

# The Concept of “Marine Living Resources”: Navigating a Grey Zone in the Law of the Sea

## Les “ressources biologiques marines”: analyse d’une notion ambiguë en droit de la mer

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### *Abstract*

The expression “living resources” occurs thirty-eight times in the *United Nations Convention on the Law of the Sea (UNCLOS)*, but the latter does not give any legal definition of the term. The integration of environmental law taxonomy, such as biodiversity, in the evolution of the law of the sea has added to confusion regarding the meaning of “marine living resources.” To clarify the meaning of this expression and its legal scope in the evolution of the law of the sea, it is necessary to analyze the context of its use in *UNCLOS* and, more broadly, in the legal regime governing marine resources. This article aims to clarify the origins and extent of the confusion regarding the meaning of marine living resources and to analyze how the use of a broader semantic field in different legal instruments and other sources of international law has shaped the legal framework for the conservation and sustainable use of marine living resources.

### *Résumé*

La notion de “ressources biologiques” apparaît quarante-quatre fois dans le texte de la *Convention des Nations Unies sur le droit de la mer* sans qu’une définition n’en soit donnée. À l’aube de l’adoption d’une nouvelle convention sur la biodiversité dans les zones au-delà de la juridiction nationale, il est nécessaire de clarifier le sens et l’étendue de cette notion à travers l’analyse de l’évolution du droit de la mer. Cette étude vise à clarifier le sens juridique de la notion de “ressources biologiques marines” en droit de la mer en s’appuyant du contexte dans lequel la notion est utilisée dans les instruments juridiques, la doctrine et la jurisprudence. Ainsi, il apparaît que l’utilisation d’un champ lexical plus étendu de la notion a permis un renforcement du cadre juridique de la conservation et l’utilisation durable des ressources biologiques marines, tout en laissant subsister une zone grise sur la définition même du concept.

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## INTRODUCTION

Since the Stone Age, marine living resources (MLR) have taken an important place in human consumption through fishing activities.<sup>1</sup> In the early sixteenth and seventeenth centuries, Western civilizations were focused on expanding their territory, including their sovereignty over the oceans and their resources. At that time, MLR were assimilated to fisheries resources, considered inexhaustible, and governed by the freedom of fishing. Nowadays, MLR “refer[] to the living organisms of the oceans,” “vital as a source of protein for human consumption.”<sup>2</sup> While such a source of protein is mainly related to fisheries resources, the evolution of technologies and practices has meant that humans can reach further out on the open seas and deeper into the bottomless abyss of the oceans. MLR have become of interest for purposes other than direct human consumption, ranging from pharmaceutical technology to ecotourism. The discovery of new “harvestable” — or exploitable — species, materials, and molecules and genes, vital for the development of technologies or critical alternatives for human consumption, thus poses the question of the scope of the definition of MLR and their governing legal regime.

The term “living resources” occurs thirty-eight times in the *United Nations Convention on the Law of the Sea (UNCLOS)*.<sup>3</sup> It is linked to commercial purposes (exploitation, catch, optimum utilization, access, harvest) and the idea of conservation and sustainable management of such resources. This context regarding use of the term is critical as the MLR regime is closely related to the balance between exploitation and conservation. Analyzing this context is relevant as using the term MLR hides several hurdles that pose

<sup>1</sup> See e.g. Adam Boethius, “Fishing for Ways to Thrive: Integrating Zooarchaeology to Understand Subsistence Strategies and Their Implications among Early and Middle Mesolithic Southern Scandinavian Foragers” (DPhil thesis, Lund University, 2018), online: <lup.lub.lu.se/search/ws/files/46562853/Boethius\_2018.\_Fishing\_for\_ways\_to\_thrive.pdf>.

<sup>2</sup> Nele Matz-Luck & Johannes Fuchs, “Marine Living Resources” in Donald Rothwell et al, eds, *The Oxford Handbook of the Law of the Sea* (Oxford: Oxford University Press, 2015) 491 at 492.

<sup>3</sup> *United Nations Convention on the Law of the Sea*, 10 December 1982, 1833 UNTS 397 (entered into force 16 November 1994) [UNCLOS].

challenges for the interpretation and application of *UNCLOS*'s provisions. On the one hand, considering MLR as resources of commercial value poses a recurrent problem of access, balance between exploitation and conservation, and impacts on states' jurisdiction over resources. On the other hand, the discovery of new “harvestable” — or exploitable — species, vital for the development of technologies or critical alternative sources for human consumption, raises the question of the scope of the definition of MLR, in particular whether they include genetic resources or not. Does the term MLR refer to fisheries resources only, or does it go beyond such resources to embrace a broader range of marine resources?

New activities, including bio-prospecting, have highlighted the limits of MLR's scope of definition and associated legal regime when interpreting and applying *UNCLOS*. To gain a better perspective on the MLR regime, an interesting way to define the term is to analyze the context of its use and, more broadly, its governing legal regime, in line with Article 31 (1) of the *Vienna Convention on the Law of Treaties (VCLT)*.<sup>4</sup> To date, as the “constitution for the oceans,” interpreting *UNCLOS*'s provisions gives a general overview of the meaning and scope of application of the term MLR in the law of the sea. This contribution aims to clarify the legal meaning of MLR and analyze how the evolution of the interpretation and application of *UNCLOS*, through the practice of states, has shaped this meaning and the legal regime attached to MLR.

This clarification process will be done by splitting the three words — marine, living, and resources — and placing each of them in the context of the evolution of the law of the sea. First, MLR have been considered *resources* with economic relevance, and this perception has shaped their associated legal regime in the modern law of the sea. Second, the development of scientific understanding of marine connectivity<sup>5</sup> has led to the realization that these resources are *living*. They are integrated into a broader context — namely, the protection of biodiversity. Third, the continuing impact of environmental law on the law of the sea has amplified the consideration of MLR as a part of the *marine* ecosystem and environment as a whole, driving a new approach to their conservation and sustainable use. Finally, this article will look at two current concerns that challenge the resulting understanding of MLR. On the one hand, it will examine the conservation regime of biodiversity beyond national jurisdiction (BBNJ),

<sup>4</sup> *Vienna Convention on the Law of Treaties*, 23 May 1969, 1155 UNTS 331 (entered into force 27 January 1980).

<sup>5</sup> On the concept of connectivity, see Ekaterina Popova et al, “Ecological Connectivity between the Areas beyond National Jurisdiction and Coastal Waters: Safeguarding Interests of Coastal Communities in Developing Countries” (2019) 104 *Marine Policy* 90; Alex Rogers et al, *The High Seas and Us: Understanding the Value of High-Seas Ecosystems* (Oxford: Global Ocean Commission, 2014).

which affects the scope of MLR's definition and departs from the regime attached to MLR in *UNCLOS*. On the other hand, it will consider the concern arising from the effects of climate change on fisheries, which require an evolving conceptualization of MLR for new and exploratory fisheries.

#### MLR AS RESOURCES OF ECONOMIC RELEVANCE

Looking at its appearance in *UNCLOS*, especially in Part V on the exclusive economic zone (EEZ)<sup>6</sup> and Part VII on the high seas,<sup>7</sup> the term "living resources" is opposed to non-living resources such as oil and gas.<sup>8</sup> *UNCLOS* classifies the former under different categories, including "straddling and highly migratory fish stocks," "marine mammals," "anadromous species," "catadromous species," "associated and dependent species," "living resources of the high seas," "depleted and endangered species," and "sedentary species." Therefore, MLR are resources *per se*, the stress being on their "exploitation and monetary value."<sup>9</sup> MLR are natural resources that are renewable, valuable, and limited.

#### ECONOMIC VALUE AS A DETERMINATIVE CRITERION

First, MLR are harvestable resources — "species which may be caught" — as specified by *UNCLOS*.<sup>10</sup> The term MLR could cover commercially valuable, exploited, or exploitable resources, which correspond to fisheries resources, including "molluscs and crustaceans"<sup>11</sup> but excluding non-targeted species. Second, MLR are valuable.<sup>12</sup> In the context of *UNCLOS*, the economic factor

<sup>6</sup> *UNCLOS*, *supra* note 3, arts 61 and 62 concern respectively the conservation and the utilization of the living resources of the exclusive economic zone (EEZ).

<sup>7</sup> Section 2 of *ibid*, Part VII, deals with the conservation and management of the living resources of the high seas.

<sup>8</sup> See the commentary regarding *UNCLOS*, *supra* note 3, art 61, in James Harrison & Elisa Morgera, "Article 61: Conservation of the Living Resources" in Alexander Proelss, ed, *United Nations Convention on the Law of the Sea* (The Hague: Hart Publishing, 2017) 480 at 482 [Proelss, *United Nations Convention*].

<sup>9</sup> Matz-Luck & Fuchs, *supra* note 2 at 493.

<sup>10</sup> *UNCLOS*, *supra* note 3, art 62(4)(b).

<sup>11</sup> *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*, 4 August 1995, 2167 UNTS 3 (entered into force 11 December 2001), art 1(1)(c) [*FSA*].

