

Original Article

Wild Fish and Expected Utility

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Abstract: It's difficult to process the number of fish killed annually by the fishing industry. Nevertheless, governments are encouraging people to eat even more fish—see, e.g., the USDA dietary guidelines—and although animal advocates certainly don't concur with this advice, they generally haven't prioritized fish in their lobbying efforts. Given the influence of utilitarianism on animal advocacy, the odds are good that this is motivated by an expected utility calculation. For those concerned about fish, is there any way to defend them against this calculation? I argue for an affirmative answer: once you factor in an asymmetry between fishing and terrestrial animal agriculture, the expected utility calculation comes out in favor of devoting resources to reducing fishing.

Keywords: fish; animal advocacy; expected utility

Introduction: It's difficult to process the number of fish killed annually by the fishing industry. Based on FAO statistics from 1999–2007, Mood and Brooke put the global number between 970 billion and 2.74 trillion (excluding illegal fishing, bycatch, fish that escape from nets, etc.)¹. What's more, their estimate is probably low. They base their calculations on average global catches of 77 million tons, but Pauly and Zeller make the case that the FAO's statistics were far too conservative². They contend that global catches peaked at 130 million tons in 1996, and have only been declining at a rate of 0.38 million tons per year since then—not the 1.2 million tons per year that the FAO claimed. If Pauly and Zeller are right, then a more realistic estimate is 1.64–4.63 trillion fish per year. But even if we stick with the most conservative estimate—i.e., 970 billion—we should note that it's nearly *fourteen times larger* than the number of terrestrial animals killed annually for food, which is around 70 billion³. The fishing industry is responsible for a staggering loss of life.

Nevertheless, governments are encouraging people to eat even more fish—see, e.g., the USDA dietary guidelines—and although animal advocates certainly don't concur with this advice, they generally haven't prioritized fish in their lobbying efforts. The Humane Society of the United States (HSUS), for example, which is the largest animal welfare organization in the U.S., spends a considerable amount on its Farm Animal Protection team. However, none of those funds are specifically devoted to fish, and at present, the majority of resources go toward relieving the suffering of layer hens. In such circumstances, can animal advocates justify focusing on terrestrial species? Elder and Fischer (forthcoming) argue that they can't, at least when it comes to farmed fish⁴. But what about wild fish?

To answer that question, we need to consider the framework that guides much U.S.-based animal advocacy. Granted, there are many considerations relevant to animal advocates. However, whether they are welfarists or abolitionists, nearly all U.S. animal advocacy organizations have a pragmatic bent, demonstrated by their willingness to collaborate with, and sometimes even celebrate, retailers and producers of animal products. Instead of insisting on ending the farming of a particular species, or devoting all efforts to vegan education, they're willing to lobby for relatively small welfare improvements. So, even if they ultimately hope to end the human use of animals, they seem willing to think like utilitarians in the present. This, of course, is one of Gary Francione's longstanding complaints about these organizations. I take no stand here on whether this particular complaint is justified. However, given that utilitarian reasoning does seem to guide U.S. animal advocacy, we can approach the question of whether they ought to be more concerned about wild fish within that framework. What's more, this assumption is a charitable one, as it appears to make sense of their priorities. After all, suppose we run an expected utility calculation. Some wild-caught fish suffer for hours or days on long-lines or gill nets, but most don't: their swim bladders explode as a result of coming to the surface too quickly, or they suffocate on the deck, or they are crushed under the weight of other fish. So let's just suppose, quite generously, that the average wild-caught fish suffers for an hour before dying. Then, it's relatively easy to calculate the life years of suffering produced by the fishing industry—roughly 110 million, using the most conservative estimate, and 529 million, using the most liberal one. Globally, however, *six billion* layer hens are killed each year, each of whom lives between 12 and 24 months in very unpleasant conditions⁵. So, we don't even need to factor in broiler chickens—which easily outnumber layers by a factor of six or seven—to see that the life years of suffering due to the chicken industry are much, much higher than those produced by the fishing industry. HSUS, PETA, and other organizations look to be reasonable in emphasizing the plight of layers, and it makes sense that they are now beginning to shift their attention toward broilers⁶.

Discussion: Is there any way to defend fish against this calculation? I think so: as I'll argue, expected utility considerations break in favor of fish. Granted, that alone won't show that advocacy organizations ought to shift resources away from chickens—or any other terrestrial animal—and toward fish. However, it will be enough to shift the burden onto animal advocates: they will need to explain the other factors that outweigh the consideration of expected utility.

