

# BLOG: AQUATIC ANIMALS AND THE LAW

## WORLD AQUATIC ANIMAL DAY 2022

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### DISENTANGLING THE SUSTAINABILITY MYTH IN FISHING AND AQUACULTURE

Yevai E.M. Geber, 3 April 2022

#### 1. FISHING

The ordinary definition of “fishing” is described by Oxford Languages as “the activity of catching fish, either for food or as a sport”.<sup>1</sup> People have been fishing for thousands and thousands of years and evidence shows that early human beings in South Africa consumed shellfish for as early as 120 000 years ago.<sup>2</sup> However, more advanced fishing technology did not emerge until much later and has contributed to the extensive exploitation of aquatic animals in recent years. With the advent of commercialised and mass-scale fishing and the increase in the demand for aquatic animals, there have been devastating effects on our water sources, biodiversity and animals.

While there are many different issues that could be discussed, this blog will highlight issues with “overfishing” and particularly how it is linked to aquaculture. Overfishing takes place when there are more fish being caught than can be replenished. According to the Aquatic Life Institute, the number of aquatic animals killed each year outnumbers that of land animals at a ratio of 30:1.<sup>3</sup>

Furthermore, because many of the aquatic species who are farmed in aquaculture are carnivorous fish, i.e. they eat other fish to survive (compared to being herbivores who eat plants), this means that they need to be fed other fish and aquatic life to survive and grow. In order to get this fish food, other aquatic animals are caught from the sea and fed to farmed fish and other species.<sup>4</sup>

Nevertheless, while scientists have long been aware of the decline of marine communities, there has been less attention focused on how fishing or finning affects climate change. Moreover, losing predators in the ocean can lead to significant ecosystem effects, including an increase in carbon dioxide in the ocean.<sup>5</sup>

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<sup>1</sup> Oxford Languages <https://languages.oup.com/google-dictionary-en/> accessed 30 March 2022.

<sup>2</sup> University of Witwatersrand ‘Earliest evidence of the cooking and eating of starch’ (2019) <https://www.wits.ac.za/news/latest-news/research-news/2019/2019-05/earliest-evidence-of-the-cooking-and-eating-of-starch.html> accessed 30 March 2022

<sup>3</sup> Aquatic Life Institute ‘2021 Impact Report’ <https://ali.fish/2021-impact-report> accessed 31 March 2022.

<sup>4</sup> See for example “Blue Loss” report by Aquatic Life Institute <https://ali.fish/blue-loss> accessed 31 March 2022.

<sup>5</sup> Yuanyang Du1, Jiale Sun, Guoyun Zhang ‘The Impact of Overfishing on Environmental Resources and the Evaluation of Current Policies and Future Guideline’ (2021).

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Importantly, in South Africa there has been a decline in sightings of the white shark over the course of 8 years, between 2011-2018. One of the factors pointed out for this decline has been attributed to overfishing.<sup>6</sup>

## 2. AQUACULTURE

Aquaculture is the breeding, rearing, and harvesting of fish, shellfish, algae, and other organisms in all types of water environments.<sup>7</sup> In other words, it is the farming of aquatic animals for different purposes – whether it be for food, fashion, companion animals or otherwise.

The primary types (or branches) of aquaculture are:

- marine aquaculture;
- freshwater aquaculture; and
- brackish water aquaculture.<sup>8</sup>

There are also land systems and water systems.<sup>9</sup> While aquaculture is often seen as a solution to food security, or job creation, there are several potential harms associated with aquaculture.

In comparison to other farming sectors in South Africa, aquaculture is the newest. In 2020, it was reported by government during a Parliamentary Monitoring Group meeting that production in the aquaculture sector had grown from 346 tonnes in 2015 to 7 103 tonnes in 2019. Aquaculture was relatively small in total size compared to the other agricultural sectors, but it produced a substantial amount of value, totalling to R1 145 million.<sup>10</sup> Since 2013 the abalone and trout sectors in aquaculture have remained the most valuable, contributing just over 90% of the total value of the industry, with abalone contributing 77%, trout 10% and mussel 6%.<sup>11</sup> It is thought that South Africa provides 21% of the global market for farmed abalone.<sup>12</sup> Additionally, aquaculture in South Africa is said to have contributed to the creation of many jobs and fish supply.<sup>13</sup>

It is apparent that we need to safeguard the welfare of aquatic animals by making more sustainable decisions, however, what does it mean to be sustainable, and can it translate into fishing and aquaculture?

