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NEGOTIATING CONSERVATION AND SUSTAINABLE USE OF MARINE BIOLOGICAL DIVERSITY IN AREAS BEYOND NATIONAL JURISDICTION: PROSPECTS AND CHALLENGES

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Abstract

Negotiations will start at the United Nations in order to draft an agreement on conservation and sustainable use of marine biological diversity beyond national jurisdiction. It will address, together and as a whole, marine genetic resources, including questions on the sharing of benefits, area-based management tools, including marine protected areas, environmental impact assessments, capacity building and transfer of marine technology. The new agreement would fill certain gaps currently existing in the United Nations Convention on the Law of the Sea. It could include provisions for strategic impact assessment of activities affecting the environment, the creation of a network of high seas marine protected areas of world importance and the establishment of a new regime for the exploitation of genetic resources. The question is open whether such a new regime should be based on the principle of the freedom of the seas, and in this case the very need of such a regime becomes questionable, or rather on the principle of common heritage of mankind. A third possibility involves a pragmatic approach, as proposed by the European Union and its Member States, an approach that however is still to be defined in its concrete elements.

Keywords: law of the sea; United Nations Convention on the Law of the Sea; marine protected areas; marine genetic resources.

1. A FUTURE THIRD UNCLOS IMPLEMENTATION AGREEMENT?

On 23 January 2015 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 (hereinafter "Working Group"),[1] chaired by Palitha T.B. Kohona and Liesbeth Lijnzaad, recommended by consensus to the UN General Assembly "to develop an international legally-binding instrument under the [United Nations Convention on the Law of the Sea] on the conser-

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[1] It was established by UN General Assembly Resolution 59/24 of 17 November 2004. For a review of the activities of the Working Group, see Earth Negotiations Bulletin, No. 94, 26 January 2015.

vation and sustainable use of marine biological diversity of areas beyond national jurisdiction".

By the end of its present sixty-ninth session,[2] the General Assembly will probably follow the recommendation of the Working Group, in which case, a multilateral negotiation will start to draft what could become a third implementation agreement of the UN Convention on the Law of the Sea (UNCLOS),[3] an important step towards progressive development of the international law of the sea. Today there is a "need for the comprehensive global regime to better address the conservation and sustainable use of marine biodiversity beyond areas of national jurisdiction", as pointed out in the recommendations of the Working Group.

The future negotiations should address the topics already identified in 2011 by the Working Group itself and confirmed by the General Assembly in the annex to Resolution 66/231 of 24 December 2011 on "Oceans and the Law of the Sea", namely

> "the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction, in particular, together and as a whole, marine genetic resources, including questions on the sharing of benefits, measures such as area-based management tools, including marine protected areas, environmental impact assessments and capacity building and the transfer of marine technology".

The topics are intended as a "package", in the sense that none of them can be separated from the others. The process for the negotiations should encompass two phases, as recommended by the Working Group. In the first, a preparatory committee should be established "to make substantive recommendations to the General Assembly on the elements of a draft text of an international legally-binding instrument under the Convention". The preparatory committee should start its work in 2016 so as to report its progress to the General Assembly by the end of 2017. In

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[2] The sixty-ninth session of the General Assembly will end in September 2015. The deadline comes from Resolution 66/288 of 27 July 2012, by which the General Assembly endorsed the commitments embodied in "The Future We Want" (UN Doc. A/RES/66/288 (2012), the outcome document of the UN Conference on Sustainable Development (Rio de Janeiro, 2012). They include the commitment "to address, on an urgent basis, the issue of the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction, including by taking a decision on the development of an international instrument under the United Nations Convention on the Law of the Sea, before the end of the sixty-ninth session of the United Nations General Assembly" (para. 162).

[3] 10 December 1982, entered into force 16 November 1994. The existing implementation agreements are: Agreement relating to the Implementation of Part XI of the UNCLOS (28 July 1994, entered into force 28 July 1996); and Agreement for the Implementation of the Provisions of the United Nations Convention of 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,enterd into force 11 December 2001).

the second phase, before the end of its seventy-second session (2017-2018), the General Assembly,

> "taking into account the report of the preparatory committee, […] will decide on the convening and on the starting date of an intergovernmental conference, under the auspices of the United Nations, to consider the recommendations of the preparatory committee and to elaborate the text of an international legally-binding instrument under the Convention".

The decision to make the first step towards the development of a new agreement on marine biodiversity beyond national jurisdiction was not an easy one. Already in 2004 the European Union (EU) declared:

> "[I]n principle the European Union would support the development of an instrument, within the framework of the Law of the Sea Convention, that will provide for the conservation and management of marine biological diversity in areas beyond the limits of national jurisdiction, including the establishment and regulation, on an integrated basis, of marine protected areas where there is a scientific case for establishing these areas".[4]

Most participants at the 2015 meeting of the Working Group, including many developing countries as well as the EU and its Member States, stressed that several common views on the substantive aspects of a future regime already exist and insisted on the need for a legally binding instrument to fill some evident gaps in the UNCLOS. As recalled in the co-chair's summary of discussions,

> "[M]any delegations reiterated that the status quo was not acceptable and considered that there was growing momentum to recommend to the General Assembly that it decide to launch negotiations to develop an international instrument under the Convention. They considered that the elaboration of such an instrument was feasible from a political, legal and technical standpoint".[5]

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[4] Statement made on 8 June 2004 at the UN Informal Consultative Process on Oceans and the Law of the Sea (ICP) by Declan Smyth on behalf of the EU. At the 2005 ICP meeting, Liesbeth Lijnzaad stated on behalf of the EU that it is "important to differentiate between the medium-term track and the short-term track. In the short-term, urgent action to address destructive practices and to protect marine biodiversity and particularly vulnerable eco-systems must be taken. […] The medium-term track should be aimed at the development of an implementing agreement of UNCLOS".

[5] UN Doc. A/69/780 (2015), para. 12.

For example, the EU and its Member States expressed the view that a third UNCLOS implementation agreement "will bring an added value to the present legal regime of oceans and seas, moving from sectorial and fragmented approaches to a global and more coherent vision", adding that it was time "to move from the technical to the political and legal level and start the formal negotiation for a binding instrument".[6]

However the path towards the implementation agreement is not easy. For different reasons, a minority of States (including Canada, the Russian Federation, the United States) express scepticism about the need for a new agreement:

> "Some delegations stated that discussions had not been exhausted on the way forward to address issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction and that some questions still needed to be addressed. It was observed that the status quo was mainly due to limited political will to implement existing instruments, which did not constitute a legal gap but one of implementation that would not be addressed by adopting a new instrument. Some delegations observed that focusing on the effective implementation and enforcement of existing legally binding instruments would better ensure the conservation and sustainable use of marine biodiversity beyond areas of national jurisdiction. In that regard, given the need to tackle issues on an urgent basis and the significant resources and efforts required to negotiate a new instrument, preference was expressed for focusing on ways to strengthen the implementation of existing instruments.[7]
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> Some delegations expressed concern about negotiating a new legally binding agreement without a clear understanding of what it would cover. It was noted that while there was some clarity on the breadth of questions involved, there was insufficient clarity on possible answers. The view was also expressed that the package agreed in 2011 was no more than a description of major topics to be addressed, which did not specify which activities would be covered by a new instrument or clarify that a new instrument would not prejudice the rights, duties and interests of States, and not diminish authorities or mandates under existing international law".[8]

Consensus was finally reached on the development of a legally binding instrument. This means a treaty, which is something very different from a set of recommendations or guidelines. However the date of the opening of an intergovernmental

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[6] Opening statement made on 20 January 2015 before the Working Group by Tullio Scovazzi on behalf of the EU and its Member States.

[7] UN Doc. A/69/780, *cit. supra* note 5, para. 13.

[8] *Ibid.*, para. 14.

conference for the drafting of the future treaty is subordinate to a decision that the General Assembly is called to take in 2018, after considering the progress made by the preparatory committee.[9]

A question to be carefully discussed is the relationship between the future regime and existing instruments. In this respect, in 2015 the Working Group pointed out that the process of developing a new agreement under the UNCLOS "should not undermine existing relevant legal instruments and frameworks and relevant global, regional and sectoral bodies". It could be assumed that the new agreement would not directly enter into those fields, such as shipping, mining or fishing, that are already regulated under specific treaties and fall under the competence of existing international organizations, such as the International Maritime Organization (IMO), the International Seabed Authority (ISBA) or regional fisheries management organizations. Nevertheless, the new agreement could address issues relating to shipping, mining or fishing, insofar as they are incidental for achieving its general conservation objectives. For example, while the new agreement would not regulate the allocation of quotas of catch to fishing States, it could consider the impact of fishing activities wherever there is a need to conduct a multi-purpose impact assessment in a given area or to adopt conservation measures that apply in a marine protected area of the network established under the agreement. More generally, in May 2014 a written submission to the Working Group by Greece on behalf of the EU and its Member States stated:

> "[T]he Implementing Agreement will respect the mandates of existing organizations and will not duplicate their activities. However, the majorities of the existing bodies entrusted with competences potentially affecting marine biodiversity beyond areas of national jurisdiction have a sectorial and/or regional mandate, and none of them is assigned with a global responsibility concerning this subject as a whole. This is a gap that should be filled by the Implementing Agreement. Such an instrument would provide an added value by adding a global approach to the present sectoral frameworks and by moving from fragmentation to coherence".

