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**Revisiting the Law of the Sea in light of the Developments Regarding Global Animal
Law**

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I. Introduction

In line with rising interests in animal welfare, we are now also witnessing the rise of global animal law. Global animal law is defined as a set of legal rules and principles concerning “the interaction between humans and other animals on a domestic, local, regional, and international level.”¹ On a national level, a number of States have adopted legislation tackling animal cruelty on farms, in labs, and at abattoirs. With varying levels of regulation against animal cruelty, many are now calling for international law to disseminate a unified set of rules on animal welfare for animal industries.

The international law on animals mainly regulates the protection of endangered species, biological diversity, and natural habitats. In particular, it takes an ‘ecosystem approach’, which prioritises the health of the ecosystems and recognises that the animals are the vital components of the ecosystems. This approach takes a more holistic view of the ecosystems, rather than taking a more granular approach focused on the individual animals.² At best, the discussion of animal welfare has only covered extended to terrestrial animals (lions, cats, birds, and poultry). The welfare of a vast majority of aquatic animals with the exception of cetaceans (whales, dolphins, and porpoises) have been left unaddressed.³ Furthermore, whilst the application of the principle of unnecessary suffering to terrestrial animals has gained attention, the same principle has only been selectively applied only to marine mammals.

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¹ Anne Peters, ‘Introduction’ in Anne Peters (ed), *Studies in Global Animal Law* (Springer 2020) 1.

² Sue Donaldson and Will Kymlicka, *Zoopolis: A Political Theory of Animal Rights* (Oxford University Press 2011) 3.

³ Terrestrial animals include those mostly or entirely living on lands, including lions, cats, birds, and insects. As birds can fly or live on trees, birds are classified as arboreal, a special category with terrestrial animals. In contrast to terrestrial animals, aquatic animals predominantly or entirely live in the water and amphibians which have both features of terrestrial and aquatic animals. However, a distinction based on where animals live is ambiguous as there are many borderline animals. To show the trend of international legal scholarship, this paper took the approach of drawing the line between aquatic animals from terrestrial animals but also flags that this distinction is not a universally accepted standard.

In terms of the sustainability of the aquatic animal population, the situation is as grim as that facing terrestrial biodiversity. Aquatic animals are exploited past the sustainable level of conservation, despite the introduction of the ‘maximum sustainable yield’ by the United Nations Convention of the Law of the Sea (UNCLOS).⁴ As a result, today, only 65.8 per cent of the fish stocks are within biologically sustainable levels, whereas back in 1990 it was higher, at 90 per cent.⁵

This paper aims to revisit the approach of the law of the sea to aquatic animals in light of the development in global animal law. Firstly, I define ‘the law of the sea’ to be a body of international law that concerns States’ rights and obligations on maritime matters. The law of the sea hence not only include generalist treaties like UNCLOS, but also specialist treaties like the International Convention for the Regulation of Whaling (ICRW).⁶ Secondly, I purposefully describe the aim of this paper as ‘revisiting’ the law of the sea since it is an attempt to view the law of the sea in light of the changing landscape of animal welfare. This approach reflects and consolidates an already observable trend of trying to incorporate animal welfare concerns via the law of the sea. For example, the International Whaling Commission’s (IWC) practice has shifted greatly from the sustainable exploitation of whales for economic purposes to the conservation (or perhaps even preservation) of whales. In the context of environmental law, conservation allows human exploitation of natural resources whereas preservation’s ordinary meaning is to keep something in its original or good condition. Now, only indigenous whaling and whaling for the purposes of scientific research is allowed.

I explore these changes in the law of the sea and suggest that the law of the sea needs to escape from the historically fixed dichotomy between cetaceans and other aquatic animals. The structure of this paper is as follows. I first focus on the law of the sea’s approach to aquatic animals in Chapter II and consider what motivates the presumed hierarchy between cetaceans and other marine life. In this regard, I argue that over-exploitation initially motivated the IWC to protect the cetacean stocks but that the sentience of cetaceans now maintains such regulations. Today, over-exploitation and sentience are the two motivations

⁴ United Nations Convention on the Law of the Sea (signed in 10 December 1982, entered into force 16 November 1994) 1833 UNTS 3.

⁵ United Nations Food and Agriculture Organization, *The State of World Fisheries and Aquaculture (SOFIA): Sustainability in Action* (2020) 7.

⁶ International Convention for the Regulation of Whaling (adopted 2 December 1946, entered into force 10 November 1948) 161 UNTS 72.

behind the protection of whale stocks.⁷ Chapter III then considers the relevant scientific discoveries regarding sentience of fishes and other aquatic animals, and corresponding legislative changes at a national level. Lastly, Chapter IV proposes adopting an evolutionary interpretation of Articles 61 and 62 of UNCLOS. This provides a method for the law of the sea to address and incorporate animal welfare concerns, which in turn should bring the law of the sea closer in line with global animal law.