<sup>12</sup> *UNCLOS*, *supra* note 3, arts 61 and 62 refer, for example, to "harvested species" and the "economic needs of coastal fishing communities." Examining the *FSA*, the term "marine living resources" appears six times. It refers to a range of species (*FSA*, *supra* note 11, art 1(1)(b)) that are part of the marine environment (art 6(1)). Such species are subject to exploration and exploitation (arts 7(1) and 11(a)).

takes a stronger hold when it comes to MLR. Article 62 of *UNCLOS* refers to “species which may be caught”<sup>13</sup> and focuses on economic considerations “arising from the recognition that fish are a valuable resource that should not be squandered.”<sup>14</sup> The economic relevance of MLR can be illustrated by considering the concept of the “maximum sustainable yield” (MSY) to ensure the optimum utilization of living resources.<sup>15</sup> The term “optimum utilization” considers access to the surplus that coastal states cannot harvest with respect to the total allowable catch in their EEZ.<sup>16</sup> This concept is the main element of the conservation and management of MLR under *UNCLOS*, which suggests an exploitation-oriented regime designed to ensure their maintenance to fulfill the demand for human consumption.<sup>17</sup>

These economic factors have shaped the conservation and management regime of MLR by considering “the economic needs of coastal fishing communities and the special requirements of developing States.”<sup>18</sup> They were developed through the concept of sustainable use of living resources under the *Agreement Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (Fish Stocks Agreement)*.<sup>19</sup> This economic perspective led to the conclusion that two elements characterize MLR: they are harvestable and valuable, and, thus, they include fisheries resources in general.<sup>20</sup> Such a definition has impacted the conservation and management regime of MLR.

<sup>13</sup> *UNCLOS*, *supra* note 3, art 62(4)(b).

<sup>14</sup> See the commentary regarding *UNCLOS*, *supra* note 3, art 62, in James Harrison & Elisa Morgera, “Article 62: Utilization of the Living Resources” in Proelss, *United Nations Convention*, *supra* note 8, 493 at 495 [Harrison & Morgera, “Article 62”].

<sup>15</sup> *UNCLOS*, *supra* note 3, art 61(3), provides for recourse to the maximum sustainable yield (MSY) for establishing conservation measures “to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield.”

<sup>16</sup> On the contrary, some legal scholars distinguish “optimum utilization” from “full utilization,” as the coastal state has the discretionary right to grant access to an allowable catch less than the MSY. However, in practice, this situation is likely to appear only exceptionally. See Donald R Rothwell & Tim Stephens, *The International Law of the Sea*, 2nd ed (Oxford: Hart Publishing, 2010) at 299. *Contra*, see Matz-Luck & Fuchs, *supra* note 2 at 498. The latter authors consider that the focus on maximum utilization is more exploitation focused than a conservationist approach.

<sup>17</sup> See *Geneva Convention on Fishing and Conservation of the Living Resources of the High Seas Concerning the Conservation to Achieve the Optimum Sustainable Yield*, 29 April 1958, 559 UNTS 285, art 2 (entered into force 20 March 1966) [*Geneva Convention on Fishing*]. See also Matz-Luck & Fuchs, *supra* note 2 at 495; Fred Bosselman, “Adaptive Resource Management through Customary Law” in Peter Ørebeck et al, eds, *The Role of Customary Law in Sustainable Development* (Cambridge: Cambridge University Press, 2005) 245 at 245.

<sup>18</sup> *UNCLOS*, *supra* note 3, art 61(3).

<sup>19</sup> *FSA*, *supra* note 11.

<sup>20</sup> The assimilation of marine living resources (MLR) to fisheries resources is recurrent in the literature. See e.g. Yoshifumi Tanaka, “Zonal and Integrated Management Approaches to Ocean Governance: Reflections on a Dual Approach in International Law of the Sea”

## FROM A RESTRICTIVE INTERPRETATION TO AN EXTENSIVE CONSERVATION REGIME

The evolution of the conservation and management regime of MLR has been driven, first and foremost, by the conflicting interests of states. MLR are specific as they “are owned in common and exploited under conditions of individualistic competition.”<sup>21</sup> This specificity has impacted the legal regime of MLR exploitation, leading to a more resource-focused approach rather than a conservation approach, exacerbating the fact that these resources yield no economic “rent” (or net benefit).<sup>22</sup> Additionally, early fisheries regulations were more concerned with states’ sovereignty over maritime areas and exploitation interests, such as conflicts of use or dealing with conflicts between states, than with the proper consideration of resource conservation and management.<sup>23</sup> This situation was illustrated through the conflicts between coastal and fishing states and the development of coastal states’ unilateral claims over MLR in broader areas adjacent to their coastlines. A good example is the 1882 *Convention for the Purpose of Regulating the Police of the North Sea Fisheries Outside Territorial Waters*. The object of the convention was to regulate fisheries in the North Sea outside the territorial waters of coastal states.<sup>24</sup> It defined the distance of three miles from the low water mark as the limit within which each coastal state would enjoy exclusive fishing rights without establishing any limitations on catch levels. All the technical requirements established by the 1882 convention had one objective — minimizing interference among fishing operations in the area beyond territorial waters — and they concerned fishers and their fleets directly.<sup>25</sup>

The traditional conception of fisheries law — the freedom of the high seas — “rather reflected sovereignty over maritime dominions and exploitation interests than conservation,”<sup>26</sup> which was illustrated in the Bering Sea

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(2004) 19:4 Intl J Mar & Coast L 483 [Tanaka, “Integrated Management Approaches”]; David Freestone, “The Conservation of Marine Ecosystems under International Law” in Catherine Redgwell & Michael Bowman, eds, *International Law and the Conservation of Biological Diversity* (The Hague: Kluwer Law International, 1996) 97.

<sup>21</sup> Scott H Gordon, “The Economic Theory of a Common-Property Resource: the Fishery” (1991) 53 Bull Mathematical Biology 231 at 231.

<sup>22</sup> *Ibid.*

<sup>23</sup> Rothwell & Stephens, *supra* note 16 at 293.

<sup>24</sup> *Convention for Regulating the Police of the North Sea Fisheries*, 6 May 1882, 37 BFSP 39, art 1 (entered into force 15 May 1884) [1882 Convention].

<sup>25</sup> Another agreement completed the 1882 Convention concerning the monitoring of infractions of the regulation by the navies of the parties. See Rothwell & Stephens, *supra* note 16 at 293.

<sup>26</sup> Matz-Luck & Fuchs, *supra* note 2 at 491.

arbitration.<sup>27</sup> This dispute arose in 1881 when the United States claimed authority over all Bering Sea waters (within and beyond three nautical miles), as well as seal hunting therein, on the basis that the seal colony was based in its territory. It ordered the seizure of all sealing vessels operating in the claimed area, mainly Canadian vessels. Such a unilateral claim clearly showed the projection of sovereignty from the land of coastal states towards the sea, while the conservation of fisheries resources was a secondary element. The decision of the arbitral tribunal also showed the pre-eminence of dealing with the conflicts between states by rejecting the United States’s claim of total control of the Bering Sea. The tribunal called upon states to cooperate in regulating the exploitation of fish stocks and supported the consideration of other states’ interests when taking conservation measures.<sup>28</sup>

Following these events, the twentieth century was characterized by a “rudimentary idea of sustainability ... focused on economic exploitation, not ecological sustainability.”<sup>29</sup> The conservation of whales is a fitting example. Under the *International Convention for the Regulation of Whaling (ICRW)*, states recognized “the interest of the nations of the world in safeguarding, for future generations, the great natural resources represented by the whale stocks.”<sup>30</sup> The *ICRW*, in its wording, established cooperation between the relevant states for the conservation of whale stocks. In its preamble, the *ICRW*’s purpose seemed to reconcile the needs of the whaling industry and conservation of the stock by stating that the convention was concluded “to provide for the proper conservation of whale stocks and thus make possible the orderly development of the whaling industry.”<sup>31</sup> Such reasoning was subsequently embedded more broadly in the 1958 *Convention on the High Seas*.<sup>32</sup>

In line with this evolution, the *Fisheries Jurisdiction* cases<sup>33</sup> reaffirmed the need to conserve MLR due to their exploitation and the rights of other

<sup>27</sup> *Case Concerning the Bering Sea (Fur Seals)*, Arbitration Award, 15 August 1893, reprinted in (2007) 28 UNRIIA 263.

<sup>28</sup> *Ibid* at para 43.

<sup>29</sup> Matz-Luck & Fuchs, *supra* note 2 at 491.

<sup>30</sup> *International Convention for the Regulation of Whaling*, 2 December 1946, 161 UNTS 74 (entered into force 10 November 1948) [*ICRW*].

<sup>31</sup> *Ibid*, preamble.

<sup>32</sup> *Convention on the High Seas*, 29 April 1958, 450 UNTS 11 (entered into force 30 September 1962). This convention recognized the freedom of fishing on the high seas with “reasonable regard to the interests of other States in their exercise of the freedom of the high seas” (art 2). Additionally, the *Geneva Convention on Fishing*, *supra* note 17, art 1, placed emphasis on coastal states’ rights.

<sup>33</sup> *Fisheries Jurisdiction Case (United Kingdom v Iceland)*, [1974] ICJ Rep 3 [*Fisheries Jurisdiction (United Kingdom v Iceland)*]; *Fisheries Jurisdiction Case (Germany v Iceland)*, [1973] ICJ Rep 3.

states. It recognized coastal states' preferential fishing rights beyond the exclusive fisheries zone (twelve nautical miles), based on intensification of the exploitation of fisheries resources, which introduced a catch-limitation system to preserve the interests of their rational economic exploitation.<sup>34</sup> Thus, emphasis was again put on the economic relevance of MLR rather than on their proper conservation. Less than a decade later, *UNCLOS* set forth a zonal and species-specific approach to MLR conservation and management. On the one hand, the zonal approach introduced a regime based on state jurisdiction, establishing distinct and varying levels of jurisdiction over appurtenant maritime zones and resources. With respect to fisheries, *UNCLOS* distinguished between areas within national jurisdiction and areas beyond national jurisdiction, where coastal states and flag states share rights and duties. On the other hand, the species-specific approach was developed because some high seas fisheries could not be regulated separately from coastal state fisheries, especially with respect to the legal regime of the EEZ.<sup>35</sup> This is the case with straddling and highly migratory fish stocks, marine mammals, and anadromous and catadromous species that overlap two or more maritime zones during their lifetime.