2. The Gaps in the UNCLOS Regime

The future negotiations are likely to become a challenging task for the substantive questions that are addressed.[10] In the case of some issues relevant for the

[9] This process has been called "procedural baby-steps forward" in Earth Negotiations Bulletin, *cit. supra* note 1, p. 10.

[10] See Druel, Rochette and Chiarolla, *A Long and Winding Road – International Discussions on the Governance of Marine Biodiversity in Areas Beyond National Jurisdiction*, IDDRI Study No. 7, 2013, available at: <http://www.iddri.org/Publications/>.

conservation and sustainable use of marine biological diversity beyond national jurisdiction UNCLOS only provides a very general legal framework that needs to be supplemented with more detailed rules. For example, under Article 206[11] parties are obliged to assess the effects of activities that may cause substantial pollution of, or significant and harmful changes to, the marine environment. However, this obligation applies "as far as practicable" and there is no indication on how the assessment should be made.[12] Moreover, no internationally agreed procedures are in place to assess the cumulative impact of different activities carried out by different States in the same area beyond national jurisdiction (so-called strategic impact assessment).

A similar situation of lack of a specific regime occurs in the case of marine protected areas beyond the limits of national jurisdiction. The UNCLOS puts emphasis on the general objective of preservation and protection of the marine environment, both at world and regional levels and according to the different sources of pollution, as specified in UNCLOS Part XII. All States are under an obligation arising from customary international law – restated in Article 192 UNCLOS – "to protect and preserve the marine environment". A means to comply with this general obligation is the use of area-based management tools, including marine protected areas, which is implied in Article 194(5) UNCLOS. According to this provision, the measures taken to protect and preserve the marine environment "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".[13]

Article 194(5) applies everywhere in the sea, including the high seas and the seabed. However, UNCLOS does not specify how marine protected areas can be identified and designated, nor does it indicate what kind of measures could be adopted in marine protected areas and how they should be managed. These gaps should be filled by the future legally binding instrument, also taking advantage, *mutatis mutandis*, of what can be found, albeit in a fragmentary way, in existing international instruments.

The most complex issue to address in the future negotiations seems to be genetic resources beyond areas of national jurisdiction,[14] a subject for which no specific

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[11] "When States have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment, they shall, as far as practicable, assess the potential effects of such activities on the marine environment and shall communicate reports of the results of such assessments in the manner provided in article 205".

[12] See DRUEL, *Environmental Impact Assessments in Areas beyond National Jurisdiction*, IDDRI Study No. 7, 2013, available at: <http://www.iddri.org/Publications>.

[13] Rare or fragile marine ecosystems present various characteristics and are found in areas which have different legal conditions. While wetlands, lagoons or estuaries are located along the coastal belt, other kinds of ecosystems, such as seamounts, hydrothermal vents and submarine canyons, are often found at a certain distance from the coast, in areas located beyond the limits of the exclusive economic zone.

[14] See International Union for Conservation of Nature (IUCN), *Information Papers for the Intersessional Workshop on Marine Genetic Resources*, Bonn, 2-3 May 2013.

rules may be found in UNCLOS or in the 1992 Convention on Biological Diversity (CBD). In such a legal vacuum, it is difficult to understand how a relevant regime could be drawn from the application of existing legal instruments.

The considerations developed hereunder will deal with two of the main elements of the "package", namely marine protected areas[15] and genetic resources.[16]

3. Marine Protected Areas

3.1. The Notion of Marine Protected Area

A marine protected area can generally be understood as an area of marine waters or seabed that is delimited within precise boundaries, including, if appropriate, buffer zones, and that is granted a special protection regime because of its significance for a number of reasons (ecological, biological, scientific, cultural, educational, recreational, etc.).[17] This broad notion of marine protected area does not substantively depart from the definition of "protected area" given by Article 2 of the CBD, that is "a geographically defined area which is designated or regulated and managed to achieve specific conservation objectives". Also, it is similar to the definition of "marine and coastal protected areas" that has been proposed by the Ad Hoc Technical Group on Marine and Coastal Protected Areas, established within the framework of the same convention:

> "'Marine and coastal protected areas' means any defined area within or adjacent to the marine environment, together with its overlying waters and associated flora, fauna and historical and cultural features, which has been reserved by legislation or other effective means, including custom, with the effect that its marine and/or coastal biodiversity enjoys a higher level of protection than its surroundings".[18]

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[15] See *infra* section 3.

[16] See *infra* section 4.

[17] This definition is recalled in note 11 of Decision VII/5 on Marine and Coastal Biological Diversity, adopted in 2004 by the Conference of the Parties to the CBD.

[18] IUCN has defined a protected area as "an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources and managed through legal or other effective means". It has developed a number of protected area management categories, which are also applicable to the marine environment, namely: Strict Nature Reserve (protected area managed mainly for science); Wilderness Area (protected area managed mainly for wilderness protection); National Park (protected area managed mainly for ecosystem protection and recreation); Natural Monument (protected area managed mainly for conservation of specific natural features); Habitat/Species Management Area (protected area managed mainly for conservation through management intervention); Protected Landscape/Seascape (protected area managed mainly for landscape/seascape conservation and recreation); and Managed Resource Protected Area (protected area managed mainly for the sustainable use of natural ecosystems).

The establishment of marine protected areas as a means to ensure the protection of the marine environment is consistent with the most advanced concepts of environmental law and policy, such as sustainable development, precautionary approach, integrated coastal zone management, marine spatial planning, ecosystem approach and transboundary cooperation. Marine protected areas are a rather flexible instrument. The measures adopted within them can be limited to those necessary to achieve the prescribed objectives, without unnecessarily burdening those who engage in activities that can be carried out in an environmentally sustainable way.

3.2. The Relevant Policy Instruments

A number of policy instruments call for action towards the establishment of marine protected areas. According to Agenda 21,[19] States, acting individually, bilaterally, regionally or multilaterally and within the framework of IMO and other relevant international organizations, should assess the need for additional measures to address degradation of the marine environment. Agenda 21 stresses the importance of protecting and restoring endangered marine species, as well as preserving habitats and other ecologically sensitive areas, both on the high seas and in the zones under national jurisdiction.[20] In particular, it establishes that "States commit themselves to the conservation and the sustainable use of marine living resources on the high seas. To this end, it is necessary to: […] e) protect and restore marine species; f) preserve habitats and other ecologically sensitive areas" (paragraph 17.46). Moreover, it provides that "States should identify marine ecosystems exhibiting high levels of biodiversity and productivity and other critical habitat areas and provide necessary limitations on use in these areas, through, inter alia, designation of protected areas" (paragraph 17.86).

The Plan of Implementation of the World Summit on Sustainable Development (Johannesburg, 2002) confirms the need to promote the conservation and management of the ocean and "maintain the productivity and biodiversity of important and vulnerable marine and coastal areas, including in areas within and beyond national jurisdiction" (paragraph 32(a)). To achieve this aim, the Plan puts forward the objective of a representative network of marine protected areas and sets forth the deadline of 2012 for its achievement. States are invited to "develop and facilitate the use of diverse approaches and tools, including […] the establishment of marine protected areas consistent with international law and based on scientific information, including representative networks by 2012 and time/area closures for the protection of nursery grounds and periods […]" (paragraph 32(c)).

In 2010, an in-depth discussion on the issue of "area-based management tools, in particular marine protected areas" took place in the already mentioned Working

[19] That is the action programme adopted in Rio de Janeiro by the 1992 United Nations Conference on Environment and Development.

[20] See para. 17.75(e) and (f).

Group.[21] Attention was drawn to the lack of progress in meeting the commitment in the Johannesburg Plan of Implementation with respect to areas beyond national jurisdiction.[22] Several delegations noted the fundamental role of area-based management tools, including marine protected areas, in the conservation and sustainable use of marine biodiversity and in ensuring the resilience of marine ecosystems. They highlighted the importance of these tools, as part of a range of management options, in implementing precautionary and ecosystem approaches to the management of human activities and in integrating scientific advice on cross-sectorial and cumulative impacts.[23] In particular,

> "[I]t was underlined that management arrangements should be based on science, including considerations of threats and ecological values. Several delegations emphasized the need for flexibility in the selection of area-based management tools, and the need to avoid a 'one-size-fits-all' approach, recognizing regional and local characteristics. In this regard, some delegations noted that the designation of marine protected areas did not require closing those areas to all activities, or particular activities, but rather managing those areas to ensure that ecological values were maintained. A suggestion was made that fisheries management measures, such as the protection of spawning stocks and the establishment of catch or fishing limits for specific areas could be considered a form of marine protected area.
> […] The view was expressed that marine protected areas needed to have: clearly delineated boundaries; a strong causal link between the harm being addressed and management measures, which should be flexible and adaptive; and implementation, compliance and enforcement measures consistent with international law, as reflected in the Convention [i.e. UNCLOS] […]".[24]

The Working Group recommended to the UN General Assembly to recognize the work of competent international organizations related to the use of area-based management tools and the importance of establishing marine protected areas, and to call upon States to work through such organizations towards the development of a common methodology for the identification and selection of marine areas that may benefit from protection.[25]

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[21] See *supra* note 1.
[22] UN Doc. A/65/8 (2010), para. 60.
[23] *Ibid.*, para. 58.
[24] *Ibid.*, paras. 66 and 67.
[25] *Ibid.*, paras. 17 and 18.

