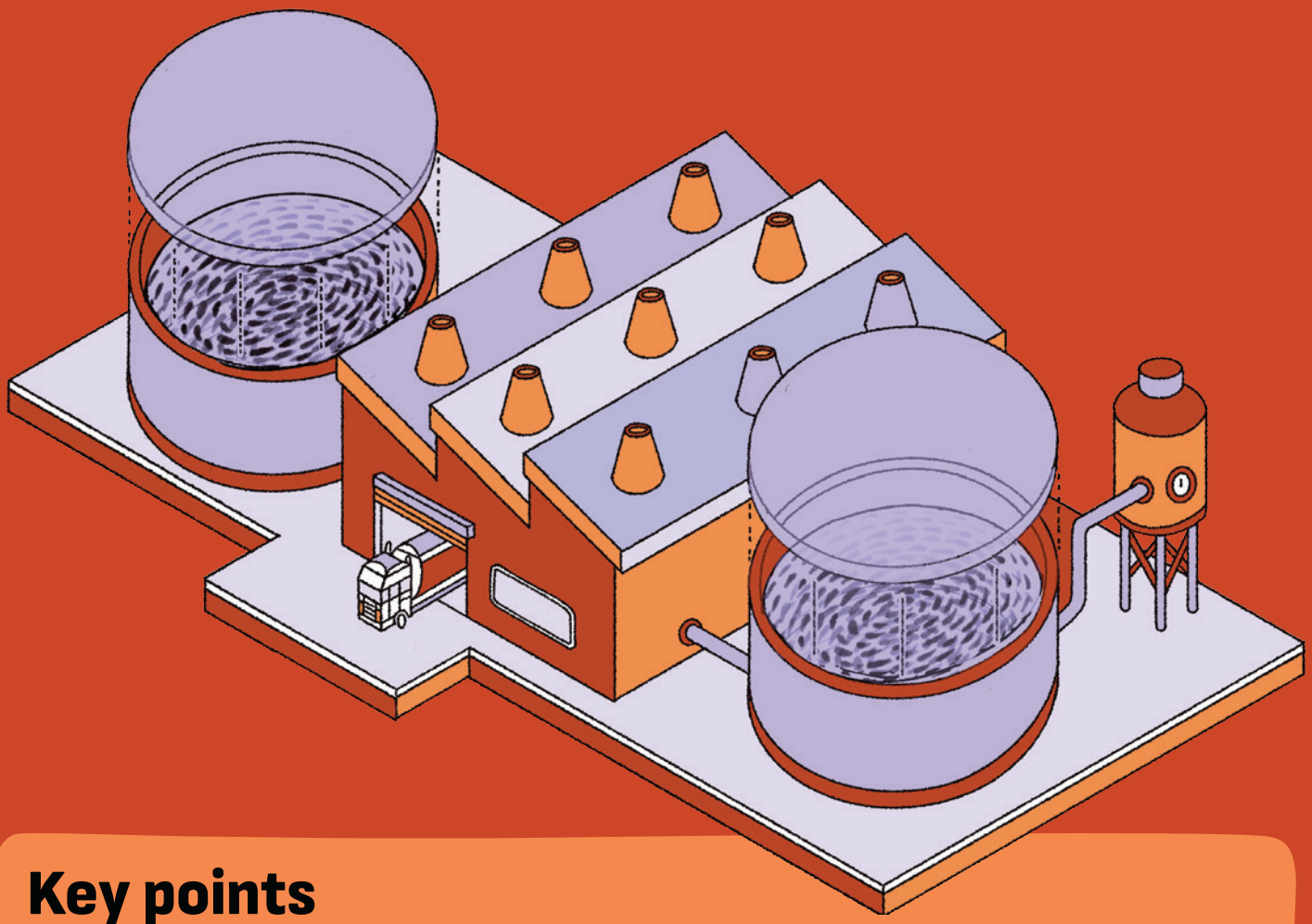
# Fish out of water

## Pulling the plug on land-based salmon factory farms



## Key points

- Foodrise and Seastemik's research reveals that land-based salmon production is an environmental and ethical disaster representing a new, catastrophic form of factory farming.
- The expansion of land-based facilities will only deepen salmon production's existing impacts, driving demand for wild-caught fish for feed and triggering a cascade of other harms on the environment, wildlife, animal welfare and communities.
- UK and European Union decision-makers must act now to stop the spread of this destructive technology before the industry takes hold and causes irreversible damage.

SEASTEMIK

FOODRISE

# What is land-based salmon production?

Industrial aquaculture production took off in the 1970s,[1] with salmon production leading the charge as the industry's most profitable and valuable sector.[2] Globally, around 70% of all salmon we consume is farmed, with this figure rising even higher in Europe.[3] In 2024, 92% of the salmon sold in UK retail[4] and 98% of salmon consumed or sold in France came from farms.[5]

Most of this salmon is produced in open net pens,[6] giant floating cages in coastal waters, fjords and lochs where there is no barrier to waste feed, faeces and chemicals contaminating the surrounding waters. Now, a new trend has emerged as **companies around the world have started to experiment with producing salmon on land, bringing a fresh wave of environmental and ethical harms**.