II. Law of the Sea's Approach to Aquatic Animals

Whilst the law of the sea considers most of the aquatic animals as 'resources', it exempts marine mammals (including cetaceans), which are instead regarded as animals for preservation. UNCLOS *prima facie* considers marine mammals to be exploitable marine resources, but delegates the competence of regulating marine mammals to coastal states and the IWC. Article 65 of UNCLOS states that coastal States and competent international organisation have the right to regulate marine mammals 'more strictly'. This authorisation of more stringent regulation on the exploitation of marine mammals and the drafting history confirms that Article 65 permits the preservation of marine mammals (including cetaceans).⁸

As one of the 'appropriate international organizations' under Article 65, the IWC now imposes a commercial moratorium on whaling, with exceptions allowed for scientific research. Most cetaceans are listed under Appendix 1 of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES),⁹ the highest level of protection given to endangered animals and plants under CITES.¹⁰ Besides this general protection, cetaceans are also the first aquatic animals in respect of which the principle of

⁷ For the case of cetacean protection, the over-exploitation factor was enough to trigger the protection of their stock. When applying this, the over-exploitation factor should be sufficient enough to trigger the protection of aquatic animals as well. But this paper analyses sentience factor as well, since it works as an important pillar in cetacean protection now.

⁸ Alexander Proelß, 'Marine Mammals' Max Planck Encyclopedia of Public International Law (2007) para. 13.

⁹ Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES) (adopted 2 March 1973, entered into force 1 July 1975) 993 UNTS 243.

¹⁰ Article 2(1) of the CITES prohibits international trades of the marine mammals listed under Appendix 1, unless for research purposes. Convention on International Trade in Endangered Species of Wild Fauna and Flora, 'Appendices I, II and III: valid from 22 June 2021' <<https://cites.org/sites/default/files/eng/app/2021/E-Appendices-2021-06-22.pdf>> accessed 1 February 2022.

unnecessary suffering has been applied since the 1980s.¹¹ The motivation behind this was the alleviation of pain and cruelty suffered by whales when they are hunted.¹²

Why does the international community protect cetaceans more than other aquatic animals? If we follow the wildlife law approach of protecting endangered species or the ecosystem approach of maintaining each species' population sustainably, we should be able to exploit at least some cetaceans to at least some extent. This argument is advanced by Japan to criticise the IWC-imposed commercial moratorium. According to Japan, minke, Bryde's and Sei whales have exceeded their respective sustainable population levels and are consequently destroying the marine ecosystem balance as predators.¹³ In line with this stance, Japan withdrew from the IWC in 2018 and commenced commercial whaling on 1 July 2019 on minke, Bryde's and Sei whales in their territorial sea and the Exclusive Economic Zone.¹⁴

However, the IWC had been hesitant to allow Japan to commence its commercial whaling. Clearly, the international community is leaning away from the wildlife law approach on cetaceans, especially since they are (supposedly) above the sustainable level of exploitation. In doing so, is the law of the sea adopting a global animal law approach of minimising the exploitation of animals that can feel pain? If so, the law of the sea should be protecting all aquatic animals so they are not exploited for both scientific and commercial uses, and (even if they are so exploited), the law of the sea should aim to alleviate their suffering. This is, however, evidently not how the UNCLOS approaches aquatic animals.

The law of the sea's approach is clearly not aligned with both wildlife law and global animal law. Where then does this prioritisation of cetaceans stem from? The answer to this question can be traced to the history of humankind's cetacean management. The IWC was established almost four decades before UNCLOS was concluded. The international discourse in the 1940s on whaling was dominated by the recovery of the whale population for the sustainable development of the whaling industry.¹⁵

¹¹ The IWC prohibited the use of cold (non-exploding) grenades for killing cetaceans. International Whaling Commission, *Chairman's Report of the 32nd Annual Meeting* (1981) 25.

¹² *Ibid.*

¹³ Japanese Fisheries Agency, 'Whales and Whaling' <<https://www.jfa.maff.go.jp/e/whale/attach/pdf/index-10.pdf>> accessed 25 January 2022; Malgosia Fitzmaurice, *Whaling and International Law* (Cambridge University Press 2015) 73.

¹⁴ Ministry of Foreign Affairs of Japan, 'Statement by Chief Cabinet Secretary' <https://www.mofa.go.jp/ecm/fsh/page4e_000969.html> accessed 2 February 2022.

¹⁵ Jochen Braig, 'Whaling' Max Planck Encyclopedia of Public International Law (2013).

However, this landscape shifted over the years and in the 1970s, when UNCLOS was drafted, more States argued for the conservation and protection of whales.¹⁶ This change of landscape owed to two factors. The first is that the market's demand for whale oil and meat has plummeted; whale oils were replaced with kerosene and vegetable oil, and demand for whale meat diminished after the Second World War.¹⁷ The second factor is the rise in environmental awareness concerning the welfare and preservation of whales. Starting with the 1972 Stockholm Conference on the Human Environment, many multilateral environmental agreements were concluded for environmental protection.¹⁸ This has led many anti-whaling nations to join the IWC, even when they had no 'real interests' or history in whaling. As the IWC does not require applicant states to have 'real interests' like the Regional Fisheries Management Organizations,¹⁹ it allowed the majority of IWC member States to participate with their anti-whaling motivations.²⁰

In light of this change of landscape on whaling, Article 65 of UNCLOS was drafted to balance the interests between whaling and non-whaling States in the 1970s. The former sought to protect their whaling interests, whereas the latter sought to protect the whale population so it can recover to the point of sustainable exploitation under the supervision of international institution.²¹ In other words, the recovery of the whale population was the primary concern when UNCLOS was drafted. This led the UNCLOS to defer the details of the whaling regulation to an 'appropriate international organization', the IWC.

