

# The High Cost of Salmon Farming

Analysis by [Dr. Joseph Mercola](#) ✓ Fact Checked

## STORY AT-A-GLANCE

- › Farm-raised fish production has skyrocketed 527% in the last three decades
- › An estimated 50% of fish eaten worldwide comes from fish farms
- › More than one-third of “wild-caught” salmon from the Faroe Islands (tucked between Iceland and Norway in the North Atlantic Ocean) are actually farmed fish that escaped
- › Mowi USA, the world’s largest producer of Atlantic salmon products, was sued for misleading consumers with false marketing claims
- › Your “all natural” Atlantic salmon came from a factory fish farm

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A growing interest in health and health food has helped drive consumer demand for fish to an all-time high. A diet rich in fish has grown so popular that global fish consumption jumped 122% from 1990 to 2018, according to the Food and Agriculture Organization of the United Nations (FAO).<sup>1</sup>

Fish is often viewed as a healthier alternative to meat<sup>2</sup> due to the so-called “benefits” on human health and the environment. But is it really healthier for you and the planet? That all depends on what kind of fish you’re eating and where it’s sourced from.

An increasing amount of fish on the market – in restaurants and grocery stores – is sourced from large-scale industrial fish farms. These farms rely on a toxic cocktail of pharmaceutical drugs, pesticides and even genetically engineered crops such as soy.<sup>3</sup>

Industrial ocean fish farms or factory fish farms<sup>4</sup> where fish are raised numbering in the hundreds of thousands or millions, often in net pens in the open ocean, pollute the environment with massive amounts of fish waste and threaten already vulnerable wild fish with disease.

Fish raised in crowded and unsanitary conditions are, unfortunately, on the rise. The number of fish produced on fish farms skyrocketed 527% from 1990 to 2018, according to FAO. There are a couple of reasons for this spike, one being the world's appetite for fish is growing. Another reason is that, by 2016, 90% of the world's wild fish stocks had already been depleted due to overfishing.<sup>5</sup>

The result is more people are eating farm-raised fish produced on land in massive tanks or in open ocean net pens. In fact, the world now produces more farmed fish than it does beef.<sup>6</sup> And, 50% of the fish eaten worldwide is now farm-raised.<sup>7</sup>

## **Health Benefits of Farmed Salmon Versus Wild-Caught Salmon**

Salmon is one of the most widely sold types of factory farm fish, and salmon farms are now the fastest-growing type of food production system in the world.<sup>8</sup> A fan favorite among fish eaters, salmon is often a go-to for health-conscious consumers. Loaded with vitamins, antioxidants and omega-3 fatty acids, salmon has all the characteristics associated with healthy food.

But salmon is only healthy if it is wild-caught, meaning it was fished from its natural habitat, where it fed on natural organisms. Salmon is not healthy for you if it is farm-raised. Farmed salmon actually has more in common with junk food than health food.

Farmed fish are raised on a diet of processed, high-fat, high-protein feed that can include everything from genetically engineered soybeans and pesticides, to

polychlorinated biphenyls (PCBs) and dioxins, to antibiotics.<sup>9</sup> The dry pellet feed given to farmed salmon is what makes it so toxic to you when you eat it.

The toxins in farmed salmon feed accumulate in salmon fat. One study,<sup>10</sup> which tested 700 salmon samples collected from around the world, found PCB concentrations in farmed salmon are, on average, eight times higher than in wild salmon.<sup>11</sup>

Farmed salmon in general contain higher levels of contaminants than wild salmon, in part because of their elevated fat content. So even when raised in similarly contaminated conditions, farmed salmon will absorb more toxins than wild fish.

Farmed salmon also does not have the nutritional profile of wild salmon, containing far higher amounts of omega-6, which can have deleterious health ramifications, seeing how most people are deficient in omega-3 while getting far more omega-6 than they need.