Using costly, high-tech systems, salmon are now being raised in captivity in indoor tanks – the latest form of factory farming. The technologies used include:

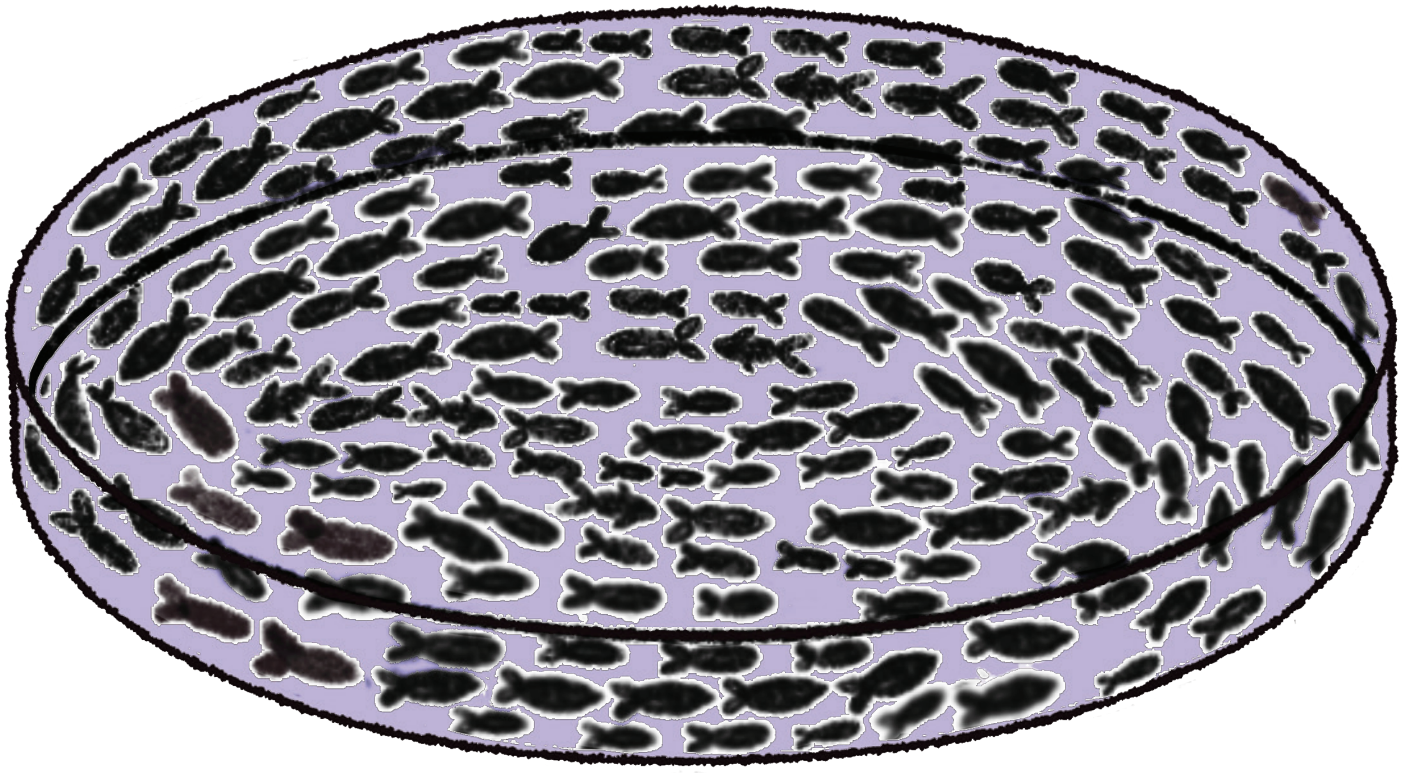
1. Recirculating Aquaculture Systems (RAS), which rely on the constant circulating and treatment of water within a closed system.

2. Flow-through technology which takes freshwater, circulates it once and then disposes of it into local waterways.

3. Hybrid flow-through systems which combine elements of flow-through and RAS technologies where a portion of the water is treated and recirculated while the rest is discharged after use.

These technologies are opening a new front in the salmon industry's aggressive expansion, one which is fuelling the continued extraction of wild-caught fish used in feed and creating shocking animal welfare conditions. These new on-land production systems are simply being used as a pretext to continue business-as-usual by corporations relentlessly pursuing profit, regardless of the cost.

Land-based salmon production is the new frontier of the salmon industry's takeover – first at sea, and now on land. **It's time to stop the industry before it causes irreversible damage.**



