Animal Welfare Considerations for Marine Stewardship Council's 2020-2021 Standards Review

The following submission is a joint effort by the Aquatic Animal Alliance, a global coalition of advocacy organizations who believe aquatic animals should have lives free of suffering.

Introduction

Meaningful sustainability standards must encompass animal welfare standards, both for terrestrial and aquatic animals. Research shows that for consumers, humane animal treatment is "an important attribute" of sustainability.[1] For any animal welfare standard to be meaningful, consideration must be given to 1) the target species and 2) other individual animals impacted by fishing activities, such as members of species susceptible to being caught as bycatch. The following represents some of the Aquatic Animal Alliance's main concerns regarding animal welfare in the wild-capture fisheries industry. Many of the common practises listed below would be deemed unacceptable or even illegal in the terrestrial animal context, and given the capacity for many commonly captured animals to feel pain, suffer, etc., there exists little to no scientific justification for this difference in treatment.[2] We are particularly concerned about welfare issues relating to two commonly neglected areas in this regard: 1) capture methods and 2) stunning and slaughter methods. Finally, we are concerned about the issues surrounding bycatch and

[1]Sustainability seen from the perspective of consumers. Hanss, Daniel & Böhm, Gisela. (2012). International IJC. 36. 678-687. 10.1111/j.1470-6431.2011.01045.x.

[2] The best available contemporary evidence including that referred to in the Cambridge Declaration of Consciousness, (2012) indicates that the subcortical neural networks that mammals share with fish contain neural substrates of qualitative feeling. This, along with convergent evidence from animal biologists, veterinarians, and more, have shown that many aquatic animals have the neurochemical and neurophysical infrastructure to experience stress, pain, internal behaviors, and all the other hallmarks of consciousness. As a result, unless proven otherwise, we will assume as a matter of course that aquatic animals have the ability to suffer, and enjoy positive experiences in similar respects to terrestrial animals.For more on fish and aquatic animal capacities to feel pain, etc., see literature by Lynne Sneddon, Culum Brown, Victoria Braithwaite, Robert Elwood, etc.

ghost gear. These issues are often raised from an environmental or conservation perspective; however, we are also concerned with the animal welfare impacts of these two issues, e.g. the impacts on non-endangered and less charismatic species.[3]

1. Capture & Landing

Background

Capture and landing methods used must be appropriate for ensuring the welfare of the target species, appropriate for ensuring the health of the ecosystem, and also designed to decrease bycatch of both endangered and non-endangered species of fish and other aquatic animals. The individual animal welfare impacts on both target and non-target species must be considered in the approval of capture methods. MSC should consider the varying welfare impacts of different capture methods (nets, lines, traps, etc.) when certifying fisheries, and should recommend the most species- and ecosystem-appropriate methods that protect individual animals' well-being.

Recommendations

I. The use of live bait fish and other live animals should be banned. Bait fish suffer fear and distress from capture, confinement (sometimes for days or even weeks), hook impalement, sudden exposure to unfamiliar environments, and inability to escape predators.[4]

II. Duration of capture and density of animals in nets should be reduced by requiring lines and nets to be checked more often, as fishes' suffering increases the longer they are caught on a line or in a net. Fish left on lines suffer from predation, and fish caught in nets can suffer crush injuries. Both outcomes result in increased suffering in proportion to increased duration of capture.

III. The use of gear and equipment that causes less injury to fish should be required (e.g. circle hooks instead of traditional j-shaped hooks should be used), and the better handling of fish and the careful removal of the hook from the fish should also be required. Fishers must be adequately trained in humane handling techniques.

3 For more on compassionate conservation see:: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7070475/

4 "Cruelty to Human and Nonhuman Animals" by Kathy Hessler, Rebecca Jenkins et al.

IV. Nets should be checked as frequently as possible, as fishes' stress levels are higher the longer they are ensnared in the net.

V. Fishers should be required to land fish as slowly and carefully as possible to reduce decompression injuries and other negative welfare impacts.[5]

VI. Gaffing is a painful method of landing fish and should be banned. Less painful methods that minimize the fishes' time outside of water (e.g. pumping systems) should be developed and required, so that the animals are not suffocating in air.

2. Stunning & Slaughter

Background

The majority of wild-captured finfish die by suffocation or live gutting.[6] These are prolonged, painful ways to die. How quickly a fish loses consciousness depends on the species, how long they can tolerate low levels of oxygen, their escape response (activity uses up their oxygen reserves), and the air temperature.

As higher-welfare innovations and technologies for fish stunning and slaughter become more prevalent, adaptations of these technologies for the wild-capture context should be a priority for MSC. Capture and slaughter methods must be species-appropriate from a welfare perspective.