After the conclusion of UNCLOS, the rationale behind the protection of cetaceans changed greatly. From the report of the IWC, it is evident that the IWC's prioritisation of cetaceans now stems from the cetaceans' sentience. Sentience can be defined as "the capacity to have feelings", such as "feelings of pain, distress or harm".²² D'Amato and Chopra have specified

¹⁶ Ibid.

¹⁷ Fitzmaurice (n 13) 34.

¹⁸ Ibid. 35.

¹⁹ Article 8(3) of 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 (adopted 4 August 1995, entered into force 11 December 2001) 2167 UNTS 3.

²⁰ Arne Kalland, *Unveiling the whale discourses on whales and whaling* (Berghahn Books 2009), ch 4.

²¹ Patricia W Birnie, 'Marine Mammals: Exploiting the Ambiguities of Article 65 of the Convention on the Law of the Sea and Related Provisions: Practice under the International Convention for the Regulation of Whaling' in David Freestone, Richard Barnes and David Ong (eds), *The Law of the Sea: Progress and Prospects* (Oxford University Press 2006) 278.

²² Jonathan Birch and others, *Review of the Evidence of Sentience in Cephalopod Molluscs and Decapod Crustaceans* (2021) 7.

whales as the “most specialized of all mammals” because they are sentient and intelligent.²³ Today, the IWC continues to apply the commercial moratorium from the 1980s, which was intended to be temporary and lifted in the 1990s.²⁴ For example, when whaling for scientific research purposes, members of the IWC are still encouraged to ‘humanely’ kill the whales with non-lethal methods.²⁵ The IWC also runs a Working Group on Whale Killing Methods and Associated Welfare Issues, which broadens the attention of the IWC to the welfare of whales, beyond the context of hunting. Such issues include whale entanglements with fish gears, ship strikes, and mass strandings.²⁶

Whilst these measures do not necessarily align with the original purpose of the IWC, owing to whale sentience, a number of States have opposed the lift of the commercial moratorium or the use of inhumane killing methods. For example, the United Kingdom posited that the IWC has “an ethical and moral obligation to take steps to minimise suffering and distress caused to hunted whales” and that the IWC should consider “the serious and inherent welfare concerns over the killing of whales, which are highly sentient” in the process of data collection.²⁷ The Working Group on Whale Killing Methods and Associated Welfare Issues aims to minimise the suffering of the whales in killing based on their agreement that “whales are sentient animals with intrinsic value.”²⁸

Whaling nations also noticed this change of justification by anti-whaling nations. Japan, in its withdrawal statement from the IWC, criticised that member States of the IWC focus exclusively on the protection of whales, despite scientific evidence that their population is abundant.²⁹ Another whaling State, Norway also has commented that the IWC now shifted its

²³ Anthony D'Amato and Sudhir K Chopra, ‘Whales: Their Emerging Right to Life’ 86 *American Journal of International Law* (1991) 22.

²⁴ Fitzmaurice (n 13) 34; Ministry of Foreign Affairs of Japan, ‘Japan’s Opening Statement to the 67th Meeting of the International Whaling Commission’ <<https://www.mofa.go.jp/mofaj/files/000400198.pdf>> accessed 2 February 2022.

²⁵ International Whaling Commission, *Resolution 1986-2: Resolution on Special Permits for Scientific Research* (38th Annual Meeting, 1986). The International Court of Justice, however, rules in the Whaling case that the use of non-lethal methods are not an obligation for the member states as Article VIII of the International Convention for the Regulation of Whaling explicitly “contemplates the use of lethal methods”. OSPAR Commission, *OSPAR Recommendation 2010/15 on the Management of the Antialtair Seamount High Seas Marine Protected Area (2010)*, *OSPAR 10/23/1-E, Annex 41*, para. 83.

²⁶ Werner Scholtz, ‘Killing them softly? Animal Welfare and the Inhumanity of Whale Killing’ 20 *Journal of International Wildlife and Policy* (2017) 30.

²⁷ International Whaling Commission, *Chair’s Report of the Fifty-Eighth Annual Meeting* (2006) 14.

²⁸ International Whaling Commission, *Chair’s Report of the Sixty-Third Annual Meeting* (2011) 62.

²⁹ Ministry of Foreign Affairs of Japan, ‘Statement by Chief Cabinet Secretary’ (n 14).

focus “from earlier important issues such as reductions of time to death to consideration of ethics and the lack of morality in killing whales for food.”³⁰

Today, the dominant opinion in the international community is that whales are no longer resources to exploit. With the majority of anti-whaling nations in the IWC and the rise of environmental norms in international law,³¹ whales are now the object of preservation, rather than exploitation. At the heart of this change lies the fact that whales are sentient animals. This begs the following two questions: if the reason that whales are protected to the level of preservation is because of their sentience, then shouldn't all aquatic animals that are sentient be protected to the same level? Or, if whales are protected because of their over-exploited stocks *and* their sentience, shouldn't other aquatic animals that satisfy the same two conditions also be protected?