# The land-based salmon takeover is meeting community resistance

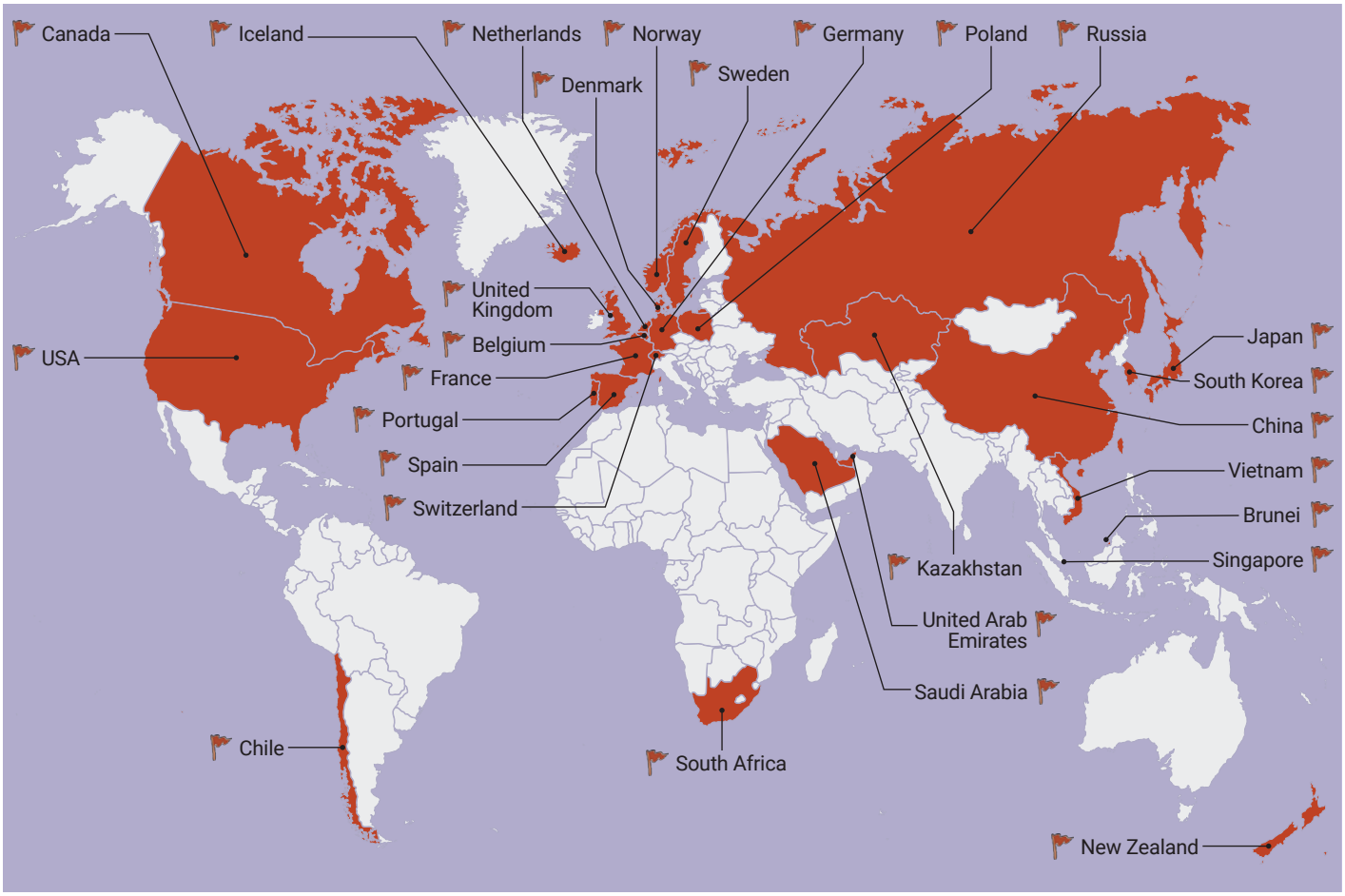
The ocean is heating up and being poisoned and depleted by polluting and extractive industries, from oil and gas to industrial agribusiness, including intensive aquaculture. The result is devastating: collapsing fish populations, dying marine ecosystems, and harms inflicted onto communities.

Rapidly rising sea temperatures also have devastating consequences for the farmed salmon being mass produced in floating cages (open-net pens). Mass die-offs, lice infestations and rampant disease have become the norm. Even the senior vice president of DNB bank, the world's largest investor into the seafood industry, has likened farmed salmon to a frog in a pot of heating water.[7] **As the climate crisis intensifies, these conditions will only get worse**. Technologies that enable salmon production on land are one of the strategies some industry players are turning to to fulfil the sector's unsustainable growth ambitions.

But this shift towards land-based salmon production isn't driven by the climate crisis alone. It's also fuelled by **tightening regulations** that make offshore permits harder to obtain, [8] and by **economic incentives**, such as the 2023 tax on sea-cage salmon farming in the United States, which creates a favourable context for land-based alternatives. [9]

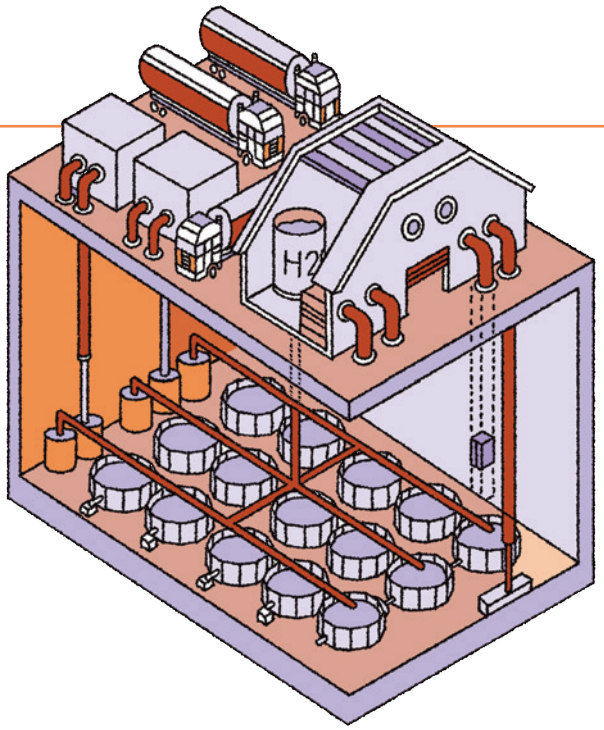
Land-based facilities are spreading across the globe, from the USA and Canada to Norway, the Netherlands, Iceland, and the UAE (see Figure 1). The largest producer – Pure Salmon, based in the UAE – plans to churn out 260,000 tonnes of salmon per year,[10] which will result in the slaughter of 52 million salmon.[a]

**Figure 1:** Map of land-based salmon production sites (planned and operational)




*Source: https://pinkbombs.org/en/dashboard*

a Assuming one salmon weigh 5 kilograms, in line with industry averages. According to: Scottish Fish Farm Production Survey 2023 (https://www.gov.scot/publications/scottish-fish-farm-production-survey-2023/pages/5/)