The key move is to consider an important difference between fishing and chicken production. If you reduce chicken consumption, you reduce chicken breeding, and the absolute number of chickens will drop. But if you reduce fish consumption, you don't reduce the absolute number of fish. You reduce the number of fish in *aquaculture*, but you extend the lives of some portion of the billions (or trillions) of wild fish who would otherwise have been caught. Indeed, you probably get a significant *gain* in overall utility, as many of those now-uncaught-fish have long lifespans. Salmon, for instance, can live 3-8 years; tilapia, 9-11 years; Atlantic cod, as many as 25 years; and Bluefin tuna, up to 30 years. To see how this goes, let's just suppose that you're able to reduce global chicken and fish production by just 1% each. That

would save 700 million chickens from an awful life, but even if we use the most conservative kill estimate, it would save 9.7 billion fish, some of whom can live for thirty years or more. This dramatically shifts the expected utility calculation in favor of fish.

There are two objections that someone might make at this juncture. The first involves skepticism about fish sentience. I think the evidence clearly undermines this maneuver—see, e.g., Victoria Braithwaite’s work⁷—but let’s ignore this. To make this objection work, you need to specify the probability you’re willing to assign to fish sentience relative to chicken sentience. Suppose you have a *very* dim view of fish: you think that fish are—averaging across species—only a tenth as likely to be sentient as chickens. Still, fish will win by a huge margin: effectively, we’ll be running the expected utility calculation with 970 million fish as opposed to 9.7 billion, which is still greater in absolute numbers, and we haven’t yet factored in lifespans.

A better move is to deny that the lives of fish are, on balance, worth living⁸. If wild fish generally experience lives in which suffering predominates, then it becomes much harder to make a utilitarian case for saving them.

How might someone justify this stance on the lives of fish? The standard line seems to be this. First, we underestimate how much suffering occurs in the natural world: many fish suffer due to disease, injury, lack of food, pollution, and as a result of predation. Second, the vast majority of fish live short, painful lives, where there are few opportunities for pleasure. This thought is motivated by reflections on the distinction between K and R reproductive strategies. Humans employ a K strategy: we have few offspring and we invest a great deal of resources in keeping the ones we have alive. Most fish, however, pursue an R strategy: they have hundreds, thousands, or even millions of offspring, invest very little in them, and only a few of them survive. The unlucky offspring starve or are eaten relatively soon after birth, and on the assumption that these beings are conscious, this suggests that they experience considerable suffering before death. Third and finally, we tend to be subject to various biases that make it hard for us to appreciate just how bad things are for most sentient beings. For instance, an availability bias leads us to focus on large, mature animals instead of small, young ones; wishful thinking leads us to predict that things are better than the evidence suggests; and a powerful cultural narrative involves idealizing natural environments, despite evidence to the contrary.

This pessimistic view isn’t relevant to calculations about the fish that are actually saved, since those fish are the relatively successful ones. (After all, fishing boats aren’t after hatchlings.) However, the worry isn’t primarily about those individuals anyway, but about their offspring. Nevertheless, things may not be as bad for the expected utility argument as it might seem. First, whatever the suffering in the lives of unsuccessful offspring, we can’t infer that suffering predominates until we know how much pleasure these animals get from various sources—e.g., having novel experiences, or feeding. To my knowledge, no one who defends the pessimistic view takes up this issue. Second, it’s worth noting that the reproductive strategy argument is based on the assumption that suffering is associated with all failures—

i.e., unsuccessful attempts to feed, mate, etc.—while pleasure is associated with successes. Since most animals aren't successful most of the time—as R strategies involve sacrificing most offspring to create the mature individuals in the next generation—it follows that suffering predominates in nature. However, it isn't clear that the assumption about suffering and failure is justified. Suffering is likely to be associated with *certain* failures—e.g., those that result in organisms crossing some threshold of unsatisfied need—but since organisms can be motivated to satisfy their needs without suffering, it isn't clear why we should think that suffering will be associated with *all* failures. And if it isn't, then the short lives of most organisms may be relatively pleasant until, suddenly, they aren't—e.g., when a predator gets them—which means that pleasure may dominate.

Third and finally, the hypothesis that a huge number of animals live net negative lives is bound to have dramatic moral implications. It's hard to see why we should make a concerted effort to preserve species with R reproductive strategies if we are, thereby, ensuring that the world contains much more suffering than it would otherwise. Nevertheless, this is what many of our conservation efforts involve. So, the standard of evidence here should be high: it isn't enough that there's a reasonable argument for the pessimistic hypothesis from some general considerations about reproductive strategies, the prevalence of disease and injury, and so on. We need more detailed ethological studies before reaching this conclusion. The upshot here is that it isn't clear that the pessimistic view is true, and until we have more evidence in favor of it, it seems reasonable to set it aside in our deliberations. So, it seems to me that the expected utility argument still favors devoting more resources to relieving the plight of wild fish.

