



Ocean Wilderness Areas: Legal issues

Image: Sea Shepherd UK, 2019

Casey-Jo Zammit
MSc Environmental Conservation & Management
University of Wales Trinity St David

Table of Contents

1. Introduction.....	4
2. Efficacy of Managed Areas in the form of Marine Protected Areas.....	5
3. Loopholes Causing a Decline in Biodiversity and Marine Wilderness.....	7
4. Conclusion.....	8
5. References.....	10

List of Tables

Table 1: International efforts for the management of fisheries and conservation of marine resources.

List of Abbreviations

EEZ – Exclusive Economic Zone

IUU – Illegal, Unreported and Unregulated Fishing

IWC – International Whaling Commission

MPA – Marine Protected Area

NTA – No-take Areas

RMFO – Regional Fisheries Management Organisations

UNCLOS – United Nations convention on the Law of the Sea

1. Introduction

Unlike terrestrial environments, the marine world is not subject to definite borders or complete ownership. 13% of the ocean meets the definition of global “wilderness” set out by Jones et al., 4.9% of which can be found within marine protected areas (MPAs), and the majority being located in the high seas. Jones et al., describe global marine wilderness as “biologically and ecologically intact seascapes that are mostly free of human disturbance” (Jones et al., 2018), and identify three main threat categories for the depletion of wilderness areas: fishing, ocean-based and land-based. Fishing as a threat, or more specifically: overexploitation and illegal fishing contribute to this depletion and have led to most wild fisheries now being classified as fully exploited (Young et al. 2016) whilst providing a food source for over 3.2 billion people (Food and Agriculture Organisation of the United Nations, 2018).

Fishing can be identified as a legal issue with regards to marine habitat uses and the destruction of biodiversity and wilderness. Illegal, unreported and unregulated (IUU) fishing diminishes fish stocks, as well as destroys habitats and causes unfair competition among fishers (European Commission, 2019a). It undermines national and regional initiatives to establish sustainable fishing practices, as it is difficult to monitor/police despite occurring within national jurisdictions as well as on the high seas. These practices also exploit weak management and developing countries whose resources are restricted, ultimately impeding effective control and surveillance (Food and Agriculture Organisation, 2019a).

That said, the international community have made efforts to protect and conserve the marine environment (Table 1).

Table 1: International efforts for the management of fisheries and conservation of marine resources.

International Efforts on Fisheries	Purpose
International Convention for the Regulation of Whaling, 1946	To create a legally binding set of regulations that sets out catch limits for both commercial and “aboriginal” whaling (International Whaling Commission, 2019)
The Convention on the Conservation of Antarctic Marine Living Resources, 1980	To recognise the importance of protecting the integrity of ecosystems and the seas surrounding Antarctica, as well as conserving Antarctic marine resources (Commission for the Conservation of Antarctic Marine Living Resources, 2013)
United Nations Convention on the Law of the Sea, 1982	To establish a legal order for the seas which promotes peaceful uses of marine resources, equitable utilisation of resources, conservation of living resources, and study and protection of the marine environment (Birnie et al., 2009)

Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, 1993	To strengthen international cooperation to ensure compliance by fishing vessels on the high seas for sustainable use and conservation of living resources. (European Union, 2006)
Food and Agriculture Organisation Code of Conduct for Responsible Fisheries, 1995	To set international standards of conduct for responsible practices, ensuring conservation and management of living resources, with a respect for biodiversity. (Food and Agriculture Organisation of the United Nations, 2019c).
United Nations Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, 1995	To ensure the long-term conservation and sustainable use of straddling and highly migratory fish stocks, under the framework of the United Nations Convention on the Law of the Sea (Food and Agriculture Organisation of the United Nations, 2019d)
Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, 2009	To produce binding international agreement to tackle illegal, unreported and unregulated fishing. Preventing vessels engaged in illegal activities from landing catches, and promoting sustainable use of marine resources. (Food and Agriculture Organisation of the United Nations, 2019b)

This, along with Regional Fisheries Management Organisations (RMFOs), which have the authority to create catch limits, administer technical advice and set out obligations, provide the seas with guidelines for the protection and adequate utilisation of marine resources (European Commission, 2019b).