If we submit that the protection of other aquatic animals has equal standing to cetaceans, why does the international community not discuss this? What is the distinction that is drawn between cetaceans and other aquatic animals? One reason for preserving the dichotomy between cetaceans and aquatic animals is human intimacy with cetaceans. More specifically, whales, out of the cetaceans, have had cultural importance to humankind. Every day, we witness new scientific evidence that cetaceans' intelligence and their community are analogous to those of humans. In addition, many scholars have pointed out the cultural importance of whales to humankind, especially in European and North American cultures.³² Coined as “super whales”, whales are reported to have biological, ecological, and symbolic significance owing to their being the largest animal on earth, being human-friendly, having the biggest brains relative to body-size, and so forth. However, Kalland argues that the significance we derive from these features about whale is factually questionable, and that the “super whale” image lumps up different species' characters into one image.³³ Morita asserts that certain images of whales are also reproduced and replicated.³⁴ According to these images, whales should be intelligent, loving and peaceful, making the act of whaling unethical.³⁵

³⁰ International Whaling Commission, *Chair's Report of the Sixty-Third Annual Meeting* 13.

³¹ Fitzmaurice (n 13) 36.

³² James M. Savelle and Nobuhiro Kishigami, 'Anthropological Research on Whaling: Prehistoric, Historic and Current Contexts' 84 *Senri Ethnological Studies: Anthropological Studies of Whaling* (2013) 19.

³³ Kalland (n 20) ch 1. However, the fact that dolphins also rape or commit infanticide can be an adversary example of the image that cetaceans are always peaceful animals. Adam Rutherford, 'Can a Dolphin Really Commit Rape?' (17 November 2019) <<https://www.theatlantic.com/science/archive/2019/03/animals-rape-murder-morality-humans/585049>> accessed 4 February 2022.

³⁴ 森田勝昭, *鯨と捕鯨の文化史* (名古屋大学出版会 1994) (from Savelle and Kishigami (n 32) 20).

³⁵ 森田勝昭 (n 34) (from Savelle and Kishigami (n 32) 20);

Human intimacy cannot be avoided as one of the driving forces in promoting the preservation of cetaceans. But that reason alone is unconvincing, as they deem cetaceans' sentience to be graver than that of other aquatic animals because cetaceans are more 'important' to humankind. Such an approach is anthropogenic and promotes the thought that only those entities that are important or intimate with humans are worthy of protection and preservation. Kalland also urges that it is dangerous to single out a species to be more ecologically important than another.³⁶ Another rebuttal that can be made against the attempt to justify the dichotomy on the basis of the symbolic significance of cetaceans is that not all of the international community deems whales to be culturally important. Considering that the law of the sea is applicable universally, the law of the sea cannot justifiably impose whaling regulations driven by only one region's symbolism.

Whether having the hierarchy of animals based on human intimacy has also been a philosophical question. According to one philosophical ground, one must not distinguish between cetaceans and other aquatic animals. Rather, the principle of equality should be applied to those who can feel pain and suffer (those who are sentient).³⁷ The reasoning for whale preservation is consistent with this argument, which is based on the sentience of animals. However, if we take sentience as the standard (which the law of the sea does now to cetaceans), then we are committed to expanding the protection to other aquatic animals as well.³⁸ The fact that they feel pain is important, not the degree of pain.³⁹

This paper does not argue that the protection of cetaceans should be downgraded to the level of aquatic animals. Rather, I question whether this dichotomy is reasonable in the current landscape where a vast spectrum of aquatic animals are being unsustainably exploited. This chapter showed that the original impetus for the conservation of marine mammals was the plummeting number of cetaceans due to over-exploitation. Although the start of it was for sustainable exploitation purposes, the international community and the IWC slowly changed their view towards the preservation of cetaceans for the value they have, rather than as a marine resource. This change was steered by the scientific discoveries on their sentience and over-exploitation. This picture is quite similar to the rest of the aquatic animals now.

³⁶ Kalland (n 20) 28; Fitzmaurice (n 13) 167.

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³⁸ Peter Singer, *Animal Liberation* (Bodley Head 2015) 19; Independent to whether readers fundamentally accept Peter Singer's argument.

³⁹ Singer (n 37) 19.