The UN General Assembly, by its subsequent resolutions on "Oceans and the Law of the Sea", namely Resolution 65/37, adopted on 7 December 2010, and Resolution 66/231, adopted on 24 December 2011, confirmed

> "the need for States to continue and intensify their efforts, directly or through competent international organizations, to develop and facilitate the use of diverse approaches and tools for conserving and managing vulnerable marine ecosystems, including the possible establishment of marine protected areas, consistent with international law, as reflected in the Convention [i.e. UNCLOS], and based on the best scientific information available, and the development of representative networks of any such marine protected areas by 2012" (paragraph 176 of Res. 66/231).

However, also for obvious chronological reasons, States soon realized that the objective of establishing a representative network of marine protected areas by the year 2012 could not be achieved. This led them to postpone the deadline to 2020 and to establish that 10% of marine and coastal areas be included in systems of protected areas. In "The Future We Want", the outcome document of the UN Conference on Sustainable Development,[26] they confirmed "the importance of area-based conservation measures, including marine protected areas, consistent with international law and based on best available scientific information, as a tool for conservation of biological diversity and sustainable use of its components" and noted

> "decision X/2 of the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity, held in Nagoya, Japan, from 18 to 29 October 2010, that, by 2020, 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are to be conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures" (paragraph 177).[27]

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[26] See *supra* note 2.

[27] Reference is made to Target 11 of the Annex (Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets) to Decision X/2, adopted in 2010 by the Conference of the Parties to the CBD: "By 2020, at least 17 per cent of terrestrial and inland water areas, and 10 per cent of coastal and marine, especially areas of particular importance for biodiversity and ecosystem services, are to be conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into wider landscapes and seascapes". See UN Doc. UNEP/CBD/COP/DEC/X/2 (2010).

The references to the 2020 deadline and to the 10% were retained in the subsequent UN General Assembly Resolutions on "Oceans and the Law of the Sea", namely Resolution 67/78 of 11 December 2012 (paragraph 193), Resolution 68/70 of 9 December 2013 (paragraph 209), and Resolution 69/245 of 29 December 2014 (paragraph 224).

3.3. The Relevant Legal Instruments

The policy instruments that call for the establishment of marine protected areas beyond the limits of national jurisdiction were not adopted in a legal vacuum.[28] Besides the already mentioned UNCLOS,[29] such action is already encouraged by a number of treaties in force today for many States at world and regional levels.[30]

(a) Under the 1946 Convention for the Regulation of Whaling, the International Whaling Commission (IWC) may adopt regulations with respect to the conservation and utilization of whale resources, fixing, *inter alia*, "open and closed waters, including the designation of sanctuary areas" (Article V(1)). Sanctuaries where commercial whaling is prohibited were established by the IWC in the Indian Ocean (1979) and the Southern Ocean (1994). They cover very large areas of sea, where whaling for commercial purposes is prohibited.[31]

(b) The 1973 International Convention for the Prevention of Pollution from Ships, called MARPOL (amended in 1978) provides for the establishment of special areas where particularly strict standards are applied to discharges from ships. Special area provisions are contained in Annexes I (Regulations for the Prevention of Pollution by Oil), II (Regulations for the Control of Pollution by Noxious Substances in Bulk), and V (Regulations for the Prevention of Pollution by Garbage from Ships)

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[28] See SCOVAZZI, "Marine Protected Areas on the High Seas: Some Legal and Policy Considerations", International Journal of Marine and Coastal Law, 2004, p. 1 ff.; MOLENAAR, "Managing Biodiversity in Areas beyond National Jurisdiction", International Journal of Marine and Coastal Law, 2007, p. 89 ff.; and SCOVAZZI, "Marine Protected Areas in Waters beyond National Jurisdiction", in RIBEIRO (ed.), *30 Years after the Signature of the United Nations Convention on the Law of the Sea: The Protection of the Environment and the Future of the Law of the Sea*, Coimbra, 2014, p. 209 ff.

[29] See *supra* section 1.

[30] See JUSTE RUIZ, "Regional Approaches to the Protection of the Marine Environment", Thesaurus Acroasium, 2002, p. 399 ff.

[31] It is regrettable that the prohibition does not apply to whaling for so-called scientific purposes.

to the MARPOL.[32] Special areas, which are listed in the relevant annexes, may also include the high seas.

A set of Guidelines for the Identification of Particularly Sensitive Sea Areas (PSSAs) was adopted on 6 November 1991 by the IMO Assembly under Resolution A.720(17) of 6 November 1991, revised by Resolutions A.927(22) of 29 November 2001 and A.982(24) of 1 December 2005.[33] A PSSA is defined "as an area that needs special protection through action by IMO because of its significance for recognized ecological or socio-economic or scientific reasons and which may be vulnerable to damage by international maritime activities". It is intended to function as "[…] a comprehensive management tool at the international level that provides a mechanism for reviewing an area that is vulnerable to damage by international shipping and determining the most appropriate way to address that vulnerability".[34]

PSSAs may be located within or beyond the limits of the territorial sea. They are identified by the Marine Environment Protection Committee of IMO on proposal by one or more member States and under a procedure which takes place at multilateral level. PSSA proposals should be accompanied by proposals for associated protective measures, identifying the legal basis for each measure. Such measures include those available under IMO instruments and cannot be extended to fields different from shipping. They encompass the following options: designation of an area as a Special Area under MARPOL Annexes; adoption of ship routeing systems under the 1974 International Convention for the Safety of Life at Sea, including areas to be avoided, i.e. areas within defined limits in which navigation is particularly hazardous or where it is exceptionally important to avoid casualties and which should be avoided by all ships, or by certain classes of ships; reporting systems near or in the area; other measures, such as compulsory pilotage schemes or vessel traffic management systems.

(c) The CBD sets out a series of measures for *in situ* conservation. Parties are required, as far as possible and as appropriate, to "establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity" (Article 8(a)), to "develop, where necessary, guidelines for the selection, establishment and management of protected areas where special measures need to be taken to conserve biological diversity" (Article 8(b)), and to "regulate or manage biological resources important for the conservation of biological diversity

[32] For example, under Regulation 1(10) of Annex I, "special area means a sea area where for recognized technical reasons in relation to its oceanographical and ecological condition and to the particular character of its traffic the adoption of special mandatory methods for the prevention of sea pollution by oil is required". The whole Mediterranean Sea area is a special area for the purposes of Annexes I and V.

[33] See Roberts, Chircop and Prior, "Area-based Management on the High Seas: Possible Application of the IMO's Particularly Sensitive Sea Area Concept", International Journal of Marine and Coastal Law, 2010, p. 483 ff.

[34] Guidance Document for Submitting PSSA Proposals to IMO (MEPC Cir/398).

whether within or outside protected areas, with a view to ensuring their conservation and sustainable use" (Article 8(c)).

As to its territorial scope, the Convention applies, in relation to each Party,

> "(a) in the case of components of biological diversity, in areas within the limits of its national jurisdiction; and (b) in the case of processes and activities, regardless of where their effects occur, carried out under its jurisdiction or control, within the area of its national jurisdiction or beyond the limits of national jurisdiction".[35]

Such a cryptic wording is far from clarifying to what extent the convention applies to marine areas beyond national jurisdiction.

Several decisions adopted by the parties to the CBD underline the importance of marine protected areas as one of the essential tools and approaches in the conservation and sustainable use of biodiversity, including marine genetic resources, and provide detailed guidance to the States concerned.

In 1995, the Parties agreed on a programme of action to implement the convention in marine and coastal ecosystems, called Jakarta Mandate on Marine and Coastal Biological Diversity. It was reviewed and updated in 2004 (Decision VII/5 on marine and coastal biological diversity). It provides guidance on integrated marine and coastal area management, the sustainable use of living resources and marine and coastal protected areas. Annex II (Guidance for the Development of a National Marine and Coastal Biodiversity Management Framework) to Decision VII/5 recommends that the legal or customary frameworks of marine and coastal protected areas clearly identify prohibited activities contrary to the objectives of such areas, as well as activities that are allowed, with clear restrictions or conditions to ensure that they will not be contrary to the objectives of the marine protected area and a decision-making process for all other activities (paragraph 6). Under Appendix 3 (Elements of a Marine and Coastal Biodiversity Management Framework) to the same decision, integrated networks of marine and coastal protected areas should consist of: marine and coastal protected areas, where threats are managed for the purpose of biodiversity conservation or sustainable use and where extractive uses may be allowed, as well as representative marine and coastal protected areas where extractive uses are excluded and other significant human pressures are removed or minimized, to enable the integrity, structure and functioning of ecosystems to be maintained or recovered (paragraph 5).