However, despite these efforts, as two thirds of the ocean, namely the high seas (where the majority of wilderness areas are located), do not fall under any national jurisdiction, they have been over exploited due to lack of effective regulation. By 2020 the United Nations are expected to finalise a new high-seas conservation treaty (Fox, 2019) which will be legally binding, as well as aim to evaluate and improve: MPAs, the extraction of deep-sea marine genetic resources, and environmental impact assessments for high-seas activities (especially fishing) (Corcoran, 2018).

This report will use MPAs as a current management strategy to explore the efficacy of initiatives in conserving/managing the destruction of ocean wilderness with regards to fishing, whilst demonstrating the loopholes in international efforts which increases IUU fishing and consequently diminishes biodiversity, increases human disturbance and ultimately depletes marine wilderness areas.

2. Efficacy of Managed Areas in the form of Marine Protected Areas

Marine protected areas are described as being an area-based management tool that act as key mechanisms for protecting and restoring marine biodiversity (De Santo, 2018). MPAs contain 4.9% of global wilderness (Jones et al., 2018), and can be established for a variety

of causes including restoration of habitats or fish stocks and no-take/non-extraction zones (Claudet, 2011), but as a marine management tool their efficacy to conserve wilderness can be determined by the lack of surveillance and policing, as well as by assessing their practices against varying definitions of marine wilderness.

The legal obligation to implement MPAs is not covered by United Nations Convention on the Law of the Sea (UNCLOS), or any other treaty put forward by the United Nations or international body (High Seas Alliance, 2018), leaving the establishment of MPAs mainly to RFMOs (De Santo, 2018). For example, with regards to the high seas, which consists of the majority of wilderness areas, there are currently twelve MPAs: two are located in the Southern Ocean, created by the Convention on Conservation of Antarctic Marine Living Resources; and ten in the North-East Atlantic created by the OSPAR Convention and North East Atlantic Fisheries Commission (De Santo, 2018), implying that MPAs can provide some level of management of ocean wilderness areas. Nonetheless, RFMOs provide guidelines for the usage of these areas, but do not possess persecutory powers or monitoring bodies that can act as deterrent or consequence for illegal activity such as illegal fishing (European Commission, 2019b), inducing doubt as to whether MPAs are effective at conserving wilderness.

MPAs can also be termed as “issue-by-issue” approaches (Rochette et al., 2015) that have been established as reactionary measures to previous and/or ongoing depletion of marine resources (D’Agata et al., 2016), due to their restricted size and inability to conserve migratory species (Rochette, 2015), although this has been recognised as a limitation in recent years (Ban et al., 2017). That said, in contrast to Jones et al.’s definition of marine wilderness, Graham & Mcclanahan suggest that wilderness is defined as specifically: “large areas (greater than 10,000 square kilometres) that host over 70% intact biodiversity and human densities of five people per kilometre square or less”. This indicates that the restricted size of MPAs can in itself impede the conservation of wilderness, providing ineffective management of marine resources. However, current debates over MPA “networks”, as established by Central African country Gabon in 2017 in response to overfishing (Parker, 2017), may potentially be more effective at conserving wilderness, based on this alternative definition, due to the expansion and connection of protected areas.

Additionally, other MPAs, more specifically no-take areas (NTAs), of which 4400 exist globally, have been applauded for their level of protection of its contained marine ecosystems and have achieved complete recovery of fish biomass, such as the NTAs along the coast of Kenya (Graham & Mcclanahan, 2013), suggesting that MPAs may not be effective at conserving/preventing the depletion of marine wilderness, but are effective at restoring ecosystems and biodiversity, aiming to achieve “wilderness” in the future by the standards of Jones et al.’s definition. Although this does not account for marine species that depend on vast areas throughout their lifetimes (Ward-Paige, 2017).

However, for MPAs that are not categorised as NTAs, issues arise with regards to the level of protection from fishing techniques covering the water column, pelagic and benthic levels (De Santo, 2018), as some MPAs enforce prohibitions regarding fishing in the water column, but do not state permissions/prohibitions on fishing such as seabed trawling (De Santo, 2018), and emphasises the need for surveillance and persecutory measures. This underlines the blurred enforcements put forward for MPAs and could provide a suggestion for protected areas in the future treaties such as the upcoming United Nations negotiations to provide

clarity on acceptable uses of MPAs, to define illegal fishing practices, ultimately preventing the depletion of fish stocks and wilderness through clandestine activity.

