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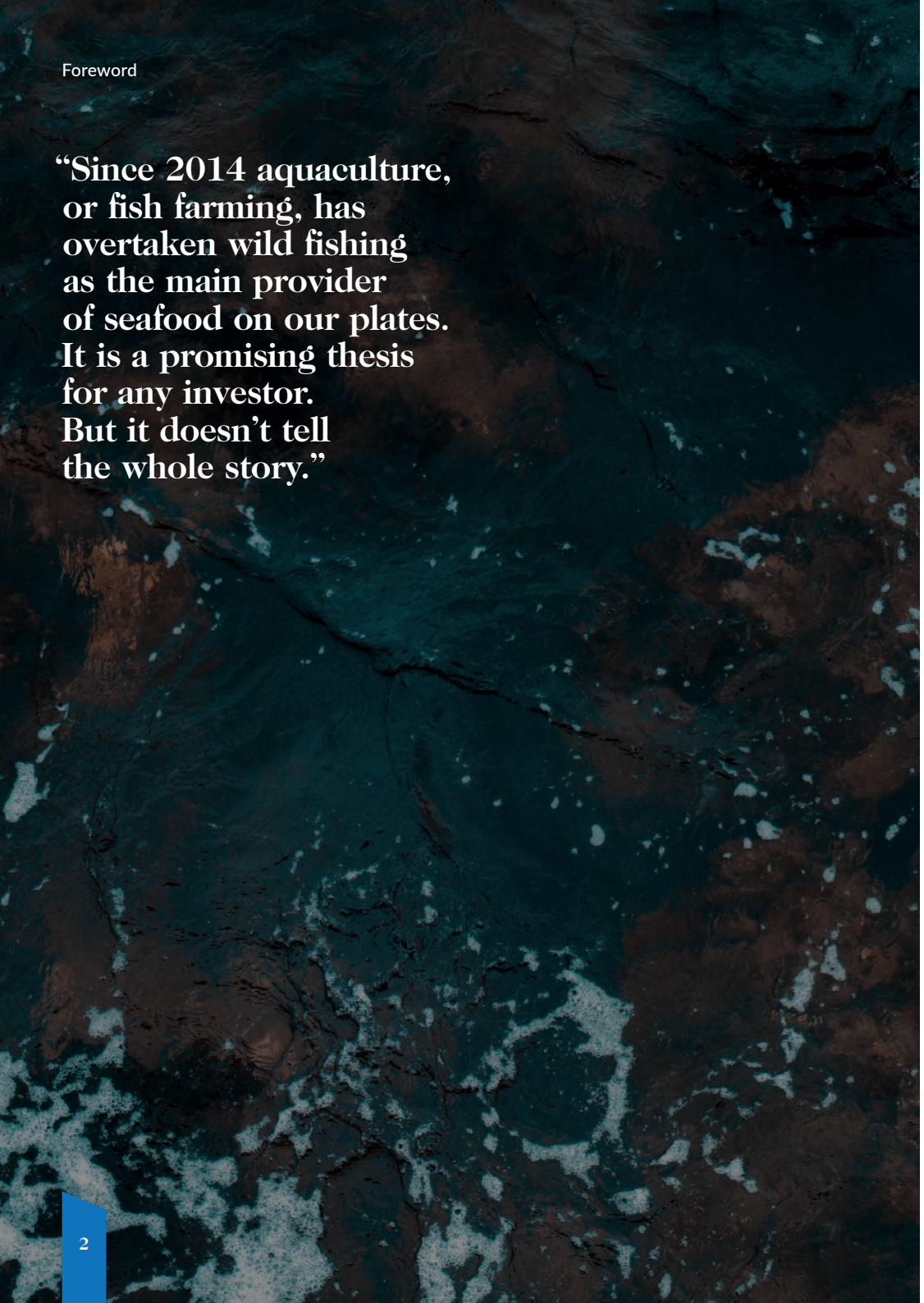
Executive Summary

Shallow returns? ESG risks and opportunities in aquaculture



"Since 2014 aquaculture, or fish farming, has overtaken wild fishing as the main provider of seafood on our plates. It is a promising thesis for any investor. But it doesn't tell the whole story."

