

## EXPLAINER

### On the inclusion of the prevention of interference with the ecological balance of the marine environment in ISA draft regulations (Implementation of UNCLOS Art 145 in ISA exploitation regs)

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- *UNCLOS Art 145 provides the basis for the ISA's mandate - and States' obligation - to adopt appropriate rules, regulations, and procedures to protect the marine environment from activities in the Area, including to prevent, reduce and control interference with the ecological balance of the marine environment*
  - *Different provisions of the current draft regulations focus on the protection of different biotic components of the marine environment with express reference to ecosystem integrity, ecosystem functions and biodiversity*
  - *This note highlights the need to explicitly implement fully article 145 on the entire marine environment (from the seabed to the surface to the coastline) which may be affected by seabed activities to future proof the regulations. Failure to do so would expose the new regulations to legal challenge*
  - *This note is based on a summary of the work of an informal task groups led by ACOPS between ISA Council 30 Part I and Part II with members of DOSI, the IUCN and Pew Charitable Trust; it is designed to inform and contribute to the negotiations on the draft regulations of exploitation of mineral resources in the Area*
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## 1. Background to the need to define EB / non-interference with the EB of the marine environment

### 1.1 UNCLOS Art 145

**(...) Prevention, reduction and control of pollution and other hazards (..) AND of interference with the ecological balance of the marine environment (...)<sup>1</sup>**

### 1.2 Inclusion in Council 30 draft ISBA/30/C/CRP.1:

DR4.2 on Rights [and legitimate interests] of coastal States and duty to notify:

*Contractors shall take [in conformity with rules, regulations and procedures of the Authority all necessary measures] [all measures required and necessary] to ensure that their activities are conducted so as not to cause harmful effects to the Marine Environment, including, but not restricted to, pollution, damage to the flora and fauna, [interference with the ecological balance of the Marine Environment] and other hazards to the Marine Environment in areas under the jurisdiction or sovereignty of coastal States, and that such harmful effects or pollution arising from Incidents or activities in their Contract Areas do not spread into areas under the jurisdiction or sovereignty of a coastal State.*

In DR44.1(f) on general obligation relating to the marine environment

*[(f) Elaborate and implement measures to ensure that damage or hazards [harmful changes] to the Marine Environment are not transferred, [directly or indirectly,] from one area of the environment to another or from one type of pollution into another one [and to prevent, reduce and control interference with the ecological balance of the marine environment]. Special attention should be paid to avoiding toxic, persistent and bio accumulative substances; and]*

### 1.3 Proxies

Some may argue that references to the protection and conservation of biodiversity, ecosystem integrity and functions replace the non-interference to the 'ecological balance' of the marine environment.<sup>2</sup> However, as is demonstrated in this note, several of these concepts, which are not included in UNCLOS, are not legal, but scientific concepts that are still being developed. Although we see them as providing elements of the ecological balance of the marine environment included in UNCLOS, they would not be sufficient to implement Article 145.

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<sup>1</sup> Art 145 provides the basis for the ISA's mandate - and States' obligation- to adopt appropriate rules, regulations, and procedures to protect the marine environment from activities in the Area:  
'with respect to activities in the Area to ensure effective protection for the marine environment from harmful effects which may arise from such activities. To this end the Authority **shall adopt appropriate rules, regulations and procedures for inter alia:**  
(a) **the prevention, reduction and control of pollution and other hazards to the marine environment, including the coastline, and of interference with the ecological balance of the marine environment,**  
particular attention being paid to the need for protection from harmful effects of such activities as drilling, dredging, excavation, disposal of waste, construction and operation or maintenance of installations, pipelines and other devices related to such activities;  
(b) **the protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment.**with respect to activities in the Area to ensure effective protection for the marine environment from harmful effects which may arise from such Activities.'

<sup>2</sup> Ecological biodiversity and ecosystem integrity are included in DR2 on principles, approaches and policies. Ecosystem functions are referred to in several provisions (DR47 on EIA, Annex III on EIA Scoping Report and the Schedule in the definition of Serious Harm).