The initial regime established by *UNCLOS* was marked by the lack of some elements as well as inconsistencies, among which were the consideration of MLR as part of an ecological unit and the broader consideration of MLR exploitation resulting from the development of fisheries gear and techniques that impacted the conservation and management of MLR. This perspective was developed through the interpretation and application of *UNCLOS* towards an integrated approach.

#### MARINE LIVING RESOURCES AS A PART OF AN ECOLOGICAL UNIT

The increasing concern for solving problems related to global issues and challenges on ocean-related matters and the “growing awareness of the insufficiencies and limitations of [*UNCLOS*'s] traditional approach ... explain the extensive development in the international marine environmental law

<sup>34</sup> *Fisheries Jurisdiction (United Kingdom v Iceland)*, *supra* note 33 at 27, Declaration by Judge Singh.

<sup>35</sup> Richard Barnes & Carmino Massarella, “High Seas Fisheries” in Elisa Morgera & Kati Kulovesi, eds, *Research Handbook on International Law and Natural Resources* (Cheltenham, UK: Edward Elgar, 2016) 369 at 373. To that extent, *UNCLOS*, *supra* note 3, art 116(b), stresses that “[a]ll States have the right for their nationals to engage in fishing on the high seas subject to ... the rights and duties as well as the interests of coastal States provided for, *inter alia*, in article 63, paragraph 2, and articles 64 to 67.” Additionally, the *FSA*, *supra* note 11, art 7, posits the principle of compatibility. This article states that the biological unity of stocks has to be taken into account, measures established in the EEZ should be compatible with those set for the high seas, and measures established for the high seas should not undermine conservation measures set for the EEZ.

since the adoption of [UNCLOS] in 1982.”<sup>36</sup> Inadequacies in protecting and conserving the marine environment and biodiversity were stressed, requiring more sustainable practices, especially concerning certain species with ranges overlapping EEZs and the high seas.<sup>37</sup>

#### THE CONCEPT OF BIODIVERSITY: TOWARDS THE SUSTAINABLE USE OF MLR

At the time *UNCLOS* was adopted, fisheries law had developed in parallel to environmental law instead of being part of it, establishing loose interconnections.<sup>38</sup> For example, concerning the sustainability of fisheries activities, under *UNCLOS*, the term “sustainable” was associated with the concept of *MSY*, which is more concerned with exploiting resources in such a way as to ensure their maintenance than with the conservation and sustainable use of marine biodiversity *per se*.<sup>39</sup> Thus, this economic factor took a stronger hold in state practice.

The sustainable use of resources was first promoted in Principle 21 of the 1972 *Stockholm Declaration*<sup>40</sup> seeking a balance between states’ rights over natural resources and their duty to conserve the environment. The adoption of the *Convention on Biological Diversity (CBD)*<sup>41</sup> changed this concept to a certain extent, shifting it from a purely exploitation-oriented approach to the “consideration of ecologically sustainable development.”<sup>42</sup> The *CBD* was

<sup>36</sup> Ingvild U Jakobsen, *Marine Protected Areas in International Law: An Arctic Perspective* (Boston: Brill, 2016) at 81.

<sup>37</sup> *Agenda 21*, UN Doc A/CONF.151/26 (13 June 1992), ch 17 identified inadequacies in the protection of high seas fisheries due to the lack of regulation, overcapitalization, large fishing fleets, the use of flags of convenience, and the use of fishing gear that is insufficiently selective.

<sup>38</sup> Richard Barnes, “The Proposed LOSC Implementation Agreement on Areas beyond National Jurisdiction and Its Impact on International Fisheries Law” in David Freestone, ed, *Conserving Biodiversity in Areas beyond National Jurisdiction* (Leiden: Brill, 2019) 104 at 132 [Barnes, “Proposed LOSC”].

<sup>39</sup> Matz-Luck & Fuchs, *supra* note 2 at 495. See also Bosselman, *supra* note 17 at 245. The term “sustainable” was also used in the *Geneva Convention on Fishing*, *supra* note 17. But again, this conservation goal was established in order to fulfill the demand for human consumption (art 2).

<sup>40</sup> *Declaration of the United Nations Conference on the Human Environment*, Stockholm, UN Doc A/CONF/48/14/REV.1 (16 June 1972). According to Principle 21, “States have, in accordance with the *Charter of the United Nations* and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond national jurisdiction.”

<sup>41</sup> *Convention on Biological Diversity*, 5 June 1992, 1760 UNTS 79 (entered into force 29 December 1993) [*CBD*].

<sup>42</sup> Matz-Luck & Fuchs, *supra* note 2 at 492.

the first global convention to establish an overall framework for nature conservation and protection. It introduced the concept of biodiversity, defined as “the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems.” The *CBD* promoted the integral value and significance of all biological diversity and focused on biodiversity, including its intrinsic values.<sup>43</sup> The sustainable use of biodiversity was integrated as an element of nature conservation<sup>44</sup> by considering the interaction between species.<sup>45</sup> In parallel, the growing understanding of marine connectivity led to the observation that “fish stocks form a key physical part of marine biodiversity.”<sup>46</sup> This connectivity — among species and between species and ecosystems — has to be considered when establishing the conservation and management of MLR.

The adoption of environmental instruments, such as the *Rio Declaration*,<sup>47</sup> had a significant impact on the interpretation and application of *UNCLOS*, especially with respect to the protection and conservation of the marine environment and its biodiversity. These instruments promoted the sustainable use of MLR, considering the value of biological diversity for humans and the interests of future generations.<sup>48</sup> This principle of the sustainable use of natural resources concerns the integration of environmental protection, economic and social development, and intergenerational equity at any level of governance.<sup>49</sup> Yoshifumi Tanaka and Alexander Proelss interpret this evolution to mean that MLR have a value for humans that is not only for commercial purposes. Thus, the conservation and sustainable use of MLR is regarded as “a common interest of the international community”<sup>50</sup> and, as such, a common interest of mankind. This evolution has promoted a more

<sup>43</sup> See also *ibid* at 513.

<sup>44</sup> Jakobsen, *supra* note 36 at 86. See also Ulrich Beyerlin & Thilo Marauhn, *International Environmental Law* (Oxford: Hart Publishing, 2011) at 178–79.

<sup>45</sup> Tanaka, “Integrated Management Approaches,” *supra* note 20 at 486–88.

<sup>46</sup> Barnes & Massarella, *supra* note 35 at 384.

<sup>47</sup> This is, for example, the case of the *Rio Declaration on Environment and Development*, 14 June 1992, 31 ILM 874. See Jakobsen, *supra* note 36 at 81.

<sup>48</sup> See Rüdiger Wolfrum & Nele Matz, “The Interplay of the United Nations Convention on the Law of the Sea and the Convention on Biological Diversity” in Jochen A Frowein, Rüdiger Wolfrum & Christiane E Philipp, eds, *Max Planck Yearbook of United Nations Law* (2000) 445 at 464.

<sup>49</sup> Virginie Barral, “Sustainable Development in International Law: Nature and Operation of an Evolutive Legal Norm” (2012) 23:2 *Eur J Intl L* 377 at 381–82.

<sup>50</sup> Yoshifumi Tanaka, *The International Law of the Sea* (Cambridge: Cambridge University Press, 2012) at 219. See also Matz-Luck & Fuchs, *supra* note 2 at 493; Alexander Proelss, “Fisheries” in Morgera & Kulovesi, *supra* note 35, 369 at 382 [Proelss, “Fisheries”];

protection-oriented management of MLR, with more consideration given to the protection of the environment and fisheries species.<sup>51</sup>

From the term “management,” the MLR regime shifted to “conservation and sustainable use.” This shift is illustrated in the *Fish Stocks Agreement*, which aims overall to “ensure the long-term conservation and sustainable use” of straddling and highly migratory fish stocks.<sup>52</sup> Furthermore, the *Fish Stocks Agreement* identifies some elements relevant to attaining this objective: the consideration of “the interdependence of stocks”<sup>53</sup> and the affirmation that MLR are integrated into an ecological unit.<sup>54</sup>

#### THE NEED FOR SPECIES-SPECIFIC REGIMES: TOWARDS AN ASSESSMENT OF THE ZONAL APPROACH

The traditional zonal approach of the law of the sea distinguished MLR in areas under national jurisdiction and MLR in areas beyond national jurisdiction. With the adoption of *UNCLOS*, the establishment of the EEZ created a “grey zone” between these two main areas. In the EEZ, coastal states have “sovereign rights for exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of waters superjacent to the seabed and of the seabed and its subsoil.”<sup>55</sup> The institution of this *sui generis* zone left some uncertainties for specific species: on the one hand, straddling and highly migratory fish stocks and, on the other hand, sedentary species. The regime of conservation and sustainable use of straddling and highly migratory fish stocks was developed considering that some high seas fisheries cannot be regulated separately from related coastal state fisheries, despite the creation of the EEZ.<sup>56</sup> The Food and Agricultural Organization (FAO) defines high seas fishery resources as straddling and

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Edith Brown-Weiss, “What Obligation Does Our Generation Owe to the Next?” (1990) 84 *Am J Intl L* 198 at 201.