In 2006 the Conference of the Parties (Decision VIII/24 on protected areas) recognized that

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[35] Under Art. 22(2) "Contracting Parties shall implement this Convention with respect to the marine environment consistently with the rights and obligations of States under the law of the sea".

> "[M]arine protected areas are one of the essential tools to help achieve conservation and sustainable use of biodiversity in marine areas beyond the limits of national jurisdiction, and that they should be considered as part of a wider management framework consisting of a range of appropriate tools, consistent with international law and in the context of best available scientific information, the precautionary approach and ecosystem approach; and that application of tools beyond and within national jurisdiction needs to be coherent, compatible and complementary and without prejudice to the rights and obligations of coastal States under international law" (paragraph 38).

In 2008 the Conference of the Parties (Decision IX/20 on marine and coastal biodiversity) adopted a set of "Scientific criteria for identifying ecologically or biologically significant marine areas in need of protection in open waters and deep-sea habitats" (Annex I; so-called "CBD EBSA criteria"), namely "uniqueness or rarity",[36] "special importance for life history stages of species",[37] "importance for threatened, endangered or declining species and/or habitats",[38] "vulnerability, fragility, sensitivity, or slow recovery",[39] "biological productivity",[40] "biological diversity",[41] and "naturalness".[42] The Conference also adopted the "Scientific guidance for selecting areas to establish a representative network of marine protected areas, including in open-ocean waters and deep-sea habitats" (Annex II) that lists the required network properties and components, namely "ecologically and biologically significant areas", "representativity", "connectivity", "replicated ecological features", and "adequate and viable sites". The Conference proposed "four initial steps to be considered in the development of representative networks of marine protected areas" (Annex III), namely "scientific identification of an initial set of ecologically or biologically significant areas", "develop/chose a biogeographic habitat and/or community classification scheme", "drawing upon steps 1 and 2 above,

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[36] "Area contains either (i) unique ('the only one of its kind'), rare (occurs only in few locations) or endemic species, populations or communities, and/or (ii) unique, rare or distinct habitats or ecosystems, and/or (iii) unique or unusual geomorphological or oceanographic features".

[37] "Areas that are required for a population to survive and thrive".

[38] "Area containing habitat for the survival of and recovery of endangered, threatened or declining species or area with significant assemblages of such species".

[39] "Areas that contain a relatively high proportion of sensitive habitats, biotopes or species that are functionally fragile (highly susceptible to degradation or depletion by human activity or by natural events) or with slow recovery".

[40] "Area containing species, populations or communities with comparatively higher natural biological productivity".

[41] "Area contains comparatively higher diversity of ecosystems, habitats, communities, or species, or has higher genetic diversity".

[42] "Area with a comparatively higher degree of naturalness as a result of the lack of or low level of human-induced disturbance or degradation".

iteratively use qualitative and/or quantitative techniques to identify sites to include in a network", and "assess the adequacy and viability of the selected sites".[43]

The Conferences of the Parties held in 2012 in Hyderabad and in 2014 in Pyeongchang adopted Decisions XI/17 and XII/22, respectively, both called "Marine and coastal biodiversity: ecologically or biologically significant marine areas",[44] the annexes of which identify several areas meeting the EBSA criteria.[45] The annex to the first decision relates to the Western South Pacific region, the Wider Caribbean and Western Mid-Atlantic region and the Mediterranean region. The annex to the second decision relates to the Southern Indian Ocean, the Eastern Tropical and Temperate Pacific, the North Pacific, the South-Eastern Atlantic, the Arctic, the North-West Atlantic and the Mediterranean.[46] The purpose of the identification is to encourage

> "Parties and other Governments to make use, as appropriate, of the scientific information regarding the description of areas meeting EBSA criteria, including the information in the EBSA repository and information-sharing mechanism, as well as the information from indigenous and local communities as well as relevant sectors, including the fisheries sector, when carrying out marine spatial planning, development of representative networks of marine protected areas, taking into account annex II to decision IX/20, and application of

[43] The close link between protection of the marine environment and sustainable management of marine living resources is confirmed by Decision X/31 (protected areas), adopted in 2010 by the Conference of the Parties to the CBD. It encourages Parties to establish marine protected areas for conservation and management of biodiversity as the main objective and, when in accordance with management objectives of protected areas, as fisheries management tools.

[44] An Expert workshop on scientific and technical guidance on the use of biogeographic classification systems and identification of marine areas beyond national jurisdiction in need of protection was held in 2009 in Ottawa. The report of the workshop (Doc. UNEP/CBD/EW-BCS&IMA/1/2 of 22 December 2009) includes, as Annex IV, the "scientific guidance on the identification of marine areas beyond national jurisdiction, which meet the scientific criteria in annex I to decision IX/20".

[45] The Conference of the Parties reiterates "the central role of the General Assembly of the United Nations in addressing issues relating to the conservation and sustainable use of biodiversity in marine areas beyond national jurisdiction". See Preamble of Decision XII/22.

[46] For example, under Decision XII/22, the Marginal Ice Zone and the Seasonal Ice-Cover over the Deep Arctic Ocean, Multi-year Ice of the Central Arctic Ocean, Murman Coast and Varanger Fjord, White Sea, South-Eastern Barents Sea (Pechora Sea), Coast of Western and Northern Novaya Zemlya, North-Eastern Barents-Kara Sea, Ob-Enisey River Mouth, Great Siberian Polynya, Wrangel-Gerald Shallows and Ratmanov Gyre, and Coastal Waters of Chukotka are identified in the Arctic Ocean; the Northern Adriatic, Jabuka/Pomo Pit, South Adriatic Ionian Strait, North-Western Mediterranean Pelagic Ecosystems, North-Western Mediterranean Benthic Ecosystems, Gulf of Gabès, Gulf of Sirte, Nile Delta Fan, East Levantine Canyons, North-East Levantine Sea, Akamas and Chrysochou Bay, Hellenic Trench, Central Aegean Sea, North Aegean are identified in the Mediterranean Sea.

> other area-based management measures in marine and coastal areas, with a view to contributing to national efforts to achieve the Aichi Biodiversity Targets".[47]

(d) One of the instruments adopted in the framework of the 1996 Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (amended in 1995) is particularly relevant, namely the 1995 Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean, which replaced the previous 1982 Protocol Concerning Mediterranean Specially Protected Areas.[48] While the sphere of application of the 1982 Protocol did not cover the high seas, the 1995 Protocol applies to all maritime waters of the Mediterranean, irrespective of their legal condition, the seabed and its subsoil and the terrestrial coastal areas designated by each of the Parties. Extension of application of the Protocol to high seas areas was seen by the Parties as necessary, in particular to protect highly migratory marine species (such as marine mammals), which by virtue of their natural behaviour, do not observe the artificial boundaries drawn by man on the sea.

To overcome difficulties arising from the fact that different kinds of national coastal zones have been proclaimed by the Mediterranean States (exclusive economic zones, fishing zones and ecological protection zones)[49] and that several maritime boundaries have yet to be agreed upon by the States concerned, the Protocol includes two very elaborate disclaimer provisions:

> "Nothing in this Protocol nor any act adopted on the basis of this Protocol shall prejudice the rights, the present and future claims or legal views of any State relating to the law of the sea, in particular, the nature and the extent of marine areas, the delimitation of marine areas between States with opposite or adjacent coasts, freedom of navigation on the high seas, the right and the modalities of passage through straits used for international navigation and the right of innocent passage in territorial seas, as well as the nature and extent of the jurisdiction of the coastal State, the flag State and the port State. No act or activity undertaken on the basis of this Protocol shall constitute

[47] Decision XII/22, para. 8.

[48] See SCOVAZZI, "Marine Protected Areas in the Mediterranean", in JUSTE RUIZ, BOU FRANCH and SÁNCHEZ PATRÓN (eds.), *Derecho del mar y sostenibilidad ambiental en el Mediterráneo*, Valencia, 2014, p. 425 ff.

[49] The high sea still existing today in some areas of the Mediterranean is of a special nature. For geographical reasons it will disappear if and when all the coastal States establish their exclusive economic zones. No point in the Mediterranean is located at a distance of more than 200 n.m. from the nearest land or island.

> grounds for claiming, contending or disputing any claim to national sovereignty or jurisdiction" (Article 2(2) and (3)).[50]

The idea behind such a display of juridical devices is simple. On the one hand, the establishment of intergovernmental cooperation in the field of the marine environment is not intended to prejudice different questions which have a legal or political nature, but on the other hand, the very existence of such questions, which are not likely to be settled in the short term, should neither prevent nor delay the adoption of measures necessary for protection of the marine environment.

The Protocol provides for the establishment of a List of Specially Protected Areas of Mediterranean Importance (SPAMI List). The SPAMI List may include sites which "are of importance for conserving the components of biological diversity in the Mediterranean; contain ecosystems specific to the Mediterranean area or the habitats of endangered species; are of special interest at the scientific, aesthetic, cultural or educational levels" (Article 8(2)).[51] The procedures for the listing of SPAMIs are specified in detail in the Protocol:

> "Proposals for inclusion in the List may be submitted: (a) by the Party concerned, if the area is situated in a zone already delimited, over which it exercises sovereignty or jurisdiction; (b) by two or more neighbouring Parties concerned if the area is situated, partly or wholly, on the high sea; (c) by the neighbouring Parties concerned in areas where the limits of national sovereignty or jurisdiction have not yet been defined" (Article 9(2)).