III. Scientific Discoveries on aquatic animals' sentience and developments in domestic legislations

We are witnessing the discovery of new scientific data showing that aquatic animals, beyond cetaceans, can also feel pain. The most familiar kind of aquatic animal to humankind would be fish. There is ample scientific research that proves the sentience of fish.⁴⁰ As a vertebrate, fish have backbones, senses, and peripheral nervous systems, similar to mammals.⁴¹ It has been repeatedly reported that fish feel pain when they are hooked or left out of the water to suffocate.⁴² Dissection of trout also showed that they have A-delta and C fibres of the trigeminal nerve, which are responsible for two kinds of pain sensation for humans and mammals.⁴³ A-delta fibres are in charge of sharp and initial pain, and C fibres signal the throbbing pain after the initial pain.⁴⁴ They are also willing to pay a cost to relieve pain: acid-injected fish would swim to a barren and unpreferred chamber where the painkiller is dissolved.⁴⁵

In States where animal cruelty or animal welfare law exists, many are adopting the definition of animals as vertebrates.⁴⁶ Fish would thus be included as they are vertebrates (by definition, a vertebrate is an animal with a backbone).⁴⁷ For States where animal cruelty or animal welfare law was dormant for fish, their courts are applying the law to recognise the cruelty

⁴⁰ Jonathan Balcombe, *What a Fish Knows: The Inner Lives of Our Underwater Cousins* (Oneworld Publications 2017); Victoria Braithwaite, *Do Fish Feel Pain?* (Oxford University Press 2010).

⁴¹ Balcombe (n 40) 71.

⁴² J.J. Beukemaj, 'Acquired Hook-Avoidance in the Pike *Esox lucius* L. Fished with Artificial and Natural Baits' 2 *Journal of Fish Biology* (1970) 155-60; RO Anderson and ML Heman, 'Angling as a Factor Influencing the Catchability of Largemouth Bass' 98 *Transactions of the American Fisheries Society* (1969) 317-20 (From Balcombe (n 40) 76).

⁴³ Victoria Braithwaite, LU Sneddon and MJ Gentle, 'Do fishes have nociceptors? Evidence for the evolution of a vertebrate sensory system' 270 *Proceedings of the Royal Society of London B: Biological Sciences* (2003) 1115-1121.

⁴⁴ Balcombe (n 40) 77.

⁴⁵ LU Sneddon, 'Clinical Anaesthesia and Analgesia in Fish' 21 *Journal of Exotic Pet Medicine* (2012) 32-43.

⁴⁶ The Czech Republic, European Union, the Republic of Korea, the United Kingdom, Switzerland, Japan, and so forth. Thierry Auffret van der Kemp, 'To which animals does animal welfare apply in law and why?' in Sophie Hild and Louis Schweitzer (eds), *Animal Welfare: from Science to Law* (La Fondation Droit Animal 2019).

⁴⁷ Britannica, 'Fish' <<https://www.britannica.com/animal/fish>>

against fish.⁴⁸ Even in countries where fish is not recognised as animals under the law, there are increasing demands to amend the law.⁴⁹

Fish account for almost 50 per cent of aquaculture and are perhaps the most familiar kind of aquatic animal to humankind,⁵⁰ but they are not the only kind. A quarter of our aquaculture also depends on crustaceans and molluscs.⁵¹ Crustaceans include “aquatic animals that have jointed legs, a hard shell and no backbone, such as crab, crayfish, lobster, prawns and shrimp”, whereas molluscs mostly are “hinged two-part shell[s] and include clams, mussels, oysters and scallops, as well as various types of octopus, snail and squid.”⁵² Today, scientific research suggests that decapod crustaceans (such as crabs, lobsters, and crayfish) and cephalopod molluscs (such as squid and octopods) have sentience as well.⁵³ For example, the Cambridge Declaration on Consciousness, drafted by cognitive neuroscientists, neuropharmacologists, neurophysiologists, neuroanatomists and computational neuroscientists, confirmed that invertebrates, such as insects or cephalopod molluscs, can have consciousness.⁵⁴ The American Veterinary Medical Association also acknowledges that aquatic invertebrates have pain perception.⁵⁵

In light of this, numerous States have responded by legally recognising the sentience of decapod crustaceans and cephalopod molluscs. For example, the United Kingdom recently proposed the Animal Welfare (Sentience) Bill which recognises decapod crustaceans and cephalopod molluscs as sentient beings.⁵⁶ This amendment was proposed in response to the scientific discoveries that decapod crustaceans and cephalopod molluscs have sentience with

⁴⁸ Korean Animal Cruelty Law stated fish to be within the scope of ‘animals’, but was first applied to fishes in August 2021. (U.S. Energy Information Administration, ‘Russia’ (31 October 2017)

<https://www.eia.gov/international/content/analysis/countries_long/russia/> accessed 29 April 2021), 김다운, ‘[기자들의 시선] 물고기 내던지는 것도 ‘동물학대’다’ 시사IN

<<https://www.sisain.co.kr/news/articleView.html?idxno=45416>> accessed 31 January 2022.

⁴⁹ Nicole Pallotta, ‘Animal Cruelty Charges Dropped Because Fish Are Not “Animals” Under North Carolina Law’ *Animal Legal Defence Fund* <<https://aldf.org/article/animal-cruelty-charges-dropped-because-fish-are-not-animals-under-north-carolina-law/>> accessed 26 January 2022.

⁵⁰ Food and Agriculture Organization of the United Nations, ‘The State of World Fisheries and Aquaculture 2020’ <<https://www.fao.org/state-of-fisheries-aquaculture>> accessed 31 January 2022, Figure 8.

⁵¹ Ibid. The rest of the aquaculture, which is about 27 per cent, is aquatic algae which are mostly seaweeds.