## **Majority of Salmon Eaten in the US Comes From Fish Farms**

With all the farmed salmon floating around, you might be surprised to learn that the U.S. captures nearly one-third of the world's wild salmon. But more than half of it is sent overseas, where it's deboned and processed using cheap labor.

There was a time when our wild-caught salmon would be shipped back to us after processing but, today, the majority of it stays in Asia as a result of Japan's shrinking fish supply and China's improved economic status, which allows its citizens the luxury to purchase it.

The result is more farm-raised salmon for Americans. Two-thirds of the salmon we eat here in the U.S. is imported, mostly from industrial fish farms in Chile, Canada, Norway and processing factories in China.<sup>12</sup>

Similar to industrial animal agriculture, farming salmon (and fish in general) on a large scale results in a massive amount of animal waste or, in this case, fish waste. According to The Guardian:<sup>13</sup>

*"A pen with 200,000 fish produces an enormous amount of waste. In nature, animal waste is not harmful; in fact it is often beneficial. But large concentrations of it can be destructive. The waste of wild fish swimming around is not harmful, but the waste of hundreds of thousands staying in the same spot is."*

## **Ocean Water Fish Farms Are Invisible Factory Farms**

From an outward perspective, the environmental impact of large fish farms can easily be obscured. Similar to factory farms on land, which house large numbers of cows, pigs and chickens yet are often kept out of public view, ocean fish farms are hidden from the public eye. The fish pens are placed up to 164 feet beneath the surface of the water.

These seemingly invisible underwater pens can hold up to 200,000 fish each. In Norway – which has a huge farmed salmon industry – some fish farms have eight to 10 pens. That means factory fish farms can house up to 2 million fish, which is more fish than the wild Atlantic salmon population of the entire world, The Guardian reports.<sup>14</sup>

Fish farms of this scale require a lot of capital, which is why most salmon farms are owned by large multinational companies.

## **Escaped Farmed Salmon Threaten Vulnerable Wild Salmon**

Another major problem with open ocean fish farms is fish that escape. Whenever Atlantic salmon are farmed near wild Atlantic salmon, mixing occurs. When males escape, they usually die off because they aren't tough enough to compete with wild males during the spawning process.

But when females escape, they lay eggs that are fertilized by wild males. This is problematic because the genes of farmed fish are not equipped to survive in the wild. Farmed fish also lack the basic survival skills that wild fish have. According to The Guardian:<sup>15</sup>

*"Farmed salmon are not greatly different from one pen to another. They have been selected for fast growth, and growing fast seems to be their major skill. They do not have all the special survival skills of the wild stock. Although fast-growing, they only grow for a short time and never achieve the size of the more slow-growing wild salmon.*

*This is one of the reasons that they do not reproduce at the same rate as the larger wild fish. A salmon living in the wild that has a farmed parent or even grandparent is much less likely to survive at sea, and, in fact, sea survival has declined in places with farming."*

Farmed salmon that escape from ocean net pens are so common that more than one-third of "wild-caught" salmon from the Faroe Islands, tucked between Iceland and Norway in the North Atlantic Ocean (and politically part of Denmark), are actually escaped farmed fish.<sup>16</sup>

Fear of farmed fish escaping into the wild and threatening wild fish is why fish farming is now banned — and will be phased out by 2025 — in Washington state.<sup>17</sup> In 2017, a fish-farm spill occurred off Cypress Island when a net pen holding 263,000 salmon gave way.

The farm's owner, Cooke Aquaculture Pacific, tried to downplay the seriousness of the spill and initially said only around 160,000 Atlantic salmon had escaped. But it was later confirmed that the number was as high as 263,000.

## **Fish Farms Spread Parasitic Sea Lice to Wild Salmon**

Cooke blamed the damaged pens on a solar eclipse that brought "exceptionally high tides and currents."<sup>18</sup> But an investigation by the state of Washington found that Cooke was negligent because the company failed to properly clean the nets on the pens. This led to an excessive buildup of mussels and other sea life on the nets, The Seattle Times reported.<sup>19</sup>

The spill threatened native wild salmon including the endangered Chinook. The concern was the farmed Atlantic salmon would crossbreed with the wild Pacific salmon and

expose the wild fish to disease and pests such as sea lice.