If the States concerned wish, the submission of a joint proposal may become a way to promote new forms of co-operation between them, irrespective of the fact that their maritime boundaries have not yet been defined.

In proposing a SPAMI, the party or parties concerned shall indicate the relevant protection and management measures, as well as the means for their implementation (Article 9(3)). As paper areas would not comply with the purposes of the Protocol, protection, planning and management measures "must be adequate for the achievement of the conservation and management objectives set for the site in the short and long term, and take in particular into account the threats upon it" (Annex 1, paragraph D.2).

Once the areas are included in the SPAMI List, all the parties agree "to recognize the particular importance of these areas for the Mediterranean", as well as "to com-

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[50] The model of the disclaimer provision was, *mutatis mutandis*, Art. IV of the 1980 Convention on the Conservation of Antarctic Marine Living Resources.

[51] The existence of the SPAMI List does not exclude the right of each Party to create and manage protected areas which are not intended to be listed as SPAMIs, but deserve to be protected under the domestic legislation.

ply with the measures applicable to the SPAMIs and not to authorize nor undertake any activities that might be contrary to the objectives for which the SPAMIs were established" (Article 8(3)). This gives the SPAMIs and the measures adopted for their protection an *erga omnes partes* effect, *i.e.* an effect with respect to all the parties to the Protocol.

As to the relationship with third countries, the parties shall "invite States that are not Parties to the Protocol and international organizations to cooperate in the implementation" of the Protocol (Article 28(1)). They also "undertake to adopt appropriate measures, consistent with international law, to ensure that no one engages in any activity contrary to the principles and purposes" of the Protocol (Article 28(2)).[52] This provision aims at facing the potential problems arising from the fact that treaties, including the Protocol itself, can produce rights and obligations only among parties.

The Protocol is completed by three annexes, which were adopted in 1996 in Monaco, namely the Common Criteria for the Choice of Protected Marine and Coastal Areas that Could be Included in the SPAMI List (Annex I),[53] the List of Endangered or Threatened Species (Annex II) and the List of Species Whose Exploitation is Regulated (Annex III). Under Annex I, the sites included in the SPAMI List must be "provided with adequate legal status, protection measures and management methods and means" (paragraph A.e) and must fulfil at least one of six general criteria (uniqueness, natural representativeness, diversity, naturalness, presence of habitats that are critical to endangered, threatened or endemic species, cultural representativeness). The SPAMIs must be awarded a legal status guaranteeing their effective long term protection (paragraph C.1) and must have a management body, a management plan and a monitoring programme (paragraphs from D.6 to D.8). Moreover,

> "[I]n the case of areas situated, partly or wholly, on the high sea or in a zone where the limits of national sovereignty or jurisdiction have not yet been defined, the legal status, the management plan, the applicable measures and the other elements provided for in Article 9, paragraph 3, of the Protocol will be provided by the neighbouring Parties concerned in the proposal for inclusion in the SPAMI List" (paragraph C.3).[54]

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[52] Also this provision is shaped on a precedent taken from the Antarctic Treaty System: "Each of the Contracting Parties undertake to exert appropriate efforts, consistent with the Charter of the United Nations, to the end that no one engages in any activity in Antarctica contrary to the principles or purposes of the present Treaty". Art. X of the 1959 Antarctic Treaty.

[53] It has been remarked that "the CBD EBSA criteria provide a helpful supplement to the older SPAMI criteria in that they provide more specific operational guidance". See UN Doc. UNEP/CBD/EW-BCS&IMA/1/2 (2009), Annex IV, para. 1(a).

[54] Under Art. 9(3) of the Protocol "Parties making proposals for inclusion in the SPAMI List shall provide the Centre with an introductory report containing information on the area's geographical location, its physical and ecological characteristics, its legal status, its management plans and the means for their implementation, as well as a statement justifying its Mediterranean importance; (a) where a proposal is formulated under subparagraphs 2 (b) and 2 (c) of this Article,

Only one of the 33 SPAMIs so far established also covers some high sea areas. This is the French-Italian-Monegasque sanctuary for marine mammals (so-called Pelagos sanctuary), established under an Agreement signed in Rome in 1999 by the three States concerned. The sanctuary extends for about 96,000 km² between the continental coasts of the three countries and the islands of Corsica (France) and Sardinia (Italy).[55] These waters have the legal status, depending on their location, of marine internal waters (in the case of France and Italy), territorial sea (in the case of all three States), ecological protection zone (in the case of Italy), exclusive economic zone (in the case of France) or high seas.[56] The parties undertake to adopt measures to ensure a favourable state of conservation for all species of marine mammals and to protect them and their habitat from negative impacts, both direct and indirect (Article 4). They are bound to prohibit any deliberate "taking" (defined as "hunting, catching, killing or harassing of marine mammals, as well as attempting such actions") or disturbance of mammals in the sanctuary. Non-lethal catches may be authorized in urgent situations or for *in situ* scientific research purposes (Article 7(a)).

The Meeting of the Parties convened in 2009 in Marrakesh adopted Decision IG.19/13, regarding a regional working programme for the coastal and marine protected areas in the Mediterranean. A number of "operational criteria for identifying SPAMIs in areas of open seas, including the deep sea", were envisaged.[57] A list of thirteen "priority conservation areas lying in the open seas, including the deep sea, likely to contain sites that could be candidates for the SPAMI List" was drafted.[58]

(e) A significant instance of establishment of marine protected areas beyond national jurisdiction may be found in the action taken by the Parties of the 1992 Convention for the Protection of the Marine Environment of the North East Atlantic (OSPAR Convention).[59] The maritime areas falling under the scope of the OSPAR Convention are defined as those parts of the Atlantic Ocean which lie north of latitude

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the neighbouring Parties concerned shall consult each other with a view to ensuring the consistency of the proposed protection and management measures, as well as the means for their implementation; (b) proposals made under paragraph 2 of this Article shall indicate the protection and management measures applicable to the area as well as the means of their implementation".

[55] The waters of the sanctuary are inhabited by the eight cetacean species regularly found in the Mediterranean, namely the fin whale (*Balaenoptera physalus*), the sperm whale (*Physeter catodon*), Cuvier's beaked whale (*Ziphius cavirostris*), the long-finned pilot whale (*Globicephala melas*), the striped dolphin (*Stenella coeruleoalba*), the common dolphin (*Delphinus delphis*), the bottlenose dolphin (*Tursiops truncatus*) and Risso's dolphin (*Grampus griseus*). In this area, the water currents create conditions favouring phytoplankton growth and abundance of krill (*Meganyctiphanes norvegica*), a small shrimp that is preyed upon by pelagic vertebrates.

[56] Today the high seas area within the sanctuary is restricted to the waters that would become the exclusive economic zone of Monaco, if this State were to establish such a zone.

[57] See UN Doc. UNEP(DEPI)/MED WG.348/3 (2010), Annex 1.

[58] *Ibid.*, Annex 2.

[59] See Ribeiro, "The 'Rainbow': The First National Marine Protected Area Proposed Under the High Seas", International Journal of Marine and Coastal Law, 2010, p. 183 ff.

36°N and between the longitudes 42°W and 51°E (approximately from the Strait of Gibraltar in the south, to the North Pole in the north, from Greenland in the west to the Barents Sea in the east) and also include the high seas and seabed beyond the 200-mile limit.

In 1998, Annex V on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area was added to the OSPAR Convention. The Parties to Annex V commit to the necessary measures to protect and conserve the ecosystems and the biological diversity of the maritime area and to restoring, when practicable, marine areas which have been adversely affected. Article 3(1)(b)(ii) makes it a duty for the OSPAR Commission "to develop means, consistent with international law, for instituting protective, conservation, restorative or precautionary measures related to specific areas or sites or related to specific species or habitats".

In 2003 the Parties to the OSPAR Convention adopted Recommendation 2003/3 on a network of marine protected areas.[60] Its purpose is

> "to establish the OSPAR Network of marine Protected Areas and to ensure that by 2010 it is an ecologically coherent network of well-managed marine protected areas which will: a) protect, conserve and restore species, habitats and ecological processes which have been adversely affected by human activities; b) prevent degradation of, and damage to, species, habitats and ecological processes, following the precautionary principle; c) protect and conserve areas that best represent the range of species, habitats and ecological processes in the maritime area".

In 2010, Recommendation 2003/3 was amended by Recommendation 2010/2, aimed at making further efforts "to ensure the ecological coherence of the network of marine protected areas in the North-East Atlantic, in particular through inclusion of areas in deeper water". Under the amended recommendation, Parties should

> "c) contribute, as practicable, to assessments of areas beyond national jurisdiction in the North-East Atlantic which may justify selection as an OSPAR Marine Protected Area under the criteria set out in the identification and selection guidelines; and d) propose to the OSPAR Commission the areas beyond national jurisdiction that should be selected by the OSPAR Commission as components of the OSPAR Network of Marine Protected Areas" (paragraph 3.1).