⁵² Government of Canada, ‘Crustaceans and Molluscs - Priority food allergens’ <<https://www.canada.ca/en/health-canada/services/food-nutrition/reports-publications/food-safety/seafood-fish-crustaceans-shellfish-priority-food-allergens.html>> accessed 2 February 2022.

⁵³ Birch and others (n 22) 8.

⁵⁴ Philip Low, ‘The Cambridge Declaration on Consciousness’ (7 July 2012) <<https://fcmconference.org/img/CambridgeDeclarationOnConsciousness.pdf>> accessed 1 February 2022; Balcombe (n 40) 83.

⁵⁵ American Veterinary Medical Association (AVMA), ‘AVMA Guidelines for the Euthanasia of Animals: 2020 Edition’ (2020) <<https://www.avma.org/sites/default/files/2020-01/2020-Euthanasia-Final-1-17-20.pdf>> accessed 1 February 2022, 82.

⁵⁶ *Animal Welfare (Sentience) HL Bill (2021-2022)*.

their “complex central nervous systems”.⁵⁷ The current Animal Welfare Act in the United Kingdom only recognises vertebrates as animals and applies the principle of unnecessary suffering only to vertebrates (including fish).⁵⁸ With the new Bill, the principle of unnecessary suffering will extend to decapod crustaceans and cephalopods. Other States such as New Zealand, Norway, and Switzerland have adopted a similar approach, broadening the application of the principle of unnecessary suffering to decapod crustaceans.⁵⁹

These scientific discoveries and legislative changes at the national level show a trend: that most of the aquaculture we consume feel pain (except for seaweed and clams) and as such, animal cruelty law is applicable to them. Given these aquatic animals feel pain and are now unsustainably overexploited, do they not also deserve the protection afforded to cetaceans and marine mammals (justified on similar grounds)? Many States now regulate the killing methods of fishes, decapod crustaceans and cephalopod molluscs. In contrast, at the international level, the principle of unnecessary suffering is only applied to whales. The aforementioned scientific discourses and legal changes will affect the international law of the sea and the international community will soon have to consider how to embrace these changes into international law. How will this be possible under the UNCLOS regime? The next section considers this question.

IV. Evolutionary Interpretation of UNCLOS

At a first glance, there are two options for incorporating animal welfare concerns into international law: either via international agreement, or through general principles of international law. Firstly, if there is a new, universal agreement on animal welfare, it can be considered as ‘any relevant [rule] of international law applicable in the relations between the parties’ to UNCLOS based on Article 31(3)(c) of the Vienna Convention of the Law of the Treaties.⁶⁰ However, this is unlikely to happen in the near future. Another scenario would be when animal welfare protection is established through general principles of international law. For example, the precautionary principle is now taken into account in interpreting the

⁵⁷ The Government of the United Kingdom, ‘Lobsters, octopus and crabs recognised as sentient beings’ (19 November 2021) <<https://www.gov.uk/government/news/lobsters-octopus-and-crabs-recognised-as-sentient-beings>> accessed 27 January 2022; Birch and others (n 22).

⁵⁸ *Animal Welfare Act* (2006) s 4.

⁵⁹ ‘What’s the kindest way to kill a lobster?’ *BBC News* (London) <<https://www.bbc.co.uk/news/world-europe-42647341>> accessed 26 January 2022.

⁶⁰ Vienna Convention on the Law of Treaties (adopted 23 May 1969, entered into force 27 January 1980) 1155 UNTS 331.

UNCLOS as a soft law, based on Principle 15 of the 1992 Rio Declaration. In either scenario, consensus or quasi-universal participation is required to consider them as relevant agreements to the UNCLOS.⁶¹

What is perhaps a quicker way than the two options considered above is to interpret the UNCLOS in an ‘evolutionary’ way. Evolutionary interpretations uphold the teleological approach to interpreting treaties. It is a way of properly understanding and applying the intention of the treaty parties.⁶² As such, evolutionary interpretations allow the possibility that treaty terms can be interpreted to have an evolving meaning provided the following three conditions are satisfied: social and legal changes relating to the treaty; the negotiating parties’ awareness that the meaning of the term could evolve over time; and after a treaty has been entered into force in a ‘continuing duration’.⁶³ In short, change, intention and time are the prerequisite criteria to adopting an evolutionary interpretation of a treaty term.

Firstly, on the kinds of social and legal changes needed before one can adopt an evolutionary interpretation, Kolb suggests that there are endogenous and exogenous changes.⁶⁴ Endogenous changes are changes in norms relating to the terms of the treaty. These changes can be factual, legal, or a combination of both. Exogenous changes are changes outside the treaty system, in particular the changes in society (e.g. changes in social circumstances, legal circumstances, or a combination of both).⁶⁵ In the context of this paper, the discoveries of aquatic animals’ sentience and amendments in domestic legislation can be seen as constituting exogenous changes in both social and legal circumstances. As a social community, we are now aware, given scientific evidence, that fish and some invertebrates’ can feel pain, and more attention is being given to minimising their pain in aquaculture. Legally, more States are amending their legislation to incorporate fish and some invertebrates to be within the scope of animal welfare law or cruelty law.