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<sup>6</sup> Robin Fisher 'Possible causes of a substantial decline in sightings in South Africa of an ecologically important apex predator, the white shark' Vol 117 (2021) <https://doi.org/10.17159/sajs.2021/8101> accessed 21 March 2022.

<sup>7</sup> National Ocean Service 'What is aquaculture?' <https://oceanservice.noaa.gov/facts/aquaculture.html> accessed 21 March 2022.

<sup>8</sup> Department of Forestry, Fisheries and the Environment 'Legal Guide For The Aquaculture Sector In South Africa' (2013) [https://www.dffe.gov.za/sites/default/files/legislations/firstedition2013september\\_legalguidefor\\_aquaculturesectorinsouthafrica.pdf](https://www.dffe.gov.za/sites/default/files/legislations/firstedition2013september_legalguidefor_aquaculturesectorinsouthafrica.pdf) accessed 20 March 2022.

<sup>9</sup> Lewis and Clark Law School 'World Aquatic Animal Day' [https://law.lclark.edu/centers/animal\\_law\\_studies/animal\\_law\\_clinics/aali/worldaquaticanimalday/](https://law.lclark.edu/centers/animal_law_studies/animal_law_clinics/aali/worldaquaticanimalday/) accessed 22 March 2022.

<sup>10</sup> Parliamentary Monitoring Group 'Commercial Fishing Organisations: Fish SA; WWF & AquaCulture' (2020) <https://pmg.org.za/committee-meeting/30478/> accessed 20 March 2022.

<sup>11</sup> Ibid.

<sup>12</sup> Food and Agriculture Organisation of the United Nations 'Fisheries and Aquaculture' <https://www.fao.org/fishery/en/facp/zaf> accessed 31 March 2022.

<sup>13</sup> Supra note 10.

### 3. SUSTAINABILITY

The general concept of sustainable development was described by the 1987 Bruntland Commission Report as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”<sup>14</sup>

In the context of fishing, this definition could possibly imply that fishing is sustainable, so long as there is enough fish to go around for future people. However, it is important to note that there is no universally accepted definition, or even legal definition for what “sustainable” is. This leaves this term open to interpretation, and even abuse.

The Marine Stewardship Council does give the definition of sustainable fishing as “Sustainable fishing means leaving enough fish in the ocean and protecting habitats and threatened species. By safeguarding the oceans, people who depend on fishing can maintain their livelihoods.”<sup>15</sup>

However, these definitions do not address the interests of aquatic species, nor do they consider the welfare needs of aquatic animals.

Despite the current global issues relating to fishing, South Africa intends to continue growing the sector through Operation Phakisa.<sup>16</sup> One of the programmes of this initiative is labelled “oceans economy”. The Department of Forestry, Fisheries and Environment has a vision for growing the Oceans Economy, through aquaculture in South Africa. The emphasis is on South Africa’s investment return, as well as the jobs which had been and would be created by this sector. Within Operation Phakisa, consideration has been said to be given to sustainable growth of the aquaculture industry.<sup>17</sup>

But as we look to increase these industries, are they properly regulated? And are aquatic animals offered the protection they deserve?

### 4. ARE AQUATIC ANIMALS PROTECTED IN SOUTH AFRICA?

#### 4.1. LEGAL FRAMEWORK (NON-EXHAUSTIVE)

South African law in its current state, offers little to no protection to aquatic animals as far as the welfare of individual animals is concerned. As a result, millions of aquatic animals suffer as a result, and the impacts on the environment are also massive.

Below we will briefly highlight a few of the different legislative pieces in relation to aquatic animals.

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<sup>14</sup> UNESCO ‘Sustainable Development’ <https://en.unesco.org/themes/education-sustainable-development/what-is-esd/sd#:~:text=The%20concept%20of%20sustainable%20development,to%20meet%20their%20own%20needs.%E2%80%9D> accessed 19 March 2022.

<sup>15</sup> Marine Stewardship Council ‘What is sustainable fishing’ <https://www.msc.org/what-we-are-doing/our-approach/what-is-sustainable-fishing> accessed 19 March 2022.

<sup>16</sup> Department of Planning, Monitoring, and Evaluation ‘Operation Phakisa’ <https://www.operationphakisa.gov.za/operations/oel/pmpg/Pages/default.aspx> accessed 20 March 2022.