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[60] During the same 2003 meeting, the OSPAR Commission adopted the Guidelines of the Identification and Selection of Marine Protected Areas in the OSPAR Maritime Area and the Guidelines for the Management of Marine Protected Areas in the OSPAR Maritime Area.

In 2010, the Parties were thus able to establish six marine protected areas that include waters or seabed located beyond national jurisdiction, namely: Milne Seamount Complex Marine Protected Area (20,914 km²; Decision 2010/1);[61] Charlie-Gibbs South Marine Protected Area (146,032 km²; Decision 2010/2);[62] Altair Seamount High Seas Marine Protected Area (4,384 km²; Decision 2010/3);[63] Antialtair Seamount High Seas Marine Protected Area (2,807 km²; Decision 2010/4);[64] Josephine Seamount High Seas Marine Protected Area (19,363 km²; Decision 2010/5);[65] and Mid-Atlantic Ridge North of the Azores High Seas Marine Protected Area (93,570 km²; Decision 2010/6).[66] In 2012, the Parties added Charlie-Gibbs North High Seas Marine Protected Area (178,094; km²; Decision 2012/1)[67] to the list of OSPAR marine protected areas beyond national jurisdiction.

The Parties adopted recommendations on the management of each of the seven marine protected areas (Recommendations from 2010/12 to 2010/17; Recommendation 2012/1), providing that the management of human activities in the area should be guided by the general obligations set forth in Article 2 of the OSPAR Convention, as well as by the ecosystem approach and the "Conservation Vision and Objectives" indicated in an annex to each recommendation.[68] The programmes and measures envisaged for the marine protected areas relate to the fields of awareness raising, information building, marine science and to human activities potentially conflicting with conservation objectives and likely to have a significant impact on the ecosystems. These activities are subject to environmental impact assessment or strategic environmental assessment and the relevant stakeholders are involved in the planning of new activities.

The OSPAR decisions and recommendations on marine protected areas are notable for the spirit of co-operation that inspires them. Two include both high seas waters and the seabed and one only high seas waters, whereas the other four regard high seas waters over seabed beyond 200 nautical miles claimed by Portugal as within its conti-

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[61] The area is totally located beyond national jurisdiction (seabed and water column).

[62] The area is totally located beyond national jurisdiction (seabed and water column).

[63] The area includes the high seas (water column) and the seabed claimed by Portugal as its extended continental shelf.

[64] The area includes the high seas (water column) and the seabed claimed by Portugal as its extended continental shelf.

[65] The area includes the high seas (water column) and the seabed claimed by Portugal as its extended continental shelf.

[66] The area includes the high seas (water column) and the seabed claimed by Portugal as its extended continental shelf.

[67] The area includes only the high seas (water column) and not the seabed that is claimed by Iceland as its extended continental shelf.

[68] It includes a "conservation vision" and a number of "general conservation objectives" and "specific conservation objectives". For example, in the case of Milne Seamount the specific conservation objectives related to the water column, the benthopelagic layer, the benthos and habitats and species of specific concern.

nental margin.[69] In this case, the goal of protecting and conserving the biodiversity and ecosystems of the waters is to be achieved in coordination with, and complementary to, protective measures taken by Portugal for the seabed. Furthermore, the OSPAR Parties are called to engage with third parties and relevant international organizations with a view to promoting delivery of the conservation objectives set by the OSPAR Commission for the marine protected areas and to encouraging application of the relevant programmes and measures. The decisions and recommendations on the marine protected areas recognize that a range of human activities occurring, or potentially occurring, in them "are regulated in the respective frameworks of other competent authorities", namely the North-East Atlantic Fisheries Commission (NEAFC), the International Commission for the Conservation of Atlantic Tunas (ICCAT), the North Atlantic Salmon Conservation Organization (NASCO), the North Atlantic Marine Mammal Commission (NAMMCO), and the International Whaling Commission (IWC), in the case of fishing; the International Maritime Organization (IMO), in the case of shipping; the International Seabed Authority (ISBA), in the case of extraction of mineral resources (the latter organization only for the two marine protected areas that include the seabed beyond national jurisdiction). Memoranda of understanding were concluded in 2008 between the OSPAR Commission and NEAFC in order to promote mutual cooperation towards the conservation and sustainable use of marine biological diversity, including protection of marine ecosystems in the North-East Atlantic[70] and in 2010 between the OSPAR Commission and ISBA to consult on matters of mutual interest with a view to promoting or enhancing a better understanding and coordination of their respective activities.

(f) Annex V of the 1991 Protocol on Environmental Protection to the 1959 Antarctic Treaty reorganized the system of Antarctic special areas by establishing the two categories of Antarctic Specially Protected Areas (ASPA) and Antarctic Specially Managed Areas (ASMA). ASPAs are designated "to protect outstanding environmental, scientific, historic, aesthetic or wilderness values, any combination of those values, or ongoing or planned scientific research" (Article 3(1)). ASMAs are designated "to assist in the planning and co-ordination of activities, avoid possible conflicts, improve co-operation between Parties or minimize environmental impacts" (Article 4(1)). ASPAs and ASMAs may include "any marine area".

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[69] For the external limit of the so-called extended continental shelf, that is the continental shelf beyond 200 nautical miles, see Art. 76 UNCLOS.

[70] In the statement adopted in Bergen at their 2010 meeting, the Parties to the OSPAR Convention "welcome the decision by the North East Atlantic Fisheries Commission to close until 31 December 2015 an area almost identical to Charlie-Gibbs Fracture Zone, as well as areas coinciding with the Mid-Atlantic Ridge North of the Azores, Altair Seamount and Antialtair Seamount and other areas beyond national jurisdiction of the North-East Atlantic, to bottom fisheries in order to protect the vulnerable marine ecosystems in these areas from significant adverse impacts" (para. 30).

Under Article IX of the 1980 Convention for the Conservation of Antarctic Marine Living Resources, the Commission established by the convention shall formulate, adopt and revise conservation measures on the basis of the best scientific evidence available. Such measures include "designation of the opening and closing of areas, regions or sub-regions for purposes of scientific study or conservation, including special areas for protection and scientific study" (Article IX(2)(g)).

The Convention applies to the marine area south of the Antarctic convergence, which, depending on States' positions regarding sovereignty in Antarctica, includes high sea areas or is composed only of high sea areas. Proposals for the establishment of marine protected areas in the Southern Ocean, the Ross Sea Region and East Antarctica have been made and discussed by the parties to the convention, without successful results so far.

3.4. Possible Future Developments

While notable achievements have been made in a few regional seas, no process is yet universally accepted or could apply on a world basis to establish a network of marine protected areas in areas beyond national jurisdiction. What is needed, also in view of forthcoming meetings of the Preparatory Committee for the legally binding instrument,[71] is the determination and consolidation among interested States of a number of "commonalities" that could become the key elements in a future global regime for marine protected areas beyond national jurisdiction. For example, establishment of a network of marine protected areas of world importance beyond national jurisdiction; a procedure for inclusion of marine protected areas in the network based on a decision taken by the parties, which are considered as the trustees of the common interest for the preservation of high seas marine protected areas; the determination of common criteria for the inclusion of marine protected areas in the network (importance of the area for the conservation of biological diversity, ecosystems or habitats of endangered species; special interest of the area at the scientific, aesthetic, cultural or educational level; etc.); the determination of the models of protection and conservation measures that could be adopted for the areas of the network; the determination of the general aspects of the management plans that are adopted for the areas of the network; a procedure for the appointment of the management authority of the areas of the network.[72]

As pointed out in May 2014 by Greece on behalf of the EU and its Member States in a written submission to the Working Group, "an interesting acronym for such a network, which would evoke a memorable tradition of boundless marine

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[71] See *supra* section 1.

[72] Several of these elements are based, *mutatis mutandis*, on the instance of the Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (see *supra* section 3.3(d)).

discoveries, would be 'UlySSES' (Universally Selected Sites of Environmental Significance".

A synergy should be established between the future world network of marine protected areas of world importance and the existing regional networks. The latter should not be prejudiced by the new UNCLOS implementation agreement and the parties to the regional networks should be entitled, if they wish to do so and the relevant conditions are met, to apply for the inclusion of any of the regional areas in the world network.

4. The Exploitation of Marine Genetic Resources

Besides mineral resources that under UNCLOS fall under the regime of common heritage of mankind, the exploitation of commercially valuable genetic resources may in the near future become another profitable activity taking place in marine areas beyond the limits of national jurisdiction.

Despite extreme conditions of cold, darkness and pressure, the deep seabed is the habitat of diverse forms of life. Some animal communities live in complete absence of sunlight where warm water springs from tectonically active areas (so-called hydrothermal vents).[73] Several species of microorganisms, fish, crustaceans, polychaetes, echinoderms, coelenterates and molluscs have been found in the vicinity of hydrothermal vent areas. These communities, which do not depend on plant photosynthesis for their survival, rely on specially adapted micro-organisms that synthesise organic compounds from the hydrothermal fluid of the vents (chemosynthesis). The ability of some deep seabed organisms to survive extreme temperatures (thermophiles and hyperthermophiles), high pressure (barophiles) and other extreme conditions (extremophiles) makes their genes of great interest to science and industry.

