# The Conservation & Livelihoods Digest

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# The Conservation & Livelihoods Digest

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# EDITORIAL

## Are the tides changing?

Within the last 3—4 months, the international community has adopted two apparently crucial documents that aim to halt the loss in biodiversity: the Kunming-Montreal Global Biodiversity Framework (GBF) and the Agreement for the conservation and sustainable use of biodiversity beyond national jurisdiction (BBNJ Agreement).

While the former was concluded under the auspices of the Convention on Biological Diversity (CBD), the latter constitutes a new agreement under the umbrella of the UN Convention on the Law of the Sea (UNCLOS). Not surprisingly, these to have been hailed as 'historic' by the international media landscape and non-governmental environmental organisations alike. A fundamental element of this praising of these documents is the so-called 30x30 target — the aspired protection of 30% of all terrestrial and marine areas of the world by the year 2030.

What is easily swept under the rug is the fact that the GBF is legally non-binding and therefore merely serves as a guideline for more efficient and effective biodiversity conservation. Its predecessor — the Strategic Plan for Biodiversity 2011–2020 and the associated Aichi Targets — have proved to be extremely insufficient in so far as CBD Parties have failed to adequately implement them. This means, in most countries, most targets have not been met and the decline in biodiversity continues unabated.

The BBNJ Agreement on the other hand is legally-binding and is considered to be a major tool for the implementation of the 30x30 target in the high seas. But also here, what is easily forgotten is the fact that mere adoption of a draft text does not automatically mean that it is implemented right away. It is simply not in force yet. How long this delay between adoption and coming-into-force is, is probably best demonstrated by its umbrella agreement: the UNCLOS. While it was adopted on 10 December 1982, it came into force 12 years later on 16 November 1994. This 'constitution of the oceans' has furthermore been inadequate for the conservation and the sustainable use of marine biodiversity, first and foremost with regard to fisheries. As a consequence, in August 1995, the Fish Stocks Agreement — also under the umbrella of the UNCLOS — was concluded, which came into force on 11 December 2001, more than six years later.

The effectiveness of the BBNJ Agreement will therefore remain to be seen, if it ever comes into force. Of course, states can apply the Agreement voluntarily, but given its potential global importance, this would clearly miss the mark.

In this issue of *The Conservation & Livelihoods Digest* we devote some time to both documents. In order to shed some light on the contents of the BBNJ Agreement, we first go through it one article at a time and provide a brief summary of each. Then, Carlos Mazal gives his view on the Agreement.

We then move on to the media coverage concerning the GBF and the 30x30 target. While it has been hailed as 'historic' across countries and continents, we challenge this idea. The article was originally written as a commissioned article for the *Polar Research and Policy Initiative.*

Following this 'historicity', we turn to the scientific basis of the 30x30 target and take it under closer scrutiny. While the CBD itself considers the 30x30 target scientifically justified, we examine the provided sources and conclude that it is not what it seems. The science is not as unequivocally supportive of the idea as it is publicly communicated.

Another article commissioned by *Polar Research and Policy Initiative* considers the way international media sources consider indigenous peoples and local communities. While most speak about conservation, IPLCs are by and large sidelined.

One of the underlying features of both the BBNJ Agreement and the GBF is the 'ecosystem approach', which can be found in many instruments and discourses concerning conservation. In the article, we tackle the question of whether the 'ecosystem approach' is merely an approach or can be considered a principle, which has significantly more legal weight than merely an approach.

In light of the large number of documentaries that deal with environmental issues, we chose to review the film *Killing the Shepherd* by US filmmaker Tom Opre. The documentary is set in Zambia and questions the idea of banning trophy hunting in southern Africa.

Finally, we turn to a new study in *Marine Mammal Science*, which demonstrates that the mythical Norse creature *hafgufa* may in fact be rooted in a certain type of feeding behaviour of humpback and Bryde's whales that was observed just recently. The article therefore shows once again that myth and traditional ecological knowledge may in fact walk closely hand in hand.

Finally, we review the movie *Avatar: The Way of Water* by James Cameron, which is an utmost stereotypical depiction of indigenous cultures and 'evil' invaders. It is quite shocking that in the 21st century, this kind of movie is still be produced and has such a success. One might almost think, humanity would not learn — to be sarcastic. This review was also commissioned by *Polar Research and Policy Initiative*.

Things are happening, to put it casually. Whether or not the BBNJ Agreement and the GBF will be successful remains to be seen. But, in any case, the discussion on the conservation and sustainable use of resources remains in full swing.

— Dr Nikolas Sellheim
March 2023

ARTICLE

# The United Nations adopt treaty to protect and sustainably use the high seas

## Background

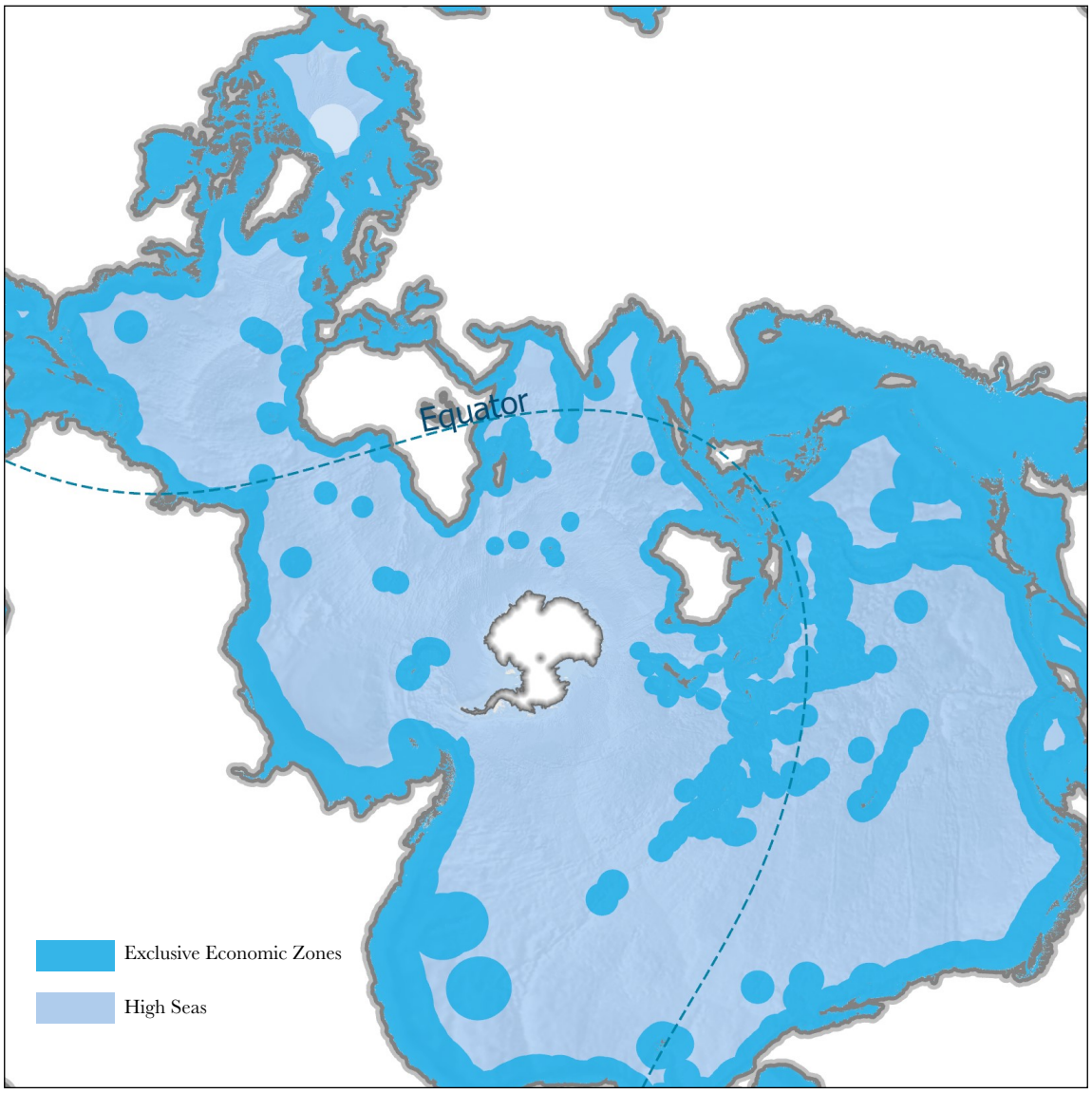
3 March 2023 marked an important day for the protection and the sustainable use of biodiversity in the oceans. On that day, the United Nations finally agreed to a text of a treaty that aims for the protection and the sustainable use of biodiversity beyond national jurisdiction (the BBNJ Agreement) — the high seas (UN, 2023). Those waters, which can be found beyond the 200 nautical mile Exclusive Economic Zones (EEZs) (see map below).

According to the UN Convention on the Law of the Sea (UNCLOS) (UN, 1982), the high seas are not controlled by any state and, accordingly, all seafaring nations have a large number and non-exhaustive freedoms in the high seas: navigation, fishing, 'immersion' (the laying of subsea cables and pipelines), overflight or the construction of artificial islands and other installations permitted by international law. While all states have these freedoms, the high seas are to be used for peaceful purposes and no state is permitted to lay any claims to them (cf. UN, 1982, Arts 87–90).

Given the respective freedoms of sea-faring states in the high seas, there has thus far not been any legally-binding agreement that regulates human use. The only exception is the subsoil, which is referred to as 'the Area' under the UNCLOS and which is considered a common heritage of mankind and which therefore should benefit all of mankind, governed by an authority, indeed acting on behalf of all making (the International Seabed Authority [ISA], headquartered in Kingston, Jamaica) (cf. UN, 1982, Arts. 186, 187). The Area consequently holds a different legal status to the waters above in so far as its use is regulated by an international body while the waters are not.

This is not to say that waters beyond national jurisdiction are an empty legal space. Despite the freedoms of fisheries in the high seas, the UNCLOS stipulates that this is to occur through international cooperation and bearing conservation of fish in mind (UN, 1982, Arts. 116–119). To this end, around 20 regional fisheries management organisations (RFMOs) has been established since 1945, which regulate the catch of (some) commercial fish species and conduct science to ensure conservation and sustainable use. Tuna fisheries in the entire Atlantic Ocean, for instance, are regulated by the International Commission for the Conservation of Atlantic Tuna (ICCAT).

To ensure the long-term conservation of fisheries, the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (Fish Stocks Agreement) (UN, 1995) was adopted in 1995. While the agreement was concluded under the umbrella of the UNCLOS, its memberships are not the same, but each holds its own (UNCLOS: 168; Fish Stocks Agreement: 92). The main purpose of the Fish Stocks Agreement is the cooperation between fishing nations for the conservation and sustainable use of highly migratory and




*The World's Exclusive Economic Zones and High Seas © Dr Nikolas Sellheim, 2023*

straddling fish and to strengthen RFMOs. Parties which are not willing to join an RMFO or who do not apply conservation or management measures can be denied access to a specific fishery under the agreement (Young, 2011, p. 42).

In addition, members of the UN's Food and Agriculture Organization (FAO) have furthermore established a regime to protect fish species from illegal fishing. For instance, the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (FAO, 2009) currently holds a membership of 69 states and aims to exacerbate or deny port access for ships that have been document to engage in illegal, unreported and unregulated (IUU) fishing.

Moreover, regional agreements exist. For the Arctic Ocean, for example, the littoral Arctic states, along with Iceland, the EU, Japan, South Korea and China adopted the Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean in 2015 (CAO Agreement). Apart from fishing, other regimes aim for the conservation and sustainable use of migratory fish and other marine species (Bonn Convention, 1979) or for whales (ICRW, 1946), to name a few. The Convention on International Trade in

Endangered Species of Wild Fauna and Flora (CITES, 1973) furthermore regulates international trade in a large number of marine species, such as commercial fishes and cetaceans (Guggisberg, 2016) while the Convention on Biological Diversity (CBD, 1992) provides a normative basis for the conservation and sustainable use of all biological diversity on the planet. Yet, especially with regard to the CBD, the legal interplay between ocean law and biodiversity law is complex and despite the quasi-universal application of the CBD, its role for marine biodiversity conservation is not entirely clear (Wolfum & Matz, 2000).

## The BBNJ Agreement

The BBNJ Agreement is an extensive text, comprising 70 articles and two Annexes. Contrary to all other existing agreements, the BBNJ Agreement addresses the conservation and sustainable use of biodiversity beyond national jurisdiction in a comprehensive manner. This means, the 'area beyond national jurisdiction' concerns both the high seas as well as the Area - waters and ocean floors beyond national jurisdiction. In the international media, the Agreement is widely hailed as a cure against biodiversity decline because of its potential to implement the so-called '30x30 Target' (e.g. Stallard, 2023), stipulated in the Kunming-Montreal Global Biodiversity Framework (see this issue). The 30x30 Target calls for the protection of 30% of all land and sea areas by the year 2030. The BBNJ Agreement, however, does not refer to the target at all, but is of a significantly more technical nature.

*The Preamble*

The Preamble lays out the general gist of the Agreement. Apart from linking it the rights and obligations set out in the UNCLOS, the Preamble furthermore stresses that the Agreement is not to impair the rights of indigenous peoples and local communities, especially in light of the rights set out in the UN Declaration on the Rights of Indigenous Peoples (UNDRIP). Reference to the UN Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP) is absent. Instead, the Agreement recognises the "special interests and needs of developing States, whether coastal or landlocked" (5th preambular paragraph) and that capacity-building and technological transfer are essential for the conservation and sustainable use of marine biodiversity.

The UNCLOS is furthermore a point of reference in regard to the way harmful activities in a State's 200nm Exclusive Economic Zone (EEZ) are concerned as well as with regard to pollution. The State is therefore obligated to contain this pollution to its own sovereign area. The Preamble furthermore underlines the principle of intergenerational equity. To this end, the Parties desire "to act as stewards of the ocean [...] on behalf of present and future generations" (11th preambular paragraph) and underline the principle of equity in regard to the generation, access and utilisation of digital sequencing information on marine genetic resources.

The Preamble emphasises the respect for sovereignty, territorial integrity and political independence and the legal status of non-Parties in relation to the law of treaties. Also it notes that while the Agreement is aspired to achieve universal participation, it nevertheless does not shield Parties from other international obligations with regard to the protection and preservation of the marine

environment. Lastly, the Parties to the Agreement are "Committed to achieving sustainable development" (17 preambular paragraph).

*Part I — General Provisions* (Articles 1–6)

This part comprises six articles. Article 1 lays out the terms, clarifying, for example, that "'areas beyond national jurisdiction' means the high seas and the Area" (Art. 1.4.); and providing the definitions for several crucial elements, such as area-based management tools, biotechnology, cumulative impacts, marine protected areas, marine technology or sustainable use. Especially for the latter, the article notes that this means "the use of components of biological diversity in a way and at a rate that does not lead to a long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations" (Art. 1.16.), again highlighting the principle of intergenerational equity and sustainable development.

Article 2 outlines the general objective, which is "to ensure the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction", which is, according to Article 3 the Agreement's scope of application. Article 3bis - connoting an existing article, which might be subject to renumbering - stipulates, however, that the Agreement does not apply to warships, military aircraft or naval auxiliary. Further, the Agreement does not apply to vessels or aircraft owned by a Party, unless they are non-commercial. Despite these exceptions, the Parties are to ensure, where reasonable and practical, that these vessels act in accordance with the Agreement.

Article 4 considers the relationship with the UNCLOS and stresses the lex superior status if the Convention, in so far as critical elements, such as marine delineation are to be respected. It is furthermore not to be applied and interpreted in a manner that undermines other agreements which are of relevance. Article 4bis underlines the interpretation of the Agreement as not serving as a source for justification of sovereignty claims.

Article 5 lays out the general principles and approaches. Here, fundamental elements of modern international environmental law are provided in an obligatory manner ("shall"), requiring the Parties to apply them consistently. To this end, a rather large number of elements stemming from the 1992 Rio Declaration can be found in the Agreement and "Parties shall be guided by the following principles and approaches: the polluter-pays principle, the principle of equity, the precautionary principle, an ecosystem approach, integrated ocean management, the use of traditional knowledge of indigenous peoples and local communities, the recognition of the special circumstances of small island developing nations and of least developed countries, or the interests and needs of landlocked states."

In Article 6, the need for international cooperation with other bodies in order to achieve the objective of the Agreement is stressed. Moreover, Parties are to endeavour to promote the agreement in other bodies while also promoting international cooperation in marine scientific research and technology transfer.

*Part II — Marine genetic resources, including the fair and equitable sharing of benefits* (Articles 7–13)

Article 7 defines the objectives of this part: the fair and equitable sharing of benefits regarding activities concerning marine genetic resources and the building of capacity.

Concerning the latter, the interests of least developed states, small island states, coastal African states, archipelagic states, and developing middle-income states are to be considered here.

Articles 8 and 9 outline the application of the provisions pertaining to marine genetic resources as well as the activities related to these. Article 8 clarifies that the provisions apply after the entry into force of the Agreement, but that they also apply when material has been collected or generated before the entry into force. The Agreement does not apply to fishing regulated under international law or fish or other marine species having been taken as part of fishing activities. Article 8.2bis exempts military vessels, aircraft and activities from the provisions of this article.

The principle of the common heritage of mankind is addressed in Article 9 in so far as it prohibits the claiming of sovereignty over marine genetic resources. It moreover underlines the principle of equity as irrespective of their geographical location, all Parties to the Agreement enjoy the same right to carry out activities in relation to marine genetic resources.

Article 10 is of a technical nature and provides for the information that is to be provided to the clearing-house mechanism. Without the need to delve into details here, some examples of the information include the geographical area of collection, a data management plan, information on the repository of data, or information on the possibility of finding the results of the activities. Of more relevance is Article 10bis, which concerns traditional knowledge of indigenous peoples and local communities, which is associated with marine genetic resources. The article provides for the free, prior and informed consent (FPIC) of indigenous peoples and local communities when their knowledge is used in relation to genetic marine resources. The "[a]ccess to and use of such traditional knowledge shall be on mutually agreed terms", thus legally preventing Parties from exploiting the knowledge of IPLCs.