<sup>17</sup> Ibid.

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### **The Constitution<sup>18</sup>**

The Constitution of South Africa, in particular, section 24, which sets out the Right to Environment. The environment under the constitution should be protected to prevent ecological degradation, however, this is qualified by the need to develop the economy, and so the principle of sustainable development is included in this provision. There is no explicit reference to marine life nor animals, however, they are included as part of the environment.

### **The Animals Protection Act of 1962<sup>19</sup>**

The major animal protection legislation in South Africa is the Animal Protection Act of 1962 (APA), which lists a number of criminal offenses pertaining to the treatment of animals. The definition of the term “animal” in the APA, includes many domesticated, farmed and companion animals, however, it does not specifically refer to aquatic species. Therefore, there is some debate as to whether aquatic species are included.

### **The Marine Living Resources Act of 1998<sup>20</sup>**

The Marine Living Resources Act of 1998 (MLRA) regulates fishing in South Africa with the objective to preserve marine resources and marine biodiversity. As the name suggests, aquatic animals are considered as “resources” and the law does not adequately address the welfare or wellbeing of the animals concerned at all. The Act mostly deals with licensing for fishing and measures that may be taken when fishing endangers the population size of certain aquatic species. The MLRA does however, prohibit the use of explosives, firearms, poisons or other noxious substances for the purpose of killing, stunning, disabling or catching fish.

Regulations promulgated under the MLRA specify closed areas and closed seasons during which there is a restriction on fishing certain species of fish. While the regulations are specific to different marine animals such as abalones, rock lobsters, squid, tuna etc., it should be noted that almost all the restrictions can be bypassed through the attainment of a valid permit under the MLRA, and thus very few, if any restrictions work to absolutely protect aquatic animals under the MLRA and its regulations.

### **National Environmental Management: Protected Areas Act of 2003<sup>21</sup>**

The National Environmental Management Protected Areas Act 2003 stipulates that “no person may conduct commercial prospecting or mining” in a (marine) protected area (MPA), without permission.<sup>22</sup>

In 2021, South Africa added 20 new MPAs with the goal of conserving more marine life. This brought the total of MPAs in the country to 41.<sup>23</sup> With regards to MPAs, provided they are well-managed, they may help marine ecosystems and people adapt to the many ripple effects of climate change such as: acidification, sea-level rise, increased storms, changes in species distribution, and

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<sup>18</sup> The Constitution of the Republic of South Africa, 1996.

<sup>19</sup> The Animals Protection Act 71 of 1962.

<sup>20</sup> The Marine Living Resources Act 18 of 1998.

<sup>21</sup> National Environmental Management Protected Areas Act 57 of 2003.

<sup>22</sup> Ibid, s48(1)(b).

<sup>23</sup> The Daily Maverick, Skyla Thornton, ‘ Marine protected areas become more than ‘paper parks’ with improved management’ <https://www.dailymaverick.co.za/article/2021-04-11-marine-protected-areas-become-more-than-paper-parks-with-improved-management/> accessed 30 March 2022.

decreased oxygen availability.<sup>24</sup> These protected marine areas help many different species of fish to survive and thrive and this in turn would benefit small, local fisheries.<sup>25</sup>

### **TOPS Regulations Relating to Marine Species<sup>26</sup>**

These Regulations, which fall under the National Environmental Management Biodiversity Act 10 of 2004, aim to provide for the protection and conservation of threatened species including marine plants and animals. Issues such as hunting, captive breeding, and cultivation are tackled here.

### **Integrated Coastal Management Act of 2008<sup>27</sup>**

This Act establishes a system of integrated coastal and estuarine management in South Africa with the aim of ensuring the use of natural resources within the coastal zone is socially and economically reasonable and ecologically sustainable.

### **Aquaculture Development Bill<sup>28</sup>**

There have been attempts to regulate the aquaculture industry in South Africa, however there is currently no specific legislation. The previous “Aquaculture Development Bill” had the main object to promote responsible aquaculture development in South Africa. One of its other objects is to promote the development and management of an aquaculture sector that is ecologically, socially and economically sustainable.

## **4.2. THE NEED FOR LEGAL REFORM**

In order for the law to adequately protect aquatic animals and their habitats there are a number of reforms that need to take place – these include at an individual level as well as at a species and habitat level.

