



OceanCare Contribution to the report of the UN Secretary-General on oceans and the law of the sea, pursuant to General Assembly resolution 78/69 of 5 December 2023 entitled "Oceans and the law of the sea"¹

Theme for the twenty-fourth session of the United Nations Open-ended Informal Consultative Process on the Oceans and the Law of the Sea (ICP-24), which will be held in New York from 18 to 21 June 2024: "The ocean as a source of sustainable food"

The ocean, encompassing over 70% of our planet's surface, has traditionally served as a primary food supply for human populations and other organisms, playing a pivotal role in global food security. This includes fish, invertebrates, plants for direct consumption, or as feed for aquaculture or agriculture. For some cultures, marine mammals and seabirds have been harvested for food, medicine or other traditional uses, including as bait for fisheries. The ocean provides large-scale benefits for human health, well-being and nutrition, economic returns, and employment.² Aquatic foods offer accessible and affordable sources of animal proteins and micronutrients, playing a vital role in the food and nutrition security of many, particularly vulnerable coastal populations. Globally, aquatic foods provide about 17 percent of animal protein, reaching over 50 percent in several countries in Asia and Africa. For 3.3 billion people, aquatic foods provide at least 20 percent of the average per capita intake of animal protein.³ The ICP already had an opportunity to discuss this matter in the past. Regardless, the decision by the UNGA last year to select again this topic discussion by the ICP is welcomed and as there are clearly several new elements that ought to be presently addressed and considered by the international community when thinking of oceans as a source of sustainable food.

The Sustainable Development Goal 14 and respective targets set to "conserve and sustainably use the oceans, seas and marine resources for sustainable development" is at heart of this year's ICP and shall be used as the guiding principle for providing participants guidance in discussions expected to take place this week. Unfortunately, despite some encouraging signs of progress, we are yet to come close to achieve SDG14 targets, including when it comes to those which are relevant to oceans as a source of sustainable food.

As it is known, we are facing an unprecedented planetary crisis which puts the oceans and all marine life at risk. This implies that mankind is undercutting the potential of the oceans to act as a provider of sustainable food, the way it has been since time immemorial in our history. Given that the challenges the oceans are facing are extremely thorny, we need to recognise the utmost urgency of addressing them if we want to safeguard the role of the oceans for its intrinsic value, but also as our life-support system, including as a source of sustainable food. This implies, among others, that we need to come together in curbing the negative impacts of those human activities taking place in the oceans which are known to be contributing to the ongoing planetary crisis thereby threatening food security.

Furthermore, we should not forget to use the UNCLOS as a compass to avoid potentially worrisome arguments, such as those that would support using marine mammals as a source of food. The UNCLOS affords special protection to marine mammals and we urge the International Whaling Commission to take measures that will limit their harvesting to a limited number of indigenous communities for their nutritional, substance and traditional needs.

¹ Link to the resolution: [N2339733.pdf \(un.org\)](#)

² Ferreira, B., Rice, J., & Rosenberg, A. (2016). The oceans as a source of food. *The First Global Integrated Marine Assessment (World Ocean Assessment I)*. United Nations, USA.

³ FAO. 2022. The State of World Fisheries and Aquaculture 2022. Towards Blue Transformation. Rome, FAO. <https://doi.org/10.4060/cc0461en>



In broader terms, and looking at the role of Regional Fisheries Management Organisations in the management of commercial fisheries, in recent years the conservation of such fisheries has come under increasing scrutiny due to multiple environmental challenges that are threatening their sustainability. A major challenge remains to obtain benefits without compromising the ability of the oceans to continue to provide such benefits and vital ecosystem services by restricting access to certain marine areas where fishing should not take place. Although this does not seem to be a very topical issue on the global agenda, the situation is constantly deteriorating and requires great attention immediately and joint efforts of different stakeholders to put a halt to all destructive fishing practices that instead of contributing to preserve fisheries as a source of food are threatening their very sustainability and that of the marine ecosystems where they are found. This requires further elaboration:

Overfishing keeps on standing as one of the foremost threats to the ocean's capacity to provide food in a sustainable manner. Renowned marine biologists such as Daniel Pauly⁴ and Boris Worm⁵ have documented the decline of global fish populations, highlighting the alarming trend of diminishing catches and the widespread exploitation of marine resources beyond their ecological limits. The phenomenon of overfishing occurs when the rate of fishing exceeds the ability of fish populations to replenish themselves, leading to depleted stocks and compromised ecosystem health. Global marine fisheries are reported by the FAO to be underperforming because of overfishing, but there are also other anthropogenic causes contributing to this alarming scenario.