Article 11 establishes the fair and equitable sharing of benefits. This very long and very technical article provides for the equitable sharing of all monetary and non-monetary benefits arising out of the utilisation of genetic marine resources. What appears to be missing in this article is sharing of benefits with IPLCs. While Article 11.5. refers to the financial mechanism established under Article 52, this mechanism concerns the interests of developing and small islands states, but does not hold a special mechanism to let IPLCs be part of the benefit-sharing processes. This is rather surprising since the application of FPIC (see above) would imply that they are also compensated for the sharing of their knowledge. Also Article 11bis, which establishes an Access and Benefit-sharing Committee, comprising fifteen members who possess appropriate qualifications. While the committee is to take into account gender balance, equitable geographic distribution and representation from developing states, a requirement for the representation from IPLCs is absent.

The final article of this part, Article 13 (with Article 12 not having been designated), concerns monitoring and transparency. The main mechanism for monitoring and transparency occurs through the respective clearing-house mechanisms of Parties as well as through the Access and Benefit-sharing Committee which Parties are required to report to. The Committee is then to prepare a report which it presents to the Parties. With a large

membership, it remains doubtful in how far Parties actually follow their obligations to report to a regime's authority. As Wyatt has shown, this is not even the case in well-established regimes such as CITES (Wyatt, 2021).

*Part III — Measures such as area-based management tools, including marine protected areas* (Articles 14–21)

Article 14 lays out the objectives of this part, namely the conservation and sustainable use of areas requiring protection, inter-state cooperation to strengthen coordination with regard to area-based management including marine protected areas, the protection, preservation and restoration of biodiversity and ecosystems, support of food security, and support for developing states. Article 15 then clarifies that area-based management tools under this Agreement are only applicable beyond national jurisdiction, meaning that the EEZs of the Parties do not account for such tools. Moreover, the article makes clear that these area-based management tools do not serve as a basis for claims to sovereignty.

While Article 16 was deleted, Article 17 concerns the nature of proposals for the establishment of area-based management tools, including marine protected areas, which are to be identified based on the indicative criteria laid out in Annex I. When developing these proposals, Parties are required to engage in consultations, including governmental bodies, civil society, the scientific community, the private sector and IPLCS. When developing proposals, these are to be drafted taking the best available science as well as traditional knowledge into account, and paying due regard to the precautionary and ecosystem approaches. These proposals are to include several elements, such as: geographic and spatial descriptions, human activities including those of IPLCs, state of the marine environment, or conservation and sustainable use objectives.

Upon receipt of a proposal, the Secretariat makes this publicly available and transmits it to the Scientific and Technical Body (STB). The comments of this body are also made publicly available and conveyed to the proponent by the Secretariat. A revised version of the proposal, based on the STB's comments, is then retransmitted to the Secretariat by the proponent and also made publicly available, as stipulated in Article 17bis.

Article 18 sets provisions for the set-up and characteristics of consultations on and the assessment of proposals. The first paragraph requires consultations to be "transparent and open to all relevant stakeholders", including IPLCs. The Secretariat is required to collect input on, inter alia, views on the merits and geographic scope of the proposal; views on the merits of the proposal; views on relevant scientific inputs; and views on aspects of a management plant. Subparagraph (c) further requires states to invite the views of IPLCs on the proposal, also regarding traditional knowledge. The views are to be made publicly available and must be addressed by the proposing state when revising the proposal.

Article 19 provides for the requirements for area-based management tools (ABMT), which are being established by the Conference of the Parties after the consultation process. When doing so, other relevant instruments must be cooperated and coordinated with and make recommendations if the measure falls under the competence of a different instrument. If an area-based management tool already exists, the CoP can decide to develop mechanisms concerning the existing ABMT. A decision is

not to undermine already existing mechanisms while parts of the ABMT within the EEZ of a state are not come into force. If an ABMT exists, this is to remain in force and the CoP, in coordination with the relevant instrument may deicide to maintain, amend or revoke the ABMT.

All decisions are to be taken by consensus, as laid out in Article 19bis. If this cannot be reached, a 3/4 majority of representatives present and voting may take the decision, however only after 2/3 of the representatives present and voting have decided that all efforts to reach consensus have been exhausted. The article further establishes that the decision comes into force 120 days after the meeting. Parties may lodge an objection to every decision in writing. An objection can be lodged on three grounds: if the decision is inconsistent with the Agreement; if the decision discriminates against the objecting Party; and if the Party cannot comply with the decision after making all reasonable efforts to do so. An objection remains in force until the next CoP, upon which the objecting Party needs to renew it. If this renewal has not occurred, the objection is considered withdrawn.

Emergency measures are considered in Article 20ante, for example caused by natural or human-caused disaster. These measures are to be take in accordance with other relevant instruments and only if the disaster cannot be managed in a timely manner. These measures are to be based on the best available science and traditional ecological knowledge of IPLCs and automatically terminate after two years or as decided by the CoP. Article 20 considers the implementation of the Agreement. As in other agreements, Parties are entitled to take more stringent measures as those laid out in the Agreement, but not putting more burden on other Parties. If a Party to the Agreement is not a party to another relevant instrument and consequently does not apply conservation measures under this instrument, it is not to be discharged from the obligation to cooperate in the conservation and sustainable use of marine biodiversity beyond national jurisdiction.

Finally, this part ends with Article 21 on monitoring and review. Parties are obligated to report to the CoP and make these reports public. The Scientific and Technical Body is to monitor and review ABMTs and assess their effectiveness. Based on this review, the CoP can decide to provide recommendations on, amendments to, and extensions or revocations on a respective ABMT.

*Part IV — Environmental Impact Assessments*
(Articles 21bis—41ter)

The objectives of this part are to "operationalize the provisions of the Convention on environmental impact assessment [EIA] for areas beyond national jurisdiction" (Article 21bis (a)). This is to occur through the establishment of processes and thresholds, the assessment of activities, consideration of cumulative impacts, the provision of EIAs, through a coherent framework for EIAs and through capacity-building. Parties are therefore obligated to conduct an EIAs when an activity may cause significant pollution or other harms to the marine environment. The information of the EIA is to be made available through the clearing-house mechanism, the activity to be monitored and the EIAs and other monitoring reports to be made available through the clearing-house mechanism (Article 22).

According to Article 23, Parties are to further promote EIAs in other instruments to which they a are party. The CoP is to develop mechanisms for the STB so that it can collaborate with other instruments or bodies. It

is not necessary to carry out an EIA when this was done under the auspices of another relevant instrument or when the EIA was done in accordance with the requirements under the Agreement. A precondition for every EIA is the publication of the report. Each activity is furthermore to be monitored and reviewed by each Party.

If an activity may have more than a minor impact on the marine environment or the impacts are poorly understood, the Party is to conduct a screening of the activity, according to Article 24. This screening is to be detailed and if the activity is considered to cause substantial harm, an EIA is mandatory.

Articles 25–29 are deleted in the current draft. The document continues with Article 30, which establishes a detailed process for an EIA, requiring screening, scoping, an impact assessment and evaluation, and the prevention, mitigation and management of potential adverse effects. As regards screening, scoping and the impact assessment and evaluation, these are to occur on the basis of best available science and relevant traditional knowledge of IPLCs, and in consideration of the effects on economic, social, cultural and health impacts.

Articles 31–33 are deleted in the current draft whereas Article 34 sets the requirements for public notification and consultation. To this end, Parties are to notify states adjacent to the planned activity and relevant stakeholders in a timely manner. By doing so, they are to ensure clear notification of opportunities of participation. Most affected states are to be identified while stakeholders are to include "indigenous peoples and local communities with relevant traditional knowledge, relevant global, regional, subregional and sectoral bodies, civil society, the scientific community, and the public" (Article 34.3). The notification and consultation are to be transparent and the planned activity is to take into account substantive comments from other stakeholders. If the activity is surrounded by EEZs, the proponent is to undertake targeted and proactive consultations and consider the views and comments of the surrounding states.

For the EIAs, reports are to be prepared, following certain requirements laid out in Article 35. The draft reports are to be made available through the clearing-house mechanism during the public consultation while the STB is to make comments to this report in a timely manner. Each report is to be published and made available to the other Parties through the Secretariat.

Articles 36 and 37 are deleted in the current draft. Article 38 stipulates that a Party may decide on its own whether to proceed with the activity. This decision is to be based on the EIA and on the premise that all efforts have been taken to avoid the causing of significant harm to the marine environment. The decision documents are to outline the grounds for the decision and to be made public.

If the planned activities is approved, the approving Party is to monitor the activity closely, based on the best available scientific knowledge and the traditional knowledge of IPLCs. Apart from the environmental impacts, also associated economic, cultural, social and health impacts are to be monitored (Article 39).

Based on Article 40, the reports of the impacts are to be prepared periodically and made public through the clearing-house mechanism. The STB is to evaluate the monitoring reports and develop guidelines on the monitoring of these impacts, including the identification of best practices. In addition to monitoring, Article 41 stipulates that the approved activity and its impact is to be reviewed by the state. If

it turns out that unforeseen impacts occur, the state is required to take all necessary steps to prevent, mitigate and/or manage these impacts, and notify the CoP as well as the public of these impacts. Based on this report, the STB is to make recommendations on how to mitigate these impacts, which the approving state is to take into consider. The decision on how to proceed with the activity is to be made public, including the reasons that have led to this decision.

Article 41bis establishes guidelines by the STB relating to EIAs, essentially combining the provisions set out in this part.

*Part V — Capacity-building and transfer of marine technology*
(Articles 42–47bis)

As Article 42 lays out, the objectives of this part are primarily directed at developing states to assist them in implementing the Agreement. To this end, Parties are to increase, disseminate and share knowledge on the conservation and sustainable use of marine biodiversity, especially in relation to marine genetic resources and benefit sharing, ABMTs and EIAs. In order to do so, Article 43 stipulates that cooperation through relevant legal instruments and by including all relevant stakeholders, including IPLCs, and through full recognition of the requirements of developing states is a requirement.

To further ensure that developing states are able to implement the Agreement, Parties are to provide resources for and access to capacity-building for these states. Capacity-building and the transfer of marine technology is to occur in a transparent, effective and iterative manner and be based on and be responsive to the needs and priorities of developing states (Article 44). These provisions are expanded in Article 45, which underlines the shared vision of the Parties with regard to capacity-building and the sharing of marine technology. However, despite the encouragement of the sharing of marine technology, this is to occur taking into account the rights and duties of the holders, suppliers and recipients of this technology and taking into account the interests of developing states.

Also in terms of capacity-building, the Agreement is rather specific and understands the concept as including "support for the creation of the human, financial management, scientific, technological, organizational, institutional and other resource capabilities of Parties" (Article 46.1). This is to occur through inter alia the sharing of data, information, knowledge and research results; the development and sharing of manuals, guidelines and standards; or the development and strengthening of capacities and technological tools for effective monitoring, control and surveillance. Other details are provided in Annex II to the Agreement.

Both capacity-building and the transfer of marine technology are to be monitored and reviewed under the auspices of the CoP, taking into account the interests of developing states, as Article 47 sets forth. This review and monitoring includes the review of the support required, the identification and mobilisation of funds for capacity-building and marine technology transfer or making recommendations for follow-up activities. To properly implement the provisions concerning capacity-building and marine technology transfer, Article 47bis establishes a Capacity-building and transfer of marine technology committee the members of which are to hold appropriate qualifications and expertise, are nominated by Parties and elected by the CoP. Apart from gender balance and equitable geographic representation, taking into account

the interests of developing countries, no further information is provided.

*Part VI — Institutional arrangements* (Articles 48–51)

As the title implies, this part establishes different bodies to implement the Agreement. First and foremost, Article 48 establishes the Conference of the Parties which meets at the UN headquarters in New York or at the seat of the Secretariat. The Article underlines the call for decision-making by consensus. The tasks of the CoP are, inter alia: the adoption of decisions and recommendations; the review and facilitation of information exchange; the promotion of cooperation and coordination with other relevant instruments and bodies; the establishment of subsidiary bodies; or the adoption of a budged (by 3/4 majority). Within five years of the entering into force of the Agreement, the CoP is to meet and assess and review the adequacy and effectiveness of the Agreement. The intervals of the meetings of the CoP are to be occur on a regular basis, but with the first meeting taking place within one year after the coming into force of the Agreement. The CoP will decide on its rules of procedure at the first meeting.

Article 48bis concerns transparency of the meetings of the CoP. Based on its rules of procedure, the meetings of the CoP can be attended by observers while its decisions are to be made public while also information and other steps, such as consultation, are to be publicly disseminated. Non-parties and other relevant stakeholders can request to participate in the meetings as observers. This participation is not be restrictive.

Article 49 establishes the Scientific and Technical Body (STB), which is to comprise members to be nominated by Parties and to be elected by the CoP. The body is to take "into account the nee for multidisciplinary expertise, including relevant scientific and technical expertise and expertise in relevant traditional knowledge" (Article 49.2) of IPLCs. The terms of reference and the selection process are to be determined by the CoP at its first meeting.

The Secretariat to the Agreement is established under Article 50, the functioning and seat of which is to be determined by the CoP at its first meeting. Until its establishment, the UN Secretary-General "through the Division for Ocean Affairs and the Law of the Sea of the Office of Legal Affairs of the United Nations Secretariat, shall perform the secretariat functions under this Agreement" (Article 50.1bis). Generally, the tasks of the Secretariat are, inter alia, the provision of administrative and logistical support to the CoP, the arrangement of meetings, the circulation of information, the preparation of reports, and the provision of assistance with the implementation of the Agreement.

The oft-mentioned clearing-house mechanism is established under Article 51, which is an open-access platform to serve as a platform for Parties to access, provide and disseminate information relating to marine genetic resources, ABMTs, EIAs, and requests for capacity-building and transfer of marine technology. It is furthermore, inter alia, to facilitate the matching of capacity-building needs with the available support, to link other clearing-house mechanisms, including those relating to traditional knowledge of IPLCs, with the Agreement and to promote links with publicly available platforms in order to exchange information. In addition, the mechanism is to promote transparency and to facilitate international cooperation and collaboration. The mechanism is managed by the Secretariat in cooperation with other instruments and bodies, such as the

Intergovernmental Oceanographic Commission of the UN or the International Seabed Authority. The clearing-house mechanism is to recognise the needs of developing states.

*Part VII — Financial resources and mechanism* (Article 52)

Under this part and Article 52, a funding mechanism is established. The sources of funding stem from contributions of Parties. The mechanism is to ensure "the provision of adequate, accessible, new and additional and predictable financial resources" (Article 52.3) and is to include the following: a voluntary trust fund in order to facilitate the participation of developing states, funding through the provisions under Article 11, and additional contributions by Parties. Moreover, the Global Environment Facility (GEF) — a multilateral environmental fund established at the Rio Conference in 1992 — is to fund capacity-building projects, assist developing states, support programmes by IPLCs, support public consultations and fund the undertaking of other activities. Other mobilised finances are to occur through public and private sources such as contributions from states, financial institutions, donor agency or non-governmental organisations, to name a few. The CoP oversees the funding mechanism. The urgency to address biodiversity loss requires the CoP to initiate resource mobilisation by 2030. Developing states are eligible to access this funding through simplified application procedures and bearing in mind their needs. A finance committee established by the CoP is to collect information and report on funding, for instance through assessments of the needs of Parties, the availability of funds and the accountability of recipient developing states. The CoP is to review the financial mechanism periodically.

*Part VIII - Implementation and compliance* (Articles 53–53ter)

Under this part, Parties are required to "take the necessary legislative, administrative or policy measures, as appropriate, to ensure the implementation of this Agreement" (Article 53). They are furthermore required to report to the CoP on the measures they have taken to implement the Agreement, according to Article 53bis. Lastly, under Article 53tar, an Implementation and Compliance Committee is established, the members of which are nominated by Parties and elected by the CoP. It is to report to the CoP on implementation and compliance issues and make respective recommendations.

*Part IX — Settlement of disputes* (Articles 54ante—55ter [included as Article 48(6) in the current draft])

In order to prevent disputes, Parties are required to cooperate and settle their disputes by "negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement, resport to regional agencies or arrangements, or other peaceful means of their own choice" (Article 54) - a right which is not to be impaired (Article 54ter ante). If the dispute is of a technical nature, it is to be referred to an ad hoc expert panel, which is to resolve the dispute without recourse to binding procedures.

These are established under Article 55. In case of such disputes, recourse is made to the procedures laid out in Article 287 of the UNCLOS, which provides for several avenues of dispute resolution, such as the International Tribunal for the Law of the Sea, the International Court of Justice, an arbitral tribunal, or a special arbitral tribunal. Parties are free to chose which means is best appropriate. If Parties disagree on the means, the dispute is to be resolved by means of

arbitration. If a Party to the Agreement is not a Party to the UNCLOS, it is nevertheless bound to its Article 298, which provides for some exceptions on dispute resolution in several specific matters. The article clarifies that matters within national jurisdiction and matters of sovereignty beyond national jurisdiction are not within the scope of the dispute settlement procedures. While a dispute is ongoing, according to Article 55bis, the parties of the dispute are to enter into provisional arrangements of a practical nature.

*Part X — Non-parties to this Agreement*
(Article 56)

This part and Article requires Parties to motivate non-parties to the Agreement to become Parties and adopt legislation in accordance with it.

*Part XI — Good faith and abuse of rights*
(Article 57)

Based on this part and Article, Parties are to carry out the Agreement's obligations in good faith and in a manner that does not constitute an abuse of rights.

*Part XII — Final provisions*
(Articles 58ante—70)

The final part establishes that each Party sis to have one vote, except for regional economic integration organisations (REIO), which is to exercise its right to vote based on the number of its member states (Article 58ante). The Agreement can be signed by all states and REIOs from a yet unspecified date onward for a yet unspecified period of time at the UN Headquarters in New York (Article 58). AFter the closing date for signature, it is to remain open for accession (Article 59).

If an REIO becomes a Party to the Agreement but its member states are not, it is nevertheless to be bound to its obligation. If an REIO and at least one of its member states become a Party to the Agreement, they are to decide on their respective responsibilities in the implementation of the Agreement. In any case, an REIO that is a Party is to declare to the depository government the extent of competence.

Article 60 is deleted in the current draft. According to Article 61, the Agreement will enter into force 120 days after the 60th instrument of ratification, approval, acceptance or accession. After the coming into force of the Agreement, for any other new Party, the Agreement comes into force on the 30th day after the deposit of its instrument of ratification, approval, acceptance or accession. In addition, a new Party may apply the Agreement provisionally before the official coming into force for that state after notifying the UN Secretary-General. This provisional application terminates after the coming into force for that state (Article 62). Contrary to other agreements, no reservations may be made to the present Agreement, unless permitted by other articles (Article 63). While this is so, Parties are nevertheless permitted to make statements or declarations as long as they do not undermine the legal applicability of the Agreement (Article 63bis).