Fish farming has now surpassed wild fishing as the main provider of seafood on our plates. The $230 billion industry has a vital role to play in meeting protein demand worldwide and has averaged annual growth of almost 6% since 2000, providing significant shareholder returns.

But does anything smell fishy about this enticing investment thesis? This report looks at the sector through a sustainability lens and finds a wide range of environmental, social and governance (ESG) challenges which must be met if aquaculture is to prosper over the long-term.

The report identifies ten ESG risks facing the sector. These include deep-seated material environmental issues such as its dependence on wild fish stocks, destruction of natural habitats, and an intensifying battle against disease and infections.

To take just one other example, this report highlights how algal blooms caused in part by polluted wastewater from aquaculture operations, caused an estimated $800 million in damage to the Chilean salmon industry in 2016, killing nearly 27 million fish. As of May 2019, the same issue is now impacting the Norwegian industry.

There are significant governance issues too, many of which are unsurprising given the fast-growing, high-demand nature of the industry. In April 2019, for example, a class-action lawsuit was filed in the US accusing major players in Norway's farmed salmon industry of price fixing.

Scanning the horizon for investors

Aquaculture sits within a complex map of regulatory contexts and voluntary certification schemes, and this report explores this terrain for investors. It shows how these drive geographic-specific ESG risks across the Americas, Europe and Asia.

It also gives examples of fish farming practices that can reduce critical public health threats such as antibiotic resistance, and better protect marine and coastal ecosystems.

Innovations are also highlighted such as cultured seafood or plant-based replications of fish products that could reshape the industry.

Ultimately, this report seeks to help investors understand these risks and opportunities, and integrate them into their investment decision-making. The FAIRR investor network is having a massive impact on the food industry thanks to the investors with over $12 trillion of assets who have joined since 2016. FAIRR's mission is simply to bridge the ESG knowledge gap and be an enabler for investor engagement with food-related businesses. Please join our free, fast growing FAIRR investor network.

Jeremy Coller
Founder, FAIRR
Chief Investment Officer, Coller Capital

Financial levers and timeline of risks in aquaculture

Financial levers

- Legal and Regulatory
- Reputation
- Production and Pricing
- Market Access

Short-term →

Disease

In Chile, the salmon farming industry experienced an outbreak of infectious anaemia (ISAV) that cost the sector $2 billion and 20,000 jobs. Due to the impact of the epidemic, banks chose to renegotiate loans. However they also considered forcing companies into bankruptcy, highlighting the severe risk that disease presents to aquaculture.

Effluents

Algal blooms, caused by nutrient-rich effluents, have disrupted production in the salmon industry. As of May 2019, the Norwegian salmon industry is suffering from the worst algal bloom in 30 years. At time of writing, government reports indicate the loss of 10,000 tonnes of salmon. An early estimate from Sparebank1 Markets suggests it could impact up to 1% of Norway's salmon supply. A Nordea Bank analyst estimates the loss reduces forecasted global supply growth from 6.6% to 5.0%.

Transparency and food fraud

In 2015, Chilean authorities intercepted 37,200 cans of 'horse mackerel', which turned out to be Pacific menhaden, a lower-value species. If sold, the mislabelled cans would have retailed for over $19 million. The costs of global seafood fraud for unknowing retailers and consumers have not yet been monetised but are significant.

Antibiotics

The US imports about 70% of its seafood from Asia, half of which is cultured. In 2016 the US Food and Drug Administration (FDA) saw a record year for refusals to import Asian shrimp due to contamination with banned antibiotics. In January 2019 the FDA prevented 26 shipments of Indian shrimp from entering (15% of the total for that month), due to detection of banned antibiotics. India is the country's top shrimp supplier, making up 35.2% of all imports. The US is therefore highly exposed to risks associated with antibiotic use in the Asian market.

Medium-term →

Community resistance

In December 2018, the government of British Columbia reached an agreement with First Nations peoples to close several Mowi and Cermaq farms and restrict salmon farming in coastal areas that play an important role in their livelihood.