<sup>51</sup> See the *Memorandum of Understanding between the Food and Agriculture Organization of the United Nations (FAO) and the Secretariat of the Convention on International Trade in Endangered Species (CITES)*, 2006, online: <[cites.org/sites/default/files/eng/disc/sec/FAO-CITES-e.pdf](http://cites.org/sites/default/files/eng/disc/sec/FAO-CITES-e.pdf)>. This memorandum of understanding “formalizes the intentions of the two Organizations in strengthening cooperation on issues related to commercially[-exploited] aquatic species listed on CITES Appendices.” See “FAO and CITES: FAO Activities in Relation to CITES,” online: *Food and Agriculture Organization of the United Nations (FAO)* <[www.fao.org/fishery/topic/18145/en](http://www.fao.org/fishery/topic/18145/en)>.

<sup>52</sup> *FSA*, *supra* note 11, art 2.

<sup>53</sup> *Ibid*, art 5 (b).

<sup>54</sup> *Ibid*, art 7 (2) (b).

<sup>55</sup> *UNCLOS*, *supra* note 3, art 56(1) (a).

<sup>56</sup> Barnes & Massarella, *supra* note 35 at 373.

highly migratory fish stocks and “other high seas fishery resources.”<sup>57</sup> Straddling and highly migratory fish stocks can be considered to be part of high seas fisheries within a particular regime. Article 116(b) of *UNCLOS* provides that “[a]ll States have the right for their nationals to engage in fishing on the high seas subject to ... the rights and duties as well as the interests of coastal States provided for, *inter alia*, in article 63, paragraph 2, and articles 64 to 67.” In addition, Article 7 of the *Fish Stocks Agreement* acknowledges the biological unity of fish stocks and posits the principle of compatibility between the conservation of such stocks in the EEZ and high seas conservation. Measures established in the EEZ should be compatible with those established for the high seas, and measures established for the high seas should not undermine the conservation measures set for the EEZ.<sup>58</sup>

Other than straddling and highly migratory fish stocks, some resources occur only in the high seas — namely, discrete high seas fish stocks.<sup>59</sup> These stocks mainly comprise deep-water species. The conservation regime for these discrete high seas fish stocks is challenged by a lack of explicit regulation of high seas fisheries. In principle, the *Fish Stocks Agreement* does not apply to discrete high seas fish stocks, but Lee Kimball, Satya Nandan, and Michael Lodge consider that the general principles of the *Fish Stocks Agreement* could apply to these stocks.<sup>60</sup> The lack of proper regulation could be explained by the fact that such stocks do not imply conflicting interests between states.

Sedentary species are defined as “living organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil.”<sup>61</sup> The need to regulate such fisheries is due to certain practices that threaten

<sup>57</sup> FAO, *The State of the World Fisheries and Aquaculture* (Rome: FAO, 2006) at 33.

<sup>58</sup> This compatibility principle is, nevertheless, highly dependent on coastal states’ sovereign rights with respect to living resources in the EEZ, including their discretionary powers to regulate the exploitation of such resources and to determine the allowable catch. Oude Elferink stresses that these coastal states’ powers in the EEZ “give[ them] an important leverage in negotiations over the establishment of compatible measures, especially if measures for [the EEZ] ensure sustainable conservation and management of the stocks involved and those for the high seas do not.” See Alex Oude Elferink, “The Determination of Compatible Conservation and Management Measures for Straddling and Highly Migratory Fish Stocks” in *Max Planck Yearbook of United Nations Law* (2001) 551 at 607.

<sup>59</sup> Yoshinobu Takei, *Filling Regulatory Gaps in High Seas Fisheries: Discrete High Seas Fish Stocks, Deep-Sea Fisheries and Vulnerable Marine Ecosystems* (Leiden: Martinus Nijhoff, 2013) at 3.

<sup>60</sup> These general principles are set forth in the *FSA*, *supra* note 11, art 5. See Lee Kimball, “Deep-Sea Fisheries of the High Seas: The Management Impasse” (2004) 19:3 *Intl J Mar & Coast L* 259 at 267; Satya Nandan & Michael Lodge, “Some Suggestions towards Better Implementation of the United Nations Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks of 1995” (2005) 20:3 *Intl J Mar & Coast L* 345 at 369–73.

<sup>61</sup> *UNCLOS*, *supra* note 3, art 77(4).

the sustainable growth of those resources and the deep sea ecosystem.<sup>62</sup> The continental shelf regime provides no specific protection for these species,<sup>63</sup> even though they are understood in *UNCLOS* as natural resources lying on the continental shelf. The specificity of their legal regime is the interaction between the EEZ, the high seas, and the continental shelf regimes. There is a distinction between resources governed by the EEZ regime and those governed by the continental shelf regime in areas within national jurisdiction. The former concern “natural resources, whether living or non-living, of the waters superjacent to the seabed and the seabed and its subsoil,”<sup>64</sup> while the latter refer to mineral resources and other non-living resources and “living organisms belonging to sedentary species.”<sup>65</sup> The mention of “sedentary species” in both regimes is crucial to interpreting the meaning of MLR under *UNCLOS*.

On the one side, sedentary species such as “chanks, clams, oysters, mussels, scallops, sponges, corals, and crustaceans such as shrimps, prawns, lobsters, and crabs” are living resources that can be subject to harvest.<sup>66</sup> Article 77(4) of *UNCLOS* defines sedentary species as “organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil.”<sup>67</sup> On the other side, in areas beyond national jurisdiction, the 1970 *United Nations Declaration of Principles Governing the Sea-bed and Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction*<sup>68</sup> refers to “resources”

<sup>62</sup> Jean-Jacques Maguire et al, “The State of World Highly Migratory, Straddling and Other High Seas Fisheries Resources and Associated Species,” FAO Fisheries Technical Paper No 495 (2006) at 84.

<sup>63</sup> *UNCLOS*, *supra* note 3, Part VI, mentions some activities relating to submarine cables and pipelines (art 79), artificial islands, installations and structures (art 80), drilling (art 81), and the exploitation of non-living resources on the extended continental shelf (art 82).

<sup>64</sup> *Ibid*, art 56(1)(a).

<sup>65</sup> *Ibid*, art 77(4).

<sup>66</sup> For an overview, see Chie Kojima, “Fisheries, Sedentary” (2008) in Anne Peters, ed, *Max Planck Encyclopedia of Public International Law* (Oxford: Oxford University Press, 2021), online: <[opil.ouplaw.com/home/mpi](https://opil.ouplaw.com/home/mpi)>. The Permanent Court of Arbitration, in the *Chagos Marine Protected Area Arbitration*, included coral in this category. *Chagos Marine Protected Area Arbitration*, PCA Case No 2011-03 (18 March 2015) at para 304. However, some studies refer to the ambiguity of the notion of sedentary species. See e.g. Richard Young, “Sedentary Fisheries and the Convention on the Continental Shelf” (1961) 55 *Am J Intl L* 359 at 366–67; Robin R Churchill & Alan V Lowe, *The Law of the Sea*, 3rd ed (Manchester: Manchester University Press, 1999) at 151–52.

<sup>67</sup> Emphasis added.

<sup>68</sup> *Declaration of Principles Governing the Sea-bed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction*, GA Res 2794 (XXV), UN Doc A/RES/2794(XXV) (17 December 1970).

in general, suggesting that they may include living resources.<sup>69</sup> In contrast, Part XI of *UNCLOS* seems to refer to resources of the seabed as including only “solid, liquid or gaseous mineral resources.”<sup>70</sup> Nevertheless, if sedentary species are located on the extended continental shelf or beyond, they would be considered high seas resources and would fall under the freedom of fishing on the high seas.<sup>71</sup>

It was proposed that such sedentary species be regulated by Article 61(4) of *UNCLOS* as associated and dependent species.<sup>72</sup> However, it is difficult to combine their legal regime with that of straddling fish stocks as they do not cross maritime boundaries. Overall, the main criterion for defining sedentary species is the harvestable character of the resource. Therefore, harvestable resources on the continental shelf fall under the EEZ or high seas regimes, depending on where they lie.

#### MLR AND OCEAN GOVERNANCE

MLR are a part of the marine ecosystem and an element of the marine environment. In this part of the definition, the primary consideration is that MLR must be understood as being integrated into a space — the marine ecosystem and, more broadly, the marine environment. On this matter, Articles 192 and 194(5) of *UNCLOS* are critical as they require states to protect the marine environment, including biological diversity. The International Tribunal for the Law of the Sea (ITLOS) has established that “the conservation of the living resources of the sea is an element in the protection and preservation of the marine environment.”<sup>73</sup> Indeed, even though Part XII of *UNCLOS* has been acknowledged as the environmental regime concerning ocean-related matters, new approaches — integrated in content and precautionary and anticipatory in ambit — have been required.<sup>74</sup> At this stage of the analysis, the definition of MLR is characterized by the fact that the law of the sea integrates core principles and concepts of other areas of international law by “putting more and more emphasis on the sustainable

<sup>69</sup> Rothwell & Stephens, *supra* note 16 at 306.