Sea lice are a major problem for farmed salmon, and thanks to industrial ocean fish farms, it's now a problem for wild salmon, too. Sea lice that run rampant in fish farms can attack wild salmon swimming nearby. Fisherman on the west coast have reported seeing wild salmon swimming near fish farms infected with sea lice. The Guardian reports:<sup>20</sup>

*"Before there were fish farms they [sea lice] did not pose a significant problem. They roamed the ocean looking for salmon, which make up a tiny minority of the fish population. One or two might attach themselves to a salmon, and the fish would live with the parasites until it returned to the river. Sea lice cannot live long in fresh water, so they fall off and die in the river.*

*Until farming, sea lice survived but never found huge schools of salmon on which to feed. Now they find salmon farms with hundreds of thousands of salmon trapped in one spot.*

*The lice eat the salmon's skin. It is difficult to penetrate the scales so they attack the head and neck. They will completely skin a fish's head and then it will die of exposure. Farmers find the dead fish with raw skinned heads at the bottom of the pens. It is not unusual to lose a quarter of a pen. Sea lice are a huge financial loss for fish farmers."*

## **'All Natural' Atlantic Salmon Come From Fish Farms**

Another problem with fish farming is that the companies that raise farmed fish aren't exactly truthful about their practices. Mowi USA, the world's largest producer of Atlantic salmon products, was accused of misleading consumers with false marketing claims.

Organic Consumers Association (OCA) filed a lawsuit in August 2020 against Mowi and Mowi Ducktrap for deceptive marketing and advertising of smoked Atlantic salmon products sold under the Ducktrap River of Maine brand.<sup>21</sup>

Many popular smoked Atlantic salmon brands lure in consumers with misleading claims such as "all natural," "healthy and nutritious" or "sustainably sourced." But the truth is that all smoked Atlantic salmon products are made from salmon raised on massive industrial fish farms that, in some cases, are nowhere near the Atlantic Ocean. As Katherine Paul of OCA writes:<sup>22</sup>

*"Commercial fishing of Atlantic salmon – a species once abundant in the wild but now nearly extinct – is prohibited in the U.S. In the Gulf of Maine, they are even protected under the U.S. Endangered Species Act. Similarly, in Canada, wild Atlantic salmon in the Bay of Fundy (located in the Gulf of Maine) are protected under the Accord for the Protection of Species at Risk.*

*That means all Atlantic salmon sold to consumers in food stores and restaurants – whether fresh, frozen, or smoked – comes from industrial salmon farms."*

To take action on this issue, please [sign the petition](#) telling Ducktrap of Maine to stop falsely claiming its smoked Atlantic salmon is "all natural."

## **Enjoy Safe and Delicious Fish**

From the toxic drugs and chemicals used in fish farming, to its environmental impact on wild fish and the false and misleading marketing claims used by multinational fish farm companies, there are plenty of reasons to avoid farmed fish.

Instead, I only recommend eating safer seafood choices such as wild-caught Alaskan salmon, sardines, anchovies, mackerel and herring. All of these are at low risk of contamination yet are high in healthy omega-3 fats, without the problems posed by fish farming. You'll want to opt for sustainably harvested wild-caught fish as well.

One of the best options toward this end is to look for the Marine Stewardship Council (MSC) logo, which features the letters MSC and a blue check mark in the shape of a fish. The MSC logo ensures the seafood came from a responsible fishery that uses sustainable fishing practices to minimize environmental impacts.<sup>23</sup>

## Sources and References

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- <sup>4</sup> The Humane League March 9, 2021
- <sup>5</sup> The Guardian July 7, 2016
- <sup>6</sup> National Geographic
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- <sup>8</sup> World Wildlife Fund 2020
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- <sup>11</sup> Harvard Health Publishing April 2004
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