Whilst the purposes of MPAs have provided relief for ecosystems and offer the opportunity for them to be restored, the issue of illegal fishing depleting global wilderness is evident due to: a lack of clear guidelines for MPA usage; a lack of policing; restricted size; and a lack of international governing bodies with persecutory authority.

3. Loopholes Causing a Decline in Biodiversity and Marine Wilderness

As mentioned, there are a number of international treaties and efforts in place that tackle IUU fishing, and aim to conserve marine resources. However, it can be argued that these efforts fall short in providing biodiversity with necessary protection from fisheries and states, further increasing the destruction of marine wilderness areas (through diminishing biodiversity, as states in the definition given by Jones et al.), as a consequence of a lack of surveillance and persecutory measures (Al-Abdulrazzak et al., 2017).

With regards to state duties, within a state's national jurisdiction the state's budget and resources determine their efforts to prevent illegal fishing activity, as well as restrict the state from allocating its resources to international treaties, consequently hindering the implementation of persecutory measures (Al-Abdulrazzak et al., 2017). Nevertheless, illegal activity is not undertaken solely by developing states; a high demand for seafood causes many illegal activities among developed nations in order to meet high market demand. The demand is said to produce much of the illegal activity within the high seas, away from national jurisdiction, as a consequence of the lack of management and surveillance (Midani & Lee, 2016).

Additionally, both the slow process to enter into an RMFO as a new member causing reluctance from states to contribute to these efforts (Edeson, 2006), and the unwillingness of states to devolve authority to RMFO's has resulted in overfishing and reduction of migratory species (Serdy, 2016), preventing compliance with a number of international efforts expressed in Table 1, including the United Nations Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks. This suggests that states, aside from fisheries, directly threaten the areas of ocean most likely to contain wilderness areas, and contribute to the reduction marine biodiversity, including that of marine megafauna, which are described as keystone species that can have major impacts on trophic networks, habitat changes and species abundance, if populations are altered (Malhi et al., 2016).

The Port State Measures Agreement intends to address all forms of IUU fishing, including more niche markets aimed at marine megafauna such as shark finning, which mainly occurs in high seas due to the transient nature of oceanic sharks (Sala et al., 2018). However, the efforts among states and ports to conserve shark species have large disparities and specifications that are not uniform nor globally shared. For example, Egypt and French Polynesia have imposed shark fishing and trade bans within their national jurisdiction, whereas Canada permit the sale and landing of shark fins if below 5% of original shark weight (Wild Aid, 2019). Despite these practices being addressed, the decline of such shark populations is said to increase profit margins due to the rarity of species, providing an even further incentive for fisheries to continue in such practices, and do not prevent fishers from

claiming illegal catch as bycatch as a method to land their catches within ports (Ward-Paige, 2017). This highlights loopholes in current efforts to prevent the fishing of these species, and suggests that international treaties, including that of upcoming negotiations by the United Nations should aim to strengthen and unify its current regulations, and implement strategies with regards to surveillance/monitoring.

Additionally, loopholes are found within other regulations, for example those against whaling. Despite the creation of two sanctuaries located within high seas, (one in the Southern Ocean, established 1994, and one created in the Indian Ocean in 1979) where commercial whaling is prohibited by the International Whaling Commission (IWC) (Morgera, 2007), the fishing of protected species recently came under debate due to Japan's withdrawal from the commission (Fobar, 2018). Under UNCLOS, the rights and responsibilities of states to protect marine environments under Article 192, relies on states' "good faith" (Morgera, 2007), whilst as a RMFO member, "treaty compliance" is required which indicates that a "treaty shall be interpreted in good faith" based on Article 31 of the 1969 Vienna Convention (Edeson, 2006). In this case, good faith has not been practiced by Japan, nor the Republic of Korea through the use of alternative declarations of catch. Japan carries out whaling practices under scientific grounds, which consequently generates excessive amounts of whale meat for domestic markets, whereas the Republic of Korea have met their market demand for whale meat through the use of by-catch (Tatar & Jung, 2018). Furthermore, unregulated whaling conducted by non-member states of the IWC has also contributed to the depletion of biodiversity (Perrin et al., 2008), posing a larger threat to marine wilderness areas, beyond the intentions of international initiatives such as the IWC, and again suggesting a potential enforcement of persecutory measures for non-compliance and surveillance as a precautionary measure.

