estimate the Magnitude of Illegal, Unreported, and Unregulated Fishing Globally*' (2015) Rome, 2-4 February 2015. Available at <https://www.fao.org/3/i5028e/i5028e.pdf> accessed on 13 February 2023.

3. Food and Agriculture Organization of the United Nations (UNFAO), *The State of World Fisheries and Aquaculture 2022: Towards Blue Transformation* (FAO, 2022), 46-47.

4. Ussif Rashid Sumaila (*et al.*), 'Benefits of Rebuilding Global Marine Fisheries Outweigh Costs' (2012) PLoS ONE 7(7): e40542, 1-12, 2-3.

5. Ana Nieto (et al.), *European Red List of Marine Fishes* (European Union, 2015), 11.

fisheries in the Anthropocene era. The selection of works included in the second volume of the Yearbook on the Law of the Sea strives to analyse and describe this process, focusing on three intertwined concepts that are central to contemporary fishing narratives from an international law perspective: IUU fishing, human security, and sustainability. As spelled out in the report of the UN Secretary-General on Oceans and the Law of the Sea (A/63/63),[6] overfishing is a direct cause of human insecurity, and both overfishing, and insecurity do not allow meeting 'the needs of the present without compromising the ability of future generations to meet their own needs' (sustainability).[7]

While these three concepts have been prominent in academic discussions, by focusing on the Anthropocene era this volume analyses the necessity to revisit their relation, ultimately demanding new and innovative legal solutions that could contribute rebuilding global fisheries.

In his work, Chin-Chia Tien outlines the human-fish nexus in our zeitgeist and identifies some promising legal approaches to foster sustainability, such as the Central Arctic Ocean Fisheries Agreement (CAOFA). The centrality of this legal instrument is also part of the analysis of Bürkert, who recognises in the CAOFA's implementation a paradigm of the key role played by science in ensuring socio-ecological resilience and reducing the gap between flexibility and stability in the application of law. This aspect is also addressed by Santos and Graciola, who see in scientific knowledge, technical development, and the allocation of adequate human resources for fisheries management a way to effectively implement international rules at a domestic level and achieve sustainability. While

6. UN General Assembly, Sixty-Third Session, Item 73(a), Oceans and the Law of the Sea, Report of the Secretary General (A/63/63), 10 March 2008, ¶39, 15.

7. Report of the World Commission on Environment and Development: Our Common Future (Brundtland Report), 1987, ¶27, 16. Available at <http://www.un-documents.net/our-common-future.pdf> accessed 31 December 2022.

acknowledging the key role that science and the adequate use of human resources for fisheries management can play, the piece by Scovazzi reminds us that any new legal solution shall be balanced against the needs and regional interests of costal States.

The identification of legal approaches to foster sustainability does not necessarily require the adoption or implementation of new regulatory frameworks. Another option to foster sustainability through international law is to reconceptualise fisheries in a contemporary setting. This entails questioning the traditional legal understanding of fisheries to mitigate the negative effects of unconventional threats to human security, including those resulting from disordered legal pluralism, as described by Rosello. A similar approach aimed at challenging the current interpretative foundation is 'to broaden the normative lens' through which international fisheries law is considered and consequently redefine the fundamentals of those 'driving forces' fuelling fishery conflicts and human insecurity, as examined by Fawks, Nakamura, and Lennan. This supplements Longo's efforts to rethink the notion of illegal fishing in view of its social and human rights implications.

Finally, with the goal of rethinking the regulatory framework for fisheries, advisory opinions could also pay a significant role. As Judge Cabello observed, the 2015 Advisory Opinion of the International Tribunals for the Law of the Sea (ITLOS) on IUU fishing provides a good example in that respect.[8] Such examples do not exist in isolation. Recently, the Commission on Small Island States on Climate Change and International Law to the ITLOS requested an advisory opinion to the Tribunal,[9]

8. Request for an Advisory Opinion Submitted by the Sub-Regional Fisheries Commission (SRFC), Advisory Opinion of 2 April 2015, ITLOS Reports 2015.

9. Request for an Advisory Opinion submitted by the Commission on Small Island States on Climate Change and International Law, Order of 16 December 2022, ITLOS Reports 2022-2023 (to be published).

to examine the implications of human-induced climate change for UNCLOS parties against the backdrop of obligations to protect and preserve the marine environment – including the conservation of marine living resources.[10]

We trust that this volume will be of use to academics and practitioners to critically reflect on the viable options towards a future that would guarantee intergenerational equity and sustainability while transforming the narratives of anthropogenic pressures from detrimental to beneficial.

10. Southern Bluefin Tuna case (New Zealand v. Japan; Australia v. Japan), Order of 27 August 1999, Provisional Measures, ITLOS Case No 3, (1999) 38 ILM 1624, ICGJ 337 (ITLOS 1999), ITLOS Reports 1999, para 70, 29.

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This edition was created by the Lugliоprint of Trieste
in the month of april of the year 2023
- Print in Italy -

www.luglioeditore.it

ISBN 8868033330

9 788868 033330

Euro 48,00