Article 64 is deleted in the current draft. The Agreement can be amended by each Party, as long as a proposal for amendment is tabled before the Secretariat, which circulates the proposal to the other Parties. Within six months of this circulation, at least half of the Parties are to respond favourably to the proposal in order for it to be considered at the following meeting of the CoP. The CoP may then decide upon this proposal. If accepted, the amendment comes into force for all Parties 30 days after at least 2/3 of the Parties have

submitted their ratification, approval or acceptance instruments. However, an amendment may also provide that a smaller number of supporting Parties is necessary (Article 65).

Under Article 66, the Agreement provides for the right of denunciation, i.e withdrawal, from the Agreement. The notification of denunciation must be addressed to the UN Secretary-General and takes effect one year after the date of submission. While it should include reasons for denunciation, these are not mandatory. The Article notes further that in case of denunciation, this does not relieve the denouncing state from other obligations under international law.

Article 67 is deleted in the current draft. Article 68 makes the two Annexes to the Agreement an integral part of it. These Annexes can be amended by the CoP, following certain steps: proposed amendments must be communicated to the Secretariat at least 150 days before the meeting of the CoP; the Secretariat is to communicate the proposed amendment to the Parties and consult with relevant subsidiary bodies. The responses of these bodies are to be communicated to the Parties no later than 30 days before the meeting; adopted amendments come into force 180 days after the closing of the meeting for all Parties, except those having lodged an objection. An objection can be lodged within the time period of 180 days and can be withdrawn at any time.

Article 69 declares the UN Secretary-General to be the depository of the Agreement while Article 70 makes the six official UN languages to be equally authentic.

*The Annexes*

Annex I concerns the Indicative criteria for identification of areas, relevant for Article 17. These are: uniqueness; rarity; special importance for the life history stages of species; special importance of the species found therein; the importance for threatened, endangered or declining species or habitats; vulnerability, including to climate change and ocean acidification; fragility; sensitivity; biological diversity and productivity; representativeness; dependency; naturalness; ecological connectivity; important ecological processes occurring therein; economic and social factors; cultural factors; cumulative and transboundary impacts; slow recovery and resilience; adequacy and viability; replication; sustainability of reproduction; existence of conservation and management measures.

Annex II concerns the Types of capacity-building and transfer of technology. These include, inter alia, the sharing of relevant data, information, knowledge and research; the sharing of research and development results; environmental and biological information; or EIAs. Furthermore, the Annex provides for the development and strengthening of relevant infrastructure and equipment through infrastructure development; technology provision; and the acquisition of equipment. Institutional capacity and mechanisms are to be developed and strengthened through governance, policy and legal frameworks and mechanisms; assistance in these requirements; technical support; data translation capacities; or skills development. Also the financial management is to be developed and strengthened through scientific collaboration; education and training in different fields; exchange of experts; the provision of funding; and a repository for manuals and other relevant information in order to share knowledge. Finally, the development of technical, scientific and research and development programmes is to provide for

capacity-building and the transfer of marine technology.

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VIEW

# Negotiations of the High Seas Treaty (BBNJ): Some reflections.

By *Carlos Mazal*, senior fisheries consultant

It is necessary to calmly evaluate the result of the negotiations on Biodiversity in Areas beyond National Jurisdiction, pushed, to never seen degrees of interference by Non-Governmental Organizations (NGOs) from the beginning, and whose text was agreed on March 5, after a 36-hour session. The NGO media celebrated — prematurely — an agreement that will only be officially approved at a date that Member States will decide.

The full negotiation (not the 'talks) began in earnest in 2018. The "decades" of negotiations mentioned by NGOs, some countries and the UN Secretary-General is an attempt to create a narrative that does not exist. 5 years is, in fact, a short time for such an ambitious treaty dedicated to fulfilling a duty left pending by the UN Convention on the Law of the Sea (UNCLOS) of 1982 on the management of biodiversity in the high seas. FAO and the WTO took 30 years to reach an agreement on fisheries subsidies that is still incomplete.

Regarding the transfer of marine technology and, supposedly, its know-how, it very likely that only some low-tech assistance might actually be provided. It is protected by Intellectual Property Rights and in the hands of the private sector. Island developing countries, Least Developed Countries (LDCs) and developing countries in general, were sold on the idea that they would get some kind of high technology for free, but it won't happen.

13,000 genetic sequence patents have already been registered by 3 multinationals. The absence of the World Intellectual Property Organization (WIPO) from the negotiations was a mistake. It has more experience in genetic resources (GR), after 20 years and some 30 sessions of text-based negotiations, than anyone in the UN system. It will be difficult, if not impossible, to negotiate, let alone implement with private sector companies, any type of access and benefit sharing (ABS) agreement. They were declared Patrimony of Humankind in the high Seas, although some consider the high seas as a place where freedom of the seas prevails. In the 200-mile Exclusive Economic Zones, no developing country has the technology or financial resources to try to reach depths of 4000 meters, for example, and do the research to determine if it matches other sequences already patented that could show promise to find cures for diseases or be used by the cosmetic industry. Only Public-Private Partnership with companies from developed countries would, perhaps, make it possible to sign complex Access and Benefit Sharing (ABS) contracts.

In reference to the species of fish for which genetic sequences already exist, only ONE individual is needed to obtain their DNA. Some NGOs wanted to "include" them on the list to be excluded from sustainable use. That attitude reflects how, in reality, they are just trying to ban fishing and impose lifestyles and diets that suits their philosophy.

Area-Based Management Tools (ABMT), including Marine Protected Areas (MPAs) are the holy grail of BBNJ NGOs. Pretending to close 30 percent in 30 years of terrestrial and marine areas without any scientific

justification is another mistake. If they close the oceans to fishing, fishing fleets, for example, would congregate where there are no 'no take' areas. Beyond the arbitrary whim of MPAs in the high seas -mainly- and in the 200-mile EEZ, it has not been proven that they work. AMPs are not magic, one-size-fits-all solutions. One may eventually work for a limited time and ten others may not. It is a case-by-case scenario in and in an ideal situation. Article 19.2 of the approved text on area-based measures, including marine protected areas, establishes respect for competencies and not undermining global, regional, subregional, and sectoral frameworks and organizations. Fisheries Management Organizations (RFMOs) can do so. Furthermore, voluntary exclusion clauses (opt out).

Financing should have been dealt jointly with Technology Transfer (TT). LDCs, small islands developing states (SIDS), the Caribbean, and African countries, among others, should not expect checks in the mail. In Latin America, middle- and high-income countries are left out. Maybe some donations through NGOs. The money is elsewhere. CBD, Climate Change, CITES and 14 other forums where fisheries and biodiversity, which also should be treated as an asset to be dealt with sustainably, are being, simultaneously, discussed.

A small victory for the fishing sector is that, in paper at least, the activity is excluded. Finally, they admitted that trying to include it surreptitiously would prolong for years the approval and could undermine the food security of 3.3 billion human beings who depend on the protein from the sea, $200 billion in trade and 54 million direct jobs.

ARTICLE

# What's 'historic' about the Kunming-Montreal Global Biodiversity Framework and its 30x30 target?

*Disclaimer: This article has been commissioned by Polar Research and Policy Initiative as part of a series of fact-checked articles about the Arctic, climate and the environment, and Indigenous issues, supported by the EMIF managed by the Calouste Gulbenkian Foundation.*

## Introduction

With the conclusion of the 15th Conference of the Parties (CoP15) of the Convention on Biological Diversity (CBD) on 19 December 2022, a breath of relief seemed to sweep through the international media landscape. After all, this 'crucial' meeting (Weston & Greenfield, 2022) led to the adoption of the Kunming-Montreal Global Biodiversity Framework (GBF), named after the split way CoP15 was held (in Kunming, China, online, and in Montreal, Canada, in person). In the international media,the list of which can be found below this article, the GBF was indeed hailed as 'historic' (Gilbert, 2022; Greenfield & Weston, 2022; Schauenberg, 2022; NTB-AP, 2022; Flemmich & Dönsberg, 2022; Euronews, 2022a), especially since a major and controversial element within the framework is the so-called '30 by 30' (or '30x30') target. This target aims to place 30% of all land and sea areas under a managed framework of protected areas or other effective area-based conservation measures (OECMs) by the year 2030.

In this article, I examine what is indeed 'historic' about the GBF and the associated 30x30 target and whether the perception of a 'deal for nature' might not actually be misleading.

## The Kunming-Montreal Global Biodiversity Framework (GBF)

The GBF is a major attempt by the Parties to the CBD to halt the loss in biodiversity, which has been identified by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) as dramatic (IPBES, 2019). The GBF can be considered an updated, more ambitious and more thought-through document than its predecessor — the Aichi Biodiversity Targets (CBD, 2020)— which have, by and large, not been met for various reasons by its 'deadline' 2020 (Xu et al., 2021). In essence, the GBF is divided into two major parts: first, the listing of four long-term goals which should be reached by the year 2050. These goals encompass the protection and increase of ecosystems (Goal A), the sustainable use of biodiversity and a potential increase in its use for the benefit of humankind (Goal B), the sustainable use of genetic resources and their equitable sharing (Goal C), and adequate implementation of the GBF through technology transfer, financial resources or capacity-building (Goal D).

While these goals are held very broadly, the GBF furthermore includes 23 targets which are to be reached by 2030, e.g.: to ensure that the management and use of wild species are sustainable, thereby providing social, economic and environmental benefits for people (Target 9); Ensure the full integration of biodiversity and its multiple values into policies, regulations, planning and development processes, poverty eradication strategies, strategic environmental assessments, environmental impact assessments (Target 14); or ensure the full, equitable, inclusive, effective and gender-responsive representation and participation in decision-making, and access to justice and information related to biodiversity by indigenous peoples and local communities (Target 22).

One of these, Target 3, is crucial in the medial depiction of the GBF as being historic. As mentioned in the Introduction, this target aims to protect 30% of all land, sea and inland water areas by the year 2030 through a network of protected areas as well as other effective area-based conservation measures (OECMs). Target 3 is even more ambitious than Aichi Target 11, which — unsuccessfully — aimed to protect 17% of terrestrial and inland water areas and 10% of all marine and coastal areas by the year 2020 (see Carr et al., 2020). As shown in various media sources, the putting in place a network of protected areas in their various forms is considered to be *the* remedy against increasing biodiversity loss.

## What is 'historic' about the GBF?

While the different media outlets frame the 'historicity' of the GBF as being related to the 30x30 target and the ambition that underlies it, its significance lies, at least in my view, somewhere else. For while it is indeed ambitious, there is no way to tell whether or not it will actually work — especially in light of the failed Aichi Targets. So, when looking at this 'historic' framework, particularly compared to Aichi, two elements come to the fore: finances, and the role of indigenous peoples and local communities.

*Financial aspects of the GBF*

While the Aichi Targets very broadly refer to the "the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020" (Target 22), no closer stipulation of this point can be found. This is fundamentally different in the GBF. Here, concrete numbers can be found. First, Goal D refers to "progressively closing the biodiversity finance gap of 700 billion dollars per year", thereby aiming to address the biodiversity funding gap of 285—700 billion USD that has been identified by UNEP (UNEP, 2022) and others (e.g. Paulson Institute, 2020). This means that by 2050, the required investments into nature conservation are linked to a concrete number that allows to be a guide, particularly for developed countries, i.e. G20.

But the GBF goes further. Financial issues are also addressed in Targets 18 and 19, both of which are therefore to be implemented by 2030. Target 18 aims to "eliminate, phase out or reform incentives, including subsidies, harmful for biodiversity" by the year 2025 by 500 billion USD per year. In other words, national governments are urged to financially limit funding for those industries or businesses which may cause harm to the environment. While the target does not exclusively urge them to eliminate all funding, it nevertheless calls for a reform of this funding. How or in what way this reform or elimination is to occur (except for being "proportionate, just, fair, effective and equitable"), it aims to "substantially and progressively" reduce this funding by 2030. This target can be interpreted as being a major step towards the 'greening' of harmful industries and businesses by turning off the money tap in the long run. Since Section E of the document stresses the 'Theory of change' which "recognizes that urgent policy action is required globally, regionally and nationally to achieve sustainable development so that the drivers of undesirable change that have exacerbated biodiversity loss will be reduced and/or reversed", this element is well in line with the underlying premise of CoP15's vision of effective biodiversity conservation.

Target 19, however, goes much more into detail. Here, the national governments are, in addition to Target 18, urged to invest in biodiversity conservation. They are to "significantly and progressively increase the level of financial resources […] to implement national biodiversity strategies and action plans, by 2030 mobilizing at least 200 billion United States dollars per year." While this number still ranges well below the identified biodiversity investment gap (see UNEP, 2022; Paulson Institute 2020), it should be considered in parallel with Target 18, which essentially marks an investment as well by reducing funding.

Be that as it may, Taget 19(a) places the burden of investments on the developed states. By 2025 they are thus to increase their funding for biodiversity-related investments to 20 billion USD "in particular the least developed countries and small island developing States, and to at least US$ 30 billion per year by 2030." This consequently means that the GBF is finding new ways to implement to principle of 'common but differentiated responsibilities' — a key principle in the 1992 Rio Declaration, which maintains that all states are responsible in addressing environmental harm, but not all are equally responsible in doing so. This refers to developed states who now have the means to develop 'green' technology, but have caused severe environmental damage in the past. The GBF therefore puts more responsibility on the shoulders of developed states in supporting developing countries to reach a higher

economic level, but by doing so in an environmentally less harmful way.

*The recognition of the rights of indigenous peoples and local communities*

Before the GBF was even adopted, indigenous organisations called for resistance against its adoption. *Survival International*, a lobby group for the advancement of indigenous rights, for instance, called the planned 30x30 goal 'The Big Green Lie' (*Survival International*, Undated), fearing that its adoption would lead to a justification for so-called 'fortress conservation', expelling indigenous peoples and local communities from the lands they have traditionally inhabited in the name of nature conservation. This fear is far from being alarmist or unrealistic, as for instance the violence against the Batwa in the Democratic Republic of the Congo has painfully demonstrated (*Sellheim Environmental*, 2022) or concerning forced relocation of Maasai in Serengeti National Park in Tanzania — an issue the German *Zeit* recently reported on (Böhm, 2023).

It seems, however, as if the long negotiations of the GBF have led to a document that — at least on paper — recognises the rights of indigenous peoples and local communities. Already the Decision that adopts the GBF in paragraph 4 urges governments and other actors to foster "the full and effective contributions of women, youth, indigenous peoples and local communities, civil society organizations, the private and financial sectors, and stakeholders from all other sectors" and in paragraph 6 "*Reaffirms* its expectation that Parties and other Governments will ensure that the rights of indigenous peoples and local communities are respected and given effect to" (original emphasis).

Section C of the GBF on implementation contains a subsection dealing with the 'Contribution and rights of indigenous peoples and local communities.' This subsection, first, recognises the importance of IPLCs as custodians of biodiversity; second, it aims to ensure that indigenous rights, practices and traditional knowledge are respected, documented and preserved; third, aims to do so with their free, prior and informed consent (which is also stipulated in Target 21); fourth, aims to ensure their full participation; and lastly, fifth, in reference to the UN Declaration on the Rights of Indigenous Peoples, establishes that the GBF is to be implemented without diminishing or extinguishing the rights of indigenous peoples.

This is further underlined throughout the different targets that are to be implemented by 2030. Especially the 30x30 target, i.e. Target 3, makes reference to the rights of indigenous peoples and local communities — as a response to the resistance its adoption had faced before. The target therefore aims to "recognize indigenous and traditional territories" and to recognise and respect the rights of indigenous peoples and local communities, "including over their traditional territories." Indeed, also the customary use of biodiversity is respected and protected in Target 5 and further encouraged in Target 9.

Based on the recurring recognition of indigenous rights throughout the document, one might argue that, especially in comparison with the Aichi Targets, the GBF is indeed 'historic' as no other biodiversity-related document adopted under any other biodiversity agreement makes such frequent and rights-based reference to indigenous peoples and local communities. Consequently, the loud voices of indigenous organisations appear to have paid off in so far as their rights

are recognised and they are to be active actors within biodiversity conservation initiatives.

## The blind spot

In the media outlets that have covered the CBD negotiations and the respective outcomes, the voices of indigenous peoples and local communities are traditionally (or let's rather say historically) unreflected. This is to say that hardly any mention is made of their concerns. Instead, most articles refer to the fact that the rights of indigenous peoples are to be respected and/or that their role in biodiversity conservation might change (positively) (Schauenberg, 2022; Flemmich & Dönsberg, 2022; Gilbert, 2022; Greenfield & Weston, 2022; Weston & Greenfield, 2022). One media article I found explicitly dealt with indigenous concerns (Euronews, 2022b), albeit not in the way one might expect. In this article, the concerns of Latin American indigenous peoples over potential deforestation is addressed in response to a planned regulation by the European Union which aims to guarantee consumers that the products they buy do not contribute to deforestation (European Commission, 2022). While they welcome the law, the article stresses, it is not sufficient to effectively protect species. Merely one sentence notes that indigenous peoples are demanding that their voices be heard at COP15 in Montreal, even though their territories are home to 80% of the Earth's remaining biodiversity.

While indeed the role of indigenous peoples and local communities appears to be strengthened in the GBF, this role oftentimes comes with several limitations in formulation: "where applicable" or "as appropriate." These words weaken the seemingly rights-based approach to conservation in so far as there is no clear mechanism to determine where this is applicable or when it is appropriate. It is consequently in the eye of the respective nation state to determine whether or not the protection of rights and lands is either applicable or appropriate. This is also what *Cultural Survival*, another lobby group for indigenous rights, has lamented after the adoption of the GBF (*Cultural Survival*, 2022).

What stands out in the GBF — factually making it historical and not historic — is the blind spot of the rights of *local communities*. While the GBF refers to the indigenous peoples and local communities on numerous occasions (in fact, the term 'local communities' occurs 16 times throughout the document), rather vague formulations in terms of human rights can be found while on one occasion reference is made to the UN Declaration on the Rights of Indigenous Peoples. The recently adopted UN Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP) is missing entirely from the document. UNDROP is a groundbreaking document, adopted by the UN General Assembly in December 2018, for the rights of indigenous and non-indigenous rural people(s) (see Gradoni & Pasquet, 2022; for a German overview of the declaration, see Sellheim, 2022). A truly rights-based approach would have required reference to this declaration as well. However, as seen in CITES, for example, this declaration has not been widely recognised as solidifying the rights of local communities (Sellheim, 2020).