Despite international efforts being made to tackle IUU fishing, and the conservation of marine resources and biodiversity such as marine megafauna, loopholes still exist within these frameworks allowing fisheries and states to continue to deplete fish stocks and reduce species populations without effective persecutory measures and through a lack of unified, definite regulation, as well as surveillance to tackle the continuation of illegal activity. These loopholes provide the opportunity for both states and fisheries to reduce marine wilderness through the reduction in the ocean's biodiversity, by removing a keystone species.

4. Conclusion

The current management of the ocean, with regards to MPAs, provide a level of management but its efficacy is dependent on a number of factors that create difficulty in providing an impenetrable solution to protecting ocean wilderness, mainly surveillance, monitoring and persecutory measures by international bodies or states.

Exacerbating this issue, the loopholes that exist within international efforts to conserve marine resources are further destructing marine wilderness by depleting fish stocks and reducing biodiversity, including that of marine megafauna, which can have negative impacts on the surrounding ecosystems.

Both examples (protected areas and international organisations) outline current efforts for the management of marine resources, but suggest that neither are providing effective solutions to conserving ocean wilderness. Future negotiations put forwards by the United Nations could potentially provide stronger levels of protection in order to tackle this issue. However, the implementation of surveillance, policing and international trust to conserve these areas, along with the finances needed to provide international bodies with means to apply these strategies, pose challenges for these negotiations, leaving marine wilderness still at risk of further destruction.

5. References

- Al-Abdulrazzak, D., Galland, G., McClenachan, L., Hocevar, J. (2017). Opportunities for improving global marine conservation through multilateral treaties. *Marine Policy*. Vol.86, pp.247-252.
- Ban, N., Davies, T., Aguilera S., Brooks, C., Cox, M., Epstein, G., Evans, L., Maxwell, S., Nenadovic, M. (2017). Social and ecological effectiveness of large marine protected areas. *Global Environmental Change*. Vol.43, pp.82-91.
- Birnie, P., Boyle, A., Redgwell, C. (2009). *International Law and the Environment*. Third Edition. Oxford: Oxford University Press.
- Claudet, J. (2011). *Marine protected areas: a multidisciplinary approach*. Cambridge: Cambridge University Press.
- Commission for the Conservation of Antarctic Marine Living Resources. (2013). CAMLR Convention text. *Commission for the Conservation of Antarctic Marine Living Resources*. Available from: <https://www.ccamlr.org/en/organisation/camlr-convention-text> [Accessed 01/05/2019].
- Corcoran, B. (2018). International Regulation of Areas Beyond National Jurisdiction: Negotiations on a New Legal Structure for the High Seas. *Lawfare Hard National Security Choices*. Available from: <https://www.lawfareblog.com/international-regulation-areas-beyond-national-jurisdiction-negotiations-new-legal-structure-high> [Accessed 26/04/2019].
- D'Agata, S., Mouillot, D., Wantiez, L., Friedlander, A., Kulbicki, M., Vigliola, L. (2016). Marine reserves lag behind wilderness in the conservation of key functional roles. *Nature Communications*. Vol.7, 12000.
- De Santo, E. (2018). Implementation challenges of area-based management tools (ABMTs) for biodiversity beyond national jurisdiction (BBNJ). *Marine Policy*. Vol.97, pp.34-43.
- Edeson, W. (2006). Some Future Directions for Fishing Entities in Certain Regional Fisheries Management Bodies. *Ocean Development & International Law*. Vol.37, pp.245-264.
- European Commission. (2019a). Illegal fishing (IUU). *European Commission*. Available from: https://ec.europa.eu/fisheries/cfp/illegal_fishing_en [Accessed 26/04/2019].
- European Commission. (2019b). Regional fisheries management organisations (RFMOs). *European Commission*. Available from: https://ec.europa.eu/fisheries/cfp/international/rfmo_en [Accessed 24/04/2019].
- European Union. (2006). Summary of Treaty: Agreement to promote compliance with international conservation and management measures by fishing vessels on the high seas. *European Union*. Available from: <http://ec.europa.eu/world/agreements/prepareCreateTreatiesWorkspace/treatiesGeneralData.do?step=0&redirect=true&treatyId=558> [Accessed 01/05/2019].
- Fobar, R. (2018). Japan will resume commercial whaling. Get the facts. *National Geographic*. Available from: <https://www.nationalgeographic.com/animals/2018/12/japan-considers-leaving-international-whaling-commission/> [Accessed 29/04/2019].