Many common slaughter methods used in the wild capture fishing industry take far longer to result in loss of sensibility than would be considered humane in the terrestrial animal context.[7]

Recommendations

Fish should be killed via a method which is chronologically contiguous with stunning. In order to minimize the chance of consciousness being regained, fish must either be electrocuted, or

[5] Neville G. Gregory, Fish, in Animal Welfare and Meat Sci. 195 (1998). A. Mood & P. Brooke, Estimating the Number of Fish Caught in Global Fishing Each Year, Fish Count 14 (2010), http://fishcount.org.uk/published/std/fishcountstudy.pdf

[6] A. Mood & P. Brooke, Estimating the Number of Fish Caught in Global Fishing Each Year, Fish Count 14 (2010), http://fishcount.org.uk/published/std/ fishcountstudy.pdf

[7] Methods Used to Fish: Field Observations and Literature Reviewed, D. Robb & S. Kestin, 11 Animal Welfare 269, 270-73 (2002) (explaining how fish are killed by removal from water, having their gills cut and then put back in the water, or having parts or all of their internal organs eviscerated).

stunned and immediately beheaded.We believe these methods are the most consistent method for humanely slaughtering vertebrate fish.

Our general position is that OIE Guidelines for slaughter of farmed fish should be followed as far as possible as an absolute baseline.[8] Fish should be rendered instantly unconscious and should remain unconscious until dead. All slaughter methods must be species-appropriate. Methods which have the potential to achieve good welfare, depending on species, include:

- Electric stun followed by decapitation or exsanguination[9]
- Percussive stun followed by decapitation or exsanguination
- Electrical stun followed by further percussive stun, itself followed by decapitation or exsanguination
- Precise, carefully conducted, and species-appropriate spiking
- Use of Food Grade Anaesthetics, e.g Aqui-S[10]

Methods which OIE have found to cause poor welfare should not be used. We oppose the use of salt-bathing and asphyxiation in ice slurries. Invertebrates lack a central nervous system so cannot die from decapitation. This means that caught invertebrates, such as crabs, lobsters, shrimps and scallops, must be electrocuted.

<u>More detailed recommendations</u>

To reduce fishes' suffering during slaughter, fish must be effectively rendered unconscious before and up to the moment they are killed.This requires that fish be rendered unconscious soon after being taken out of water, so they do not experience the pain of being suffocated or gutted alive.

Methods that cause immediate loss of consciousness that lasts until death (so they do not feel themselves being killed) should be used. Stunning must be done without causing pain, and the delivery process must last 1 second maximum. The unconscious state must "be maintained until the death of the animal" ((EC) No 1099/2009, Article 4(1)).

Regardless of the stunning method used, the loss of consciousness must be verified, and any fish still exhibiting signs of consciousness or sensibility must be immediately re-stunned. Signs of correct stunning include, but are not limited to, i) loss of body and respiratory movement (loss

[8] (https://www.oie.int/index.php?id=171&L=0&htmfile=chapitre_welfare_stunning_killing.htm).
[9] One would not normally follow percussive killing with electrical. However, the reverse might be practised on large fish, both promptly followed by a killing method.
[10] Aqui-S, though not mentioned by OIE, also has the potential to be humane

in opercular activity); ii) loss of visual-evoked response (VER); and iii) loss of vestibulo-ocular reflex (VOR, eye rolling).[11] Backup stunning equipment must be available and in working order.

Where outstanding questions exist in the scientific literature on the question of effective stunning in fish, the Aquatic Animal Alliance recommends species-specific research (conducted with the welfare of the individual animal subjects in mind) into correct and feasible stunning procedures to eliminate the sensation of pain and fear in wild-captured fish. Recent advances such as boat-suitable electrical stunners such as Ace Aquatec[12] and Optimar[13] are promising developments from a welfare perspective, which promise minimal disruption of the on-ship workflow. We also support research into the use of food-grade anesthetics in water, like AQUI-S, to anesthetize fish before stunning and killing.

We urge MSC to continue research and development in this area. Stunning and slaughter standards in the wild-caught sector must catch up with developments in the terrestrial context if wild-caught seafood can truly be considered sustainable.

3. Bycatch & Ghost Gear

Bycatch

Responsible, well-managed fisheries will proactively reduce their bycatch -MSC Website

The issues of bycatch and ghost gear are widely discussed issues in sustainability and conservation. We share many of the common concerns about the impacts of these problems on marine mammals, turtles, etc., many of which are endangered species. We are also concerned about a more neglected issue: the impact of bycatch and ghost gear on less charismatic fish and other aquatic species, regardless of their level of endangerment or popularity with the public. MSC should continue to fund research on bycatch and ghost gear issues impacting all non-target individuals (including non-target fishes) regardless of their species' endangerment status. To this end, we support the following bycatch reduction interventions:

- Excluder devices

[11] For examples on how to determine unconsciousness after percussive and electrical stunning, see Lines and Spence, 2012 (p.157-159).