Illegal, Unreported, and Unregulated (IUU) fishing is another critical threat to the oceans' role as a source of sustainable food. It undermines efforts to manage fisheries sustainably and jeopardises marine ecosystems. By operating outside legal frameworks and disregarding established conservation measures, IUU fishing exacerbates overfishing and compromises the integrity of marine habitats. Additionally, IUU fishing often involves reliance on destructive practices such as bottom trawling and bycatch, which indiscriminately capture non-target species and damage essential habitat structures. This contributes to biodiversity loss and undercut ecosystems functioning, further eroding the oceans' capacity to sustainably provide food.⁶ Moreover, IUU fishing intensifies socio-economic disparities by depriving legitimate fishers of their livelihoods and perpetuates a vicious cycle of environmental degradation and socio-economic inequities.⁷

But also legal fisheries are, in many regions, applying **destructive fishing methods**, contribute significantly to the destruction of habitats, including the seafloor, resulting in high numbers of bycatch as well as contributing significantly to GHG emissions or decreased ability to store carbon.

Aquaculture industries and their operations could also be questioned in that not all of them have provided evidence that they are conducting business in line with the spirit and the letter of SDG14 and, therefore, in a way that contributes to food security by the oceans rather than adding on to the problems that the oceans already face.

The impacts of **the climate crisis** affect, among other issues, the future of marine food security, with rising sea temperatures, ocean acidification, and extreme weather events disrupting the balance of marine ecosystems. Changes in the temperature and ocean chemistry most probably will reflect on the productivity of fish stocks, shifts in its distribution and overall, on the ecosystem productivity. Preliminary results from recent studies estimate that climate change will lead to losses in revenues, earnings to

⁴ Pauly, D., & Zeller, D. (2016). Catch reconstructions reveal that global marine fisheries catches are higher than reported and declining. *Nature Communications*, 7, 10244.

⁵ Worm, B., Hilborn, R., Baum, J. K., Branch, T. A., Collie, J. S., Costello, C., & Pauly, D. (2009). Rebuilding global fisheries. *Science*, 325(5940), 578-585.

⁶ Agnew DJ, Pearce J, Pramod G, Peatman T, Watson R, et al. (2009) Estimating the Worldwide Extent of Illegal Fishing. *PLoS ONE* 4(2): e4570. doi:10.1371/journal.pone.0004570 Editor: Stuart A. Sandin.

⁷ Andrew J. Temple, Daniel J. Skerritt, Philippa E.C. Howarth, John Pearce, Stephen C. Mangi. (2022). Illegal, unregulated and unreported fishing impacts: A systematic review of evidence and proposed future agenda, *Marine Policy*, Volume 139.

fishing companies and household incomes in many regions, although some countries and/or regions may realise increases in fisheries benefits.⁸

As noted by the ICP a few years ago, there is growing scientific evidence⁹ that **ocean noise** poses a growing threat to marine species, including commercial fish stocks, and therefore to the sustainability of fisheries globally. Studies have shown that fish catch rates can drop substantially, with larger fish leaving an area, bycatch rates increasing or other detrimental effects coinciding with ocean noise events. Impulsive noise can be lethal for zooplankton and lead to severe ramifications for the marine food web. Across the world, unchecked propagation of ocean noise is undermining efforts to achieve healthy, sustainable oceans and restore fish stocks, as prioritised through the 2030 Agenda for Sustainable Development, with serious implications for human livelihoods and food security.

Furthermore, **marine plastic pollution** poses a significant risk to the sustainability of ocean-derived food sources. Marine plastic pollution, in particular, has emerged as a pervasive threat to marine ecosystems, with large parts of the oceans flooded with plastic debris. Plastic ingestion and entanglement can have lethal consequences for marine life, disrupting food webs and ecosystem functioning. Weathering of plastic debris causes fragmentation into particles that even small marine invertebrates may ingest. Plastics also impact the very base of the food web because the species severely affected by plastic that are often overlooked are phytoplankton. A paper by Tetu et al. (2019)¹⁰ shows that plastic leachates severely damage the metabolism and physiology of the cyanobacterium *Prochlorococcus*, one of the most importantly distributed and abundant phototrophic bacteria that is at the base of the marine food web and that produces 10% of the oxygen we breathe. It is upon these phytoplankton that all these other species (turtles, seabirds, marine mammals) depend. Besides the affect of microplastics on the development and reproduction of marine phytoplankton, it will also affect the ocean carbon sequestration. The small size of microplastics also renders this debris untraceable to its source and extremely difficult to remove from open ocean environments, suggesting that the most effective mitigation strategies must reduce inputs from sources, including land-based. Authors such as Jenna Jambeck and Marcus Eriksen have conducted seminal research on the sources and impacts of marine plastic pollution, emphasizing the urgent need for comprehensive strategies to address this growing environmental crisis.¹¹

The ongoing negotiations for an international legally binding instrument (ILBI) on plastic pollution, including in the marine environment, are trying to address the complex challenges of plastics along its full lifecycle as yet another global issue dramatically affecting marine and coastal environment.

The growing interest by some countries in **deep-sea mining** also presents a significant threat to the oceans' role as a source of sustainable food. The exploration and extraction of mineral resources from the seabed entails profound ecological consequences, jeopardizing marine ecosystems and undermining the integrity of marine habitats essential for food production. Deep-sea mining operations can damage fragile habitats, including deep-sea coral, which serve as critical spawning grounds and refuge areas for many commercially important fish species. Furthermore, the release of sediment plumes and chemical pollutants associated with mining activities can have far-reaching impacts on marine biodiversity, contaminating seafood stocks and compromising food safety.¹² As such, the likely expansion of deep-sea

⁸ Sumaila, U.R., Cheung, W.W., Lam, V.W., Pauly, D., & Herrick, S.F. (2011). Climate change impacts on the biophysics and economics of world fisheries. *Nature Climate Change*, 1, 449-456.