Secondly, in terms of the intention of the parties, it is not explicit in the UNCLOS whether the parties have intended to incorporate evolving meanings of the terminologies they have

⁶¹ Alan Boyle, ‘Further Development of the Law of the Sea Convention: Mechanisms for Change’ 54 *International and Comparative Law Quarterly* (2005) 571-573.

⁶² Eirik Bjørge, *The evolutionary interpretation of treaties* (Oxford University Press 2014) 2.

⁶³ *Dispute regarding Navigational and Related Rights (Costa Rica v. Nicaragua)*, Judgment, *I.C.J. Reports 2009*, p. 213 [66]; James Crawford, *Brownlie’s Principles of Public International Law* (8th edn, Oxford University Press 2012) 380; Robert Kolb, ‘Evolutionary Interpretation in International Law: Some Short and Less than Trail-Blazing Reflections’ in Georges Abi-Saab and others (eds), *Evolutionary interpretation and international law* (Bloomsbury Publishing 2019) 16-18.

⁶⁴ Kolb (n 63) 16-18.

⁶⁵ *Ibid.* 17.

used in the treaty text. However, the law of the sea is acquainted with terminological changes. To exemplify, ‘continental shelf’, which was originally used to refer to a physical and geological feature in the seabed, is now more commonly used to refer to a space of 200 nautical miles measured from the baseline.⁶⁶

Thirdly, how much time is required before one can adopt an evolutionary interpretation is uncertain. The International Court of Justice mentions the length of time to be “where the treaty has been entered into force for a very long period or is “of continuing duration””.⁶⁷ What is important then is that the concerned treaty is designed to be applicable “of continuing duration”.⁶⁸ The concerned treaty for this paper is the UNCLOS, which is undoubtedly an international agreement that is applicable for a solid period of time. As explicable from the continental shelf example above, evolutionary interpretation of UNCLOS terminology is not entirely unprecedented.⁶⁹ The UNCLOS, therefore, satisfies the time condition as well.

In addition to the three aforementioned conditions, some also argue that the concerned term should be generic and have proven to evolve over time.⁷⁰ For example, in the Navigational Rights case (*Costa Rica v. Nicaragua*), it was disputed whether the phrase ‘for the purposes of commerce (con objetos de comercio)’ included commercial tourism in the 1858 Treaty on Limits.⁷¹ Here, the International Court of Justice held that the term ‘commerce’ is generic and that the 1858 Treaty is a treaty applicable “for an unlimited duration.”⁷² Therefore, the term ‘commerce’ is not limited to the meaning it had in the mid-nineteenth century. Its present meaning should be read as including transportation of passengers.⁷³

Although this is not a condition that not all international scholars have unanimously agreed upon,⁷⁴ it should not pose a hurdle to the present argument in any case. Articles 61-62 of the UNCLOS prescribe the utilisation of marine living resources and ‘living resources’ here can be interpreted to preclude the fish and some invertebrates that have sentience. The scope of

⁶⁶ Ibid. 17-18.

⁶⁷ *Dispute regarding Navigational and Related Rights (Costa Rica v. Nicaragua)*, Judgment, *I.C.J. Reports 2009*, p. 213 [66].

⁶⁸ George Nolte, ‘Report 1 Jurisprudence of the International Court of Justice and Arbitral Tribunals of Ad Hoc Jurisdiction Relating to Subsequent Agreements and Subsequent Practice’ in George Nolte (ed), *Treaties and Subsequent Practice* (Oxford University Press 2013) 186.

⁶⁹ Irina Buga, *Modification of Treaties by subsequent practice* (Oxford University Press 2018) 321.

⁷⁰ *Dispute regarding Navigational and Related Rights (Costa Rica v. Nicaragua)*, Judgment, *I.C.J. Reports 2009*, p. 213 [66]; Crawford (n 63) 379-380; Nolte (n 68) 186.

⁷¹ *Dispute regarding Navigational and Related Rights (Costa Rica v. Nicaragua)*, Judgment, *I.C.J. Reports 2009*, p. 213 [45].

⁷² Ibid. [67].

⁷³ Ibid. [70].

⁷⁴ Kolb (n 63) 16-18; Bjørge (n 62) 5.

‘living resources’ is deemed to be flexible. As analysed above, cetaceans were also exploited a hundred years ago and viewed as a valuable resource for humankind. Nevertheless, the majority of the international community now no longer regards cetaceans as resources. Another example is the possible inclusion of marine genetic resources in the living resources.⁷⁵ Marine genetic resources on the seabed were barely noticed in the negotiation of the UNCLOS, as States’ interests were dominantly focused on the mineral resources. Today, however, marine genetic resources are in the limelight owing to their possible commercial exploitability.