In the UK, interest in land-based salmon is growing rapidly. While no such facilities are operating yet, multiple projects are already in the pipeline. In Scotland – already the world's third-largest salmon producer,[11] with over 200 sites located in the sea off its West coast[12] – several plans for on-land salmon production units are on the table. The company Norwegian Mountain Salmon is eyeing up sites on the **Isle of Lewis and Shetland**, where vast underground salmon farms are being proposed. [13] The **Kintyre Peninsula** has also been targeted for development. [14]

In England, where salmon farming has never existed before, a fully land-based salmon production site in **Cleethorpes** in North-East Lincolnshire was approved in late 2023.[15] If it goes ahead, it will have capacity to produce 5,000 tonnes of salmon annually. Developers have also set their sights on a facility in landlocked **Wiltshire**, which could produce up to 240 metric tonnes of salmon a year.[16]

In both cases, there has been significant community resistance to the developers' plans. In Cleethorpes residents have protested against the development of this site; Animal Equality UK took the fight to court, arguing it was unlawful on animal welfare grounds.[17,18] While the judge upheld North East Lincolnshire Council's decision to approve the UK's first fully on-land salmon megafarm, this case led to a historic legal recognition that animal welfare can be a 'material consideration' in planning matters. This could set a precedent for future planning decisions across the country.[19]

**"This on-land salmon farm threatens everything we love about our home. The wild deer, butterflies, and birds will have nowhere to rest or nest, and instead this space will become a concrete jungle. Our community shouldn't be part of a chain that harms animals and the planet. We don't want it here or anywhere. This proposal must be blocked, for all our sakes"**

Lynn, Cleethorpes

Meanwhile in **Wiltshire**, the local community is getting organised to oppose the mooted development near Salisbury. More than 1,100 people and organisations have commented on the proposal to date, with many opposing it over concerns about its environmental and animal welfare impacts.[20] At time of publication, the council is yet to decide on this development.[21]

In the **Netherlands**, Zalmboederij Maashorst is setting itself up to be the country's first salmon farm, on land or sea. Shockingly, it has received public funding totalling €1 million from a joint fund supported by Noord-Brabant regional province and European Union.[22] When political party, Partij voor de Dieren (Party for the Animals), queried several of the developer's sustainability claims with the Noord-Brabant province, it became clear that the provincial government was unprepared for this new industry and had little insight into the key issues around salmon farming, such as feed and waste.[23]

**France** – Europe's largest salmon consumer – is proving that the reality of getting these projects off the ground is much more challenging as they continually meet with pushback.[24]

Of the three projects seeking to establish land-based salmon farms in France, only one – Local Ocean – has obtained all the necessary permits, yet it remains stalled due to lack of funding.[25] Smart Salmon was rejected by local political leaders because of the risks it posed to the shellfish industry and the high potential for pollution from nitrate and phosphorus discharges.[26,27] Meanwhile, after four years of delays and two failed legal attempts to silence opposition through a defamation lawsuit,[28] Pure Salmon will finally face a public enquiry on the 15th December 2025.[29] This development raises very serious concerns given that the investor has still not addressed several significant risks associated with the proposed facility, including issues related to water resources and waste management.

In France, the land-based salmon farming model faces mounting criticism for the economic and environmental risks it creates, from unfair competition to pollution, which

could further destabilise the already struggling fishing and shellfish sectors. But resistance is growing. In March 2025, following an initiative by Seastemik and Welfarm, **a cross-party bill was introduced in the French Parliament calling for a 10-year moratorium on land-based salmon farms, with support from over 100 MPs**.[30] This powerful mobilisation shows that change is possible when civil society, science, and politics align to protect the ocean and communities who depend on it.

**"This experimental project has no future, neither for the estuary, nor for the inhabitants of both banks, nor for the region. Put the wellbeing and health of your fellow citizens before the greed of transnational corporations, our estuary before growth!"**[31]

Estuaire 2050, a French grassroots group involved in the mobilization against Pure Salmon

In **Belgium**, the Brussels-based NGO GAIA successfully stopped the construction of a proposed land-based salmon farm in Ostend,[32] after the council ruled that the project violated land-use regulations.

In the **USA**, Nordic Aquafarms was forced to abandon its land-based aquaculture project in Maine following strong community opposition and legal challenges.[33]

**Across countries, the message is clear: local resistance to land-based salmon farming is strong and growing.**

**"This decision marks a fundamental turning point: not only does it put an end to a farming project that would have deeply violated the welfare of millions of salmon, but it also sends a clear message to all decision-makers — 'fish factories' have no place in our society."**

Michel Vandenbosch, President of GAIA

Alongside community resistance, government research is now confirming the dangers and impracticality of land-based salmon farming.

In **Norway**, the Environment Agency inspected 77 land-based fish farming sites in 2024 and found 90% were breaching environmental regulations.[34, 35] The findings show that land-based sites are failing to control emissions and discharges of pollution into coastal waters.

In **Canada**, a government-commissioned report has raised significant doubt on the practicality of transitioning British Columbia's open-net pen salmon farms to land-based systems, pointing to high costs, limited suitable sites, and complex environmental trade-offs.[36] The study evaluated around 100,000 possible sites across the province. 144 locations passed the initial filters, but only six sites met all the technical, regulatory, and environmental requirements for viable development.