GHGs

Catches and fish meal prices depend heavily on El Niño and other weather phenomena that are caused by global warming. In Ecuador, shrimp production is likely to outweigh demand in 2019 due to El Niño weather conditions. It is expected that the increased harvest will reduce the price of shrimp. The effects are starting to be noticed – in February 2019 the average price for shrimp was $2.67/lb, compared with $2.96/lb in the same month last year. In South-East Asia, production of marine finfish is expected to drop by up to 30% by 2050 due to rising ocean temperatures.

Habitat destruction and biodiversity loss

Companies are making significant investments to prevent farmed fish from escaping. As of February 2019, Scottish Sea Farms said it had installed new nets at 21 out of 45 salmon farms in Scotland at a cost of £4.2 million and aimed to install them at nine more farms in 2019.

Long-term →

Fish feed

Prices tend to fluctuate heavily with changing weather, especially when impacted by severe El Niño effects. In 2014, warming waters caused a reduction in anchovy yields in Peru, the world's top fish meal exporter. As a result, fish meal prices surged to $2,400 per ton, compared to the average of $1,600 per ton.

Labour conditions

In 2015, the European Commission issued a 'yellow card' warning to Thailand following numerous human rights abuses in the country's seafood supply chains. The Commission threatened to ban seafood imports from the country altogether if they did not see improvements. The warning was lifted in 2019 but highlights the legal and compliance concerns that could severely affect the operations of some companies.

Fish welfare

In 2018, a report linked welfare standards with the financial performance of aquaculture companies, demonstrating how companies that prioritised welfare issues experienced financial outperformance. The analyst attributes this strong performance to the mitigation of reputation risk and the fish health benefits associated with higher welfare standards.

Introduction

The global aquaculture, or fish farming, industry is booming. Average per capita seafood consumption has doubled since the 1960s and since 2014, aquaculture has provided more of global seafood production than fisheries. It is taking a bite out of other protein industries too. Over the long term, the annual growth rate of fish consumption has surpassed that of meat from terrestrial animals.[1]

As the world considers how to feed an additional 2.2 billion mouths between now and 2050, an increase in farmed seafood is increasingly seen as a large part of the solution. Especially in emerging Asian economies whose citizens are shifting from vegetable-based to protein-rich diets. China's aquaculture production has tripled in two decades and growth is set to continue. The Chinese government is encouraging consolidation of this historically very fragmented industry to increase its market access, moving from small-scale, extensive production to greater adoption of intensive systems that feature high-stocking densities.[2]

This report explains why aquaculture must overcome an array of ESG risks before it should be considered a sustainable solution to meeting the growing global demand for protein.

These risks could have a significant impact on the future growth and financial performance of aquaculture companies.

