

Philosophically Speaking

with Dale Lugenbehl

Why Eating Fish Is *Not* a Better Choice

People who care about the health of the environment, their own health, or animal welfare often believe that eating fish is better than eating land animals. But is this really true? Let's take a look at each of the three components.

Environment

Over 50% of the fish eaten worldwide come from fish raised in captivity. Fish farms, or “aquaculture,” have an enormous detrimental impact on the environment. Often hundreds of thousands of fish are raised in a very small amount of space, generating huge amounts of sewage that is simply released—untreated—into the ocean or rivers. The fish farms in Scotland, for example, produce the sewage equivalent of nine million people, and yet the entire human population of Scotland is only five million people.¹

Sea-cage farming also contaminates surrounding water with antibiotics and other chemicals used to combat diseases prevalent in the overcrowded conditions. In addition, the industry spreads the rampant diseases found in fish farms to the surrounding wild fish population—both through disease organisms in the water they release and through the escape of thousands of farmed fish.²

Land-based fish farming operations use fresh water pumped from underground at rates as high as 2,000 gallons per minute, and huge amounts of electricity are used to pump and circulate the water to keep the fish alive.³

And what do factory-farmed fish eat? The most popular fish that humans consume are carnivores—tuna, sea bass, salmon, and trout. Since 50% of all fish consumed worldwide are factory farmed (73% of salmon)⁴, this results in sending out huge fleets of large fishing boats—burning diesel fossil fuel and producing greenhouse gases—in order to catch small fish so that we can feed them to the caged fish that humans eat. This is a very inefficient process: It takes 4 to 20 tons of these wild-caught fish to make just one ton of farmed fish: 9 to 20 for tuna, 5 for salmon, and 4 for trout.⁵ Currently, about 18 million tons of fish are caught per year to be fed to captive- farmed fish.⁶ In addition, land crops such as wheat, canola, and soy are being fed to factory-farmed fish at increasing rates.⁷ According to environmental author Dr. Richard Oppenlander, this is the direction the industry appears to be headed in the future—perhaps better for the “feeder fish” but worse for the land and, considering the inevitable increase of toxic agricultural run-off, also worse for the oceans.⁸

Climate change has actually been accelerated by fishing due to the loss of large predatory fish (tuna, sharks, swordfish, cod, marlin, halibut). Only about 10% of these large fish remain in the ocean relative to previous levels. The loss of these large fish has caused a huge increase in small predator fish like anchovies, which in turn eat small herbivores like snails and crustaceans. These small herbivores eat algae and phytoplankton. The end result? Algae grows out of control, in turn causing the ocean to absorb more heat from the sun which then causes increased ocean evaporation and increases atmospheric humidity by 2 to 5%. Since water vapor is a greenhouse gas, the loss of large

predator fish ultimately contributes to global warming and climate change.⁹ Even though we don't always see it, everything really is interconnected.

Personal Health

While many believe that fish is “health food,” according to Dr. John McDougall that idea began with the observation that the various groups of people around the world who have favored eating fish over eating beef, chicken, or pork, also have lower rates of heart disease. However, if we look more closely, we notice that cultures that tend to favor seafood, such as the Japanese, traditionally based their diet on rice and vegetables, and ate fish only in very small amounts, typically as a garnish on top of a bowl of rice and vegetables. In the U.S., however, fish is eaten in large servings as the centerpiece of a meal. The real health benefits from the traditional Japanese diet, McDougall says, came from the rice and vegetables, not the small amounts of added fish.¹⁰

Omega-3 fatty acids are often offered as a benefit of eating fish. Omega-3's are important and can be obtained from certain types of fish, but they are also readily available in different forms from plant foods such as certain seeds (flax, chia, hemp) and walnuts. These plant sources of omega-3 come without the cholesterol, saturated fat, and environmental contaminants found in fish. For those looking for the same form of long-chain omega-3's found in fish (called DHA and EPA), these nutrients can be obtained from the same source fish do: microalgae or microalgae products.

Cholesterol is a huge issue. Measured in mg of cholesterol per 100 calories of food, we find: chicken at 36 mg, beef 32, and pork 28, while salmon is at 40, bass 60, mackerel 51, and cod 53. Plant foods, on the other hand, have zero cholesterol.¹¹

The protein in fish is also part of the problem because, as Dr. Joel Fuhrman points out, “...animal protein has a significant effect on raising cholesterol levels... while plant protein lowers it.”¹² The animal protein in fish is also linked to human cancer. Dr. T. Colin Campbell, nutritional bio-chemist at Cornell University, has done extensive research showing that cancer growth can literally be turned on and off simply by administering or withholding animal protein. Plant protein, he found, does not have this effect.^{13, 14}

Rivers, lakes, and ultimately oceans are where vast amounts of human-created toxins find their final resting place. The flesh of fish comes with a significant danger of mercury poisoning. “Mercury-contaminated seafood is almost the sole source of chronic human mercury poisoning.”¹⁵

Ethics of Killing

It has often been said that “At least fish get to live free before they are killed for our food.” Given the prevalence of captive fish farms, we now know otherwise. The conditions on fish farms are shocking: each large fish has the equivalent space of a “single bathtub of water,”¹⁶ diseases are rampant, and the fish are swimming in water that is almost black with accumulated feces. On salmon farms, the water is so polluted, that red dye is added to it to turn their flesh from grey to pink so that it looks more palatable.¹⁷ Fish “breathe” through their gills, so they are breathing this toxic soup for their entire lives.