At this juncture, perhaps the best move for chicken advocates (or those otherwise interested in focusing on terrestrial animals) is to abandon utilitarianism for painism—i.e., the view that we ought to minimize suffering, rather than the view that we ought to maximize net utility⁹. This fits neatly with the rhetoric of many animal advocates, who are, in general, much more vocal about reducing suffering than promoting happiness. More importantly, it will get the desired result: if we discount the good in the lives of fish, then the suffering of chickens will dominate.

This is not the place to assess the merits of painism. For present purposes, then, let's grant the chicken advocate this particular moral framework. Given that concession, we have to make a more speculative case on behalf of fish. Wild fish populations are in rough shape due to overfishing: the FAO estimates that 89.5% of wild fish stocks are either fully exploited or overexploited¹⁰, and Worm et al. argues that, absent intervention, we may face a fishless ocean by 2048¹¹. That, of course, would result in widespread destruction of marine ecosystems, and it seems likely that such extensive oceanic changes would have ramifications for life elsewhere on the planet. What are the odds that the consequences will be good? Presumably, not very high. What seems more likely is that collapsing fish populations would cause immense suffering among the incredible number of other animals who depend on fish for their survival. So, even if our focus is solely on preventing suffering, there is a reasonable case for devoting attention to fish: efforts to scale back fishing are, *inter alia*, efforts to save the marine ecosystems on which so much life depends.

Conclusion: As mentioned earlier, I concede that the above doesn't show that animal advocacy organizations ought to redirect resources toward fish. The above does show, however, that those organizations can't rely on an expected utility calculation to justify their current priorities. Instead, they'll need to argue that there's simply no hope of convincing governments or consumers to limit fishing, or that market forces will check fishing without advocacy work, or what have you. Perhaps those arguments will be successful, though I have my doubts. Regardless, those are the arguments we now need to hear.

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Conflict of Interest: Declared none.

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References

¹ Mood A Brooke P. Estimating the number of fish caught in global fishing each year. 2010 <http://fishcount.org.uk/published/std/fishcountstudy.pdf> (accessed 9/17/2016). Such estimates are bound to be imprecise, as the FAO doesn't report head counts. So, head counts have to be generated based on reports about (a) total catches, given in tons, not individual heads, (b) the distribution of species caught, and (c) information about the mean weights of members of those species.

² Pauly D Zeller D. Catch reconstructions reveal that global marine fisheries catches are higher than reported and declining. *Nature Communications* 2016; 7.

³ See: http://www.ciwf.org.uk/media/3640540/ciwf_strategic_plan_20132017.pdf (accessed 9/23/2016).

⁴ Elder M Fischer B. Focus on fish: a call to effective altruists. *Essays in Philosophy* forthcoming.

⁵ See: <http://www.poultrytrends.com/> (accessed 9/23/2016). Of course, U.S. advocacy organizations are primarily concerned with U.S. production. However, the relative numbers don't change if we limit ourselves to the U.S. market, so I'll keep things simple by using global numbers, as this spares us some complications in estimating how many wild fish are killed to serve American consumers.

⁶ There would be no problem for fish if we were supposed to factor in the sheer number of lives, and not just life years of suffering. If we were, then as long as lives got some non-trivial weight in the calculation, it would be likely to come out in favor of fish. However, this isn't likely to be compelling to the relevant organizations: it's a feature of utilitarianism—not a bug—that it ignores lives per se. If utilitarian reasoning is behind the decisions of animal advocacy organizations, we'll need to defend fish in those terms.

⁷ Braithwaite V. *Do fish feel pain?* Oxford University Press, New York; 2010.

⁸ Horta O. Debunking the idyllic view of natural processes: Population dynamics and suffering in the wild. *Telos* 2010; 17: 73-88. Ng Y-K. Towards welfare biology: evolutionary economics of animal consciousness and suffering. *Biology and Philosophy* 1995; 10: 255-85. Tomasik B. The importance of wild-animal suffering. *Relations* 2015; 3(2): 133-152.

⁹ Less dramatically, they might adopt some variant of utilitarianism that significantly discounts pleasure relative to pain. For independent considerations in favor of this maneuver, see: Shriver A. The asymmetrical contributions of pleasure and pain to animal welfare. *Cambridge Quarterly of Healthcare Ethics* 2014; 23(2): 152-162.

¹⁰ FAO. The state of world fisheries and aquaculture 2016: Contributing to food security and nutrition for all. 2016 <http://www.fao.org/3/a-i5555e.pdf> (accessed 9/28/2016).

¹¹ Worm B Barbier E Beaumont N Duffy J Folke C Halpern B et al. Impacts of biodiversity loss on ocean ecosystem services. *Science* 2006; 3(314): 787-790.