## Conclusion

While the 30x30 Target within the GBF is indeed ambitious, to me it does not seem to be entirely clear why international media outlets have used this target to label the framework as

'historic'. Other elements stand out much more, such as clear financial guidelines or the rights of indigenous peoples. What would have made the framework truly 'historic' would have been the absence of any leeway concerning the rights of indigenous peoples and a true recognition of their role as wardens of biodiversity.

What is concerning in this regard is the fact that easily-accessible medial outlets — at least the ones that I have consulted — make no reference to the problems associated with the 30x30 target in relation to indigenous peoples. Instead, the focus lies on the territorial approach to conservation with a complete disregard of other approaches. Headlines count, not diverse and reflective content.

In addition, a truly historic approach of the GBF would have been to emphasise the rights of local communities as well. While they are mentioned in line with indigenous peoples (and therefore in line with Article 8 (j) of the CBD itself), it remains unclear what rights, other than those enshrined under general human rights law, they are to hold. While there is a UN declaration that provides them with a large number of rights, the UNDROP, this document is fully absent from the GBF, making it yet another example for a blind spot which is all so common in discourses on conservation.

The above deliberations leave me to conclude that most media outlets when reporting about CoP15 seem to have forgotten the '-al' in their respective headings: The GBF is not 'historic', it's 'historical'.

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REVIEW ARTICLE

# The scientific basis of the 30x30 Target

## Introduction

When the 15th Conference of the Parties (CoP15) of the Convention on Biological Diversity ended on 19 December 2022, numerous international media outlets were almost hysterically celebrating it as having been 'historic' (e.g. Gilbert, 2022; Greenfield & Weston, 2022). For the CoP15 led to the adoption of the so-called Kunming-Montreal Global Biodiversity Framework (GBF), a non-binding document that aims to counter the developments identified by the Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services (IPBES) in 2019 (IPBES, 2019). In its report, IPBES underlined the drastic levels of biodiversity loss, which have not been stopped or slowed down by previous initiatives.

To this end, the CoP came together to finally address this very worrisome development, resulting in the adoption of the GBF. One of the most important elements that led many to conclude that this framework is 'historic' is the so-called 30x30 Target, included in the GBF as Target 3. This target aims to place 30% of all land and sea areas under some form of protection by the year 2030. The rather odd wording of Target 3 as can be found in the published GBF is as follows:

"*Ensure and enable that by 2030 at least 30 per cent of terrestrial and inland water [sic], and of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures, recognizing indigenous and traditional territories, where applicable, and integrated into wider landscapes, seascapes and the ocean, while ensuring that any sustainable use, where appropriate in such areas, is fully consistent with conservation outcomes, recognizing and respecting the rights of indigenous peoples and local communities, including over their traditional territories.*"

Not surprisingly, prior to the adoption of the GBF, many indigenous groups, such as Survival International or Cultural Survival have called on parties to stop this endeavour, fearing an increasing level of 'fortress conservation' that forcefully displaces local (indigenous) inhabitants in the name of conservation.

But how did the 30x30 idea come about to begin with? In this article, we address the science based on which the entire concept came to be based on a document provided by the CBD's Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) (CBD, 2021).

## Territorial conservation

Conserving or even preserving the natural environment through the establishment of areas that are off limits for utilisation is not a new idea. The establishment of the first national parks in the United States or the colonial delimitation of lands on the African continent for the sole purpose of recreation for urbanites already shown that the territorial view on nature conservation has been a

floating concept for several decades, if not centuries (Sellheim, 2020). As a result, indigenous and local identities, livelihoods and cultures were subjugated to the 'higher' good of conservation, having led to forceful eviction and relocation of entire communities (Dowie, 2009).

Unfortunately, this trend has not stopped. As the Minority Rights Group International reported, this conservation-legitimised violence has also occurred very recently (MRGI, 2022). From an indigenous perspective, therefore, the entire idea of territorial conservation is, mildly put, controversial. As a result, when the first draft of the GBF was published and the idea was put into play to place 30% of the planet under some sort of protection, calls and initiatives to stop this 'biggest land grab in history' were put in motion, yet with a limited success (e.g. Survival International, 2021).

What is surprising, however, is that the 30x30 target is the successor to Aichi Target 11, which saw the placing of 17% of terrestrial areas and 10% of coastal and marine areas under some form of protection. However, since most of the initiatives to implement the Aichi Biodiversity Targets failed, also this goal was not met in full. With the new GBF, however, the goal to place even larger terrestrial and marine areas under protection is even more ambitious.

## The idea

The Aichi Targets were adopted by the CBD's 10th CoP in 2010 in Nagoya, Aichi Prefecture, Japan. With the ongoing failure to properly implement them and thereby to halt biodiversity loss, new ideas were necessary. In that regard, the repertoire of conservation initiatives provided for the call for area-based conservation based on a certain fraction of lands (and seas) - an idea which was first uttered in 1972 (see Odum & Odum, 1972).

Based on this approach, one of the leading and most prominent biologists, E.O. Wilson published his often-cited book Half-Earth in 2016 (Wilson, 2016). As the title implies, in this book Wilson advocates for a putting aside of 50% of the planet's surface for nature to recover. He therefore advocates for a shift in moral reasoning and 'true' altruism by doing no more harm to the biosphere. He declares that "[u]nless a new Green Revolution can be engineered, human-use will risk elimination of most of the remaining land-based biodiversity" (Wilson, 2016, p. 172). And this, the book essentially argues, can only be countered through the establishment of more parks and reserves all over the world - encompassing 50% of the planet's surface.

While at first glance this idea appears radical, the fact that the United Nations have now taken up on the same approach by aiming to place 30% of the world's surface under some sort of protection within the next 6 1/2 years or so shows that territorial conservation is still considered to be the cure against biodiversity loss. But as Wilson himself concedes, it is difficult to establish scientific baselines for rewilding these areas. This, in his view, should however not be an obstacle to the establishment of protected areas, but rather a challenge (Wilson, 2016, p. 183).

Not surprisingly, Wilson's idea also had some traction in the scientific world, best exemplified by the background document to the GBF, which notes that "[m]any recent proposals converge around protecting 30 per cent or more of the land and sea surface by 2030, with the possibility of higher targets established subsequently […]" (CBD, 2021, p. 18).

## The scientific (and policy) basis

The scientific fundament for the CBD to come to this conclusion are nine scientific studies (CBD, 2021, fn 77). Contrary to what the CBD-document indicates, a convergence around 30% cannot necessarily be found. But let's start one at a time (the headings indicating the Reference in question). The sources referred to are all on file with Sellheim Environmental and can be obtained upon request.

*1. Dinerstein et al. (2019)*

Dinerstein et al. (2019) focus on a Global Deal for Nature (GDN) which is to link climate policies with biodiversity conservation to be mutually reinforcing. Based on the call of the IUCN (2016) to protect 30% of the world's surface, the authors advocate this approach, but caution that "biologists and planners must be careful to avoid two major risks inherent in a single global percentage: (i) adding more land to reach the global target that is similar to what is already well accounted for at the expense of underrepresented habitats and species, and (ii) the temptation by some governments to protect low-conflict areas that may be lower priority from a biodiversity perspective" (p. 4). Based on three themes, they advocate the conclusion of a GDN based on Theme 1, Biodiversity conservation in different ecoregions, Theme 2, Mitigating climate change, and Theme 3, Reducing major threats.

By advancing this approach, the authors provide a strong case for a comprehensive science-based policy mechanism that links and mutually justifies biodiversity conservation and climate change mitigation strategies based on the Paris Agreement.

While the authors strongly advocate the 30x30 target, they also note that "it would be possible to advance a desired future of multiple economic and environmental objectives" and that this "spatial coexistence is possible even with the prospects of feeding and supporting the material needs of a growing human population" (p. 12). In other words, while they do advocate the 30x30 target, they do not advocate strict nature reserves or no-take regions per se. Instead, they note the importance of ecosystem services and are recognizant of the role of indigenous peoples.

*2. Visconti et al. (2019)*

In this paper, the shortcomings of Aichi Target 11 are discussed and significant problems identified which have led to unsuccessful implementation of this target. The first problem identified by the authors is the fact that "[f]ocus on the percentage coverage of PAs generates perverse outcomes" (p. 1) since areas may be designated with low biodiversity and/or with little conservation value.

The second problem identified relates to what actually counts as protected, in reference to designated protected areas which are nothing more than 'paper parks' not meeting the definition of what constitutes a protected area. Also, just because certain designated protected areas have staff and resources does not mean that they are correlated with biodiversity outcomes.

The third problem relates to the question of what the protected areas actually represent. While in the authors' view ecoregions constitute the "appropriate level of representativeness" (p. 3), this does not equate with species representation. This is because ecoregions are too broad to capture all elements of biodiversity, such as species

composition, endemism, genetic variation as well as ecological and evolutionary processes.

Fourth, the authors identify the difficulty of reconciling national and subnational targets with the indicators of Aichi Target 11. In other words, the 'bottom-up' approach to interpreting the Target 11-indicators have led more than half of screened states to fail to meet a subset of target components. This leads them to conclude that "[t]argets and indicators need to be scalable across biogeographic and administrative levels and should be explicitly quantified at the national scale […]" (p. 2).

In order to avoid these problems in the post-2020 global biodiversity framework, the authors propose their own target, which is solely based on outcomes, including all biodiversity elements such as populations, ecosystems and ecological processes:

"The value of all sites of significance for biodiversity, including key biodiversity areas, is documented, retained, and restored through protected areas and other effective area-based conservation measures" (p. 2).

In their explanation on the benefits of such an approach, the authors clarify that this would minimise the incentive for 'paper parks' while also leaving little leeway for interpretation as well as providing an indicator set that motivates positive impacts. They conclude: "We therefore expect that this target would galvanize greater and more effective and efficient efforts than previous area-based conservation targets or alternative proposals that are not based on conservation outcomes" (p. 4).

Any reference to 30% of the planet's surface to be protected is absent from this study. To the contrary, as the final sentence suggests, mere area-based conservation without conservation outcomes is not what the authors favour.

*3. IUCN (2016)*

The second source refers to an IUCN resolution from the 2016 World Conservation Congress in Hawai'i and is therefore not a scientific basis per se. Here, the Congress is mindful of the fact that scientific evidence supports the full protection of at last 30% of the ocean and encourages all governments and agencies "to designate and implement at least 30% of each marine habitat in a network of highly protected MPAs and other effective area-based conservation measures, with the ultimate aim of creating a fully sustainable ocean, at least 30% of which has no extractive activities, subject to the rights of indigenous peoples and local communities" (operative paragraph 2, footnotes omitted).

Interestingly, however, the fourth footnote of this paragraph underlines that "potential impacts of the motion on the rights and interests of indigenous peoples, and their conservation, economic, social and cultural traditions and aspirations, should be reviewed in a manner that allows participation consistent with both indigenous peoples' traditional decision-making process, and UNDRIP."

On the one hand, therefore, 30% are advocated and called for. On the other hand, the network of protected areas should only occur when the rights of indigenous peoples are guaranteed.

As the basis for the IUCN serve two scientific studies — Sciberras et al (2013) and O'Leary et al. (2016) — the latter of which is also referenced in the CBD document. Interestingly, Sciberras et al. (2016) do not make reference to 30% marine protected areas, but instead conclude that "no-take reserves provide some benefit over less protected areas, nevertheless the significant ecological effects of partially protected areas relative to open access areas

suggest that partially protected areas are a valuable spatial management tool particularly in areas where exclusion of all extractive activities is not a socio-economically and politically viable option" (Sciberras et al., 2016, p. 28).

*4. O'Leary et al. (2016)*

This article is a review article of 144 studies to assess whether the target to establish marine protected areas for at least 10% of the world's oceans is based on scientific evidence, i.e. that it meets its environmental goals. The authors found that of these studies, a mean percentage of MPA coverage for the oceans is 37% in order to "achieve, maximize, or optimize the objective(s)" (p. 3).

In theory and based on their own research, the authors assert, protecting at least 30% of the world's oceans might not be enough to meet the objectives of MPA networks. This said, they furthermore note that none of the studies they examined had the explicit goal to examine how much of the world's oceans needed to be protected. Instead, all were based on specific locales with different scenarios and coverages, yet without a reference to a specific fraction. They conclude that their "findings do not therefore represent explicit recommendations for what global targets should be but rather offer perspective on political targets" (p. 4).

Also in this study, the problem of 'paper parks' is addressed. The authors suggest that area-based targets are most effective in intact environments with limited human activity where degradation is prevented before it occurs. Despite potential drawbacks in implementation and the differing studies, the authors nevertheless conclude that "the UN 10% target is too low and that the 2014 World Parks Congress call for ≥30% of the sea in highly protected MPAs is strongly supported by existing evidence" (p. 5).

*5. Woodley et al. (2019)*

Woodley et al. (2019) also present a review article of the scientific literature pertaining to area-based conservation. All in all, the titles and abstracts of 1,656 papers were scanned. They note that essentially, three methods were used in order to determine the area which is required to conserve biodiversity on a large scale:

1. The species area curve: the relationship between the area of an ecosystem and the number of species found within that area. The authors note that this is Wilson's (2016) approach to determine that 50% of the Earth are in needed to protect 85% of the world's species. They also note that this type of approach is not very common in the reviewed literature (p. 34).

2. Systematic conservation planning: This bottom-up approach considers specific valued ecosystem components such as species, ecosystem types, other abiotic elements (e.g. caves) and ecosystem services. Taken together, these can allow for a determination of an area that is required to meet conservation targets. The authors note that from a conservation perspective 30.6% of the world's surface should be protected based on systematic conservation planning.

3. Minimum area required to maintain an intact, functioning ecosystem: This approach aims to determine which area is required to prevent an ecosystem from undergoing a regime shift or to maintain a keystone species. The literature reveals that, from strictly a conservation perspective, a minimum protection of 60% of an entire ecosystem are necessary to prevent a regime shift, yet with

specific ecosystem such as the Amazon region requiring significantly more.

The authors conclude in light of the different approaches to conservation and the screened literature that there is scientific support for protected areas of 30-70% of the globe's surface (p. 42). They observe, in reference to the 17%-target in Aichi Target 11, that "[p]ercentage area targets cannot be considered in isolation from the quality considerations presented in Aichi Target 11" (p. 41). Additionally, they note that "[l]arge area-based targets should never be considered as percentages for percentages' sake. They should always be determined and implemented, whether at the global, regional or local scale through systematic conservation planning or other science-based approaches" (p. 41).

*6. Dinerstein et al. (2020)*

In this study, the authors essentially expand on Dinerstein et al. (2019) by providing some more arguments for the necessity and applicability of a Global Deal for Nature (GDN). By now labelling it the Global Safety Net, they cartographically show areas of particular importance for biodiversity and where additional conservation are needed. They furthermore demonstrate how these areas are closely interlinked with carbon storage initiatives. As in is predecessor, the Global Safety Net is accompanied by three targets: Target 1: Conserving the diversity and abundance of life on Earth; Target 2: Enhancing carbon storage and drawdown; and Target 3: Wildlife and climate corridors: A scoping exercise.

Without the need to delve into the different targets and the results the authors received through testing, suffice it to say that the paper provides more arguments and evidence for area-based conservation based on ecological characteristics, underscoring the call for the 30x30 Target. Interestingly, however, the authors recognise that their proposed Global Safety Net significantly overlaps with indigenous lands. They note that "[t]he overlay of mapped indigenous territories with spatial targets 1 to 3 reveals an extensive overlap of 37% and underscores the central role that indigenous peoples and their lands play to preserve biodiversity and regulate Earth's atmosphere" (p. 7). This begs the question why these lands are not formally recognised as OECMs under the CBD instead of producing new criteria to protect 30% of lands and seas, as in Target 3 of the GBF.

*7. Jones et al. (2020)*

In this paper, the authors identify global priorities for the expansion of conservation efforts in the oceans, both in terms of area-based conservation as well as management and policy options. Using marine biological data in terms of aiming to demonstrate how much ocean space can represent 10% of species ranges, the authors conclude that "at least 26%–41% of the ocean needs to be conserved" (p. 192). This, however, represents merely a minimum of the area in need of further conservation efforts. But as the authors note, this is not an actionable conservation plan, but rather demonstrating the scale of the problem — similar to O'Leary's et al. (2016) conclusion.

Although the authors do conclude that large swaths of the ocean are in need of protection, they furthermore make clear that marine protected areas alone cannot solve the biodiversity problems. Instead, "they must be combined with OECMs, land-based actions, and broad-scale approaches leading to improved management of the ocean beyond the PA estate (e.g., catch documentation

schemes, mandatory environmental impact assessments)" (p. 193).

*8. Hannah et al. (2020)*

This study, similar to Dinerstein et al. (2019) considers the link between climate change mitigation and biodiversity conservation. As the point of departure serves the CBD-proposed 30x30 target, indicating that the study itself does not propose this percentage, but rather that it has already taken up the idea of fraction-based conservation. Contrary to the other studies, however, it does not take a global approach but rather focuses on biodiversity in three tropical regions (Africa, South-east Asia and South America).

The study finds that protected terrestrial areas of 30–50% will greatly reduce extinction risk, yet also dependent on the degree to which climate change is mitigated. Generally speaking, however, a 30% protected area scenario would have the potential to decrease species decline by up to 50% while a scenario of 50% protected areas might lead to 80% decrease in species decline. The authors underline, however, that this purely ecological approach might not work in the real world. To this end, they note that "real world planning to reduce extinction risk will need to accept compromises and reorder priorities as choices (many times less than optimal) are made" (p. 950).

Also this study highlights that different types of land uses paired with biodiversity conservation requires active management and policies in order to "maintain natural areas in high priority locations of highest value to species' present and future ranges" (p. 949).

## Conclusion

The scientific basis of the CBD's background document relies on eight sources, two of which are review studies, one is a resolution and thereby not a scientific study, two deal with marine areas and one relates to tropical regions. Moreover, two of the studies are closely related, i.e. Dinerstein et al. (2019) and Dinerstein et al. (2020), thereby not presenting any significantly diverging viewpoints or different approaches to conservation.