## 2. Origin of the concept and other legal uses

### 2.1 Legal history

The text of Article 145 is derived from para. 11 of the 1970 Declaration of Principles<sup>3</sup>, which itself originated from a proposal submitted by Norway to the Sea-Bed Committee earlier in 1970<sup>4</sup>:

*'With respect to activities in the area and acting in conformity with the international regime to be established, States shall take appropriate measures for and shall co-operate in the adoption and implementation of international rules, standards and procedures for, inter alia: (a) The prevention of pollution and contamination and other hazards to the marine environment, **including the coastline, and of interference with the ecological balance of the marine environment**; (b) The protection and conservation of the natural resources of the area and the prevention of damage to the flora and fauna of the marine environment.'*<sup>5</sup>

A proposal from Malta in 1971 suggested the establishment of an international council to manage the living resources of the high seas 'in such a manner as to secure the maximum sustainable yield taking **due account of the need to preserve the ecological balance of ocean space**'.<sup>6</sup> The concept of maintenance of the natural state of the marine environment also appeared in 1973, when Malta submitted a proposal to the Sea-bed Committee which included a provision for the maintenance of the natural state of the marine environment. In 1974, Norway also approached this concept in the context of the introduction of alien species that involves a commitment to 'restore the previously existing state of the marine environment in case where a disturbance has occurred due to any introduction or transfer of alien or new species'.<sup>7</sup> This approach envisaged the problem of human activities disturbing the ecological balance of marine environments.

### 2.2 International case law

The concept of ecological balance is used in the 2010 decision of the International Court of Justice rendered in the *Pulp Mills Case* and in the two last advisory opinions under UNCLOS rendered in 2011 and 2024. The first case was applying the 1975 *Statute of the River Uruguay*<sup>8</sup> that referred to the necessary measures to **avoid changing the ecological balance of the river**. Both parties discussed the application of the ecological balance of the aquatic environment and the court took a broad approach, considering that the respect of the preservation of the ecological balance is an obligation of due diligence. It also examined the extent to which the discharges of effluents in the river may be seen as a breach of the obligations designed to protect the ecological balance. However, the claim of breach was dismissed on the basis that the rules and thresholds adopted by the Commission to protect the ecological balance of the river had been complied with.

The 2024 ITLOS Advisory Opinion on Climate Change and International Law also links the maintenance of the ecological balance of the marine environment to restoration and to *disturbances that are the result of human activities which are not pollution, such as the introduction of alien or new living organisms*.

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<sup>3</sup> GA Res. 2749 (XXV) of 17 December 1970. With regard to activities in the Area, Principle 11 of the Declaration specified the development of national and international measures concerning marine pollution in the way that: 'States shall take appropriate measures for and shall co-operate in the adoption and implementation of international rules, standards and procedures for, inter alia, (a) The prevention of pollution and contamination, and other hazards to the marine environment, including the coastline, and of interference with the ecological balance of the marine environment; (b) The Protection and conservation of the natural resources of the area and the prevention of damage to the flora and fauna of the marine environment'.

<sup>4</sup> Sea-Bed Committee, A/AC.138/SC.1/L.2, para. 11(a), reproduced in SBC Report 1970, 25 GAOR Supp. 21.(A/8071) (1970), Appendix II, at 33. A number of developing states had tabled a similar proposal (A/AC.138/SC.1/L.1, paragraph 11(a), *ibid.*, Appendix I, at 29) that, other than the Norwegian text, contained a reference to the 'protection and conservation of the living resources of the sea', but also the safety of life and property which was dealt with separately and resulted in Art. 146

<sup>5</sup> To note, UNCLOS Article 234 also refers to the ecological balance in the context of situations where 'particularly severe climatic conditions and the presence of ice covering such areas for most of the year create obstructions or exceptional hazards to navigation, and pollution of the marine environment could cause major harm to or **irreversible disturbance of the ecological balance**'.

<sup>6</sup> Sea-Bed Committee, Malta: Draft Ocean Space Treaty, Working Paper, UN Doc. A/AC.138.53 (1971), GAOR 26th Sess. Suppl. 21 (A/8421), 105, 168 (Art. 138 (2)(a)).

<sup>7</sup> Third Committee UNCLOS III, Norway: Working Paper on Preservation of the Marine Environment, UN. Doc. A/CONF. 62/C.3/L.18 (1974), OR III, 266.