**"This model of intensive salmon farming is not only ethically indefensible but also environmentally disastrous. The rapid push for on-land salmon production risks irreversible harm to our rivers, local ecosystems, and remaining wild salmon populations. "**

Maya Pardo, Campaign Lead, Communities Against Factory Farming (CAFF)

From North America to Europe, the movement against this new technology is growing. Whichever way you look at it, land-based salmon farms are problematic, harming communities, wild fish populations, local ecosystems and threatening salmon welfare.

Yet, in spite of this, money and corporate interests are starting to back this new wave of factory fish farms. Whilst most funding comes from private finance, in some cases public money is also being channelled into developing land-based systems. For example, in 2022, the European Investment Bank, the lending arm of the European Union, lent €48 million to Premium Svensk Lax Sustainable Salmon Farm to fund the construction of Sweden's first land-based salmon farm.[37]

Food retailers are also starting to sell land-based salmon. For example, Abel & Cole, an organic food delivery service, recently removed open-net salmon from its website, offering its customers land-based salmon instead, as a result of the many issues related to open-net salmon production.[38] One of Abel & Cole's suppliers, Icelandic land-based salmon producer First Water is selling to domestic retailers alongside international markets such as the US and France.[39]

While momentum against these new on-land factory fish farms is growing – so is the industry's expansion, fuelled by private and public financial flows, alongside retail interest. **Governments in the UK and European Union must act now to stop the spread of this destructive technology before it's too late.**

# Land-based salmon production is akin to the worst kinds of factory farming

Land-based salmon production is deeply problematic, raising significant environmental, social justice, animal welfare and health issues. It fuels ecological destruction, worsens global inequality, and inflicts severe suffering on the fish themselves.

The industry's appetite for wild-caught fish drives the capture of vast numbers of fish, often taken from communities in Global Majority countries,[b] which are processed into fishmeal and oil and exported to feed salmon raised thousands of miles away. [40] Meanwhile, the salmon themselves are crammed into barren, artificial tanks, denied natural light, and have to fight for space until slaughter or premature death.

## Environmental & social justice problems

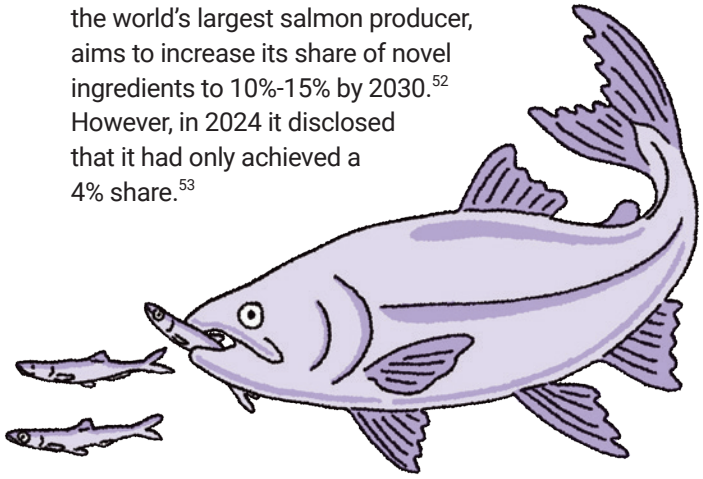
- Land-based salmon production does nothing to reduce the industry's **extractive reliance on wild-caught fish in feed**. Because salmon are carnivorous, they depend on wild fish in their feed, no matter where they are farmed. Species like anchovies, herring, sprat, mackerel, and krill are caught and processed into feed ingredients. Research from 2024 shows it takes up to 6 kilograms of wild fish to produce just 1 kilogram of farmed salmon.[41] This is a staggering level of inefficiency and ecological harm.

- Krill, a keystone species in the Southern Ocean ecosystem,[42] which is facing threats ranging from climate breakdown to concentrated fishing,[43] is also used in farmed salmon feed.[44] This is **exacerbating the threats to krill and its natural predators**, such as whales and penguins.[45]

- A large share of the wild-caught fish used in salmon farming is extracted from regions such as Southeast Asia, Latin America and West Africa.[46] This is **taking fish away from people,** who rely on it as a vital source of food and income, to feed farmed salmon in wealthy markets – a type of modern-day food colonialism. Foodrise's 2024 *Blue Empire* report revealed that in 2020, Norway's salmon farming industry extracted large amounts of West African fish to use in salmon feed. This could have provided up to 4 million people in West Africa with a year's supply of fish if it hadn't been exported to Norway.[47] This is more than the entire population of Gambia (approximately 2.5 million).[48]

- According to WWF, 95g of soy were used to produce a 100g salmon fillet in 2020, putting it on a par with chicken (96g of soy for 100g of chicken).[49] Demand for soy is **driving both legal and illegal deforestation** in Brazil.[50]

- Much-touted '**novel ingredients'**, such as algal oils or insects, will not end the industry's reliance on wild-caught fish. Evidence has shown that these alternatives have other environmental trade-offs – such as higher carbon emissions. Plus, progress seems to be stalling as companies are failing to meaningfully increase the inclusion of these novel ingredients in feed. [51] For example, Mowi, the world's largest salmon producer, aims to increase its share of novel ingredients to 10%-15% by 2030.[52] However, in 2024 it disclosed that it had only achieved a 4% share.[53]



**"Of over one hundred thousand tonnes of wild herring which are trawled in the Baltic annually, over two-thirds are ground into fishmeal for consumption by farmed salmon. No aspect of on-land salmon farming is sustainable, not least because of the use of wild fish in feed."**

Regan McEnro, Chairman of Fältbiologerna/Nature and Youth Sweden

b Global Majority is a collective term referring to people who are Black, Asian, Brown, dual-heritage, or indigenous to the global south, challenging the negative implication of being racialised as 'ethnic minorities'. Global Majority does not include people of White ethnic groups seen as 'minorities' in their countries of residence, such as some people of Irish descent, Jewish people, and Travellers. (Rosemary M. Campbell-Stephens, *Educational Leadership and the Global Majority: Decolonising Narratives* (Springer Nature, 2021).)