12 https://aceaquatec.com/products/electric-stunning/?gclid=CjwKCAjwzIH7BRAbEiwAoDxxTotNmch_UvptYh2nvHaZkLj11IBbFc1aasNnayQQtnqBggk1_pjfThoCo-oQAvD_BwE

13 https://optimar.no/solutions/onboard-fish-handling/products.html

- Metallic repellents (shown to repel sharks and rays)[14]
- Trap Net modifications (decreasing catch of both bycatch species and pre-recruit stone crabs in stone crab trapping, reducing drownings of otters,[15] etc.)[16]
- Artificial illumination (shown to decrease bycatch of endangered chinook salmon, among others)[17]
- Revival boxes.[18]

We also endorse the National Resource Defense Council's request to ensure that:
1) The definition of bycatch accurately reflects the true impact on animals, meaning this definition must also include birds, retained accidental catch, and, as far as is possible, unobserved mortalities due to direct encounters with fishing gear.
2) Accurate bycatch records are maintained by fishers.[19]

Ghost Gear

As with bycatch, we are concerned about the impact of ghost gear on all sentient aquatic animals, regardless of their species' endangerment status. We support the FAO/UNEP recommendations as a baseline on ghost gear reduction.

Interventions we support include:

Financial incentives. Economic incentives which encourage fishers to accurately report lost gear or bring to port old and damaged gear, as well as any ghost nets they might recover accidentally while fishing.

Marking gear. Not all trash gear is deliberately dumped, so marking should not be used to "identify offenders" but rather better understand the reasons for gear loss and identify appropriate, fishery-specific preventative measures.

New technologies. New technologies offer new possibilities for reducing the probability of ghost fishing. Sea-bed imaging can be used to avoid undersea snags and obstacles. Fishing equipment can be expensive, and many fishers often go to great lengths to retrieve lost gear.

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[14] Fishing Technique Modifications
[15] Sea otter mortality in fish and shellfish traps: estimating potential impacts and exploring possible solutions
[16] https://afspubs.onlinelibrary.wiley.com/doi/abs/10.1002/nafm.10232
[17] Generally, see: Research news - Lights on fishing nets save turtles and dolphins regarding chinook salmon see: (PDF) The effect of artificial illumination on Chinook salmon behavior and their escapement out of a midwater trawl bycatch reduction device
[18] Canadian Journal of Fisheries and Aquatic Sciences • 1 October 2001 • https://doi.org/10.1139/f01-136
[19] https://www.nrdc.org/issues/prevent-global-bycatch-whales-and-other-wildlife

Technology that makes doing so easier can help. Using GPS, vessels can mark locations where gear has been lost, facilitating retrieval, and transponders can be fitted to gear in order to do the same. Similarly, improvements in weather monitoring technology can be used to help skippers avoid deploying nets when very bad weather is imminent.

Just as new synthetic and other materials used in fishing gears have contributed to the Abandoned, Discarded, Lost Fishing Gear (ALDFG) problem, they can also help solve it. Work is underway to speed up the commercial adoption of durable gear components that incorporate biodegradable elements. For example, in some countries fish traps and pots are constructed with a biodegradable "escape hatch" that disintegrates when left under water too long, rendering the trap harmless. As this would not necessarily reduce the levels of debris, a reporting and retrieval system should also be adopted.

Improving collection, disposal and recycling schemes. It is necessary to facilitate proper disposal of all old, damaged and retrieved fishing gears. Most ports do not have facilities on site that allow for this. Putting disposal bins on docks and providing boats with oversized, high-strength disposal bags for old fishing gear or parts thereof can help remedy this. Ports should bear responsibility for the proper disposal of these materials.

Better reporting of lost gear. A key recommendation of the FAO/UNEP report is that vessels should be required to log gear losses as a matter of course. However a "no-blame" approach should be followed with respect to liability for losses, their impacts, and any recovery efforts, it says. The goal should be to improve awareness of potential hazards and increase the opportunity for gear recovery. This reporting must be mandatory for MSC fisheries.[20]

Conclusion

The above is by no means a comprehensive report of all animal welfare impacts of wild capture fishing but represents an overview of our main welfare concerns in this context. While progress has been made on some of the environmental and social impacts of this industry, animal welfare progress has lagged behind. We hope that the Marine Stewardship Council will take measures to ensure the highest welfare standards possible, to reflect current animal welfare science, and ensure consumer demand for animal welfare concerns are included in sustainability certification schemes.

[20] http://www.fao.org/fileadmin/user_upload/newsroom/docs/Ghost_fishing_report.pdf

Aquatic Animal Alliance

Signatories

- **Aquatic Life Institute**
- **Dyrevernalliansen**
- **Fish Welfare Initiative**
- **Compassion in World Farming**
- **Mercy For Animals**
- **Essere Animali**
- **Animal Equality**
- **The Humane League**

Aquatic Animal Alliance


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