<sup>70</sup> *UNCLOS*, *supra* note 3, art 133(a).

<sup>71</sup> As implied in *ibid.*, art 78(2), “[t]he exercise of the rights of the coastal State over the continental shelf must not infringe or result in any unjustifiable interference with navigation and other rights and freedoms of other States as provided for in this Convention.”

<sup>72</sup> *Ibid.*, art 61(4). See Rothwell & Stephens, *supra* note 16 at 303.

<sup>73</sup> To that extent, the International Tribunal for the Law of the Sea established that “the conservation of the living resources of the sea is an element in the protection and preservation of the marine environment.” *Southern Bluefin Tuna Cases (New Zealand v Japan; Australia v Japan)*, Provisional Measures, 27 August 1999, [1999] ITLOS Rep 280 at para 70.

<sup>74</sup> *Agenda 21*, *supra* note 37, ch 17. See Jakobsen, *supra* note 36 at 83.

management of the resource concerned, which by definition implies the need to take into account environmental, economic and inter-generational, as well as human rights, aspects.”<sup>75</sup> The influence of environmental law has become increasingly prominent.<sup>76</sup> The *Fish Stocks Agreement* was considered “the missing link between the law of the sea and ... international environmental law”<sup>77</sup> by integrating core environmental principles in the international law of fisheries through Article 5. Among the environmental principles integrated into fisheries law, emphasis has been placed on the ecosystem and integrated approaches.

#### MLR AS PART OF AN ECOSYSTEM

After *UNCLOS*'s adoption, the management and monitoring regime focused on species of commercial importance without taking a systemic approach to minimizing the impacts of fishing activities on the marine environment, especially in areas beyond national jurisdiction. It was observed that “the cause of the all-too-common tragedy of overfishing is not the rapaciousness of fishers but rather arises from the characteristics of fisheries — harvests are rivalrous, fish are fugitive and thus are difficult to ‘own’ and manage, and fisheries are subject to irreducible uncertainties.”<sup>78</sup> With the evolution of scientific understanding, the ecosystem approach to fisheries was developed in order to provide this systemic approach.<sup>79</sup> The *Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR)*<sup>80</sup> was a pioneer in this regard by considering the ecosystem approach to fisheries conservation as a means of prevention.<sup>81</sup>

Three core elements characterize this approach: the holistic management of human activities; scientific knowledge of the structure, components, and dynamics of ecosystems; and consideration of humans and their needs in the

<sup>75</sup> Proelss, “Fisheries,” *supra* note 50 at 181.

<sup>76</sup> The impact of international environmental law in all areas of the international legal system has been called the “greening of international law.” See Paul P Edmonds, “The Greening of International Law” (1994) 1 McGill LJ 742; Philippe Sands, “The Greening of International Law: Emerging Principles and Rules” (1994) 1 Global Leg Studies J 203.

<sup>77</sup> Proelss, “Fisheries,” *supra* note 50 at 190.

<sup>78</sup> Quentin R Grafton, James Kirkley & Dale Squires, *Economics for Fisheries Management* (London: Routledge, 2006) at 2. See also Rothwell & Stephens, *supra* note 16 at 292.

<sup>79</sup> The *CBD* defines an ecosystem as a “dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.” *CBD*, *supra* note 41, art 2.

<sup>80</sup> *Convention on the Conservation of Antarctic Marine Living Resources*, 20 May 1980, 1329 UNTS 47 (entered into force 7 April 1982) [*CCAMLR*].

<sup>81</sup> According to its art II, one of the objectives of the *CCAMLR*, *ibid*, is to prevent changes or minimize the risk of changes in the marine ecosystem.

ecosystem.<sup>82</sup> The FAO has stressed the importance of this approach “to balance diverse societal objectives, by taking account of the knowledge and uncertainties of biotic, abiotic and human components of ecosystems and their interactions” and establishing “an integrated approach to fisheries in ecologically meaningful boundaries.”<sup>83</sup> Therefore, the ecosystem approach aims to establish a sustainable use of MLR and ecosystem services by maintaining ecosystem integrity in a defined area or region.<sup>84</sup>

However, the ecosystem approach is subject to certain limitations. On the one hand, it is not expressed as a principle or an obligation. It refers to an “obligatory consideration”<sup>85</sup> for states when interpreting and applying environmental law.<sup>86</sup> On the other hand, ecosystem-based management deriving from the ecosystem approach has a more anthropocentric sense. It aims to manage different human activities that impact an ecosystem and considers them as being management decisions.<sup>87</sup> That is to say, the ecosystem approach is not an alternative to the zonal approach established under *UNCLOS*; it complements it. For example, the *Fish Stocks Agreement* integrates the ecosystem approach in the conservation and management of MLR in areas beyond national jurisdiction while retaining the zonal approach. It refers to “species belonging to the same ecosystem,”<sup>88</sup> the protection of “biodiversity in the marine environment,”<sup>89</sup> or “biological unity,”<sup>90</sup> but it is limited to areas beyond national jurisdiction.

<sup>82</sup> Jakobsen, *supra* note 36 at 108.

<sup>83</sup> FAO, *The Ecosystem Approach to Fisheries* (FAO: Rome, 2003) at 14.

<sup>84</sup> The Biodiversity Committee established under the *Convention for the Protection of the Marine Environment of the North-East Atlantic*, 22 September 1992, 32 ILM 1069 (entered into force 25 March 1998), has defined the ecosystem approach as “the comprehensive integrated management of human activities based on the best available scientific knowledge about the ecosystem and its dynamics, in order to identify and take action on influences which are critical to the health of marine ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity.” *Summary of the Meeting of the Biodiversity Committee (BDC), Dublin, 20–24 January 2003*, Record No BDC 2003 BDC 03.10.1-E (2003), Annex 13, “Ecosystem Approach to Management of Human Activities” at 1.

<sup>85</sup> Jakobsen, *supra* note 36 at 109.

<sup>86</sup> For an analysis of the relationship between the *CBD* and *UNCLOS*, see Nele Matz, “The Interaction between the Convention on Biological Diversity and the UN Convention on the Law of the Sea” in Peter Ehlers, Elisabeth Mann-Borgese & Rüdiger Wolfrum, eds, *Marine Issues: From a Scientific, Political and Legal Perspective* (The Hague: Kluwer, 2002) 203.

<sup>87</sup> Laurence T Kell et al, “Toward Ecosystem-based Fisheries Management in the Sargasso Sea” (2020) 76:9 ICCAT Collective Volume of Scientific Papers 179.

<sup>88</sup> *FSA*, *supra* note 11, art 5(e).

<sup>89</sup> *Ibid*, art 5(g).

<sup>90</sup> *Ibid*, art 7(2)(d).

Subsequent recourse to area-based-management tools (ABMTs)<sup>91</sup> further illustrates the evolution towards an ecosystem approach to MLR conservation and sustainable use. For example, bottom fisheries closures can help protect vulnerable marine ecosystems and contribute to biodiversity conservation and respective ecosystem services. In the northwest Atlantic, it has been found that deep-water sea pens contain redfish larvae, providing nursery grounds for these valuable species. To ensure the sustainability of the redfish fishery and establish a proper conservation regime, it was recommended that, in their conservation objectives, “managers should also consider the protection of these critical habitats and the biodiversity they contain, following the ecosystem approach.”<sup>92</sup>

#### EXPLOITING MLR THROUGH THE LENS OF THE INTEGRATED APPROACH

After the adoption of *UNCLOS*, scientific studies revealed that ocean life is more connected than previously thought.<sup>93</sup> Therefore, consideration had to be given to the interplay between maritime activities in order to move towards a cross-sectoral and coordinated approach, “where all human activities within [a] defined area are addressed and managed for the purpose of conservation of marine biodiversity.”<sup>94</sup> This integrated ocean management approach was the manifestation of a holistic view of ocean governance where MLR is a part of a broader legal regime. Integrated ocean management broadened the definition of fisheries activities, including fishing *per se*, and integrated other support activities. This extensive redefinition resulted from state practice in interpreting and applying *UNCLOS* to combat illegal, unreported, and unregulated (IUU) fishing, especially in areas beyond national jurisdiction. As an example, the *Convention on the Conservation and Management of Fishery Resources in the South-East Atlantic Ocean* considers “fishing” to be “any operation at sea in support of, or preparation for, any [attempt to search for, catch, take or harvest fishery resources], except for

<sup>91</sup> Area-based management tools (ABMTs) could be defined as spatial closures that offer greater protection “due to more stringent regulation of one or more of all human activities, for one or more purposes.” Elizabeth M De Santo, “Implementation Challenges of Area-based Management Tools (ABMTs) for Biodiversity beyond National Jurisdiction (BBNJ)” (2018) 97 *Marine Policy* 34 at 34. See UNGA, *Resolution on the Development of an International Legally Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction*, GA Res 69/292, UN Doc A/RES/69/292 (19 June 2015).

<sup>92</sup> Daniela Diz et al, “Mainstreaming Marine Biodiversity into the SGDs: The Role of Other Effective Area-based Conservation Measures (SDG 14.5)” (2018) 93 *Marine Policy* 251 at 254.

<sup>93</sup> Census of Marine Life, “Scientific Results to Support the Sustainable Use and Conservation of Marine Life: A Summary of the Census of Marine Life for Decision Makers” (2010) at 4.