- Food and Agriculture Organisation of the United Nations. (2018). The State of World Fisheries and Aquaculture. *Food and Agriculture Organisation of the United Nations*. Available from: <http://www.fao.org/iuu-fishing/en/> [Accessed 26/04/2019].
- Food and Agriculture Organisation of the United Nations. (2019a). Illegal, Unreported and Unregulated (IUU) fishing. *Food and Agriculture Organisation of the United Nations*. Available from: <http://www.fao.org/3/I9540EN/i9540en.pdf> [Accessed 26/04/2019].
- Food and Agriculture Organisation of the United Nations. (2019b). Agreement on Port State Measures (PSMA). *Food and Agriculture Organisation of the United Nations*. Available from: <http://www.fao.org/iuu-fishing/international-framework/psma/en/> [Accessed 26/04/2019].
- Food and Agriculture Organisation of the United Nations. (2019c). Code of Conduct for Responsible Fisheries. *Food and Agriculture Organisation of the United Nations*. Available from: <http://www.fao.org/iuu-fishing/international-framework/code-of-conduct-for-responsible-fisheries/en/> [Accessed 26/04/2019].
- Food and Agriculture Organisation of the United Nations. (2019d). UN Fish Stocks Agreement. *Food and Agriculture Organisation of the United Nations*. Available from: <http://www.fao.org/iuu-fishing/international-framework/un-fish-stocks-agreement/en/> [Accessed 26/04/2019].
- Fox, A. (2019). First ever high-seas conservation treaty would protect life in international waters. *Science*. Available from: <https://www.sciencemag.org/news/2019/04/first-ever-high-seas-conservation-treaty-would-protect-life-international-waters> [Accessed 26/04/2019].
- Graham, N., & Mcclanahan, T. (2013). The last call for marine wilderness. *BioScience*. Vol.63(5), pp. 397-402.
- High Seas Alliance. (2018). World's First Legally Binding Treaty to Protect the High Seas: Landmark UN Negotiations Open. *Global Fishing Watch*. Available from: <https://globalfishingwatch.org/press-release/worlds-first-legally-binding-treaty-to-protect-the-high-seas-landmark-un-negotiations-open/> [Accessed 25/04/2019].
- International Whaling Commission. (2019). The Convention. *International Whaling Commission*. Available from: <https://iwc.int/convention> [Accessed 01/05/2019].
- Jones, K., Klein, C., Halpern, B., Friedlander, A., Possingham, H., Watson, J. (2018). The Location and Protection Status of Earth's Diminishing Marine Wilderness. *Current Biology*. Vol.28, pp.1-7.
- Mahli, Y., Doughty, C., Galetti, M., Smith, F., Svenning, J., Terborgh, J. (2016). Megafauna and ecosystem function from the Pleistocene to the Anthropocene. *Proceedings of the National Academy of Sciences of the United States of America*. Vol.113(4), pp.838-846.
- Midani, A., & Lee, S. (2016). Confronting Illegal, Unreported and Unregulated (IUU) Fishing with Proper Port and Flagged States Policies: The Case of South Korea and European Union. *Journal of Fisheries Sciences*. Vol.10(3), pp.43-51.

Morgera, E. (2007). Competence or Confidence? The Appropriate Forum to Address Multi-Purpose High Seas Protected Areas. *Review of European Community & International Environmental Law*. Vol.16(1), pp. 1-11.