What many of the studies have in common is the fact that fraction-based conservation, i.e. a certain percentage of land to be protected, cannot be the sole solution, but that, first, this needs to go hand in hand with other conservation measures, such as management; second, that representativeness plays a major role in determining which areas to protect; and, third, that protecting a certain fraction of land just to reach a percentage does not inevitably lead to biodiversity conservation in so far as it is imperative that an outcome-based approach is considered as well.

This is what also the CBD document recognises: "However, the importance of focusing on biodiversity outcomes rather than spatial area is emphasized; an increase in coverage alone will not be sufficient" (CBD, 2021, p. 18). In this sense it appears somewhat dubious why the discursive focus rests on the 30x30 Target rather than an 'Outcomex30' Target. Interestingly enough, however, is the fact that one of the referenced studies, Visconti et al. (2019), does not make any mention of 30% of the world's surface to be protected. Rather the opposite appears to be the case: that area-based conservation is the least favourable tool to counter the biodiversity crisis.

It cannot be ascertained on what basis the sources were chosen by the SBSTTA. But the document itself also refers to other sources, such as Immovilli & Kok (2020). This study concludes by noting that the "two scenarios here proposed ['half-earth' and sharing the planet'] are theoretical constructs" (Immovilli & Kok, 2020, p. 41). As now being part of the 30x30 Target, especially the underlying notion of partitioning the planet are no longer theoretical, but becoming an essential part of international policy-making, probably best exemplified by the ongoing negotiations for a UN agreement concerning biodiversity beyond national jurisdiction (BBNJ).

Also other sources the CBD document refers to do not unequivocally support the focus on area-based conservation as such. FOr example, Maxell et al. (2020) remark that "conservation organizations need to adopt more impact-orientated evaluation measures and promote governance and management equity" (Ibid., 2020, p. 225) while Leclère et al. (2020) conclude that "such a bold conservation plan [an increase of up to 40%] will conflict with other societal demands from land, unless transformations for sustainable food production and consumption are simultaneously considered" (Ibid., p. 4--5). Instead of focusing on sole area-based conservation efforts, the final study thus favours transformative change.

In conclusion, the majority of sources referred to in the CBD/SBSTTA document do indeed consider area-based conservation a legitimate tool and justify the 30x30 target as such. However, all of them do not consider mere partitioning of lands and seas as the sole solution. It can be inferred that the key does not lie in more protected areas, but in the requirement to focus on biodiversity-base outcome-orientation, adaptive management and close collaboration with indigenous peoples and local communities. What the scientific basis does in no way justify is another era of 'fortress conservation', forcefully removing indigenous and local inhabitants from the lands they have traditionally occupied or to exclude resource users from decision-making in the name of conservation. And this, it can be concluded, is one of the most important messages to accompany the implementation of the 30x30 Target.

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ARTICLE

# What is the 'ecosystem'? On the principle or the approach in international environmental law?

## Introduction

In the debates about international environmental governance a term has entered the discourse, which appears rather easily understandable: the ecosystem approach. This term means that environmental decision-making should not only concern specific species, but should take into account entire ecosystems. The Oxford Dictionary defines 'ecosystem' as a "biological system composed of all the organisms found in a particular physical environment, interacting with it and with each other" (Oxford English Dictionary, Undated). Contrary to the threats 'traditional' conservation efforts have aimed to tackle -- e.g. putting limits on commercial whaling to protect whales from overhunting via the International Whaling Commission or putting in place regulation for international trade in certain species through CITES -- the nature of threats to ecosystems is entirely different. This means that all factors affecting all species within a given ecosystemic locality need to be considered.

But what does this mean from a legal perspective? What is the ecosystem approach legally? While, by and large, even species-based treaties and regimes now aim to take a more or less ecosystem-based approach, this does not mean that this has become a 'norm', a custom under international law.

## What is the ecosystem approach? On the challenges of definition

Contrary to the 'ecosystem', the 'ecosystem approach' is much more difficult to define. Generally, while 'ecosystem' refers to biological components and the interaction with each other, the 'ecosystem approach' means the human management and governance of the ecosystem. That means that the 'ecosystem approach' is an entirely anthropogenic concept, thus oftentimes also being referred to as 'ecosystem-based management', 'an ecosystem approach', 'ecosystem management' or management with 'ecosystem considerations'.

What is noteworthy in this regard is that since the definition of the ecosystem considers all organisms, also human beings must be taken into account. In this sense, Trouwborst notes that it is indeed human activities which stand in the centre of attention: "[T]he ecosystem approach is wielded by the international community to control human activities – not, incident- ally, to control ecosystems" (Trouwborst, 2009, p. 28).

## From the species to the ecosystem

It is not entirely clear when the legal idea of protecting ecosystems vis-à-vis species has precisely emerged. What is clear, however, is that in the early 1970s, the species-based approach to conservation was faced with a more complex mode of conservation. The first traces of this paradigm shift can already be found in three regimes: first, in 1971, the The Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention) was

adopted. Contrary to the prevailing conservation discourse, the convention is not species-based, but instead takes wetlands as ecosystems into its focus of attention. With an original membership of merely seven states - Australia, Finland, Greece, Iran, Norway, South Africa, Sweden - Ramsar now has a membership of 171 countries. In its second preambular paragraph, the convention recognises "the fundamental ecological functions of wetlands as regulators of water regimes and as habitats supporting a characteristic flora and fauna, especially waterfowl." In addition, the parties "BEING CONVINCED that wetlands constitute a resource of great economic, cultural, scientific, and recreational value, the loss of which would be irreparable" (Ramsar Convention, second preambular paragraph). To this end, the convention has inserted the 'wise use' of these wetlands into its provisions.

One year later, the International Whaling Commission (IWC) replaced its thus far applied blue whale unit (BWU) with a more complex, stock-based management regime. The BWU was a yield ratio representing one blue whale = two fin whales = two and a half humpback whale = six sei whales. Not surprisingly, this led to a drastic overharvesting of larger whales, leading the IWC to introduce catch limits based on the respective stock (Sellheim, 2020, p. 16). While this is not necessarily a reflection of the ecosystem approach, it nevertheless shows that the managerial understanding of more complex systems had started to replace rather simplistic management approaches.

The third early reflection can be found in the declaration following the 1972 UN summit on the Human Environment (Stockholm Summit). In Principle 2, the declaration calls for the safeguarding of "representative samples of the natural ecosystems." In addition to Ramsar, also on a United Nations level the ecosystem-based view started to gain hold.

With Ramsar being legally-binding, in 1973 a second legally binding agreement that takes an ecosystem-based approach was adopted: the Agreement for the Conservation of Polar Bears (Polar Bear Agreement). While, as the title implies, the agreement aims to protect polar bears through specific managerial actions, article 2 furthermore requires the contracting parties to protect the "ecosystems of which polar bears are a part." The link between species protection and the protection of the ecosystem of which they are a part consequently started to gain traction in international environmental governance.

Also the 1979 Convention on the Conservation of Migratory Species (Bonn Convention) considers the ecosystem, albeit not as explicitly as the other instruments referred to above. Under Article I.c.1, a "favourable" conservation status is defined as the species "is maintaining itself on a long-term basis as a viable component of its ecosystems." This means, therefore, that while the convention does aim at the protection of the species and not the ecosystem, the species is to be considered within the context of the ecosystem(s) it lives in.

Over the course of the 1980s, the world saw the adoption of several instruments that in one way or another took the ecosystem into account. For instance, the World Charter for Nature from 1982 declares that the need to protect ecosystems for the benefit of humankind, which is to use them in such a way that their fundamental processes are not impaired. Also the 1988 UNECE Declaration on the Conservation of Flora, Fauna and their Habitats underlines the importance of protecting ecosystems, their fundamental

processes and life-support systems in the interest of present and future generations.

This approach saw more and more recognition over the course of the 1990s and 2000s. As Platjouw demonstrates, a variety of bodies started to consider the ecosystem and the management of human activities therein, making it a rather common element of the prevailing conservation discourse (Platjouw, 2016, pp. 43–44).

## Conserving the conservative?

While the overall approach to conservation has been taking into account an ecosystem perspective in that it is no longer focused on the conservation of specific species, this rather 'traditional' way of environmental protection still plays a major role in international conservation law. Apart from already existing bodies that focus on the conservation of specific species, such as CITES, the IWC or the Bonn Convention, a rather recent example is the adoption of the so-called 'EU Seal Regime' in 2009.

Contrary to other regimes within the European Union, for instance the Habitats Directive or the Birds Directive, the EU Seal Regime does not take into account an ecosystem perspective. As the title implies, the Habitats Directive of 1992 is aimed to protect specific habitats and has established a connected network of protected areas - the Natura2000 network. While explicitly focusing on natural elements of these habitats, it nevertheless aims to further take into account economic, social, cultural and regional requirements. The Birds Directive, on the other hand, constituting the oldest environmental legislation on the European continent and having been adopted in 1979, focuses on endangered bird species, but moreover on the protection of their habitats. Also under this directive, the Natura2000 sites become relevant.

The EU Seal Regime, however, takes a fundamentally different approach. While being the newest legislation of the ones mentioned, it follows the logic of the 20th century by explicitly focusing on seals, and their import, export and transit. In this sense, the regime is not an environmental regime, but rather a trade regime. As the point of departure, however, served the 1983 'Seal Pups Directive', which was concluded over concerns for the conservation status of harp seals in the Northwest Atlantic, which were subject to significant commercial hunts carried out by Canada. Since, at that time, it was especially seal pups that were hunted, the European Economic Community (the predecessor of the EU), adopted the Sea Pups Directive.

During the drafting process of the EU Seal Regime, conservation concerns were no longer a major concern. Instead, a principal opposition against seal hunting within EU Member States appeared to steer the entire legislative process. The only exception were and are hunts carried out by Inuit and other indigenous communities for non-commercial purposes. Commercial seal hunts, on the other hand, as carried out by hunters in Newfoundland, were and are considered cruel and unnecessary (Sellheim, 2016).

When the regime was adopted in 2009, the European Parliament demonstrated very little criticism towards the blanket ban on trade in all seal products stemming from commercial hunts. A principal opposition outweighed any attempts to improve animal welfare standards in the commercial seal hunts — which were arguably on par with Canadian animal welfare laws — and furthermore did not take into

account any ecosystem-based approach. The domination of environmental NGOs in the decision-making processes showed that concerns for the ecosystem in which seals live, whilst taking into account other requirements, such as in the Habitats Directive, were not considered. In this sense, whilst being species based, the EU Seal Regime went even further by solidifying the possibility of adopting trade restrictions just because of not wanting to trade in a certain product.

While the modern conservation discourse has certainly integrated ecosystem considerations, existing regimes, such as CITES or the IWC, have severe struggles implementing it. The reason is that the entire set-up of the respective conventions does not necessarily allow for such a consideration. A brief look at the International Convention for the Regulation of Whaling (ICRW) reveals that the integration of the ecosystem approach would mean an amendment to the convention itself - a step which was merely taken once during its more than 75-year-history. A look at the preamble of the convention shows that its entire focus rests on the exploitation of whales, but at the same time "to provide for the proper conservation of whale stocks and thus make possible the orderly development of the whaling industry."

Two narratives thus steer the convention: whale exploitation and whale conservation (in order to do so). The bracketed element is the subject of fundamental disagreement within the International Whaling Commission since the majority now argues that the Commission has moved on from whale conservation for the sake of whale exploitation, and that the zeitgeist is now concerned merely with whale conservation for the sake of conservation (see e.g. Fitzmaurice, 2016). While over the last few decades the IWC has started to consider ocean noise, by-catch, pollution and other threats beyond whaling, it still focuses on specific whale stocks in specific locales. This means that more complex threats, such as climate change affecting ecosystem integrity, are not approached through the lens other regimes do so (Jefferies, 2019). Without a reform of the IWC through either an abolishment of the ICRW or fundamental amendments, the IWC will not be able to fully integrate the ecosystem approach into its mode of functioning.

A similar point can be made about CITES. While the convention and therefore its protective mechanism functions through the inclusion of species in the one of the three Appendices, one can still argue that the ecosystem approach is embedded in the convention's preamble. Already the first preambular paragraph notes that "wild fauna and flora in their many beautiful and varied forms are an irreplaceable part of the natural systems of the earth." While indeed the convention is species-based, these species are nevertheless considered within a wider framework of those systems in which they thrive. This, however, does not mean that the convention aims to protect these ecosystems, as the second last preambular paragraph emphasises by noting that it "international co-operation is essential for the protection of certain species [...] against over-exploitation through international trade." The narratives consequently are: conservation of certain species and regulation of international trade in these species for their conservation.

This said, Article IV.3 of the convention refers to the capacity of the Scientific Authority to limit export of a species "in order to maintain that species throughout its range at a level consistent with its role in the ecosystems in which it occurs." While, again, this does not mean that the ecosystems themselves need to be protected through CITES, the convention

still shows some recognition of the overall systems in which a species lives.

In order to better incorporate the ecosystem approach without the need to undergo full-scale amendments, in 2004, CITES Parties as well as the different CITES committees have time and again tabled documents that proposed means and ways for CITES and the CBD to synergise. The latter is consequently considered the primary regime for the proper implementation of the ecosystem approach. The difficulty however on reconciling the ecosystem approach, which includes human utilisation, and the CITES-espoused preservation of species when listing in Appendix I persists, despite attempts to further include socio-economic factors into CITES decision-making (Lewis, 2009). Given the textual set-up of both the ICRW and CITES, a full integration of the ecosystem approach appears therefore rather unrealistic.

## The role of the Biodiversity Convention

The adoption of the CBD on 5 June 1992 marked a turning point in international conservation law. With a membership of now 196 Parties, the CBD is almost universally accepted (with the United States and the Holy See not having ratified the convention). From the outset, the CBD has taken ecosystems into consideration. On several occasions throughout the convention, the text refers to the necessity to conserve ecosystems. For example, the mere definition of 'biological diversity' lays out that this term "means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems" (CBD, Art. 2).

While at that time it was not clear what this means in practice, the CBD's Subsidiary Body for Scientific, Technical and Technological Advice (SBSTTA) issued a document in 1995, which highlighted that "causes of biodiversity loss are complex and multi-facetted and that action to address the loss must therefore reach beyond traditional approaches" (SBSTTA, 1995, para. 4). Furthermore, "[p]riorities will need to be set in accordance with what are considered to be the most important criteria (which will in al likelihood vary from country to country). For instance, a country giving particular importance to maintaining species richness will give high priority to conserving highly diverse ecosystems" (ibid., para. 7). As a consequence, SBSTTA notes that "[i]t is important to devote more efforts to identifying components of biological diversity under threat at the ecosystem level" (ibid., para. 18).

The Conference of the Parties to the CBD underlined this at its second meeting in Decision II/8, which "[r]eaffirms that the conservation and sustainable use of biological diversity and its components should be addressed in a holistic manner, taking into account the three levels of biological diversity and fully considering socio-economic and cultural factors" (CBD, 1995, first preambular paragraph). Over time, the CoP and other CBD bodies engaged more and more in clarifying the ecosystem approach and how to make it part and parcel of contemporary conservation processes. Indeed, the website of the CBD notes that "the ecosystem approach is the primary framework for action under the Convention" (CBD, Undated).

The CBD serves as the major source for international environmental governance

standards. Almost all existing multilateral environmental agreements in one way or another refer to the CBD. For example, already in 1997, CITES issued a recommendation on Cooperation and synergy with the Convention on Biological Diversity (CITES, 1997) in which inter alia close cooperation and synergy between the national authorities implementing both conventions is suggested, thereby 'officially' recognising the normative role of the CBD. But even before, shortly before the adoption of the CoP, CITES recognised that "commercial trade may be beneficial to the conservation of species and ecosystems […]" (CITES, 1992). While CITES was and is species-based, an early recognition of ecosystems benefitting from international trade in species - and thereby from socio-economic factors - took place, indicating that a sole focus on species might not be enough for effective conservation.

Apart from the CBD itself, the international community has accepted and promoted the ecosystem approach on numerous other levels. For example, the 2002 World Summit on Sustainable Development (WSSD), the direct successor of the Rio Summit, promoted in its Plan on Implementation "the wide implementation and further development of the ecosystem approach, as being elaborated in the ongoing work of the Convention" (WSSD, 2002, para. 44(e)). Also the UN General Assembly, with regard to the oceans, "reaffirms [...] means to achieve implementation of an ecosystem approach and requirements for improved application of an ecosystem approach" and therefore "Invites competent organizations and bodies that have not yet done so to examine the possibility of incorporating ecosystem approaches into their mandates in order to address impacts on marine ecosystems" (UNGA, 2010, paras. 134 & 135).

The most recent reflection of the way the ecosystem approach is integrated in other international legally binding instruments is the recently adopted Draft agreement on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ Agreement; United Nations, 2023). Article 5 of the agreement sets out that "In order to achieve the objectives of this Agreement, Parties shall be guided by the following principles and approaches: [...] (e) An ecosystem approach." On several other occasions, the BBNJ Agreement underlines this approach to conservation, making it integral to its functioning. With regard to in-situ conservation, the agreement furthermore makes the ecosystem approach an objective by noting: "The objectives of this Part are to: [...] (c) Protect, preserve, restore and maintain biodiversity and ecosystems, […]" (United Nations, 2023, Art. 5 (c)).

## Conclusion

The above has demonstrated that the 'ecosystem approach', even though the term is also used in the most recent legally binding BBNJ Agreement, can no longer be considered an 'approach'. Instead, given its universal acceptance as a way to combat biodiversity loss and its inclusion in a plethora of international conservation agreements, it should be considered a principle. This furthermore means that all aspects of an ecosystem are considered - also human activity, both in its detrimental as well as in a sustainable form. Concerning the BBNJ Agreement, since it directly concerns the high seas, one might argue that the CBD does not have competence, especially since Article 22.2 of the CBD sets

out that "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." This could imply that the principle of lex superior takes hold, meaning that with regard to the oceans, the Law of the Sea Convention prevails over the CBD. As Wolfrum and Matz (2000) have shown, however, the legal interplay between these two regimes is far from clear and both can complement one another.