<sup>94</sup> Jakobsen, *supra* note 36 at 5.

any operation in emergencies involving the health and safety of crew members or the safety of a vessel.”<sup>95</sup>

In addition, the legal basis for the integrated approach is found in interpretation of Article 56, read together with Article 62(4), of *UNCLOS*. Article 56 of *UNCLOS* posits the general scope of coastal states’ sovereign rights and jurisdiction in the EEZ, while Article 62(4) gives a list of subjects that coastal states may regulate in that sense. The use of the term “*inter alia*” in Article 62(4) suggests that said list is not exhaustive and can include other forms of regulation, provided that they are not different from those listed in the article.<sup>96</sup> To that extent, in the *Virginia G* case, bunkering was considered a support activity to fishing vessels as it “enables [the latter] to continue their activities without interruption at sea.”<sup>97</sup> ITLOS concluded that “the regulation by a coastal State of bunkering of foreign vessels fishing in its exclusive economic zone is among those measures which the coastal State may take in its exclusive economic zone to conserve and manage its living resources.”<sup>98</sup> This understanding deepened the content of conservation and management measures established by coastal states in their EEZ and, therefore, their rights to regulate fisheries activities in this maritime zone. Thus far, the zonal and integrated approaches are complementary in establishing an efficient conservation and management regime. This integrated approach would fail if it did not establish clear jurisdiction for states in different maritime zones, while the zonal approach would be irrelevant without considering the ecosystem approach to MLR and the whole picture of fisheries activities.

In addition, this integrated approach “aims to integrate the management of activities that impact or affect the oceans across sectors, space and time under a unified over-arching vision.”<sup>99</sup> It promotes both the sustainable

<sup>95</sup> *Convention on the Conservation and Management of Fishery Resources in the South-East Atlantic Ocean*, 20 April 2001, 41 ILM 257, art 1(h)(iv) (entered into force 13 April 2003). Similar definitions can be found in other regional conventions such as the 2006 *Southern Indian Ocean Fisheries Agreement*, 7 July 2006, 2835 UNTS 412, art 1(g)(iv) (entered into force 21 June 2012), or the 2012 *Convention on the Determination of Minimum Conditions for Access and Exploitation of Marine Resources within the Maritime Areas under Jurisdiction of the Member States of the Sub-Regional Fisheries Commission*, 8 June 2012, online: <[spsr.org/en/legal-instruments](http://spsr.org/en/legal-instruments)>, art 2(6) (entered into force 16 September 2012).

<sup>96</sup> *Dispute Concerning Filletting within the Gulf of Saint Lawrence (France v Canada)*, Award, 17 July 1986, 82 ILR 590 at para 52. See also the commentary regarding *UNCLOS*, *supra* note 3, art 62, in Harrison & Morgera, “Article 62,” *supra* note 14 at 504.

<sup>97</sup> *M/V “Virginia G” (Panama v Guinea-Bissau)*, Judgment, [1994] ITLOS Rep 4 at para 215.

<sup>98</sup> *Ibid* at para 217. Such a right is, however, limited by *UNCLOS*, *supra* note 3, art 58 — namely, the freedom of navigation enjoyed by other states in the EEZ.

<sup>99</sup> Karen Scott, “Integrated Oceans Management: A New Frontier in Marine Environmental Protection” in Rothwell et al, *supra* note 2, 463 at 465. See also Richard Barnes, “The Law of the Sea Convention and Integrated Regulation of the Oceans” (2012) 27 *Int’l J Mar & Coast L* 859 at 860; Arild Underdal, “Integrated Marine Policy. What? Why? How?” (1980) 4 *Marine Policy* 159 at 159.

development of the oceans and the protection and conservation of the marine environment and its resources. To that extent, integrated management tools have been promoted. Such tools were established in response to the challenges posed by some ABMTs, such as marine protected areas (MPAs), which focused on a “single and narrow range of issues ... rather than being multifunctional” and were more concentrated on the conservation of marine biodiversity<sup>100</sup> than on embracing whole-ocean governance.

These integrated management tools have served to renovate the conservation and management regime of MLR as they have raised concerns regarding involvement of relevant stakeholders. In the traditional conception of international law, states have the primary role in the making, implementation, and enforcement of international rules. With the advent of integrated ocean management, non-state actors are playing an important role in protecting the marine environment. International organizations such as the FAO, regional fisheries bodies, non-governmental institutions such as the International Union for the Conservation of Nature, and individual experts are participating in establishing the future of the conservation and sustainable management regime of MLR. Such broadened participation has led to a growing awareness of the common interest in the conservation of MLR.<sup>101</sup>

#### CURRENT CHALLENGES AND WORK IN PROGRESS

The evolution of marine technology and the adverse effects of climate change have opened up new activities which were not considered when *UNCLOS* was adopted, including the exploration and exploitation of marine genetic resources and the discovery of new and exploratory fisheries. These two activities pose serious challenges to the current meaning of MLR. On the one hand, genetic resources are likely to be “harvestable” — or exploitable — in the near future. They are considered a component of biodiversity as living organisms that could become a resource *per se*. Do they have to be distinguished from MLR or not? On the other hand, new and exploratory fisheries are not considered to be “harvestable.” Therefore, should they be regarded as MLR?

#### BBNJ: TOWARDS A DUAL REGIME FOR MLR

The legal regime of marine genetic resources appeared when biotechnology expanded human use of MLR beyond simple food consumption. These

<sup>100</sup> Scott, *supra* note 99 at 484; Jakobsen, *supra* note 36 at 94.

<sup>101</sup> On that matter, see Vonintsoa Rafaly, “La conservation et la gestion des ressources biologiques en haute mer: vers une ‘socialisation’ du droit de la mer” (Conservation and Management of High Seas Living Resources: Towards a ‘Socialization’ of the Law of the Sea) in Patrick Chaumette, ed, *Le droit de l’océan transformé par l’exigence de conservation de l’environnement marin* (Madrid: Marcial Pons, 2019) 133.

resources are henceforth likely to be valued for their molecules and genes and to attract heightened commercial interest. This situation poses the question whether such exploitation would be governed by *UNCLOS*'s regime on the high seas or a separate regime, especially concerning areas beyond national jurisdiction. Reading Article 87(1) of *UNCLOS*, “[f]reedom of the high seas ... comprises, *inter alia*” a list of activities. The use of the term “*inter alia*” implies that other activities are governed by the freedom of the high seas, as long as the convention does not specify otherwise.<sup>102</sup> Further, the ambiguous definition of MLR under *UNCLOS* raises questions regarding its content, in particular whether it comprises both fisheries resources and marine genetic resources or only the former. These two resources can be commercially valuable, but they differ in their characteristics and the specific principles governing their conservation and management.

On this matter, the *Further Revised Draft Text of an Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction (Revised Draft Agreement)*<sup>103</sup> uses the concept of “marine biological diversity,” which can be confusing since it does not appear in *UNCLOS*.<sup>104</sup> To conciliate this concept with MLR under *UNCLOS*, and in light of Article 31(3)(c) of the *VCLT* and Article 293 of *UNCLOS*,<sup>105</sup> recourse to other rules of public international law is crucial, especially the *CBD*. The latter defines biodiversity as “the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems.”<sup>106</sup> Therefore, when it comes to areas beyond national jurisdiction, the notion of MLR can include both fisheries and genetic resources.<sup>107</sup> A part of the literature considers MLR to be composed of fisheries and

<sup>102</sup> See Alexander Proelss, “Marine Genetic Resources under *UNCLOS* and the *CBD*” (2008) 51 *German YB Intl L* 417 at 430.

<sup>103</sup> *Further Revised Draft Text of an Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction*, UN Doc A/CONF.232/2022/5 (1 June 2022) [*Revised Draft Agreement*].

<sup>104</sup> The fourth session of the Intergovernmental Conference addressed the use of terms during the session, underlining that definitions and substance have a circular relationship and highlighting that setting definitions in stone would mean significant revisions to the *Revised Draft Agreement*. See “Summary of the Fourth Session of the Intergovernmental Conference on an International Legally Binding Instrument under the UN Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biodiversity of Areas Beyond National Jurisdiction: 7–18 March 2022” (2022) 25:225 *Earth Negotiations Bull* 1, online: <enb.iisd.org/sites/default/files/2022-03/enb25225e.pdf>.

<sup>105</sup> The *South China Sea Arbitration* acknowledged that *UNCLOS* can be interpreted in light of “other rules of international law not incompatible with [the] Convention.” See *South China Sea Arbitration (Philippines v China)*, PCA Case No 2013-19 (12 July 2016) at para 941.

<sup>106</sup> *CBD*, *supra* note 41, art 2.

<sup>107</sup> See the definition of “biological resources” in the *CBD*, *ibid*, art 2.

“other living resources such as the marine organisms being targeted by bioprospectors,”<sup>108</sup> which seems to include marine genetic resources.<sup>109</sup> Such reasoning, however, requires attention to two points: on the one hand, the potential engagement of *UNCLOS*’s provisions in the conservation and management of marine genetic resources and, on the other hand, its limits.

Even though they differ from fisheries resources, the legal regime governing marine genetic resources cannot be foreign to that of fisheries. Some authors have seen in the protection of MLR — understood here as fisheries resources — a possible way to protect marine genetic resources indirectly. For example, since “unsustainable fisheries can reduce genetic diversity by changing population characteristics, the protection of the sustainable yields indirectly promotes the genetic variability of the targeted [fisheries resource].”<sup>110</sup> However, the *CBD* attaches to the utilization of genetic resources a regime based on a “fair and equitable sharing of benefit,”<sup>111</sup> which has the opposite meaning of freedom of the high seas. Thus, the regime governing the exploitation of MLR in areas beyond national jurisdiction is incompatible with the exploitation of marine genetic resources, as the principle driving the conservation and management of MLR under *UNCLOS* is primarily exploitation oriented.