<sup>8</sup> [https://www.internationalwaterlaw.org/documents/regionaldocs/Uruquay\\_River\\_Statute\\_1975.pdf](https://www.internationalwaterlaw.org/documents/regionaldocs/Uruquay_River_Statute_1975.pdf)

This language clarifies the distinction between pollution and non-interference with the ecological balance of the marine environment. They are complementary but distinct. This interpretation is consistent with the drafting of Article 145.

This language also suggests that the protection of the marine environment under article 192 includes the preservation of the ecological balance as one of the attributes of the obligation of due diligence as clarified in earlier caselaw of the ICJ/ITLOS.

### 2.3 Ecological stability and balance in the scientific literature

The notion of ecological balance developed as a scientific concept in a terrestrial context in the 1960s and led to the popular view of nature having a 'capacity for self-regulation and self-organization at a higher level' epitomised by J. Lovelock's 'Gaia' hypothesis (Holland, 1998)<sup>9</sup>. However, this approach has later been challenged as ecological theory evolved from the idea of an equilibrium or stable balance of ecosystems to a view of non-equilibrium and randomness. This disagreement resulted in the concept of ecological stability becoming a major source of confusion and disagreement among scientists (Kéfi et al., 2019; Pimm et al., 2019)<sup>10</sup>. However, more recent publications seek to integrate these two opposite views in a broader concept of ecological 'balance' in light of the need to better understand system responses to ever faster changing conditions (Van Meerbeek et al., 2021)<sup>11</sup>.

This scientific evolution appears to have had no repercussions on the legal use of the concept of 'ecological balance' as initially envisaged. On the contrary, uses in the caselaw show that the conceptual approach from the 1960s has provided a strong basis for the development of a legal concept that may be seen as the overall objective and 'guardian' of the protection and preservation of the marine environment under UNCLOS, i.e., the preservation of its ecological balance, and where it has been lost, its recovery.

### 2.4 Approach of the concept in Article 145 for the purpose of its implementation in the draft exploitation regulations

The concept of ecological balance in UNCLOS has to be understood in light of the object and purpose of the provisions that refer to it and the treaty as a whole, as well as subsequent and contemporary uses of these concepts in international environmental law applicable to the marine environment.

Viewed through this lens, Article 145 frames 'the interference of the ecological balance of the marine environment' very broadly as it encloses the seabed in areas beyond jurisdiction up to the surface and out to the coastline. Furthermore, the concept of 'balance' should also be understood broadly to encompass a series of states within the inherent tolerance of a broad system.

## **3. Definition of the ecological balance of the marine environment in UNCLOS**

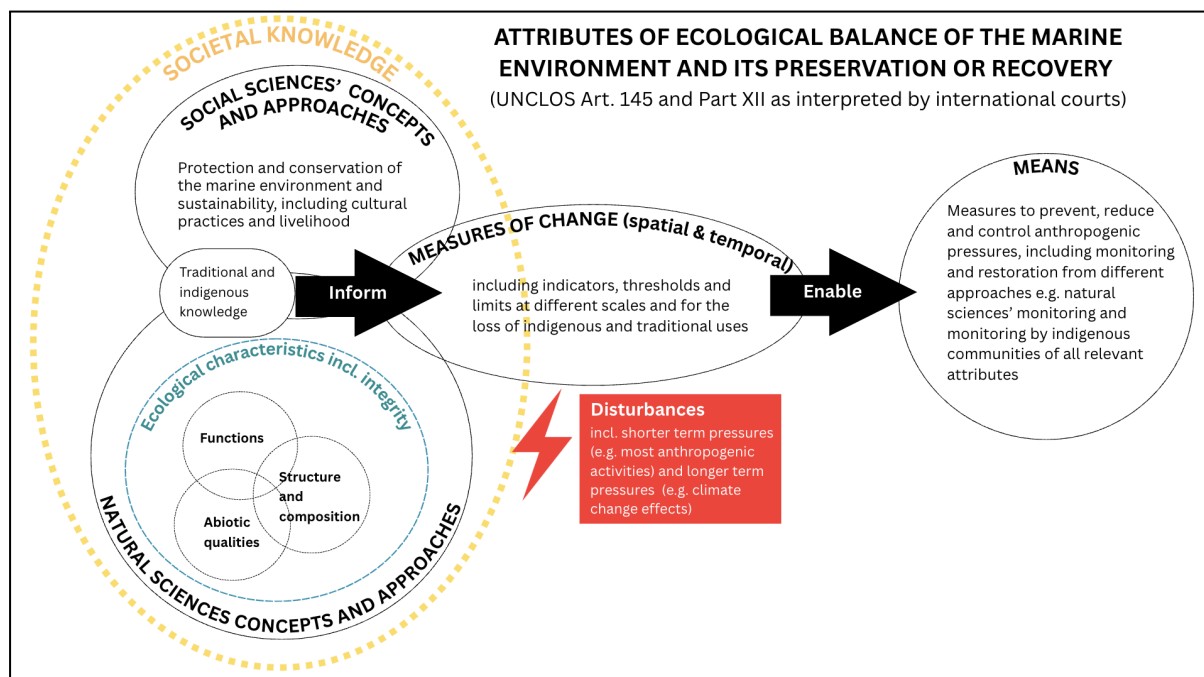
Ecological balance refers to a condition of the marine environment and its components where they retain their essential attributes, as defined and informed by natural sciences (e.g. biodiversity, ecosystem functions, ecological integrity, resilience), social sciences and indigenous knowledge (see graph below).