In light of the normative role of the CBD, its widely accepted ecosystem approach and the realisation that traditional means of conservation have failed to reach the objective to halt biodiversity loss, it appears imperative that regimes such as the IWC or CITES pay closer attention to the integration of the 'ecosystem' into their modes of functioning. Especially since CITES allows for such integration, given that the text of the convention does not exclide ecosystem considerations. Otherwise, as demonstrated for instance in The Conservation & Livelihoods Digest, Volume 1, Issue 4, important elements such as the inclusion of indigenous peoples and local communities, concerns for food security fail to be considered, effectively leading to inefficient conservation outcomes.

In conclusion it appears justified to claim that the 'ecosystem approach' is no longer merely an approach in international conservation law, but has been accepted as a fundamental element to turn the decline in biodiversity around.

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ARTICLE

# The sidelining of indigenous peoples and local communities in CITES media coverage

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The fall and winter of 2022 hosted five of the most relevant and prominent international meetings for the protection of biodiversity and the climate: The 68th meeting of the International Whaling Commission (IWC), 17—21 October in Portorož, Slovenia; The 14th Conference of the Parties (CoP) of the Ramsar Convention on Wetlands, 5—13 November in Geneva, Switzerland (in- person) and Wuhan, China (online); The 27th Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC), 6—20 November in Sharm-el-Sheikh, Egypt; The 19th Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 14—25 November in Panama City, Panama; and the 15th Conference of the Parties to the Convention on Biological Diversity (CBD), 7—19 December in Montréal, Canada.

While from a conservation perspective all of these meetings play a significant role, not all of them have been represented in the international (i.e. English- and German-speaking) media landscape. While the UNFCCC and CBD meetings made significant

headlines, the Ramsar meeting did not. While in the past, IWC meetings were widely covered, it can now hardly be found. CITES ranges somewhere in the middle.

What most of the media articles have in common is the fact that a focus on people is generally speaking missing, particularly with regard to CITES. This is quite significant since although CITES deals with the international trade in endangered species, long-lasting discussions on the effects of CITES-listings on livelihoods, food security and culture lead to a growing divide between CITES Parties concerning this issue.

In this contribution I analyse several articles found through a Google search with the search terms "CITES Panama 2022," "Wildlife conference 2022," "CITES meeting 2022," and "CITES CoP19". The result yielded a surprisingly low number of articles, the majority of which refers to the proposed and adopted regulation the global shark (fin) trade. The list of the articles can be found at the end of this analysis. In addition, two German articles from *SpiegelOnline* and the publicly funded *Tagesschau* were also taken into account. The primary result of this Google search, however, yielded contributions from environmental non-governmental organisations (ENGOs).

## What is CITES (in and for the media)?

While widely being hailed as one of the most successful conservation regimes in the world, the purpose of CITES appears to be relatively unknown. Starting with the terminology applied, for instance the widely used term 'wildlife conference' for the 19th Conference of the Parties of CITES (CoP19) in Panama is misleading since of course the Convention deals with wildlife, but merely with the *international trade* in wildlife, which, as per the purpose of the Convention, is endangered. In German, CITES is furthermore known as the 'Artenschutzkonvention' ('species protection convention'), which does not reflect its sole focus on international trade. Both terms imply that CITES is a convention whose purpose it is to protect wildlife through means other than necessarily trade.

Adopted in 1973 and in force since 1975, CITES functions through the inclusion of species in its three Appendices: Appendix I lists species which are threatened with extinction and the international trade in which is to be prohibited (unless for very specific purposes). Currently, 1082 species and 36 subspecies are listed here. Appendix II lists species the trade in which is to be regulated in order to prevent them to become endangered. 37,420 species and 15 subspecies are included in this Appendix. Appendix III lists species which are nationally protected and for which a Party seeks international support. 211 species, 14 subspecies and 1 species variation are included here. At present, the Convention has a membership of 184 Parties.

Against this backdrop it is important to consider how CITES is presented in the media coverage concerning CoP19, inevitably shaping public knowledge of the Convention.

- CITES protects species by prohibiting international trade
- CITES has 184 members
- It has been crucial for the protection of rhinos, elephants, whales and sea turtles
- The trade in 38,000 species has been prohibited or is strictly regulated

- CITES is currently meeting in Panama
- CITES meets every three years

A wordcruncher through the software *Atlas.ti* yielded that the word 'sharks' appears 51, and the word 'shark' 50 times throughout these articles, after 'trade' (98 times), 'species' (85 times) and 'CITES' (68 times). The term 'indigener' ('indigenous') occurs one time (see below).

## The 'historic' agreement to protect sharks

Sharks consequently stand at the core of media coverage concerning the most recent CITES meeting. Sharks and in fact marine species have been subject to intense CITES discussions for a long time. At CoP19, Panama, along with several other Parties including the European Union, tabled a proposal to list the entire family of requiem sharks (*Carcharhinidae* spp.) in Appendix II, which was adopted by the CoP and which has been hailed as 'historic' by conservation organisations and several media articles. The family *Carcharhinidae* spp. includes more than 50 different species. While 19 of these were mentioned individually, the others were referred to as entire genera under the so-called 'lookalike' provision under the Convention. This provision enables trade regulation of species that are not endangered, but which, due to their similar appearance, should be regulated in order to protect threatened species.

The FAO's Advisory Expert Panel on Fisheries, which evaluated the proposal, recommended not to adopt the proposal since merely three species were in fact endangered (in so far as they meet CITES' own criteria to include species in Appendix II), 12 species do not meet criteria and four are data deficient. It is noteworthy to mention here that the CITES Secretariat and the Advisory Panel have an MoU in place, seeking the Panel's advice on proposals concerning marine fisheries.

Irrespective of the Panel's advice, the proposal was adopted by a vast majority of Parties (requiring a 2/3 majority): 88 voted in favour, 29 against and 17 abstained. While an implementation of this new listing was postponed by one year, from then on, trade in any species belonging to the *Carcharhinidae* family is subject to CITES regulation.

## Where are the world's indigenous peoples and local communities?

While Tanya Wyatt has shown that more and more CITES listings may cause compliance issues (Wyatt, 2016), especially for developing countries, the articles' focus on sharks leaves out important discussions that took place during the CoP concerning indigenous peoples and local communities (IPLCs). Already the discussions surrounding the Appendix II listing of the polar bear (*Ursus maritimus*), which some Parties aimed to include even in Appendix I at CoP18 in 2019, showed that it is the livelihoods of IPLCs which are directly affected by Appendix listings. Since CITES has no mechanism in place to strategically include IPLCs in the decision-making process, to consider livelihoods (Cooney & Abensperg-Traun, 2013) and the fact any Party can table a proposal for a CITES listing of any species, resistance against this modus operandi has grown amongst indigenous and local resource users.

To this end, especially developing states have again tabled motions to, first, establish a Rural Communities Advisory Committee (a softened

version of the 2019-proposed and rejected Rural Communities Committee) that includes the voices of IPLCs when the strategic reviews of CITES species are conduced by the Plants and Animals Committees. This motion was again rejected. Another motion was tabled to change the criteria by which the Appendices of the Convention are to be amended. While currently primarily biological and also trade criteria play a role, the motion aimed to also include the effects on livelihoods and food security while international trade being a key driver when a proposal to amend the Appendices is tabled. Also this motion was rejected.

Media sources do not address this issue. Merely *SpiegelOnline* notes in reference to a WWF-representative that CITES needs to "keep up on the role of indigenous communities" (original: "[…] oder der Rolle lokaler und indigener Gemeinschaften müsse die Konvention Schritt halten") while Martínez (2022) quotes CITES Secretary-General Ivonne Higuero as noting that "Trade underpins human well-being, but we need to mend our relationship with nature." Also Mohan (2022) refers to "artisans" benefitting from India's successful work for a relief of trade restrictions of rosewood.

The vast majority, however, focus on charismatic species without due consideration of the human implications of CITES listings. This finding is rather surprising as the only way by which species can be protected through CITES is considered to be an inclusion in the Appendices. However, social sciences research has found that without the inclusion of indigenous peoples and local communities, conservation outcomes are indeed less satisfactory (e.g. Cooney et al., 2021).

By ignoring these discussions, media sources appear not to be on par with the international conservation discourse. This is especially so since under other agreements, first and foremost the Convention on Biological Diversity (CBD), IPLCs are considered important stakeholders in order to achieve *in situ* conservation. The CBD's article 8 (j) thus aims to "respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities", while also the 2009 UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and the 2018 UN Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP) clearly stipulate the rights to participation of IPLCs.

## What does this mean for (the Arctic's) indigenous peoples?

Compared to the International Whaling Commission (IWC), CITES has lesser Arctic implications. While the former recognises Aboriginal Subsistence Whaling (ASW) in Alaska, Greenland and Chukotka (as well as Bequia in St Vincent & the Grenadines). A direct CITES connection relates to the polar bear, as mentioned above. Under CITES, the polar bear has been listed in Appendix II since 1976. Since then, several attempts have been made to include polar bears in Appendix I, all of which have thus far failed. The last attempt to motivate CITES Parties to uplist the polar bear were made by the German conservation organisation NABU International at CoP18 (*Sellheim Environmental*, 2019). Also at CoP19 the same organisation aimed to hold a side event with the same purpose. This side event did not take place for unknown reasons, however.

As the analysed articles have shown, a primary focus of media coverage on CITES relates to

the species. While, given the purpose of the Convention, this is understandable to some degree, a complete blind spot concerning *people* within the media leads a disproportionate disregard of local interests. The polar bear serves as a good example in this regard: since it is endangered, CITES should protect it through prohibiting international trade. This simple narrative, which is advanced by some — not all — ENGOs ultimately shapes public opinion and therefore creates political pressure. CITES decision-makers may consequently be held by their governments to bow to this pressure and eventually place the polar bear on Appendix I — much to the detriment of Arctic indigenous peoples who depend on revenue derived from international polar bear trade.

In practice, an Appendix I-placing would mean that any international trade in polar bear skins and other specimens is no longer possible. While polar bears are by and large not hunted for their skins, but rather for subsistence purposes, the 'side-income' from international trade contributes to the economic development of small Arctic communities. In addition, if media outlets don't consider the interests of IPLCs, they run into the trap of a colonialist narrative about conservation. Ignoring the polar bear in the room thus means that media are complicit in an ecocentric discourse which deprives Arctic and other indigenous peoples of their rights to actively engage in conservation and sustainable use. It is not just sharks or polar bears or elephants which are affected by a CITES listing, it is also those that live closest with these species which have to undergo significant changes in order to compensate for losses occurring because of such listing.

This is especially relevant in the Arctic where remoteness, harsh climate and associated sparse livelihood alternatives do not allow for much variation. A new discourse is therefore necessary that considers conservation and sustainable use in one breath. Especially with regard to the polar bear, the equation 'endangerment justifies Appendix I' is not that simple. As, for instance, the most recent report of the IUCN's Polar Bear Specialist Group has shown, polar bear ecology is complex and an assessment of the 19 (!) different polar bear populations does not necessarily allow for a one-size-fits-all discourse about polar bear decline (PBSG, 2021).

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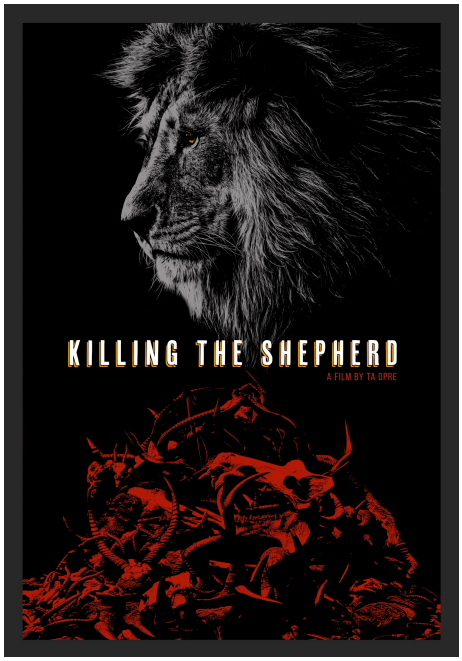
# FILM REVIEW

## *Killing the Shepherd* by Tom Opre




At the 19th Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in Panama City, each conference attendee received a small bag with goodies from the conference organisers - as is very common at these types of conferences. But apart from small contributions from the Panamanian government, the bag also included a cardboard box, which held a small, rather unimposing bracelet made of wire, sponsored by the Shepherds of Wildlife Society. Which first appeared to be a gimmick by a 'normal' animal welfare/rights NGO quickly revealed itself to be an outcome of effective anti-poaching efforts. Meaning: the wire bracelet was made of wire from illegal snares which were set in Zambia, southern Africa.

Moreover, the bracelet cannot be seen in isolation, but must be considered against the backdrop of the 2021 documentary film *Killing the Shepherd* by American filmmaker Tom Opre, who also released a book of the same title, but with the addition *Beyond the Film* in January 2023 (Opre, 2023).

The opening, uncommented scenes of the film depict African anti-poaching units, who pay an informant to gain information. Interestingly, this scene does not provide a narrative. This narrative, however, is presented during the opening credits of the film, in which the narrator underlines the importance of wild animals for human development. At the same time the narration stresses the interwoven-ness of animal parts with human society, but because of industrialisation and the reduction of living space for wild animals, “humans began to think wild animals were an extension of humanity. Wildlife was no longer wild.”

The documentary starts with a rather straight-forward, if not simple description of the problem at hand: Since Zambia, where the documentary takes place, used to be the centre of safari hunting for the 'big five' — elephants, rhino, lion, leopard and cape buffalo — the hunting bans from 1987 and 2002 led to a withdrawal of safari operators who were tasked to protect the animals. As a result, locals no longer had an income and as a consequence, poaching and unhindered subsistence hunting took off.

In the centre of the film stand the Shikabeta-Soli people in the Lower Luano valley, some 150km or so northeast of the country's capital

city Lusaka. During the interview with (female) chief Shikabeta, the chief underlines the poverty of the Soli, which does not allow them to go to school and which forces young not girls into marriage in order for them to get an education. However, since the region is rich in wildlife, but experiencing a high degree of poaching, the chief feared that all wildlife could be lost eventually. To this end, she approached Makasa Safaris, and not the government, to ensure the protection of the abundant wildlife.

This scene provides several important insights: first, indigenous peoples, represented by the Soli, are not passive, but have agency in order to protect their people. Second, poaching does not (necessarily) occur because of greed, but rather because of need. Discourses on poaching oftentimes neglect this fact (e.g. Hall, 2019). Third, while wildlife safaris are easily depicted as being detrimental to wildlife (e.g. Dalton, 2019), they are can also considered by locals to hold the expertise to actively tackle poaching and to economically support local communities.

As Roland Norton, CEO of Makasa Safaris, outlines, the reduction of income from safari hunting in a very infertile area of Zambia had led to a drastic increase in poaching and snaring. At the request of chief Shikabeta, a new narrative was inserted: it is better to protect wildlife and abandon poaching in order to use it later on for the village's benefit. In order to push the anti-poaching campaigns through, it was Makasa Safaris who provided for the necessary resources (e.g. uniforms and weapons for scouts) and who paid rewards to people who provided them with information on who the poachers are and where illegal snares might be. As a German, such a system of denunciation leaves somewhat of an aftertaste, but given the urgent need to tackle the poaching crisis and improving the overall situation of the community, it appears necessary. This said, the film does not question this system of explores potential other avenues, but instead furthermore explains that poverty and the lack of employment have forced many to poach in order to provide food for their families — exemplified by a briefly accompanied poacher while setting up his snares.

Rather unexpectedly, the film switches to a means of development one might not expect in the dry regions of the Luano valley: fish tanks, paid for and maintained by Makasa Safaris, as a source of protein for the community and run by solar power and diesel generators. While, at present, the fish farms do not generate profits, the intention is not only to provide for protein, but also to funnel potential profits back into the community, to provide employment for community members, to release fish back into the nearby fish-depleted river, and to teach locals how to fish. By doing so, the operators consider the pressure on wildlife reduced by making poaching for food obsolete. As the Makasa Safari representatives note, these combined efforts, which had been going on for two years, have contributed greatly to the wellbeing of the community and to the increase of happiness amongst its residents.

The film then moves to different social problems in the region: high levels of malaria and HIV, alcoholism and child marriage. A young girl is briefly interviewed who was married to an older man, with no way to break out of the system unless poverty is significantly reduced. Without much further delving into the issue, ex-poachers are presented who now work as game scouts, asking: “What is the point of protecting the animals if we cannot benefit?” Indeed, if there is no incentive, the cycle cannot be broken. One of these incentives are aforementioned rewards who are paid to

poachers to give up their firearms and to give away other poachers.

Naturally, as the film depicts, the interests of large criminal syndicates collide with those of Makasa Safaris. It consequently requires much effort — including the use of firearms — to tackle the poaching crisis in the region. But there are alternatives to poaching. For instance, one poacher is shown who aims to start a charcoal business from the money he receives from Makasa Safaris. While this leads to less poaching, the film shows that it is charcoal which has contributed to wildlife reduction through wide-spread deforestation. In that sense, this new business does not necessarily contribute to conservation -- an issue which unfortunately the film does not further dwell on. What other alternatives of money generation are there, especially in light of the lack of governmental oversight of the charcoal business?

Despite the successes the inclusive approach to wildlife conservation, initiated by the community's population themselves, the film also shows that not everybody welcomes these initiatives, especially when poaching is no longer possible. The drastic example for this defiance against change is the lethal poisoning of Chief Shikabeta by one of her retainers as well as the military-style poaching gangs, who also started to threaten aforementioned Roland Norton and his son. Despite these threats, the new, 42-year old chieftainess continues with the path chosen by her predecessor with the goal to lead the community out of poverty. In a brief interview segment she underlines the importance of wildlife having value to the people. If they don't poaching will continue. Therefore, she remarks, outsiders should not tell them whether or not they are allowed to benefit from the wildlife.

The film continues by showing yet another example for Makasa Safaris effort to eradicate poverty and other social problems in the region. For instance, the company sponsors a football team as well as built a primary school, including funding teachers' salaries, school uniforms and other necessities. Now, around 300 school children attend the school, thereby providing opportunities for further education in Lusaka or elsewhere. Moreover, Makasa provides interest free loans to local women to start businesses, thereby fostering the empowerment of women. The Shepherds of Wildlife Society, on the other hand, is engaged in the marketing of the bracelets, which I mentioned in the opening of the review, in the United States.