To overcome this normative gap, the United Nations General Assembly decided in 2017 to convene an intergovernmental conference on an international legally binding instrument (ILBI) under *UNCLOS* on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.<sup>112</sup> The new ILBI is intended to “complement and strengthen the existing framework and prevent the adoption of weaker or dissonant management measures.”<sup>113</sup> In the *Revised Draft Agreement*, it is stressed that the new ILBI concerns “marine biological diversity of areas beyond national jurisdiction, in particular, together and as a whole, marine genetic resources.”<sup>114</sup> Therefore, this new ILBI would affirm the distinction between MLR and marine genetic resources as a part of marine biological

<sup>108</sup> Rothwell & Stephens, *supra* note 16 at 285.

<sup>109</sup> The *Revised Draft Agreement* proposes three alternatives to define the term “marine genetic resources.” The recurring elements in those definitions are the nature of the resources as “material of marine plant, animal, microbial or other origin”; and their “actual or potential value.” See *Revised Draft Agreement*, *supra* note 103, art 1 (9).

<sup>110</sup> Wolfrum & Matz, *supra* note 48 at 446.

<sup>111</sup> *CBD*, *supra* note 41, art 1.

<sup>112</sup> *Resolution on an International Legally Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction*, GA Res 72/249 (24 December 2017), UN Doc A/RES/72/249 [Resolution on an International Legally Binding Instrument].

<sup>113</sup> Guillermo Ortuno Crespo et al, “High-seas Fish Biodiversity Is Slipping through the Governance Net” (2019) 3 *Nature Ecology & Evolution* 1273 at 1273.

<sup>114</sup> *Revised Draft Agreement*, *supra* note 103, Note by the President at para 2.

diversity. The question here is whether this new ILBI or some of its features could apply to MLR.

The *Revised Draft Agreement* itself is confusing in its title. From its title, it is meant to regulate “the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.” However, there is no definition of such marine biological diversity in the general provisions but only a definition of “marine genetic resources.” There are two proposed alternatives for defining the latter: on the one hand, “any material of marine plant, animal, microbial or other origins, found in or originating from areas beyond national jurisdiction and containing functional units of heredity with an actual or potential value of their genetic and biochemical properties” and, on the other hand, “marine genetic material of actual or potential value.”<sup>115</sup> These definitions tie in with the definition given by the *CBD*. Additionally, the scope of application of the new ILBI is likely to embrace “the high seas and the Area.”<sup>116</sup> At this stage, it seems that the new ILBI excludes MLR, understood as fisheries resources. This exclusion is evidenced in Article 4<sup>117</sup> and Article 8 of the *Revised Draft Agreement*. Article 8, in its second paragraph, states that the agreement “shall not apply to the use of fish or other biological resources as a commodity.”<sup>118</sup>

The new instrument would thus create a dual regime for MLR in areas beyond national jurisdiction, distinguishing fisheries resources from marine genetic resources. Some principles and approaches driving the new instrument are foreign to the MLR conservation and management regime under *UNCLOS* and could be incompatible with certain established principles. It would be difficult to combine, for example, the principles of the common heritage of mankind<sup>119</sup> or the sharing of benefits<sup>120</sup> with the principle of the freedom of the high seas. However, even if disconnected from fisheries resources concerns, this new instrument impacts, to a certain extent, the MLR conservation and management regime. Some of its provisions are of relevance to fisheries law. In earlier meetings, some delegates raised some relevant points concerning fisheries matters that have to be dealt with by the new ILBI. For example, they highlighted problems relating to the lack of

<sup>115</sup> *Revised Draft Agreement*, *supra* note 103, art 1(11).

<sup>116</sup> *Ibid*, art 1(4), defining the term “areas beyond national jurisdiction.”

<sup>117</sup> *Ibid*, art 4 states that “1. Nothing in this Agreement shall prejudice the rights, jurisdiction and duties of States under the Convention. This Agreement shall be interpreted and applied in the context of and in a manner consistent with the Convention ... 3. This Agreement shall be interpreted and applied in a manner that [respects the competences of and] does not undermine relevant legal instruments and frameworks and relevant global, regional, subregional and sectoral bodies” [square brackets in original].

<sup>118</sup> *Ibid*, art 8(2).

<sup>119</sup> *Ibid*, art 5(c).

<sup>120</sup> *Ibid*, art 7(a).

effective flag state control over fishing vessels, the need to improve port state control, the effectiveness of MPAs, the weak performance of regional fisheries management organizations (RFMOs), and the gaps in geographical and species coverage of these regional organizations.<sup>121</sup>

Therefore, the new ILBI could provide an opportunity to strengthen the conservation and sustainable use of MLR by enhancing the legal basis for ABMTs. This could be done by recognizing and articulating the core and common guiding principles and approaches of ocean governance.<sup>122</sup> By the time of writing this article, the crucial role of the Conference of the Parties (COP) had been highlighted during the fourth Intergovernmental Conference, convened on 7–18 March 2022. A common understanding appeared on the role of the COP “in promoting coherence and complementarity” in establishing ABMTs.<sup>123</sup> Such a role is crucial in crafting a complementary agreement that would not undermine the evolution of the legal framework on the conservation and sustainable use of MLR on the high seas, especially the role of existing RFMOs and regional fisheries bodies.<sup>124</sup>

Moreover, the institutional framework via existing mechanisms was highlighted during the negotiation process as a significant tool for the protection and conservation of areas and biodiversity beyond national jurisdiction. RFMOs consider the cumulative impacts of different human activities in areas beyond national jurisdiction.<sup>125</sup> However, these regional organizations’ mandates and competencies are limited and have been

<sup>121</sup> Barnes, “Proposed LOSC,” *supra* note 38 at 113.

<sup>122</sup> The general principles are concerned with the protection and preservation of the marine environment, the conservation of high seas resources, sustainable and equitable use, cooperation, the precautionary approach, the ecosystem approach, the integrated approach, the use of best available science, inclusive and transparent processes, and many more. *Ibid* at 130.

<sup>123</sup> *Report of the Intergovernmental Conference on an International Legally Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction*, UN Doc A/CONF.232/2022/4 (2022) at 14.

<sup>124</sup> In her closing statement, President Rena Lee referred to “a two-tiered approach” in the decision-making process to establish ABMTs, depending on the existence or not of relevant legal instruments and frameworks and relevant global, regional and sectoral bodies. *Ibid*.

<sup>125</sup> *Joint Statement of the Co-Chairpersons of the Ad-Hoc Open-ended Informal Working Group to Study Issues Relating to the Conservation and Sustainable Use of Marine Biological Diversity beyond Areas of National Jurisdiction*, UN Doc A/63/79 (16 May 2008) at para 24; *Report of the Ad Hoc Open-ended Informal Working Group to Study Issues Relating to the Conservation and Sustainable Use of Marine Biological Diversity beyond Areas of National Jurisdiction*, UN Doc A/65/68 (16 May 2008) at para 12; *Recommendations of the Ad Hoc Open-ended Informal Working Group to Study Issues Relating to the Conservation and Sustainable Use of Marine Biological Diversity beyond Areas of National Jurisdiction and Co-Chairs’ Summary of Discussions*, UN Doc A/66/119 (30 June 2011) at para 14. See Barnes, “Proposed LOSC,” *supra* note 38 at 117.

seriously questioned. This point of view was expressed during early negotiations on the new ILBI. Some delegations pointed out the lack of “capability or competence [of RFMOs] to deal with all fisheries issues in areas beyond national jurisdiction because they lack a holistic approach/capacity ... or ... mechanisms for dealing with non-fisheries issues such as vulnerable ecosystems.”<sup>126</sup> Therefore, the new ILBI was seen as an opportunity to strengthen the role of RFMOs.<sup>127</sup> However, the negotiations have followed a rather different path — that is, the negotiating process has led to proposals to adopt conservation and management/sustainable use measures that are complementary to existing relevant instruments, frameworks and global, regional, or sectoral bodies.<sup>128</sup> This is likely to add another layer of complexity to the existing legal framework. In addition, it is regrettable that, except for establishing the general framework for cooperation between states and international and regional organizations, the new ILBI does not emphasize the duty to cooperate, compared to earlier legal instruments on the conservation and sustainable use of MLR, especially in areas beyond national jurisdiction. In comparison to the fourth, the fifth intergovernmental conference, which is expected in August 2022, will be of the utmost importance for the renewed conservation and management of MLR in areas beyond national jurisdiction.

#### UNCLOS AND CLIMATE CHANGE: TOWARDS THE POTENTIAL VALUE OF NEW AND EXPLORATORY FISHERIES

The adverse effects of climate change on the oceans has raised a number of issues, including the melting of sea ice, sea-level rise, the rising temperature of the surface of oceans, ocean acidification, the shift of ocean currents, and many more. Concerning MLR and their conservation regime, the most significant issue is the shift in the distribution — or redistribution — of marine species due to the alteration of ocean conditions.<sup>129</sup> Scientists have

<sup>126</sup> *Report of the Ad Hoc Open-ended Informal Working Group to Study Issues Relating to the Conservation and Sustainable Use of Marine Biological Diversity beyond Areas of National Jurisdiction*, UN Doc A/61/65 (20 March 2006) at para 25 [2006 *Report of the Ad Hoc Open-ended Informal Working Group*].