As the case of aquatic animals satisfies all four conditions, how can we conduct the evolutionary interpretation of the UNCLOS? This paper argues that Articles 61-62 of the UNCLOS can be interpreted in a different manner. When perusing the travaux préparatoires of the UNCLOS, the definition and scope of ‘living resources’ were barely discussed in negotiations.⁷⁶ It is likely that at the time of the treaty negotiation, the ‘living resources’ meant fisheries for the drafters.⁷⁷

By employing evolutionary interpretation, we can reduce the scope of ‘living resources’ to exclude aquatic animals. This would entail that other aquatic animals with sentience would no longer be subject to the regime of ‘optimum utilization’. Instead, aquatic animals will be subject to Part XII of the UNCLOS concerning the protection and preservation of the marine environment. Under the general obligations under Articles 192 and 194, States will have to protect and preserve aquatic animals and take necessary measures tailored to their rare and fragile ecosystems.

One might argue that it is clearly not the intention of the UNCLOS drafters that the scope of ‘living resources’ can be carved out. Throughout the UNCLOS, the terms ‘fish’ and ‘fishing’ are continuously mentioned (including Articles 61-62), which might support that the UNCLOS drafters never intended or predicted that fish would be unexploitable. However, the term ‘fishing’ does not only mean the exploitation of fish, but of “extracting living resources of ocean areas”.⁷⁸ Hence, when the interpretation of “living resources” is evolutionarily

⁷⁵ James Harrison and Elisa Morgera, ‘Article 61’ in Alexander Proless (ed), *United Nations Convention on the Law of the Sea: A Commentary* (C.H. Beck/Hart/Nomos 2017).

⁷⁶ *United Nations Convention on the Law of the Sea 1982: A Commentary*, vol II (Myron H. Nordquist ed, Martinus Nijhoff Publishers 1993) 596-638.

⁷⁷ Harrison and Morgera (n 75) 482.

⁷⁸ George K. Walker, *Definitions for the law of the sea : terms not defined by the 1982 Convention* (Martinus Nijhoff Publishers 2012) 192.

modified, the term “fishing” would only apply to the remaining resources in the scope of living resources.

Another rebuttal may be raised that it is difficult to employ the evolutionary interpretation for the sake of environmental protection. However, doing so would not be unprecedented. Many international courts and tribunals, including the International Court of Justice, the European Court of Human Rights, and the Inter-American Court of Human Rights, have decided on environmental law cases that adopt the evolutionary interpretation.⁷⁹ One of the prominent cases in this area is the International Court of Justice’s *Gabčíkovo-Nagymaros Project* case. The Court here pointed out that “newly developed norms of environmental law are relevant for the implementation of the Treaty”,⁸⁰ thereby inserting new environmental norms into the parties’ legal obligation.⁸¹ In short, the Court stated the rationale for the evolutionary interpretation to be: “the Treaty is not static, and is open to adapt to emerging norms of international law.”⁸²

V. Conclusion

This paper argued that it is time to revisit the law of the sea’s treatment of aquatic animals, in light of the changes in social and legal circumstances. As the literature on cetaceans’ welfare has resulted in more robust protection of cetaceans over the last 60 years, animal welfare advocates will gradually start to question the law of the sea’s approach to aquatic animals more generally. The motivating facts behind the preservation of cetaceans (their sentience and over-exploitation) also repeat in aquaculture. It is surprising then, in spite of the deteriorating sustainability of aquaculture, that few have argued that the international law of the sea should reconsider its approach to aquaculture.

Consuming aquatic animals, however, account for a significant portion of the human diet. Moreover, many livelihoods depend on the harvesting of aquatic animals, ranging from big fishing industries as well as smaller fishers. As such, one may worry whether this paper’s proposal is utopian and unrealistic. Whilst this worry is not entirely unfounded, one must be keep in mind that in the past few decades, we have gradually moved away from significant

⁷⁹ Nina Mileva and Marina Fortuna, ‘Environmental Protection as an Object of and Tool for Evolutionary Interpretation’ in Georges Abi-Saab and others (eds), *Evolutionary interpretation and international law* (Bloomsbury Publishing 2019).

⁸⁰ *Gabčíkovo-Nagymaros Project (Hungary/Slovakia), Judgment, I.C.J. Reports 1997* [112].

⁸¹ Mileva and Fortuna (n 79) 126.

⁸² *Gabčíkovo-Nagymaros Project (Hungary/Slovakia), Judgment, I.C.J. Reports 1997* [112].

meat consumption for either ethical or climate change reasons, which might also have seemed impossible at a time. There also may be compromises made for small fishers by allowing them to fish for their consumption, similar to allowing indigenous whaling.

Boyle emphasised that “like any Constitution, however, if it [UNCLOS] cannot or does not evolve it is unlikely to last.”⁸³ The unsustainability of marine resources, the scientific discoveries of aquatic animals’ pain, and increasing calls for animal welfare suffice as the changed circumstances to enable the UNCLOS to evolve. As such, this paper suggests that the UNCLOS should adopt an evolutionary interpretation of Articles 61 and 62, and move past the dichotomy between cetaceans and aquatic animals. By reframing ‘resources’, the law of the sea can change its perspective from exploiting resources endlessly to protecting them. The changes in scientific and legal circumstances are irreversible and their influence on international law is palpable. In the future, international law will face more of these questions from an animal rights perspective, not only on minimizing animal suffering by ‘humanely’ killing them but also on whether they should possess inviolable rights.

⁸³ Boyle (n 61) 566.

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