The final segment of the film starts with the question: Why safari hunting? Roland Norton answers the question by again referring to the value of the wildlife: If lions don't have value themselves, but kill animals that do have value for the locals, it is clear that lions will be eradicated in the longer run. But again, the positive developments and the intention of Makasa Safaris to allow the community to thrive and economically develop independently resulted in disaster - also the new, young chieftainess died unexpectedly of a stroke. Instead of giving in to landgrabbers from South Africa which would not benefit the community, she maintained her course. This may have led to her sudden death.

Towards the very end of the film, the danger of falling back into old habits is exemplified by a Makasa game scout who is suspected of poaching. If poverty is not eradicated, this danger is omnipresent. The film therefore concludes by stressing the necessity to work with the people and not for the people of Luano in order to tackle poverty and to allow wildlife to rebound.

*Killing the Shepherd* is not only a film about wildlife conservation, but it is a film that depicts the difficult circumstances in a remote community in one of the poorest countries in the world. While the film is visually stunning, I sometimes found myself thinking that too little information as to the locality and the circumstances of Makasa's engagement were provided. For instance, a map of Zambia and/or of the region would have been beneficial to gain a better understanding. Also, a brief description of Makasa Safaris' role as regards land tenure would have helped to better contextualise the film. From what I gathered, Makasa Safaris leased the land on which the community is located. Therefore they were also able to enforce certain rules even though they are not a government operation. However, that is merely a educated guess.

But apart from the rather little context, both in terms of content and geography which I would have liked to see, the film carries a clear message: effective conservation can only occur when socio-economic factors and the voices of the community are taken into account. In the case of Makasa Safaris' efforts, this was successful. But what happens if Makasa Safaris ever runs out of business? How sustainable are these efforts, especially in light of the threat of people falling back into their old habits? Be that as it may, the film makes clear that bans on trophy hunting are likely to have exactly the opposite effects of what they are intended. If trophy hunting safari operators constitute a major employment in a specific region, if due to trophy hunting wildlife has value for the locals, it is much more likely they will protect it.

While leaving some issues unaddressed in depth with merely the surface scratched, the film provides a refreshing and utterly needed new case-study perspective on the need to hear, recognise and respect local voices within conservation discourses. Regimes such as CITES are in urgent need of these voices in order to fulfil human right obligations and to make conservation truly effective. Without indigenous peoples and local communities, effective conservation can only be considered an ideal, but no policy practice.

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## Cinematographic information:

Director: TA Opre

Executive Producers: Stephen Duringer, Robert Gordon, TA Opre, Matt Hartle

Release year: 2021

Duration: 01:13:04.

ARTICLE

# The myth of the *hafgufa* as an example of traditional ecological knowledge

## Introduction

Early maps of world depict a large number of different, awe-inspiring and terrifying sea creatures. Olaus Magnus' *Carta Marina* from 1539, for example, depicts the now Nordic countries, surrounded by seas that are filled with horrifying creatures, seemingly aiming to eat everything in their path.

While these creatures appear to be deriving from fears, myths and seafarers' tales, scholars have started to interpret some of these depictions differently: as a source of historical information. One of the most prominent sea creatures is, of course, the mermaid, which is a popular depiction of a benign, yet seductive being. In Germanic mythology, which strongly resembles Nordic mythology, mermaids play an important role as water spirits, who may seduce men and cause their deaths (Herrmann, 2004). Also in Homer's *Odyssey*, 'sirens', which have been interpreted as the Greek version of mermaids, play a similar role.

Despite these beings seemingly being part of the mythological, scholars have nevertheless started attempts to dismantle the myth of the mermaid and to place it into a mystified narrative of an in-reality existing being or of real phenomena, such as the superior mirage (fata morgana) (Lehn & Schroeder, 2003). The view has emerged that not all of what was written can be placed within the fantastical.

It is easy to belittle our forefathers and -mothers, especially when it comes to their view of the world. Now we know that no such things as 'sea monsters' exist — although the entire idea of the 'unknown' which still lingers in the oceans haunts us to this day. The best example is probably the discussion surrounding the existence of the *megalodon*, the giant shark, which is capable of destroying even the most stable of structures. The Hollywood movie *The Meg* (2018) and its successor *The Meg 2: The Trench* (2023) are but two examples in this regard. Frank Schätzing's novel *The Swarm* (2004) even goes further and places an entire highly intelligent species, the *yrr*, into the depths of the oceans. We will never find out what future generations will think about us when they look back at what our imagination has spawned.

Be that as it may, a new study in *Marine Mammal Science* has taken up the task of assessing medieval sources pertaining to marine species as to their level of truth concerning these. McCarthy, Sebo & Firth (2023) have delved into the King's Mirror (Konungs skuggsjá [nor.] or Speculum regale), an old Norse part of speculum literature from around 1250 AD, and its narrative concerning a marine being, called the hafgufa. Speculum literature was a type of writing at that time, which aimed to combine encyclopedic knowledge within one single work, thereby essentially often being manuals for behaviours and modes of thinking. Therefore, the authors provided specific 'mirrors', such as the Mirror of Holy Church (Speculum ecclesiae) by Edmund Rich in the 13th century or the Mirror for Judges (Speculum judiciale) by Guillaume Durand in the 15th century. Speculum literature was popular from around the 13th to the 16th centuries.


## The *hafgufa* in the *King's Mirror*

The King's Mirror's author is unknown. What is known is that the aim of the work was to provide educational advice on politics and morality for King Magnus Haakonsson, who ruled Norway from 1263 to 1280. While the King's Mirror is not written from a third-person perspective, it instead contains the fictitious dialogue between a king father and his son, the former of which providing moral and political advice after the son asks his father concerning specific issues.

One of these issues concerns the whales around Iceland. The son asks: "Now since we have discussed everything in Ireland that may be counted marvelous, let us have a talk about Iceland and the wonders that are found in the Icelandic seas" (Larson, 1917, p. 119). In the following, the father describes the 'wonders' that occur in the Icelandic seas, first and foremost different types of whales, the walrus and sharks. All in all, 26 species could be clearly identified (Whitaker, 1986), which are also mirrored in Larson's translation of the text. This said, another four species could not be identified: the *hafstrambr* (merman), *margygr* (mermaid), *hafgufa* and *hafgerðinga*. With the study carried out by McCarthy et al. (2023), the *hafgufa* can now be identified as either humpback whales (*Megaptera novaeangliae*) or Bryde's whales (*Balaenoptera brydei*) (or some of the latter's yet to be clearly defined subspecies).

New observations concerning the feeding behaviour of these species (see below) have now made it possible to shed light on the description of the *hafgufa* as the father does in the King's Mirror:

> *There is a fish not yet mentioned which it is scarcely advisable to speak about on account of its size, which to most men will seem incredible. There are, moreover, but very few who can tell anything definite about it, inasmuch as it is rarely seen by men; for it almost never approaches the shore or appears where fishermen can see it, and I doubt that this sort of fish is very plentiful in the sea. In our language it is usually called the "kraken"* [in the original text reference is made to hafgufa and not 'kraken'. Also in different translations, the term is taken up verbatim. Larson notes in a footnote that "The kraken myth probably came to the North with the legend of St. Brendan, an Irish abbot, who was believed to have made a journey into the Atlantic about the middle of the sixth century"]. *I can say nothing definite as to its length in ells, for on those occasions when men have seen it, it has*

*appeared more like an island than a fish. Nor have I heard that one has ever been caught or found dead. It seems likely that there are but two in all the ocean and that these beget no offspring, for I believe it is always the same ones that appear. Nor would it be well for other fishes if they were as numerous as the other whales, seeing that they are so immense and need so much food. It is said, that when these fishes want something to eat, they are in the habit of giving forth a violent belch, which brings up so much food that all sorts of fish in the neighborhood, both large and small, will rush up in the hope of getting nourishment and good fare. Meanwhile the monster keeps it mouth open, and inasmuch as its opening is about as wide as a sound or fjord, the fishes cannot help crowding in in great numbers. But as soon as its mouth and belly are full, the monster closes its mouth and thus catches and shuts in all the fishes that just previously had rushed in eagerly to seek food (Larson, 1917, p. 125).*

As McCarthy et al. (2023) point out, the *hafgufa* has several characteristics: first, it appears to be an island, i.e. it does not move; second, it seems to regurgitate food, which attracts large numbers of different fish, seeking food; third, it keeps its mouth open whilst not moving. The fourth fundamental element is that the fish gather in the *hafgufa's* mouth, which then simply closes it once sufficient fish have accumulated in it. While this description of the *hafgufa* stems from some time in the 13th century, the narrative is not new. Already in the ancient Greek *Physiologus*, a vivid description of different animal species, the *aspidochelone* can be found. It is assumed that the first *Physiologus* was published already in 140 BC. However, the original text has not survived, but it was translated into Latin in the 4th century and from there into numerous other languages, including Old English, Old High German and Icelandic.

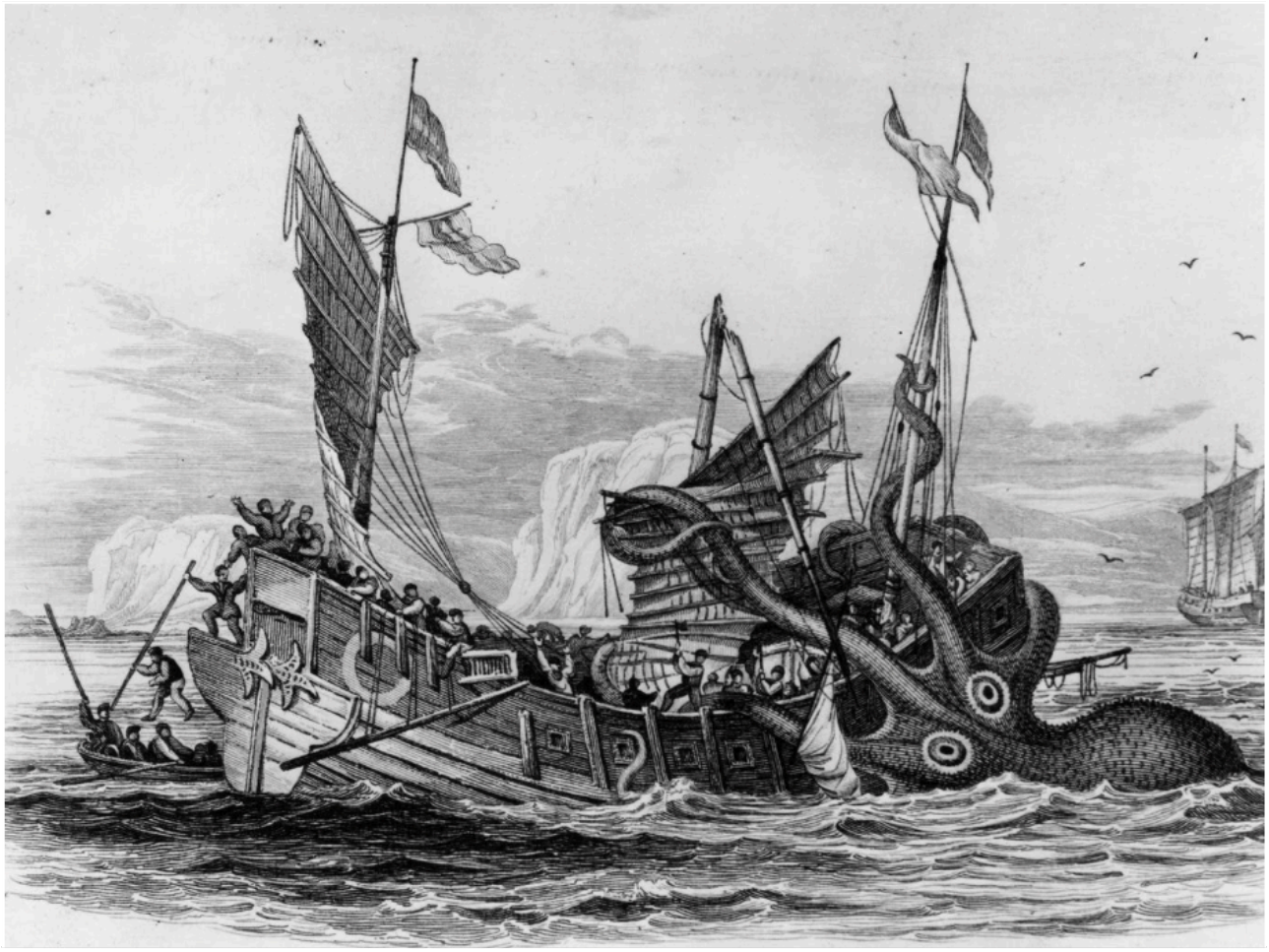
The *aspidochelone* in the German version — a word which is unknown for the average German speaker — is more clearly defined in the English version as the 'asp-turtle'. While this appears to be a fish in the modern English translation (an asp being a member of the *Cyprinidae* family), in this context the Old English text refers to a 'hwale' instead of 'fisca' as it does in other contexts. Be that as it may, the German version also refers to the 'Walfisch', which identifies the species as somewhat different to other fishes.

Sticking with the English version of the text, the 'asp-turtle' is described as follows:

*When hunger grips the monster on the deep,*
*Making him long for food, his gaping mouth*
*The ocean-warder opens, stretching wide*
*His monstrous lips; and from his cavernous maw*
*Sends an entrancing odor. This sweet scent,*
*Deceiving other fishes, lures them on*
*In swiftly moving schools toward that fell place*
*Whence comes the perfume. There, unwary host,*
*They enter in, until the yawning mouth*
*Is filled to overflowing, when, at once,*
*Trapping their prey, the fearful jaws snap shut.*

This description matches the King's Mirror on several levels. First, the species opens its mouth; second, a smell/scent comes from its mouth; third, this smell attracts other fishes; fourth, once the mouth is full, it its shut. Quite obviously, this cannot be a coincidence. One explanation might be that the Norse myth was created up based on the Physiologus. A different approach, however, could yield a different explanation.

As reflected in Larson's translation, earlier interpretations have considered the *hafgufa* to be a kraken or even a giant squid (see Whitaker, 1986, fn. 24). The kraken is probably one of the most famous sea monsters, reflected also in Caribbean and Greek mythology as 'Lusca' and 'Scylla' respectively. Also in more recent studies, the *hafgufa* is yet another sea monster,



presumably a 'kraken' which made seafarers fear for their lives due to “their gigantic size (as big as an island or mountain) and their inclination to attack ships and their crews” (Salvador & Tomotani, 2014, p. 972). In lieu of a better explanation, the sheer size of a giant squid - a dead specimen of which was first recovered in 1873 - and the reflection of a 'kraken' in different mythologies made it appear reasonable to link the *hafgufa* with a kraken/giant squid.

However, additional information provided in the *Physiologus* on the 'asp-turtle'/*aspidochelone* has contributed to a new interpretation, which can now link the *hafgufa* to specific whales or at least a certain type of feeding behaviour. Like the King's Mirror, also the *Physiologus* notes:

*Dun, like rough stone in color, as he floats*
*He seems a heaving bank of reedy grass*
*Along the shore, with rolling dunes behind,*
*So that sea-wanderers deem their gaze has found*
*An island. Boldly then their high-prowed ships*
*They moor with cables to that shore, a land*
*That is no land. Still floating on the waves,*
*Their ocean-coursers curvet at the marge;*
*The weary-hearted sailors mount the isle,*
*And, free from thought of peril, there abide.*
*Elated, on the sands they build a fire,*
*A mounting blaze. There, light of heart, they sit—*
*No more discouraged—eager for sweet rest.*
*Then when the crafty fiend perceives that men,*
*Encamped upon him, making their abode,*
*Enjoy the gentle weather, suddenly*
*Under the salty waves he plunges down,*
*Straight to the bottom deep he drags his prey;*

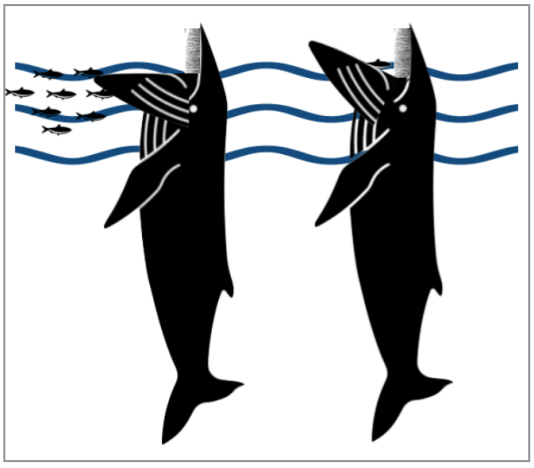
*He, guest of ocean, in his watery haunts*
*Drowns ships and men, and fast imprisons them*
*Within the halls of death.*

The 'asp-turtle' therefore appears to float on the surface like an island. It appears to stand still, allowing sailors to leave their ships and start a fire on its surface. While this can be placed within the realm of the myth, the fact that the species does not move cannot - based on rather recent observations of humpback and Bryde's whales' feeding behaviour. This places the entire narrative into a new light.

## Recent whale feeding observations

A certain type of feeding behaviour - referred to as 'trap and tread-water feeding' - was first reported by biologists in the 21st century. Usually, rorquals, a subgroup of baleen whales, show lunging feeding techniques, meaning that at very high energetic costs, they open their mouths and lunge into a school of fish to feed. As Iwata et al. (2017) show, Bryde's whales in the upper Golf of Thailand additionally apply a different feeding behaviour by maintaining a vertical position for several seconds, letting sea water flow into their mouths and thereby dragging fish with it. Once the mouth is filled with prey, they close it and drag it underwater. Also McMillan et al. (2018) have observed a similar feeding technique in humpback whales in northeastern Vancouver Island. The authors observe that the species that are fed upon during trap-feeding are not different to those preyed upon during lunge-feeding, but that this method is significantly energetically efficient. Interestingly, the authors furthermore note that this method may be transmitted culturally.

Concerning the smell of the *hafgufa*, it was observed that this smell was not caused by the whales themselves, but rather that also whales were attracted to the smell over long distances, along with many other marine species such as fish, seabirds or turtles. Marine biologists have found that the smell relates to large numbers of zooplankton and small fishes feeding on zooplankton - high abundance of biomass -, during which the smell of dimethyl sulfide ("rotten cabbage") is released. The abundance of different prey species for whales may thus have caused these to apply trap-feeding in those marine regions where large amounts of phytoplankton are being consumed by other species (Owen et al., 2021).