Aquatic animals, like other animals, are sentient beings.

Sentience, according to the Cambridge Dictionary, is defined as “the quality of being able to experience feelings”.<sup>29</sup> This has been recognised in other jurisdictions in the world, including most recently in the United Kingdom, which announced in 2021 that all decapod crustaceans and cephalopod mollusks will be added to the Animal Welfare (Sentience) Bill<sup>30</sup> after a study from the London School of Economics and Political Science found evidence that the sea creatures are sentient or can feel.

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<sup>24</sup> Callum M. Roberts, Bethan C. O’Leary, Douglas J. McCauley and Juan Carlos Castilla ‘Marine reserves can mitigate and promote adaptation to climate change’ (2017) <https://www.pnas.org/vu-nl.idm.oclc.org/doi/10.1073/pnas.1701262114> accessed 31 March 2022.

<sup>25</sup> Skyla Thornton ‘Marine protected areas become more than ‘paper parks’ with improved management’ (Daily Maverick 2021) <https://www.dailymaverick.co.za/article/2021-04-11-marine-protected-areas-become-more-than-paper-parks-with-improved-management/> accessed 31 March 2022.

<sup>26</sup> National Environmental Management: Biodiversity Act 10 of 2004: Threatened or Protected Marine Species Regulations.

<sup>27</sup> National Environmental Management: Integrated Coastal Management Act 24 of 2008.

<sup>28</sup> Parliamentary Monitoring Group <https://pmg.org.za/bill/806/>

<sup>29</sup> Cambridge Dictionary ‘Sentience’ <https://dictionary.cambridge.org/dictionary/english/sentience> accessed on 30 March 2022.

<sup>30</sup> UK Draft Animal Welfare (Sentencing and Recognition of Sentience) Bill 2017.

Furthermore, the European Union (EU) recognises the sentience of nonhuman animals under Article 13 of the Treaty on the Functioning of the EU which specifies that, “as sentient beings, full regard should be paid to animals’ welfare requirements”.<sup>31</sup> The EU has additionally recognised that animal welfare is important for sustainability.<sup>32</sup>

In South Africa, the Animals Protection Act 1962 recognises some aspects of animal sentience, since it acknowledges that animals can experience physical pain, but this is not explicitly defined in the legislation, which then limits its application.

## **5. RECENT (POSITIVE) DEVELOPMENTS CONCERNING AQUATIC ANIMALS**

### **5.1. INTERNATIONAL: UNITED NATIONS RESOLUTION PLACES ANIMAL WELFARE AT THE HEART OF SUSTAINABLE DEVELOPMENT**

Recently, the United Nations Environment Assembly (UNEA) adopted a resolution on Animal Welfare.<sup>33</sup> The resolution also called ‘Animal Welfare – Environment – Sustainable Development Nexus’ is significant because it gives more attention to a worldwide discussion regarding the links between animal welfare, the environment and sustainable development.<sup>34</sup>

It outlines how the exploitation and inhumane use of animals plays a big role in biodiversity loss, climate change and pollution, as well as the development of pandemics such as COVID-19.<sup>35</sup>

Provided this resolution includes aquatic animals in its ambit, it is a positive step towards better animal welfare around the world.

### **5.2. INTERNATIONAL: UNITED NATIONS THE PLASTIC POLLUTION RESOLUTION**

On 2 March 2022, it was reported that 175 nations supported a resolution that addresses the full lifecycle of plastic from source to sea.<sup>36</sup> Plastic production has risen exponentially in the last decades and needs to be urgently addressed. The Resolution recognises that plastic pollution constitutes a threat to all environments and poses risks to human health. It also highlights the

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<sup>31</sup> Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union 2012/C 326/01, article 13.

<sup>32</sup> The European Union ‘Animal Welfare in the European Union: Study’ (2017) [https://www.europarl.europa.eu/RegData/etudes/STUD/2017/583114/IPOL\\_STU\(2017\)583114\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2017/583114/IPOL_STU(2017)583114_EN.pdf) accessed 2 March 2022.

<sup>33</sup> World Animal Protection ‘United Nations resolution places animal welfare at the heart of sustainable development’ (2022) <https://www.worldanimalprotection.org.au/news/united-nations-resolution-places-animal-welfare-heart-sustainable-development> accessed 30 March 2022.

<sup>34</sup> Ibid.

<sup>35</sup> Ibid.