The prospects for commercial applications of marine genetic resources are promising, especially in the pharmaceutical sector, but few States and private entities have access to the financial means and sophisticated technology needed to reach the deep seabed.[74] An important element to consider is that the legislation of several States does not compel patent applicants to disclose the origin of the genetic materials used for inventions. Confidentiality on the origin of such resources could affect attempts

[73] Hydrothermal vents may be found in the Area and on the seabed falling within the limits of national jurisdiction, according to the definition of the continental shelf given by Art. 76 UNCLOS.

[74] See Convention on Biological Diversity, Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA), Marine and Coastal Biological Diversity: Status and Trends of, and Threats to, Deep Seabed Genetic Resources beyond National Jurisdiction, and Identification of Technical Options for their Conservation and Sustainable Use, UN Doc. UNEP/CBD/SBSTTA/11/11 (2005), paras. 12 and 13.

to establish a future regime for sharing any benefits arising from marine genetic resources.[75] But what international regime applies to marine genetic resources in areas beyond national jurisdiction?[76] UNCLOS and the CBD do not provide any specific legal framework in this regard.

4.1. Two Opposing Views

In 2006, when the subject of the international regime for genetic resources in the deep seabed was discussed by the Working Group, opposing views were put forward by the States. Some States took the position that the UNCLOS principle of common heritage of mankind and the mandate of the International Seabed Authority should be extended to cover genetic resources:

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[75] On the questions linked to patents see HE, "Limitations on Patenting Inventions Based on Marine Genetic Resources of Areas beyond National Jurisdiction", International Journal of Marine and Coastal Law, 2014, p. 521 ff.

[76] See GLOWKA, "The Deepest of Ironies: Genetic Resources, Marine Scientific Research, and the Area", Ocean Yearbook, 1996, p. 156 ff.; SCOVAZZI, "Mining, Protection of the Environment, Scientific Research and Bioprospecting: Some Considerations on the Role of the International Sea-Bed Authority", International Journal of Marine and Coastal Law, 2004, p. 383 ff.; ID., "Bioprospecting on the Deep Sea Bed: A Legal Gap Requiring To Be Filled", in FRANCIONI and SCOVAZZI (eds.), *Biotechnology and International Law*, Oxford, 2006, p. 81 ff.; ARICO and SALPIN, *Bioprospecting of Genetic Resources in the Deep Seabed: Scientific, Legal and Policy Aspects*, Yokohama, 2005; LEARY, *International Law and the Genetic Resources of the Deep Sea*, Leiden, 2006; OUDE ELFERINK, "The Regime of the Area: Delineating the Scope of Application of the Common Heritage Principle and Freedom of the High Seas", International Journal of Marine and Coastal Law, 2007, p. 143 ff.; MILLICAY, "A Legal Regime for the Biodiversity of the Area", in NORDQUIST et al. (eds.), *Law, Science and Ocean Management*, Leiden, 2007, p. 739 ff.; DE LA FAYETTE, "A New Regime for the Conservation and Sustainable Use of Marine Biodiversity and Genetic Resources Beyond the Limits of National Jurisdiction", International Journal of Marine and Coastal Law, 2009, p. 221 ff.; ARMAS-PFIRTER, "How Can Life in the Deep Seabed Be Protected?", International Journal of Marine and Coastal Law, 2009, p. 281 ff.; RIDGEWAY, "Marine Genetic Resources: Outcomes of the United Nations Informal Consultative Process", International Journal of Marine and Coastal Law, 2009, p. 309 ff.; BARNES, "Entitlement to Marine Living Resources in Areas Beyond National Jurisdiction", in OUDE ELFERINK and MOLENAAR (eds.), *The International Legal Regime of Areas beyond National Jurisdiction: Current and Future Developments*, Leiden, 2010, p. 83 ff.; SCOVAZZI, "The Seabed Beyond the Limits of National Jurisdiction: General and Institutional Aspects", in OUDE ELFERINK and MOLENAAR (eds.), *ibid*., p. 43 ff.; JØREM and WALLØE TVEDT, "Bioprospecting in the High Seas: Existing Rights and Obligations in View of a New Legal Regime for Marine Areas beyond National Jurisdiction", International Journal of Marine and Coastal Law, 2014, p. 321 ff.; GLOWKA, "Marine Genetic Resources Within and Beyond the Limits of National Jurisdiction: Challenges and Opportunities Posed by Existing and Emerging International Legal Framework and Processes", in RIBEIRO (ed.), *cit. supra* note 28, p. 251 ff.; WEHRLI and COTTIER, "Towards a Treaty Instrument on Marine Genetic Resources", in RIBEIRO (ed.), *ibid.*, p. 517 ff.

> "Several delegations reiterated their understanding that the marine genetic resources beyond areas of national jurisdiction constituted the common heritage of mankind and recalled article 140 of the Convention, which provides that the activities in the Area shall be carried out for the benefit of mankind and that particular consideration should be given to the interest and needs of developing States, including the need for these resources to be used for the benefit of present generations and to be preserved for future generations. […] A number of delegations mentioned that the International Seabed Authority constituted an existing mechanism in this area and that consideration should accordingly be given to the possibility of broadening its mandate".[77]

Other States relied on the UNCLOS principle of freedom of the high seas, which would imply a right of freedom of access to, and unrestricted exploitation of, deep seabed genetic resources:

> "Other delegations reiterated that any measures that may be taken in relation to genetic resources in areas beyond national jurisdiction must be consistent with international law, including freedom of navigation. In their view, these resources were covered by the regime of the high seas, which provided the legal framework for all activities relating to them, in particular marine scientific research. These delegations did not agree that there was a need for a new regime to address the exploitation of marine genetic resources in areas beyond national jurisdiction or to expand the mandate of the International Seabed Authority".[78]

Again, during the meeting of the Working Group held in 2008, very different views were expressed as regards the regime to be applied to marine genetic resources, repeating the discussion that had already taken place in 2006.[79] The same differing positions are still in principle maintained by different States.

This basic disagreement on the international regime of genetic resources is a source of dissatisfaction. In fact, the two positions are based on the same starting point, namely the assumption that UNCLOS is the legal framework for all activities taking place in the oceans and seas, including those regarding genetic resources

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[77] 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 (2006), para. 71.

[78] *Ibid.*, para. 72.

[79] Joint statement of the Co-Chairpersons of the Ad Hoc Open-ended Informal Working Group, annexed to Letter Dated 15 May 2008 from 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 Addressed to the President of the General Assembly, UN Doc. A/63/79 (2008), para. 36.

beyond areas of national jurisdiction.[80] How can two groups of States reach opposite conclusions from the same starting point? A possible answer is that the starting assumption itself is not completely true.[81]

There is no doubt that UNCLOS is a cornerstone in codification of international law. It has been rightly qualified as a "constitution for the oceans", "a monumental achievement in the international community", "the first comprehensive treaty dealing with practically every aspect of the uses and resources of the seas and the oceans", an instrument which "has successfully accommodated the competing interests of all nations".[82] Nevertheless, like any legal text, UNCLOS is a product of the time it was negotiated and adopted (1973 to 1982). While it provides a solid basis for the regulation of many matters, it would be wrong to think that UNCLOS is the end of legal regulation. International law of the sea is subject to evolution and progressive development linked to States' practice. The same is true of UNCLOS.

There have been many instances of changes to the original UNCLOS regime by integration (evolution by integration), of State practice making one interpretation of an UNCLOS provision prevail over another (evolution by interpretation), of inference of the relevant legal regime from State practice (evolution in another context), or of drafting of a new instrument of universal scope to avoid the risk of undesirable consequences (evolution by further codification).[83] Although the statement that UNCLOS is a product of its time may appear banal, it has the strength of all banalities. UNCLOS cannot regulate activities that could not be foreseen when the treaty was negotiated. At that time, very little was known about the genetic qualities of deep seabed organisms, and when dealing with the special regime of the seabed beyond national jurisdiction and its resources, UNCLOS drafters only had mineral resources in mind. This is clearly evident from the plain text of the convention. The term "activities in the Area"[84] is defined as "all activities of exploration for, and exploitation of, the resources of the Area" (Article 1(3)). Article 133(a) defines the "resources" of the Area as "all solid, liquid or gaseous mineral resources *in situ* in the Area at or

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[80] The statement is repeated in the resolutions on "Oceans and the Law of the Sea" yearly adopted by the UN General Assembly. See, for instance, the preamble of UN Doc. A/RES/65/37 (2010), which emphasises that the UNCLOS "sets out the legal framework within which all activities in the oceans and seas must be carried out and is of strategic importance as the basis for national, regional and global action and cooperation in the marine sector, and that its integrity needs to be maintained […]".

[81] See SCOVAZZI, "Is the UN Convention on the Law of the Sea the Legal Framework for All Activities in the Sea? The Case of Bioprospecting", in VIDAS (ed.), *Law, Technology and Science for Oceans in Globalisation*, Leiden, 2010, p. 309 ff.

[82] KOH, "A Constitution for the Oceans", in *The Law of the Sea – Official Text of the United Nations Convention on the Law of the Sea with Annexes and Index*, New York, 1983, p. xxiii.