- It can produce more **carbon emissions**: salmon produced in marine cages has a carbon footprint of approximately 4 kg of $CO_2$e/kg.[54] Salmon in land-based facilities produces between 2 and 14 $CO_2$e/kg.[55] In terms of carbon footprint, moving to land-based salmon could be a step back when it comes to emission reductions.

- It is **water intensive**. A 10,000-tonne salmon farm requires the equivalent treatment capacity of a wastewater plant for up to 100,000 people.[56] This is a shocking misuse of water.

- **Escapes** can still happen. Icelandic land-based salmon hatchery, Háafell, reported an escape incident in September 2024. During a transfer, a leak resulted in the escape of hundreds of fry (young salmon). The operator recovered around 2,560 juveniles, but approximately 150 may have reached the sea.[57] This threatens local wild salmon populations as interbreeding can weaken their genetics.[58]

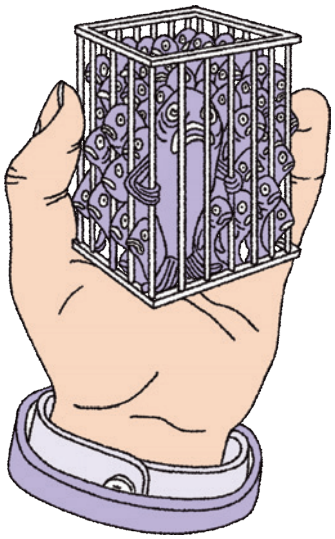
**"We spent a year investigating land-based fish farms, and we found that not all of these systems are as "closed" as they might seem. In the case of Atlantic Sapphire Denmark, half a million plastic bio filters were leaked into the protected Ringkøbing fjord, along with excessive nutrients and iron chloride."**

Fran Mills, Project Leader and Bertha Challenge Fellow

## Animal welfare problems

- Land-based salmon facilities cause more **mass die offs** than open-net systems. According to Norway's Directorate of Fisheries, in 2022 a total of 60 million farmed salmon and rainbow trout died in the sea in Norway, while 141 million died in land-based facilities.[59] Reported events include an incident in late 2023 when nearly 1.9 million young salmon[60] died at a Lerøy owned land-based facility in Norway and around 500,000 more died at the same facility in March 2024.[61]

- **Stocking densities** are up to five times higher in land-based factory farms compared to marine cages, which are already overcrowded.[62] The density in marine farms is equivalent to putting 0.8 salmon in a bathtub, which increases to 4 salmon for land-based facilities. This creates crammed and stressful conditions for the salmon.[c,63]

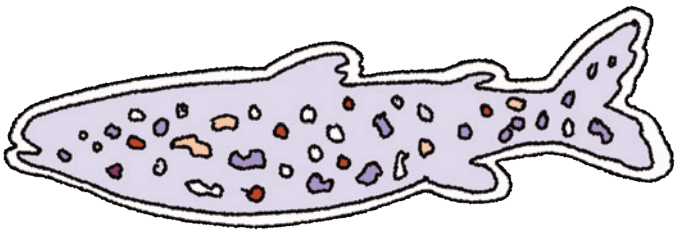


**"On-land salmon farms are a new form of factory farming – grim, overcrowded, and completely unnatural. These naturally migratory fish are crammed into industrial tanks, forced to circle endlessly beneath artificial lights in conditions that bear no resemblance to the wild. The salmon farming industry is already causing widespread harm to animals at sea – moving operations onshore won't fix these problems, it will simply create an entirely new set of welfare and environmental risks"**

Abigail Penny, Executive Director of Animal Equality UK

c Assuming that a bathtub contains 200 litres of water and that salmon weigh 5kg

## Health problems



- Farmed salmon is full of **microplastics**. A 5 kg salmon contains approximately 523 particles of microplastics.[d,64] In France, people eat around 3.8 kg of salmon on average each year,[65] which equates to about 398 microplastics ingested annually.[66] Annual per capita consumption of farmed salmon in the UK is around 2.6 kg.[67] Using the same methodology, this means UK citizens ingest 273 particles of microplastics a year just from farmed salmon.

- **Micronutrients are lost** through farming salmon. Research has found that most edible wild-caught fish species used in salmon feed have higher concentrations of key micronutrients than farmed salmon.[68] For some of these micronutrients, such as calcium, iron, selenium and zinc, as little as 1% is retained in farmed salmon.

**"In wealthy countries, our appetite for fish is destroying the Ocean and starving coastal communities that depend on it. It is time for political courage: France must impose a moratorium to safeguard our marine economy and protect our coasts. We have crossed the line: too much salmon on our plates, too much Global North–South food inequality, and too much animal suffering. It is urgent to reduce our consumption and put an end to this artificial salmon frenzy—one that serves no real need."**

Esther Dufaure, Co-Founder and Co-Director, Seastemik

## Mass mortalities: A problem we can't ignore

The mass mortalities seen at land-based salmon facilities are a major issue.

According to Seastemik's research, at least 17 mass mortality events have been recorded at land-based fish farms since 2020 (see appendix). This includes incidents where thousands of salmon died due to technical failures at Proximar Seafood and Sustainable Blue.