*Schematic of recently observed whale feeding behaviour*

## Solving an ancient mystery?

What becomes obvious is that the recently observed feeding behaviour of humpbacks and Bryde's whales is strikingly similar to the behaviour of the *hafgufa* and the *aspidochelone*. While, on the one hand, a floating whale is reminiscent of an island, which invites a sailor to jump onto it (in fact, pre-industrial commercial whalers indeed jumped onto the whale to apply the lethal thrust of their hand harpoons), it cannot be stated with certainty that that has actually happened. In other words, it is highly unlikely that sailors camped

on the back of a whale which then took them down into the depths of the sea. The demonisation of whales as a threat to humans is consequently unlikely to be rooted in real events.

On the other hand, the situation is different with regard to the described behaviour of the *hafgufa*. The similarities between the recently observed rorqual trap-feeding technique and the described behaviour of the mythical creature are unlikely to be a coincidence. Knowingly or unknowingly, our ancestors did not describe a new species, however, but were simply observing a behaviour which an already known species applied. In this sense, the description in the King's Mirror as well as in the *Physiologus* were incorrect. Understandably, however, early observers did not know whether the tip of the whale reaching out of the water belonged to a whale or to a different species. Despite the knowledge they had on whales and other species surrounding Icelandic waters - if we take the King's Mirror's descriptions into account - some phenomena or species still remained unexplainable. What is clear, however, is that the *hafgufa*, irrespective of the species, was perceived as being a threat to humans. Contrary to the positive or even romanticising view modern (western) societies by and large have on whales (Epstein, 2008), in "medieval and early modern European textual traditions, whales were perceived as aggressive and dangerous creatures to fear and avoid, but at the same time as valuable resources. Most perceptions have been consistently negative and predatory, promoting fear and the dominance of humans over whales" (Mazzoldi et al., 2019, p. 3). The depiction of the *hafgufa* or the *aspidochelone* fall well within these narratives.

## Theorising on the 'novelty' of trap-feeding

While fauna and flora generally cause some kind of emotions within humans, these emotions should not veil the fact that our ancestors held tremendous ecological knowledge. The degree of precisions concerning the description of whales in the King's Mirror is rather astounding. Also the feeding behaviour of the *hafgufa* reflects sophisticated skill of observation, allowing future generations (our generation) to link historical and mythical records with modern biological data.

What is quite interesting is the fact that the feeding behaviour was observed at all. Even though 'modern' humans have interacted with whales for a long time and also ecological studies on cetaceans have been carried out for several generations, the studies by Iwata et al. (2017) and McMillan et al. (2018) consider 'trap-feeding' as "new". What is obvious, this behaviour is not new at all, but it has instead gone unnoticed by cetacean observers at least since the original record of the *Physiologus* in 140 BC. Why this is so can only be speculated upon. What appears to be the most reasonable theory is that whale abundance has made trap-feeding much more common. This is to say, the existence of significantly larger populations of different whale (and fish) species allowed for this behaviour to be observed more frequently.

Since this feeding method is likely to be transmitted culturally, it is theoretically possible that whales may have simply 'forgotten' about it over time. Meaning that due to commercial whaling and the drastic reduction of numbers in whales, those individuals that have carried this knowledge may have fallen prey to commercial whalers without the possibility of transmitting this knowledge further. While this

is just speculation, Whitehead & Rendell (2014) have demonstrated the sophisticated level of cultural learning and transmission on certain whale and dolphin species. Consequently, it is not unlikely that this feeding method was lost in the past. With rebounding whale populations, it is not impossible that some whales have observed this behaviour elsewhere and have started to apply it within its own kin. In other words, maybe it is possible that trap-feeding is not confined to humpbacks and Bryde's whales, but may instead find its way into other rorqual species as well.

## Conclusion

While it is not clear whether our ancestors have actually been dealing with species that exist in reality, the link between the descriptions of the *hafgufa/aspidochelone* and recently observed trap-feeding of humpback and Bryde's whales allows for the conclusion that the authors of the King's Mirror and the *Physiologus* may have actually observed existing feeding methods of whales. Only through studies of these species this behaviour has become known again.

One might speculate over the question of why this behaviour had not been observed earlier, but in light of the declines in whale populations, this could be explainable. But if one goes a step further, it also appears not completely unlikely that whales have 'forgotten' about this technique due to the decline in individuals carrying this knowledge.

The question that remains is whether or not the still unidentified fable beings such as the mermaid actually refer to species that existed in the past. After all, many mammalian species have disappeared for various reasons - see for instance the disappearance of the Tasmanian tiger, the Orient cave rat or the large sloth lemur - so paired with the mythical perception of ancient and medieval peoples, the mermaid and other mythical creatures may have had existing origins. The recent re-discovery of trap-feeding and the link to the *hafgufa/aspidochelone* certainly allows for a re-evaluation of mythical texts.

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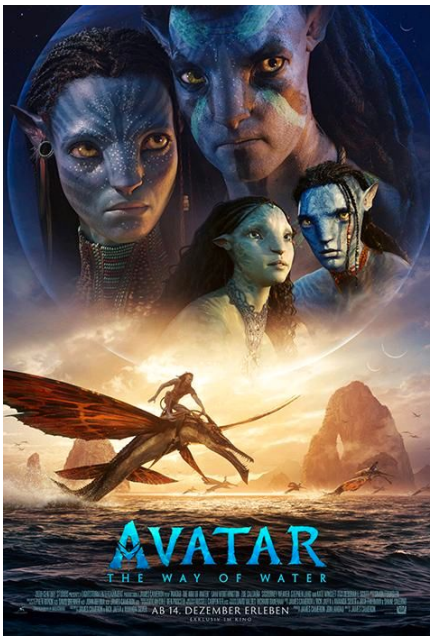
# MOVIE REVIEW

## *Avatar: The Way of Water* by James Cameron




*Disclaimer: This article has been commissioned by Polar Research and Policy Initiative as part of a series of fact-checked articles about the Arctic, climate and the environment, and Indigenous issues, supported by the EMIF managed by the Calouste Gulbenkian Foundation.*

In 2009, director James Cameron released a movie which was one of a kind at that time: *Avatar.* Not only was the visualisation of this epic science fiction movie something very new, something aesthetic and simply impressive, it also depicted a science fiction version of indigenous resistance against ruthless, reckless and resource-hungry intruders.

In *Avatar 1*, the indigenous inhabitants of the jungle moon Pandora, the Na'vi, successfully defended their home against humans, who, with the help of avatars, aimed to undermine the Na'vi and gain access to the resources of Pandora. One of these avatars is paralysed Corporal Jake Sully (portrayed by Sam Worthington), who becomes an avatar, thereby gaining back his fully movement. Throughout the film, Sully as his own avatar becomes attached to the Na'vi and ends up fighting with them against the human intruders.

*Avatar: The Way of Water* (henceforth *Avatar 2*) is the sequel to 2009's box office success. In this movie, Sully's Avatar 1-sweetheart, Na'vi woman Neytiri te Tskaha Mo'at'ite (portrayed by Zoe Zaldaña) and Jake Sully have founded a family with two sons (Neteyam and Lo'ak), one daughter (Tuktirey) and one adopted daughter (Kiri), who happened to be the biological daughter of exobiologist Dr. Grace Augustine (portrayed by Sigourney Weaver), who died in Avatar 1. In addition to these, the Sully family — whose motto is "the Sullys stick together" — also quite opportunistically look after a parentless child, Miles "Spider" Socorro, who grew up on Pandora amongst remaining humans and the Na'vi after the human invasion, but who himself does not have a family and is the son of the evil mercenary invader (Miles Quaritch, portrayed by Stephen Lang) who got killed in *Avatar 1*.

The story of the 03:10 hours long movie can be summarised as follows: Sully and his family have had a period of peace after the invasion. When the older kids are somewhere in their teens, human ships reappear, aiming to exploit Pandora again. On board is the avatar of Miles Quaritch, whose memories were preserved before he was killed. With a group of marines, avatar-Quaritch aims to be like the Na'vi in order to fulfil his quest to find and kill Sully. In order to protect the forest Na'vi, with whom the Sully family live, the Sullys leave the forest and find refuge amongst the sea Na'vi. Amidst some teenager conflicts between the Sully teens and sea Na'vi teens, Sully's younger rebellious problem-son Lo'ak befriends an outcast whale-like creature, a *Tulkun,* who himself is not liked by the sea Na'vi for being an outcast from his own *Tulkun* clan/family/group. Solidarity amongst outcasts, it seems. Alas, Quaritch and his lot succeed in finding Sully and start to spread terror to kill him. In a final battle, Quaritch is defeated with the help of the outcast *Tulkun* and almost killed (by choking underwater) by Sully. Unfortunately for Sully, Spider shows a loyalty conflict since he sees a father figure in Quaritch and rescues him from certain death. During the battle, Sully loses his older poster son Neteyam, and over his dead body, he indicates massive resistance against impending human colonisation of Pandora. With this — a close-up of Sully opening his eyes, looking very determined — the film ends.

While sitting in the movie theatre, my eyeballs started hurting from all the eyeballing throughout the movie. Because the film is *the* most stereotypical depiction of so many different things that it starts hurting. But let's start one step at a time. The marines (or mercenaries) in the movie are, of course, tough guys (and a woman): Tattooed, muscular, iroquois haircuts, "boo-yahs", *semper fi*s, and, of course, bloodthirsty — with an inherent lust to kill Sully. The marines are all avatars, too, and aim to live like, to *be,* the Na'vi in order to find Sully. Paired with this mimicry and the seemingly supreme military skills, they are optimistic, if not certain, that they will catch and kill their former team member. In the end, however, their military skills are reduced to taking hostages — Sully's kids and Spider who happen to discover them and, naive as they are,

get captured by them — who are used to draw Sully and Neytiri close. In this first encounter, several of the marines get killed by the Sullys despite their military training and machine guns. Neither of the Sullys receives any scratch, of course.

Moving on to the Na'vi. The Na'vi are significantly larger than humans, and they are exotically blue. The forest Na'vi live similar to the Ewoks in Star Wars and worship Eywa, the entity that keeps all life on Pandora together, allowing the Na'vi (and the avatars) to connect to all species on Pandora, both in terms of their braid (for lack of a better word) and thereby their souls. The one-ness between Na'vi and nature is the underlying narrative of the movie, stereotypically depicting indigenousness as inherently living sustainably with and within the natural environment. Not surprisingly, the Na'vi are not shown to kill any animal, apart from a fish, which Jake's poster-son Neteyam kills. In fact, no species is shown to kill any other species for food (more on that later). But back to the Na'vi. The forest Na'vi appear to be a patriarchy since it is especially Jake Sully — in the end, not a Na'vi, but a Na'vi avatar — who rules his family in a military fashion, aiming for discipline and obedience by his kids ("Yes, sir" is a commonly heard expression by his kids throughout the film). When the mercenaries are getting close to the settlement, Neytiri is eager to fight them in order to protect her people. Jake, on the other hand, persuades her that it is better to leave the forest for the sea Na'vi in order to avert military aggression. Neytiri, who seems to be responsible for the kitchen as she is several times shown cutting fruits (not meat), of course, concurs, despite her having received a bow from her father to protect her people. Jake's word seems to weigh more than her own will — or purpose — to protect her people. Whether or not the other Na'vi wish to fight the intruders does not play any role. Jake Sully's decision to leave is what it is.

When the Sullys arrive at the sea Na'vi settlement, they are greeted by their chieftain and his wife. Contrary to the forest Na'vi, the sea Na'vi have stronger tails and wider hands, allowing them to swim better. This evolutionary trait is somewhat odd, since this would allow for the assumption that the forest Na'vi have some special evolutionary traits as well, allowing them to climb better (which they don't). Of course, this evolutionary adjustment to the marine environment simply underlines the narrative of the Na'vi being one with nature. They are not just living in it, they are even evolutionary adjusted to, they are part of it.

The sea Na'vi are an appropriated version of Aotearoa New Zealand Māori. They are covered in tattoos reminiscent of Ta Moko tattoos while their hair is again fashioned Māori-style. And when the sea Na'vi get angry, they also stick out their tongues, similar to the way it is done in a haka (traditional dance). The dance, however, is not seen in the movie. Be that as it may, when the sea Na'vi learn of Quaritch spreading terror to find Sully, instead of throwing the Sullys out or delivering them to Quaritch (after all, they are not "true" Na'vi) to avert aggression, they are lusting to fight the "sky people". Luckily for them, they don't run into the trap of a full-scale confrontation, but of course it needs a Jake Sully to explain to them how the sky people think. And only because of Sully, this drama is seemingly avoided. In the end, however, when the *Tulkun* attacks the invaders, the sea Na'vi also start their full-scale attack, and it remains completely in the dark what they have now done differently than they initially intended. What is clear is that they are seemingly unable

to make their own decisions since this apparently unknown enemy requires somebody who has been involved with them (Sully). As before, Sully's word counts more than the indigenous Na'vi. This patronising view seems to be a red thread in the movie. The indigenous Na'vi obviously need an outside leader who tells them how to protect themselves. While I am myself not indigenous, I find this utterly insulting. The 'noble savage' is not only stereotypically presented, but also presented as too naive — or even too stupid — to make her own decisions. These decisions are shared between the chieftain and his wife, who, like Neytiri, apparently is much more prone to aggression than her husband. Like Neytiri, she needs to be somewhat tamed by her husband in order to follow Sully's request to find shelter. Although she is pregnant (or maybe because?), she still participates in the battle against the invaders, leaving the viewer to wonder whether she is naive or utterly determined. After all, she endangers not only herself, but also her unborn child, standing in stark contrast to the no-killing romanticisation of Eywa and Pandora. This misogynistic depiction of women is yet another example for the outdated discourses that underlie the entire story of *Avatar 2*.

But let's get back to killing and the one-ness of Pandora. As mentioned earlier, killing does not appear to play a big role on the moon. While the Na'vi kill fish, they are not seen killing anything else. I'm not entirely sure whether the film mentioned conflict amongst the Na'vi. But either way, it is clear that it is absolutely in line with Na'vi morality to kill intruders, i.e. humans. Instead of negotiation or diplomacy, the Na'vi only know violence as a response to Quaritch's actions. Again, a condescending depiction of the indigenous. The whale-like *Tulkun* are, of course, soulmates of the sea Na'vi, and they are poets, songwriters and even more intelligent than the Na'vi. They don't kill and are inherently peaceful. But if one of their group kills a Na'vi (as the outcast has been suspected of having done), it is alright to ostracise him for the rest of his life. And they are hunted by humans for a fluid that eradicates ageing in humans. But those who kill them also kill part of the Na'vi and are, therefore. their arch enemies. This anthropomorphised whale corresponds to a romanticised discourse on whales, first initiated in the 1970s – for instance, by Robert Payne's 'Songs of the Humpback Whale,' removing whales from the food web for humans (or in this case Na'vi) and elevating them to a level of the sacred.

Those that hunt them — for instance, a morally troubled scientist and a reckless money-loving whaler — are depicted as ruthless and plain evil characters. "Let's make some money" probably stands representative for the way these 'whalers' are depicted. The equation is simple: whales = good, whalers = evil. And since they are evil, it is fine that they are killed. Of course, they are also used by Quaritch to lure Sully and the sea Na'vi into the open by hunting *Tulkun* close to Na'vi settlements so that they see what they cause if they don't deliver Sully. And to what do we owe the surprise that one of the hunted *Tulkun* is the outcast one? To the ingenious scriptwriters of the movie, who so eloquently spin a story that one is not able to predict. Sarcasm off.

This part of the movie is yet again so hard to understand… first, the notion of hiding amongst the sea Na'vi obviously fails, and they are found very easily. Second, it is a single *Tulkun* which is hunted by the whalers even though hunting larger schools makes much more sense (if one considers the economics of whaling). Third, without the solidarity between the problem-boy and the problem-*Tulkun,* all

would have been lost. And, of course, it is the seemingly adopted Spider, who ruins it all by saving Quaritch in the end, yet hissing at him like a cat (he obviously is as 'wild' as the Na'vi despite him being human) and returning to the Sullys. And this last point is *very* surprising, to say the least. Prior to the final one-on-one fight between Sully and Quaritch, Quaritch takes Sully's daughter hostage (again) and threatens to kill her. At the same time, Neytiri takes Spider hostage and threatens to kill him by cutting his throat if Quaritch doesn't release her daughter. I wonder whether the authorities would appreciate a death threat of a quasi-foster mother. She obviously considers Spider as very low on the hierarchical ladder. So low that he is on the same level as a fish that one is able to kill to support one's own. In spite of this, Spider returns to the Sullys. This does not make sense at all and again depicts the woman as uncontrolled, in need to be tamed. Misogyny at its best.

As a last point, the character of the Sully's adopted daughter Kiri is noteworthy. Kiri is a teenage girl who is close friends with Spider and the other Sully boys. Of course, she also gets captured time and again, but apparently also has a special gift to communicate with or hear Eywa's/Pandora's heart beat. While spending time with the sea Na'vi, she gets some sort of seizure that requires medical help. This help occurs in the form of a helicopter that takes humans from the forest to the sea Na'vi settlement to help her. How this helicopter was called remains in the dark, but it is this helicopter that provides Quaritch and his lot with a hint as to the whereabouts of the Sullys. Either way, despite the fact that modern medical equipment is used, it is in the end the indigenous medicine, performed by the sea Na'vi's chieftain's furious wife, that saves Kiri from certain death. Kiri is then able to connect to Pandora in much more depth and even control fish and other subsea species, which leads to her saving her family from drowning at the end of the movie. She is the weird but special one with unknown capabilities that prove to be crucial. Is this aiming to foster the inclusion of disabled people? I don't know, but again a cliché is served that only allows for eyeballing.

*Avatar 2* is a movie that is visually impressive, especially in 3D. But as the above has shown, it is filled with issues that are worth criticising, making me wonder how in the 21st century indigenous cultures, women and gender roles can be depicted as they are in the movie. Of course, it is women who want to fight, thereby the movie seemingly empowers them. But this will is always apparently misplaced, in need of a man to tell them what is right. In light of the way indigenousness is portrayed and Māori traits commercially appropriated, it does not come as a surprise that indigenous groups call for a boycott of the movie (here). The clichés and stereotypes the movie fosters and disseminates make it indeed worth boycotting. For me, it is absolutely clear that I will not spend a single cent on the Avatar franchise again. When *Avatar 3* enters the movie, I will be unable to write a review.

## Cinematographic information:

Director: James Cameron

Executive Producers: James Cameron, Jon Landau

Release year: 2022

Duration: 03:12:00

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