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<sup>9</sup> Holland (1998): Ecological Balance. In: Encyclopedia of Applied Ethics (2nd edition)

<sup>10</sup> Kéfi et al (2019): Advancing our understanding of ecological stability. Ecology Letters 22(9): 1349-1356. Doi: 10.1111/ele.13340 and Pimm et al. (2019): Measuring resilience is essential to understand it. Nature Sustainability, 2(10), 895–897. <https://doi.org/10.1038/s41893-019-0399-7>

<sup>11</sup> Van Meerbeek et al. (2021): Unifying the concepts of stability and resilience in ecology. Journal of Ecology 109(9): 3114-3132. Doi:10.1111/1365-2745.13651



#### 4. Application in the draft exploitation regulations

As an overarching **legal** obligation under UNCLOS, non-interference/preservation of the ecological balance should be included as a guiding rule of the exploitation code, at the beginning, i.e., in DR 2, and in every reference in the DRs that relates to the protection and preservation of the marine environment including 'biodiversity and ecosystem integrity' in the following manner:

*'protection and preservation of the marine environment, including the preservation of the ecological balance of the marine environment, biodiversity and ecosystem integrity'*

OR

*(...) 'preservation of the marine environment, including biodiversity and ecosystem integrity.'*

Of note here: the 2024 Advisory Opinion mentions the ecological balance of the marine environment in the context of UNCLOS Article 196, therefore as an overarching rule, although it is not expressly mentioned in the provision. In addition, Article 145 considers the non-interference with the ecological balance of the marine environment as a separate (and complementary) obligation to the obligation to prevent, reduce and control pollution of the marine environment.

Drafting proposals should therefore refer to the ecological balance in the following provisions of the DR:

- DR 2.2: (...) and [while] ensuring the effective Protection of the marine environment, including **non-interference with the ecological balance of the marine environment**, biological diversity and ecological ecosystem integrity, from harmful effects which may arise from such activities in the Area consistent with Article 145 of the Convention.

OR

- DR 2.3(c): (...) to effectively protect and preserve the Marine Environment, [including **non-interference with the ecological balance of the marine environment**, biological diversity and ecosystem integrity] pursuant to Article 145 and Part XII of the Convention, ~~including biological diversity and ecosystem integrity~~;

AND

- DR 13.9(d)(v): The importance of **preserving the ecological balance and protecting** biological diversity and integrity of marine species, ecosystems and processes;

- DR 44ter(7): (f) Prevent non-negligible risks of Contamination by pollutants, damage to flora and fauna, **interference with the ecological balance of the marine environment** or other harmful effects to ecosystem integrity during any phase of the mining process;

- DR 49: 2. A Contractor shall monitor the [Environmental Impacts and] Environmental Effects [and risks] of its activities on the Marine Environment [to determine whether they are **interfering with the ecological balance of the marine environment or** having or are likely to have harmful effects on the Marine Environment]

- DR 59(1bis): [(c) **the ecological balance of the Marine Environment** ~~will have a clear and healthy status~~ **is preserved** following the end of Exploitation;]