[83] See SCOVAZZI, "The Evolution of International Law of the Sea: New Issues, New Challenges", RCADI, Vol. 286, 2000, p. 39 ff.

[84] According to Art. 1(1) UNCLOS, "Area" means "the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction".

beneath the seabed, including polymetallic nodules".[85] This means that UNCLOS innovating regime of common heritage of mankind is limited to the mineral resources of the Area[86] and cannot be extended to other kinds of resources.

However, for the same chronological reasons, the regime of freedom of the high seas cannot be intended to apply to genetic resources either. Although it includes provisions relating to living and mineral resources in areas beyond national jurisdiction, UNCLOS does not provide any specific regime for the exploitation of marine genetic resources. The words "genetic resources" or "bioprospecting"[87] do not appear anywhere in UNCLOS. This legal gap should be filled, sooner rather than later. To be consistent the new regime should encompass in the same legal framework the genetic resources of both the seabed and the superjacent waters.

Although marine genetic resources beyond national jurisdiction do not fall directly under the principle of common heritage of mankind, UNCLOS should not entirely be set aside when envisaging a future regime for such resources. The scope of the regime of the Area is already broader than it seems at first sight. Under UNCLOS, the legal condition of the Area also has an influence on the regulation of activities, which while different from mining activities, also take place in this space. The regime of the Area already encompasses topics which are more or less directly related to mining activities such as marine scientific research,[88] preservation of the marine environment[89] and protection of underwater cultural heritage.[90] As far as the first two subjects are concerned, it is difficult to draw a clear-cut distinction between what takes place on the seabed and what takes place in superjacent waters. Moreover, while a specific regime for exploitation of genetic resources is lacking, the aim of sharing the benefits among all States can be seen as a basic objective embodied in a treaty designed to "contribute to the realization of a just and equitable international economic order which takes into account the interests and needs of mankind as a whole and, in particular, the special interests and needs of developing countries, whether coastal or land-locked" (UNCLOS preamble). Also in the field of genetic resources, application of the principle of freedom of the sea (that results in a "first-come-first-served" approach) would lead to inequitable and hardly acceptable consequences. New cooperative schemes, based on provisions relating to access and sharing of benefits, should be envisaged in the future UNCLOS Implementation agreement. This is also in full conformity with the principle of fair and equitable sharing of the benefits arising from utilization of genetic resources set forth by Article 1 CBD and, more recently, by Article 10 of the

[85] In so providing, the UNCLOS narrows the term "resources" that was used in a broader sense in Art. 1 of UN General Assembly Res. 2749 (XXV) of 17 December 1970.

[86] "The Area and its resources are the common heritage of mankind" (Art. 136 UNCLOS).

[87] Bioprospecting is currently understood as the search for commercially valuable genetic resources of the deep seabed.

[88] See Art. 143 UNCLOS.

[89] See Art. 145 UNCLOS.

[90] See Art. 149 UNCLOS.

2010 Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (Nagoya Protocol).[91]

It may be added that bioprospecting can already be regarded as falling under the UNCLOS regime of marine scientific research. While UNCLOS does not provide any definition of "marine scientific research", Article 246, which applies to the exclusive economic zone and the continental shelf, makes a distinction between two kinds of marine scientific research projects, namely those carried out "to increase scientific knowledge of the marine environment for the benefit of all mankind" (Article 246(3)) and those "of direct significance for the exploration and exploitation of natural resources, whether living or non-living" (Article 246(5)(a)). This distinction supports the conclusion that, under UNCLOS logic, research activities of direct significance for exploration and exploitation of genetic resources also fall under the general label of "marine scientific research".[92] It follows that bioprospecting is also covered by Article 143(1) UNCLOS, which sets forth the rule that "marine scientific research in the Area shall be carried out exclusively for peaceful purposes and for the benefit of mankind as a whole".[93] This provision refers to any kind of marine scientific research and is not limited to research on mineral resources. Yet, the reading of Article 143 in combination with Article 246 UNCLOS contradicts the assumption that there is absolute freedom to carry out bioprospecting in the Area.[94] States ac-

[91] "Parties shall consider the need for and the modalities of a global multilateral benefit-sharing mechanism to address the fair and equitable sharing of benefits derived from the utilization of genetic resources and traditional knowledge associated with genetic resources that occur in transboundary situations or for which it is not possible to grant or obtain prior informed consent. The benefits shared by users of genetic resources and traditional knowledge associated with genetic resources through this mechanism shall be used to support the conservation of biological diversity and the sustainable use of its components globally". While the Nagoya Protocol does not apply to areas beyond national jurisdiction, it could become a source of inspiration for a future regime applying to resources located in such areas. Another source of inspiration could be the 2001 International Treaty on Plant Genetic Resources for Food and Agriculture, concluded under the auspices of the Food and Agriculture Organization of the United Nations (FAO). On this treaty see CHIAROLLA, *Intellectual Property, Agriculture and Global Food Security*, Cheltenham, 2011.

[92] There is an inextricable factual link between marine scientific research (either pure or applied) and bioprospecting. A research endeavour organized with the intent of increasing human knowledge may well result in the discovery of commercially valuable information on genetic resources.

[93] Art. 241 UNCLOS is also relevant in the discussion on the legal condition of the genetic resources of the deep seabed. It provides that "marine scientific research activities shall not constitute the legal basis for any claim to any part of the marine environment or its resources".

[94] Art. 143(3) UNCLOS grants the States the right to carry out scientific research in the Area, but obliges them to cooperate with other States and the International Seabed Authority in various fields, including the dissemination of results. This provision also refers to any kind of marine scientific research in the Area. Yet the mandate of the Authority deserves close scrutiny, especially if it is to be understood not only as an entity involved in marine mining activities in competition with others, but as the international organization which bears the main responsibility of creating a just and equitable economic order of the oceans and seas. Nothing prevents States from expanding the mining focus of the Authority and granting it some broader management competences in the field of genetic resources.

tive in bioprospecting in this space are already bound to contribute to the benefit of mankind as a whole.[95]

4.2. A Pragmatic Approach

Setting the opposing regimes of common heritage of mankind and freedom of the sea against each other is not likely to lead to productive results in future negotiations on marine genetic resources beyond the limits of national jurisdiction. As repeatedly remarked by the EU and its Member States, it is preferable to take "a pragmatic approach […], avoiding counterproductive theoretical discussion and focusing on the adoption of concrete measures specifically adapted to the question of conservation and sustainable use of marine biodiversity beyond national jurisdiction".[96] The EU and its Member States suggested that the question of genetic resources should be addressed on its own merits without being linked to principles set forth in UNCLOS for other purposes. They are ready to discuss "an access and benefit sharing regime in the wider context of the protection and sustainable use of biodiversity in areas beyond national jurisdiction".[97] In particular, they suggest considering the following elements:

> "Definition of the notion of MGRs [marine genetic resources]: The EU and its Member States would support inclusion of a definition of MGR that would draw upon that for genetic resources stated in Article 2 of the Convention on Biological Diversity and of 'utilization of genetic resources', as defined in Article 2 of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of benefits Arising from their Utilization.
> Collection of MGRs in a manner consistent with their conservation and sustainable use: The IA [Implementation Agreement] must en-

[95] "The principle of common heritage in its substantive aspect is, like any norm of international law, capable of being applied in a decentralised manner by states. Even in the absence of *ad hoc* institutions every state is under an obligation to respect and fulfil the principle of the common heritage by ensuring that subjects within its jurisdiction do not act contrary to its object and purpose. This would be the case if a state authorised or negligently failed to prevent biotechnological activities in common spaces that had the effect of causing severe and irreversible damage to the unique biodiversity of that space. Similarly, a state would fail the common heritage if it authorised exclusive appropriation of genetic resources without requiring equitable sharing of pertinent scientific knowledge and without ensuring that a fair portion of economic benefits accruing from their exploitation be devoted to the conservation and sustainable development of such common resources". FRANCIONI, "Genetic Resources, Biotechnology and Human Rights: The International Legal Framework", in FRANCIONI (ed.), *Biotechnologies and International Human Rights*, Oxford, 2007, p. 14 ff.

[96] Opening statement made on 1 April 2014 before the Working Group by Anastasia Strati on behalf of the EU and its Member States.

[97] *Ibid*.

> sure that the utilization of MGR is sustainable and that conservation is achieved. Therefore, a 'first-come-first-served' approach which undermines sustainability is unacceptable. Access to marine genetic resources, including notification and/or authorization: the access regime could be based either on flag State jurisdiction or be related to an international process within a new operational mechanism established by a new IA. Sharing of benefits could include both non-monetary (i.e. exchange of information, public availability of information, capacity-building, access to samples and sample collections, access to technology, transfer of knowledge, transfer of technology) and monetary benefits. In this context, existing regimes for benefit sharing such as the Multilateral System under the 2001 FAO International Treaty on Plant Genetic Resources or the provisions on benefit sharing of the 2010 Nagoya Protocol, including its Annex, could be considered".

Time will tell whether this position can become a useful compromise between other and more radical positions and whether the EU and its Member States are able to specify the general elements into more detailed treaty provisions.