**Proximar Seafood, Japan**

Proximar Seafood is a Norwegian company that operates an intensive land-based salmon factory farm in Japan. In May 2025, 170,000 salmon died prematurely at this site.[69] This incident was attributed to human error which led to a pump failure, meaning that the water fell below safe levels. This triggered a shutdown of the circulation pumps, leading to a lack of oxygen. Hundreds of thousands of fish were starved of oxygen and died. This highlights the shocking animal welfare consequences linked to these new production systems.

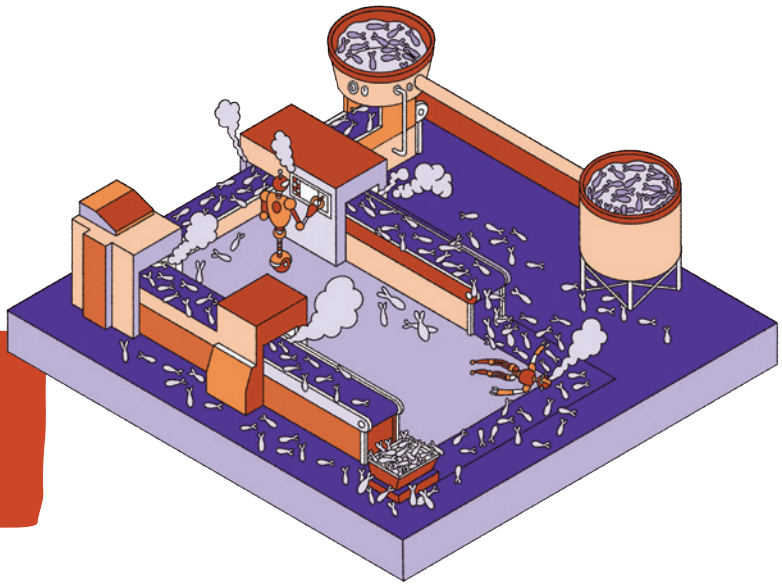
**Sustainable Blue, Canada**

In 2023 Sustainable Blue, a Canadian land-based salmon company, experienced a system failure which resulted in 100,000 salmon dying.[70] This ultimately led to the company being pushed into receivership in 2024.[71] Not only is this another example of gross animal welfare violations, it also represents a shocking loss of the resources (i.e. feed and energy) that go into producing the salmon in the first place.

d Microplastics are fragments of plastic that are between 1 nanometer and 5 millimetres wide. One nanometre is just a fraction of the width of a human hair, and 5 millimetres is about the width of a wedding band. (UNEP, "Everything You Should Know about Microplastics," June 2, 2025, https://www.unep.org/news-and-stories/story/everything-you-should-know-about-microplastics.)

# A risky experiment

At this stage, land-based salmon production is highly experimental. This makes it risky economically, and even major corporate players like the CEO of Mowi don't believe in it. Yet with the pressure to meet ever increasing growth targets, land-based salmon projects are continuing to multiply despite the risks.



**"Personally, I have no faith in this. We simply cannot afford it. Nor is it proven technology. So in my opinion it is unrealistic."**[72]

Ivan Vindheim, CEO of Mowi

## A poor business case

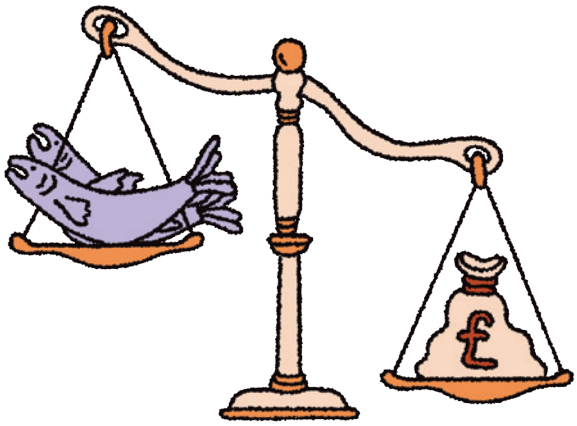
- There is significant doubt surrounding land-based salmon production's **economic viability**. According to Pierrick Haffray, head of the aquaculture unit at Sysaaf (the French livestock genetics association), "no farm is yet producing at the announced scales. The demonstration of economic viability has not been made. Design, choices of filtration technology, tank sizes, water renewal rate… nothing is standardized."[73] PwC[74] and EY[75] are equally cautious, citing massive upfront investments combined with technological unpredictability that lead to uncertain economic viability.

**"There's a saying that in RAS, you have to kill a million fish before you know what you're doing."**[76]

Ohad Maiman, CEO of The Kingfish company, which pioneered RAS systems

- These facilities are **producing less salmon** than promised. For example, Pure Salmon aims to produce 260,000 tonnes of salmon a year.[77] Yet, to date, the largest producer of land-based salmon, Atlantic Sapphire, has only produced 5,259 tonnes.[78] The promises made by this new technology are not matching up with the reality.

- It offers **weak job prospects**. For example, for an annual output of 10,000 tonnes, industry players announce the creation of only 70[79] to 250 jobs.[80]



# It's time to ban land-based salmon production

Land-based salmon facilities are nothing more than industrial factory farms. Designed to satisfy the aggressive growth ambitions of salmon producers, they are dragging us into a dystopian world where the food system is becoming further industrialised in the pursuit of profit at all costs.