<sup>127</sup> *Ibid* at para 55. See Barnes, “Proposed LOSC,” *supra* note 38 at 115.

<sup>128</sup> See especially *Revised Draft Agreement*, *supra* note 103, arts 19, 19bis (options I and II). Since the discussions in the Ad Hoc Open-Ended Informal Working Group, several delegations have not been supportive of the proposal involving the creation of new institutions, preferring to focus on strengthening existing ones, in particular RFMOs, in areas where they exist (2006 *Report of the Ad Hoc Open-ended Informal Working Group*, *supra* note 126). The nature and extent of these complementary measures were not resolved at the fourth session of the Intergovernmental Conference.

<sup>129</sup> See William WL Cheung et al, “Large-Scale Redistribution of Maximum Fisheries Potential in the Global Ocean under Climate Change” (2010) 16:1 *Global Change Biology* 24.

observed that species will likely shift to the North and higher latitudinal regions, understood as offshore regions of the North Atlantic, the North Pacific, and the Arctic. Conversely, catch potential from many coastal areas will decline by 2050.<sup>130</sup> The scope and consequences of such natural phenomena are still uncertain.<sup>131</sup> However, this situation will likely lead to new governance challenges for fisheries management, including the issue of new and exploratory fisheries.

Fisheries can be defined as new and exploratory in three cases: first, fisheries “introduced in respect of species that have not previously been fished on a commercial basis”; second, “new fishing areas piloted under the auspices of extant regulatory structures for species that may already be subject to exploitation”; and, finally, “new methods of catching in existing fisher[ies].”<sup>132</sup> As a matter of fact, the global regulation of new and exploratory fishing is ambiguous and lacking in clarity. Article 6(6) of the *Fish Stocks Agreement* provides that, for new and exploratory fisheries, “States shall adopt as soon as possible cautious conservation and management measures, including, among other things, catch limits and effort limits. Such measures shall remain in force until there are sufficient data to allow assessment of the impact of the fisheries on the long-term sustainability of the stocks, whereupon conservation and management measures based on that assessment shall be implemented. The latter measures shall, if appropriate, allow for the gradual development of the fisheries.”<sup>133</sup> Three elements are relevant in this provision: the application of the precautionary approach to new and exploratory fisheries; the non-existence or lack of proper legal frameworks regulating these activities; and the importance of impact assessments prior to any exploration or exploitation.

First, the lack of knowledge on complex ecological interactions and the potential damage of specific activities to the marine environment and biodiversity “indicates that the precautionary principle plays an important role in conserving marine biodiversity.”<sup>134</sup> In the *Southern Bluefin Tuna* cases, ITLOS stressed that the obligations to act “with prudence and caution” and to cooperate with other relevant stakeholders in the fishery constitute key

<sup>130</sup> *Ibid* at 28.

<sup>131</sup> Tim Stephens & David L Vanderzwaag, “Polar Oceans Governance: Shifting Seascapes, Hazy Horizons” in Tim Stephens & David L Vanderzwaag, eds, *Polar Oceans Governance in an Era of Environmental Change* (Cheltenham, UK: Edward Elgar, 2014) 1 at 2.

<sup>132</sup> Richard Caddell, “Precautionary Management and the Development of Future Fishing Opportunities: The International Regulation of New and Exploratory Fisheries” (2018) 33 *Intl J Mar & Coast L* 199 at 205. See also the definition given by the CCAMLR, *supra* note 80, Conservation Measure 21-01, online: <[www.ccamlr.org/en/measure-21-01-2016](http://www.ccamlr.org/en/measure-21-01-2016)>.

<sup>133</sup> This provision is reproduced in the *FAO Code of Conduct for Responsible Fisheries* (Rome: FAO, 1995) at para 7.5.4.

<sup>134</sup> Jakobsen, *supra* note 36 at 97.

considerations when pursuing experimental fishing programs. On this matter, it is essential that the relevant stakeholders should cooperate concerning data sharing and prior notifications, for example.<sup>135</sup> To that extent, the Arctic fisheries regime is a significant example. The melting of sea ice in the Arctic, the opening up of some areas to shipping, and the discovery of new commercially attractive fisheries resources, all due to the adverse effects of climate change, have required the designation of a special maritime and environmental regime for the Arctic Ocean, having regard to its uniqueness. To address such evolving concerns, specific rules and standards need to be developed. Through the 2018 *Agreement on Fisheries in the Central Arctic Ocean (CAOF Agreement)*,<sup>136</sup> Arctic coastal states<sup>137</sup> and distant-water fishing nations<sup>138</sup> have anticipated pressures to initiate industrial fishing. As an illustration of the precautionary approach, the *CAOF Agreement* aims to “prevent unregulated fishing in the high seas portion of the central Arctic Ocean through the application of precautionary conservation and management measures.”<sup>139</sup> It enhances broader cooperation by bringing together relevant stakeholders.

Second, concerning the lack of a proper legal framework, little has been said about new and exploratory fisheries in *UNCLOS*'s framework, with the exception of Article 6(6) of the *Fish Stocks Agreement*. Therefore, regarding the existing legal framework, the exploitation of new and exploratory fisheries could be regarded as unregulated fishing — as defined by the *International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing*<sup>140</sup> — if it is “conducted in a manner inconsistent with State responsibilities for the conservation of living marine resources under

<sup>135</sup> The Tribunal referred to *UNCLOS*, *supra* note 3, arts 61(5), 119(2), especially stressing that such exploratory fishing “should not be conducted in a manner that compromises the rights of other states or the health of the target stock and its wider ecosystem.” See Caddell, *supra* note 132 at 208.

<sup>136</sup> *Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean*, 3 October 2018 (not yet in force) [*CAOF Agreement*]. See Annex to the Proposal for a Council Decision on the Signing of the Agreement, online: <[eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:52018PC0454](http://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:52018PC0454)>.

<sup>137</sup> The Arctic coastal states are Canada, Denmark, Greenland, the Russian Federation, and the United States.

<sup>138</sup> Namely, China, the European Union, Iceland, Japan, and South Korea.

<sup>139</sup> *CAOF Agreement*, *supra* note 136, art 2.

<sup>140</sup> FAO, *International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing* (Rome: FAO, 2001) at para 3.3.2 (“[u]nregulated fishing refers to fishing activities ... in areas or for fish stocks in relation to which there are no applicable conservation or management measures and where such fishing activities are conducted in a manner inconsistent with State responsibilities for the conservation of living marine resources under international law”).

international law.”<sup>141</sup> The legal scope of this provision is ambiguous and remains limited to the conservation and sustainable use regime of MLR. However, new concepts and tools are under development, along with “dynamic ocean management,” including “management that changes in space and time in response to the shifting nature of the oceans and its users based on the integration of current biological, oceanographic, social, and/or economic data.”<sup>142</sup> Such tools will enable the development of an appropriate conservation and management regime in line with biological and ecological changes to the marine environment.

Finally, the question related to environmental impact assessments (EIAs) is interesting on the matter of new and exploratory fisheries. Even EIAs are not typical in fisheries law. However, concerning new and exploratory fishing, they have been considered in some legal instruments, such as the FAO’s *Deep-sea Fisheries Guidelines*.<sup>143</sup> According to these guidelines, flag states and RFMOs or other arrangements should conduct EIAs. These EIAs should address different elements such as the type(s) of fishing undertaken or planned, changes that are likely to occur, and identification of vulnerable marine ecosystems. There is no overarching regime for EIA application, especially for areas beyond national jurisdiction. Therefore, EIAs were recognized as a “key component of ocean environmental governance” by the BBNJ Working Group,<sup>144</sup> emphasizing — again — the crucial opportunity for the new ILBI.

#### FINAL CONSIDERATIONS

In conclusion, it can be said that the meaning and scope of application of the term “MLR” is ever-evolving. Initially, MLR were considered primarily as fisheries resources. Then, the impact of environmental law on the interpretation and application of *UNCLOS* relating to their conservation and management introduced the notion of “marine biodiversity,” including both fisheries resources and marine genetic resources. Even considered as resources, characterized by their current or potential value, this extensive definition entails a dual regime for MLR conservation and management, showing the limits of the scope of application of the term MLR under

<sup>141</sup> *Ibid* at para 3.3.2.

<sup>142</sup> Alistair J Hobday et al, “Dynamic Ocean Management: Integrating Scientific and Technological Capacity with Law, Policy, and Management” (2014) 33:2 *Stanford Environmental LJ* 125 at 127.

<sup>143</sup> FAO, *International Guidelines for the Management of Deep-Sea Fisheries in the High Seas* (Rome: FAO, 2009) at paras 47–53.

<sup>144</sup> *Report of the Ad Hoc Open-ended Informal Working Group to Study the Issues Relating to the Conservation and Sustainable Use of Marine Biological Diversity beyond Areas of National Jurisdiction and Co-Chairs’ Summary of Discussions*, UN Doc A/68/399 (23 September 2013).

*UNCLOS*. Undoubtedly, *UNCLOS* is the “constitution of the oceans,” but its expansive interpretation has its limits and some of its principles still need to be renewed. At a time when the conservation of MLR has become an increasing concern of common interest, reshaping the interpretation and application of *UNCLOS*, is the latter still fit for purpose in facing current and future global ocean challenges?