When fish are slaughtered on fish farms, they die by a combination of suffocation, freezing, electrocution, and cutting and bleeding.¹⁸ Even wild fish often don't live free before they are killed by humans. Over the past 25 years, “more than 500 miles of nonbiodegradable fishing nets have been released [lost] into our oceans.”¹⁹ Year after year, these nets continue to scoop up and kill millions of wild-caught animals. These trapped animals die slowly over a period of days or weeks. Because this is happening on the vastness of the open ocean, it is impossible to regulate the amount or the method

of killing that takes place. There are no fewer than *four million petroleum-powered commercial fishing ships, floating slaughterhouses, working in the world's oceans today.*²⁰

Some say that fish do not experience pain. How do we know whether fish feel pain? We can know it the same way that we know whether a human infant or other mute person is in pain. They can't speak, but we know that they have a similar nervous system for experiencing pain to what we have. We can see that there is tissue damage and bleeding, they show shaking and convulsive behavior, and they try to avoid what is threatening or injuring them. We see all of the same characteristics in fish (and most other nonhuman animals) as well.

Aside from simple observation, there are numerous studies regarding fish pain. Research conducted at the University of Edinburgh in 2003 concluded that fish have pain receptors and that extensive observation of the sort of fish behavior described above clearly indicates that fish actually feel pain rather than just react to injury via simple physical reflex.²¹ This finding was confirmed by independent research at Purdue University in 2009.²²

Peter Singer, of Princeton University, stated that experiments show “fish who have irritants injected into their lips will rub their lips incessantly against their tank walls—unless those irritants are accompanied by pain relievers. So when a fish spends three days on a hook attached to the mile-long line of a fishing vessel, that fish is probably spending three days in agony—and that's before the fish is hauled onto a deck to die slowly of suffocation.”²³

The death toll of marine life at the hands of humans is enormous. One to two trillion sea animals are killed each year. In 2014, wild-caught fish totaled 103 million tons (ocean and inland waters), and another 83.1 million tons from fish farming. In addition, it is estimated another 28 million tons are taken illegally and not reported. Then add to that approximately 200 million tons of sea life killed as unintended “by-catch” that is scooped up in nets, traps, or hook lines intended for the actual “target fish.” Many thousands of small whales, dolphins, turtles, seals, and sea birds are killed in this way. They die and are simply thrown overboard.²⁴ And, it must be remembered, these numbers do not represent individual fish, they are *tons* of fish.

The conclusion here is clear: if we are concerned about the wellbeing of fish, the health of the environment and ourselves, we need to stop eating fish.

Philosophically Speaking Footnotes from p7.

1. Staniford, Don, “Sea Cage Farming: An Evaluation of Environmental and Public Health Aspects,” paper presented at the European Parliament's Committee on Fisheries public hearing on “Aquaculture in the European Union: Present Situation and Future Prospects,” Oct 1 2002, p5
2. Staniford, pp6-7
3. Oppenlander, Richard, *Food Choice and Sustainability*, Langdon Street Press, 2013, pp148-149
4. Oppenlander, pp142-144
5. Oppenlander, p145
6. UN-FAO, State of the World Fisheries and Aquaculture Report, 2016
7. Oppenlander, p148
8. E-mail correspondence from Richard Oppenlander, Oct 15 2016
9. Andersen, Kip, and Kuhn, Keegan, *The Sustainability Secret*, Earth Aware, 2015, pp78-79
10. McDougall, John M.D., *The Starch Solution*, Rodale Press, 2012, p123
11. McDougall, p125
12. Fuhrman, Joel M.D., *Eat to Live*, revised edition, Little, Brown and Company, 2011, p86
13. Campbell, T. Colin, and Campbell, Thomas M., *The China Study*, BenBella Books, 2005, Chapter 3: “Turning Off Cancer,” pp43-67
14. *Forks Over Knives* video, 2011, segment with T. Colin Campbell.

15. McDougall, p124
16. Staniford, p8
17. Tuttle, Will, *The World Peace Diet*, Lantern Books, 2005, p100
18. Oppenlander, p150
19. Andersen, Kip, and Kuhn, Keegan, p73
20. Oppenlander, p119
21. Sneddon, L., et. al., 2003, "Do Fishes Have Nociceptors?" *Proc. R. Soc. London B* 270, 1115-1121
22. Purdue University, <http://new.uns.purdue.edu/x/2009a/090429GarnerPain.html>, accessed August 2012.
23. Singer, Peter, and Dawn, Karen, "Thinking of Giving Up Red Meat? Half Measures May End Up Increasing Animal Suffering," *Los Angeles Times*, Oct 16 2016
24. UN-FAO, State of the World Fisheries and Aquaculture Report, 2016