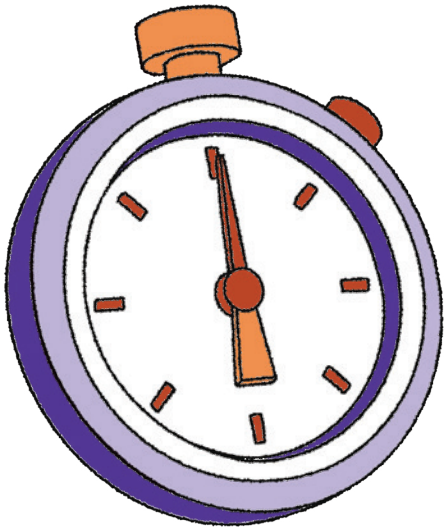
**"Land-based salmon production is one of the worst forms of factory farming imaginable, reliant on the unsustainable plunder of wild fish for feed and plagued by shocking mass mortality events where thousands of fish die. This is not the future of food. Governments must act now to stop this dystopian reality."**

Carina Millstone, Executive Director, Foodrise

It's time for politicians to step up and outlaw land-based salmon production. As the interlinked climate and biodiversity crises deepen, we must protect our food systems, the natural world and humanity itself from corporate capture, unsustainable technologies, and unjust supply chains – before the damage becomes irreversible.

As the lure of land-based salmon production spreads, communities around the world are rising up. A powerful movement that has emerged to stop these factory fish farms is gaining momentum. Local policymakers and planning authorities must take note of the groundswell of community resistance to land-based salmon farming and use their existing powers to reject developers' plans to build land-based salmon facilities in their constituencies.

However, the responsibility to prevent the expansion of this destructive industry must not rest with local authorities alone: **it is critical that governments move swiftly to ban land-based salmon production before it takes hold**.



# This briefing is endorsed by

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# Appendix

## A record of mass mortality events since 2020

1. Death of 1.5 million juvenile salmon in a RAS hatchery owned by Mowi in Norway in 2020 due to a suspected water quality issue (H2S poisoning). Media reporting indicates that this was not the first time problems had occurred at this hatchery, which had previously been the victim of a fire.[81]

2. Death of 500,000 to 600,000 salmon at an Atlantic Sapphire RAS farm in Miami in March 2021 as a result of a malfunction in the filtration system and a 'weakness' in the system's design. In the same year, Atlantic Sapphire had to prematurely slaughter 200,000 salmon at its Miami site because they were suffering from health problems, presumably caused by stress generated by work being carried out on the site.[82,83]

3. Death of 227,000 salmon at an Atlantic Sapphire RAS farm in Denmark in February 2021, linked to excessive nitrogen concentrations in the water.[84]

4. Death of numerous salmon (equivalent to 400 tonnes or 17% of the fish) at an Atlantic Sapphire RAS farm in Denmark linked to human error in the maintenance of filtration systems.[85]

5. Death of all salmon in an Atlantic Sapphire RAS farm in September 2021 due to a fire that broke out on the site.[86]

6. Death of 32,000 cod (almost all the fish on the site) farmed in a RAS by the company Havlandet in Norway due to hydrogen sulfide poisoning in 2022.[87]

7. Death of 100,000 Arctic char (95% of the fish on the farm) at a Pisciculture Acadienne RAS farm in Canada in February 2023 following deoxygenation of the water resulting from the shutdown of aeration and oxygenation equipment caused by a power failure, as the site's generators were ineffective.[88]

8. In April 2023, Salmon Evolution, the Norwegian company, saw increased mortality attributed to amoebic gill disease.[89]

9. Death of 1.9 million salmon fry at a Lerøy Seafood RAS farm in Norway in October 2023, cause unspecified. [90]

10. Death of 100,000 salmon (20% of the farm's salmon) at a Sustainable Blue RAS farm in Canada following a malfunction of the dissolved CO2 management equipment in November 2023.[91]

11. Death of 50,000 salmon (out of 1 million on site) at a Proximar Seafood RAS farm in February 2024 in Japan. A water leak on the site eroded the earth under one of the tanks, causing it to collapse.[92]

12. In February 2024 Norwegian company, Gigante salmon, saw 300,000 smolts die. This was nearly half of their overall production. This was due to a combination of caused, including lower quality smolt. delayed delivery, lower water-quality during transportation and bad weather.[93]

13. Death of 490,000 salmon at the same RAS farm owned by Lerøy Seafood in Norway in March 2024, following a water quality issue, the cause of which remains unidentified.[94]

14. Death of 30,000 salmon (out of 230,000) at a Hjelvik Matfisk RAS farm in Vagstranda, Norway, in March 2024, apparently due to water quality problems linked to an excessive concentration of diatoms (microalgae) in the water.[95]

15. 418,000 young salmon slaughtered prematurely at a Salmar hatchery in Norway in August 2024 following a malfunction in the pH regulation system. The pH rose to 10.9, leaving no choice but to carry out mass euthanasia to end the fish's suffering.[96]

16. Death of 200,000 juvenile Arctic char in a Sigefjord Fisk hatchery in Norway in August 2024. The fish suffocated due to lack of oxygen following the explosion of an oxygen cone essential to the water oxygenation system.[97]

17. In May 2025, 170,000 salmon died prematurely at a Proximar Seafood site in Japan. This incident was attributed to human error which led to a pump failure, meaning that the water fell below safe levels. This triggered a shutdown of the circulation pumps, leading to a lack of oxygen. [98]

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*Seastemik is a non-profit organisation focused on restoring marine ecosystems by reducing fish consumption. Our mission is to phase out intensive aquaculture — starting with salmon — and speeding up the shift towards of plant-based alternatives, especially in the commercial food sector.*

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