Norris, A. (2015). Fishy Business: The High Seas Boarding and Inspection Regime in the Western and Central Pacific Ocean. *Ocean Development and International Law*. Vol.46(4), pp.331-344.

Oliver, S., Braccini, M., Newman, S., Harvey, E. (2015). Global patterns in the bycatch of sharks and rays. *Marine Policy*. Vol.54, pp.86-97.

Parker, L. (2017). New Ocean Reserve, Largest in Africa, Protects Whales and Turtles. *National Geographic*. Available from: <https://news.nationalgeographic.com/2017/06/gabon-marine-protected-area-ocean-conservation/> [Accessed 25/04/2019].

Perrin, W., Thewissen, J., Wursig, B. (2009). *Encyclopaedia of Marine Mammals*. Second Edition. Amsterdam: Elsevier Science & Technology.

Rochette, J., Billé, R., Molenaar, E., Drankier, P., Chabason, L. (2015). Regional oceans governance mechanisms: A review. *Marine Policy*. Vol.60, pp.9-19.

Sala, E., Mayorga, J., Costello, c., Kroodsma, D., Palomares, M. (2018). The economics of fishing the high seas. *Science Advances*. Vol.4(6). Available from: <https://advances.sciencemag.org/content/4/6/eaat2504/tab-pdf> [Accessed 26/04/2019].

Sea Shepherd UK. (2019). Sea Shepherd celebrates New Year with arrest of illegal fishing vessel in Liberia. *Sea Shepherd UK*. Available from: <https://www.seashepherd.org.uk/news-and-commentary/news/sea-shepherd-celebrates-new-year-with-arrest-of-illegal-fishing-vessel-in-liberia.html> [Accessed 25/04/2019].

Sequeira, A., Rodríguez, J., Eguíluz, V., Harcourt, R., Hindell, M., Sims, D., Duarte, M., Costa, D., Fernández-Gracia, J., Ferreira, L., Hays, G., Heupel, M., Meekan, G., Aven, A., Bailleul, F., Baylis, A., Berumen, M., Braun, C., Burns, J., Caley, M., Campbell, R., Carmichael, R., Clua, E., Einoder, L., Friedlaender, A., Goebel, M., Goldsworthy, S., Guinet, C., Gunn, J., Hamer, D., Hammerschlag, N., Hammill, M., Hückstädt, N. Humphries, E., Lea, M., Lowther, A., Mackay, A., McHuron, E., McKenzie, J., McLeay, L., McMahon, C., Mengersen, K., Muelbert, M., Pagano, A., Page, B., Queiroz, N., Robinson, W., Shaffer, A., Shivji, M., Skomal, G., Thorrold, S., Villegas-Amtmann, S., Weise, M., Wells, R., Wetherbee, B., Wiebkin, A., Wienecke, B., Thums, M. (2018). Convergence of marine megafauna movement patterns in coastal and open oceans. *Proceedings of the National Academy of Sciences of the United States of America*. Vol.115(12), pp. 3072-3077.

Tatar, B., & Jung, C. (2018). Getting to know the consumer: Toward mitigation of illegal whale meat consumption in South Korea. *Marine Policy*. Vol.89, pp.116-123.

United Nations. (1982). United Nations Convention on the Law of the Sea 1982. *United Nations*. Available from: https://www.un.org/Depts/los/convention_agreements/texts/unclos/unclos_e.pdf [Accessed 30/04/2019].

Ward-Paige, C. (2017). A global overview of shark sanctuary regulations and their impact on shark fisheries. *Marine Policy*. Vol.82, pp.87-97.

Wild Aid. (2019). Laws Protecting Sharks. *Wild Aid*. Available from: <http://www.sharksavers.org/en/our-programs/shark-sanctuaries/learn-more/laws-protecting-sharks> [Accessed 26/04/2019].

World Wildlife Fund. (2019). Promoting Effective Ocean Management. *World Wildlife Fund*. Available from: <https://www.wwf.org.uk/what-we-do/area-of-work/ocean-management> [Accessed 26/04/2019].

Young, M., Foale, S., Bellwood, D. (2016). The last marine wilderness: spearfishing for trophy fishes in the Coral Sea. *Environmental Conservation*. Vol.43(1), pp.90-95.