<sup>36</sup> United Nations News ‘Nations sign up to end global scourge of plastic pollution’ (2022) <https://news.un.org/en/story/2022/03/1113142> accessed 31 March 2022.

concern over the specific impacts of plastic pollution, that it can be of a transboundary nature, and needs to be tackled with a full lifecycle approach.

Addressing this issue of plastic pollution to protect the seas will positively impact the welfare of aquatic animals.

### 5.3. RECENT POSITIVE DEVELOPMENTS IN THE COURT: SHELL CASE

In South Africa, a high court in 2021 blocked Shell from conducting seismic testing offshore from South Africa's Wild Coast, in the latest ruling in a case seeking to prevent the oil major from exploring for oil and gas.<sup>37</sup>

In addition to this being an importance case for communities, and the environment, this was a major win for marine animals who would have been greatly impacted as Shell's seismic activities. For example, the surveying would have caused underwater acoustics that are harmful to marine animals, especially migrating whales.

The Court agreed that the seismic survey would promote extraction of fossil fuels and adversely impact climate change, the applicant communities' cultural practices, ocean conservation, and the spiritual and sustainable use of ocean for healing and fishing purposes.

This case illustrates the importance of protecting aquatic species, and their habitats and the recognition by the South African courts of the importance of balancing corporate interests with the interests of other members of our Earth community. There have since been other cases challenging harmful activities by big corporations.

### 5.4. GROWTH OF ALTERNATIVES TO AQUATIC ANIMALS AS FOOD

For those who are looking to change their eating habits but are reluctant, it is important to know that there are many alternatives to traditional "seafood" on the market in South Africa. They produce alternative, plant-based meat and seafood substitutes. These include products from Fry Group Foods – including their "Fishless Fillet".<sup>38</sup>

There have also been some other exciting developments in the cell-cultured meat industry. Cell cultured meat is produced by harvesting cells from living animals and harvesting it in labs. Although cell-cultured fish is not yet on the market in South Africa, it is on its way thanks to "Sea-Stematic."<sup>39</sup> Sea-Stematic is the first food tech dedicated to cultured seafood in the African continent. Its headquarters are in Johannesburg and the start-up is currently developing alternatives to seafood in the form of cell cultured sea food.<sup>40</sup> This alternative technology aims to

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<sup>37</sup> *Sustaining the Wild Coast NPC and Others v. Minister of Mineral Resources and Energy and Others* [2021] ZAECBHC (28 December 2021).

<sup>38</sup> Fry's Family Food: <https://fryfamilyfood.com/za/our-food/4-golden-crispy-vegan-fish-fillet/>

<sup>39</sup> <https://sea-stematic.com/>

<sup>40</sup> Green Queen 'Africa's First Cultured Seafood Startup Sea-Stematic Eyes Global Market & Growing Fish Consumption' (2021) <https://www.greenqueen.com.hk/africas-first-cultured-seafood-startup-sea-stematic-eyes-global-market-growing-fish-consumption/> accessed 30 March 2022.

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challenge issues pertaining to fishing and aquaculture, which would, in turn benefit the welfare of aquatic animals and the climate.

## 5.5. CHANGING PERSPECTIVES

My Octopus Teacher<sup>41</sup> is a 2020 Netflix Original documentary film which documents the friendship formed between filmmaker Craig Foster and a wild octopus in a South African kelp forest. At the 93rd Academy Awards, it won the award for Best Documentary Feature.

This documentary brought attention to how intelligent aquatic animals (and, octopi) can be. This is an important take away because it points to the fact that they can experience suffering, both physically and emotionally and this should be a catalyst for their protection.

## 6. CONCLUSION

Despite the massive importance of aquatic animals, their value and welfare continue to be greatly overlooked by various stakeholders, especially in the South African context. Economic development and corporate and other interests often receive priority. Despite the issues with aquaculture as well as wild-caught fishing, the South African government continues to promote the industry. This in addition to the fact that the legal framework regarding the welfare of aquatic animals is greatly inadequate.

However, there are some positive developments happening in South Africa, such as the judgement against Shell's seismic survey and the growth of alternatives, as well as some positive international developments.

It is critical that we protect aquatic animals and their habitats and are cognisant of the myth of sustainability in order that we can critically evaluate these activities and their potential long-term consequences.

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<sup>41</sup> Sea Change Project <https://seachangeproject.com/my-octopus-teacher/>.