⁹ Weilgart, L. (2018): The impact of ocean noise pollution on fish and invertebrates. https://www.oceancare.org/wp-content/uploads/2022/05/Underwater-Noise-Pollution_Impact-on-fish-and-invertebrates_Report_OceanCare_EN_36p_2018.pdf

¹⁰ Tetu, S.G., Sarker, I., Schrammeyer, V. et al. Plastic leachates impair growth and oxygen production in *Prochlorococcus*, the ocean's most abundant photosynthetic bacteria. *Commun Biol* 2, 184 (2019). <https://doi.org/10.1038/s42003-019-0410-x>

¹¹ Jambeck, J.R., Geyer, R., Wilcox, C., Siegler, T.R., Perryman, M., Andrady, A.L., Narayan, R., & Law, K.L. (2015). Plastic waste inputs from land into the ocean. *Science*, 347, 768 - 771.

¹² Gollner, S., Kaiser, S., Menzel, L., Jones, D. O. B., Brown, A., Mestre, N. C., van Oevelen, D., Menot, L., Colaço, A., Canals, M., Cuvelier, D., Durden, J. M., Gebbruk, A., Egho, G. A., Haeckel, M., Marcon, Y., Mevenkamp, L., Morato, T., Pham, C. K., Purser, A., Martinez Arbizu, P. (2017). Resilience of benthic deep-sea fauna to mining activities. *Marine environmental research*, 129, 76–101. <https://doi.org/10.1016/j.marenvres.2017.04.010>



mining activities in the near future needs careful consideration of its environmental implications and the adoption of precautionary measures and eco-system-based approaches to safeguard marine ecosystems and fisheries. This year ICP should hence urge that, in accordance with the precautionary principle and the customary obligation under international law for countries to prevent damage to the marine environment and provide for its protection, no mining regulations are adopted for deep-sea mining and a moratorium on such activities is put in place. Time needs to be gained to better understand the complexity of the deep-sea ecosystems which, in the future, should set conditions and parameters that allow informed decision-making.

Considering the above-listed environmental challenges, it appears clear that addressing the sustainability of ocean-derived food sources will require comprehensive and concerted efforts (including devising Area-Based Management Tools, including MPAs, no-take zones, fisheries restricted areas, the application of monitoring, control and surveillance schemes, the imposing of meaningful sanctions in relation to IUU fishing activities, the banning fishing gear that damages marine habitats, etc.) from policymakers, stakeholders, and society at large, with the ultimate aim of preserving diverse and resilient ecosystems where marine life can recover and thrive.

OceanCare, from its part, is invested in dissemination and knowledge building efforts and initiatives and is keen to contribute with its knowledge and expertise to initiatives, such as this ICP, that give the international community a much-needed opportunity to reflect and plan for action. In this regard, OceanCare has recently organised side-events focusing on fishing gear and marine plastic pollution in the context of the INC-2 and INC-3, which took place in Paris in June and Nairobi last November respectively, and of the GFCM Forum on Fisheries Science, which took place in Antalya last February.

The issue of food security, and therefore the role of oceans as a source of sustainable food, is more acute in the fisheries sector but this should not remove our attention from other sectors and human activities related thereto, such as oil and gas exploration and exploitation, anthropogenic underwater noise pollution, industrial exploitation of the seabed by deep-sea mining, and continued entry of millions of tons of marine plastic pollution into the oceans every year. We therefore call upon States not to take decisions which would ultimately result in compromising further the ability of the oceans to be a source of sustainable food and take, instead, measures that will allow the oceans to continue to act as a provider to humankind.

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About OceanCare

OceanCare was founded in Switzerland in 1989 and is an international marine conservation non-governmental organisation. The organisation pursues the protection and restoration of the marine environment and marine wildlife with a strong policy focus, combining research, conservation projects and education. OceanCare's remit includes marine pollution, climate change, marine mammal hunting and the environmental consequences of fisheries. Its work is supported by a team of scientific, legal and policy experts, and involves strategic collaboration with a number of partner organisations and affiliation with many international bodies.

OceanCare holds Special Consultative Status with the Economic and Social Council of the United Nations (ECOSOC) and Observer Status at the United National Framework Convention on Climate Change (UNFCCC). OceanCare has also been accredited as part of the Major Group 'Science & Technology' to the United Nations Environment Assembly (UNEA), which is the governing body of UNEP and is a part of the UNEP Global Partnership on Marine Litter.

OceanCare is an accredited Observer to the Convention on Biological Diversity (CBD), the International Whaling Commission (IWC) and the International Seabed Authority (ISA) and is a Partner of the Convention on Migratory Species (CMS), and the UNEP/CMS Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS), the Barcelona Convention (UNEP/MAP), as well as the General Fisheries Commission for the Mediterranean (GFCM). www.oceancare.org