Environmental

Greenhouse gas emissions

Effluents

Habitat destruction and biodiversity loss

Fish feed supply

Disease management

Social

Labour conditions

Fish welfare

Community resistance

Antibiotic use

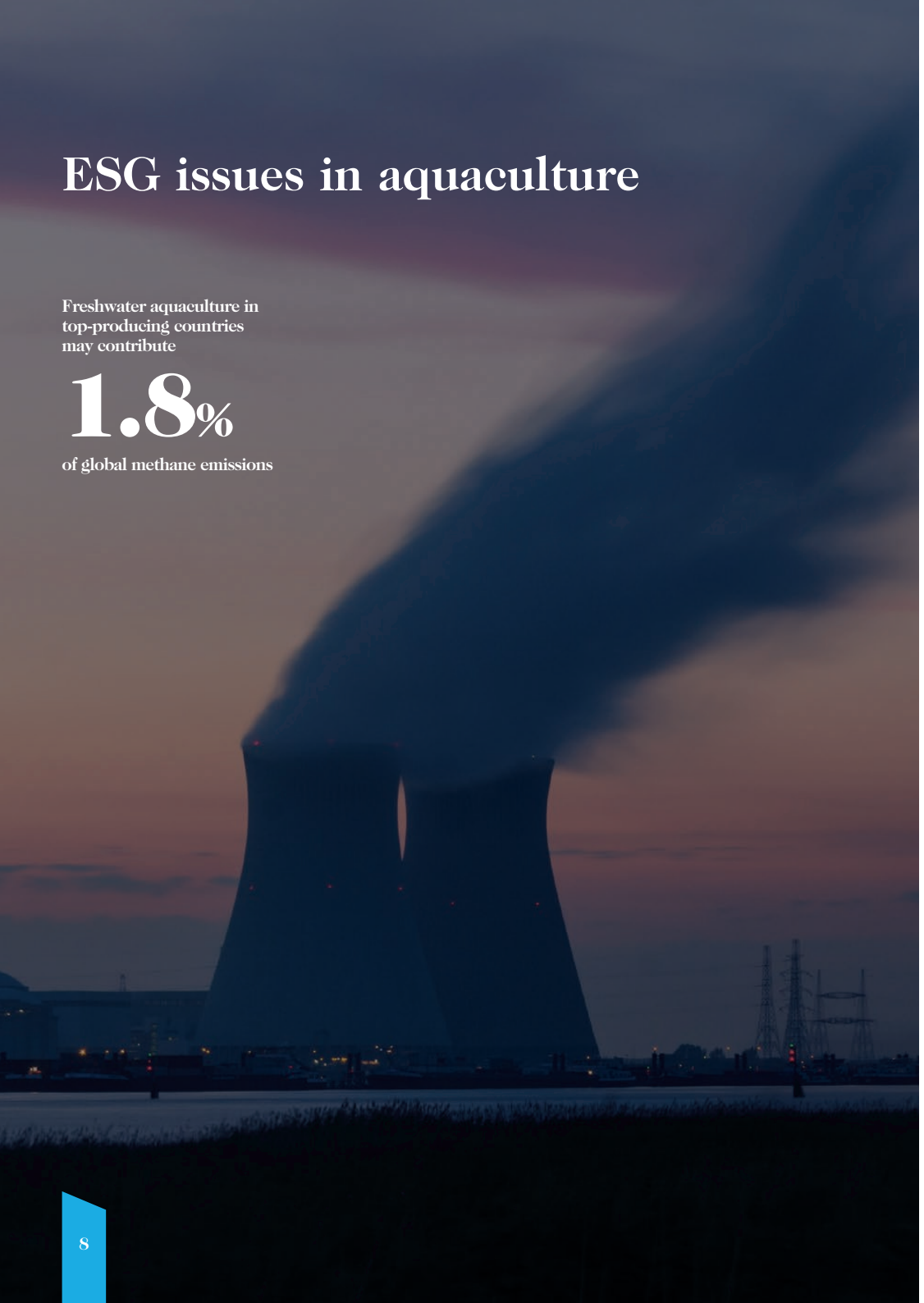
Governance

Transparency and food fraud

The full version of this report contains further discussion, data and analysis. It is available exclusively to FAIRR's Investor Members.

Membership is free. Visit www.fairr.org for further details.

ESG issues in aquaculture



Freshwater aquaculture in top-producing countries may contribute

1.8%

of global methane emissions

Marine fish production in Southeast Asia may drop by up to

30%

by 2050

Greenhouse gas emissions

The growth and intensification of aquaculture production is rapidly increasing its environmental footprint, in a time of increasing regulation and public pressure to keep global warming well below 2°C. GHG emissions in aquaculture vary widely, depending on the species and production system used. Shrimp production, for example, can be as emission-intensive as beef production.[3] No reliable estimates of aquaculture's contribution to global GHG emissions exist, however one 2019 study found that freshwater aquaculture in the top 21 producing countries is responsible for 1.82% of global methane emissions.[4]

The sector is also exposed to climate risk. In northern parts of Europe and North America, warmer water and salinity changes will likely result in increased salmon diseases and parasites, as well as more algal blooms. In Asia, stronger and more frequent tropical storms are an increasing risk for farm stock and infrastructure. Southeast Asia, one of the world's most productive aquaculture regions, is expected to experience a 10% to 30% drop in marine fish production by 2050.[5] As of May 2019, Norway is experiencing a severe algal bloom that at time of writing had wiped out more than 7 million fish. Analysts are revising down global salmon supply as a result.[6]

Mowi identifies and acts on climate risks

Mowi conducted a materiality analysis to understand climate change-related issues that are critical to the company and stakeholders, and business' ability to execute its strategy and operations. The materiality analysis highlights areas of opportunity and risk, and the results define Mowi's priorities and R&D efforts, both at group and asset level.

The climate assessment considers chronic physical risks that could disrupt production capacity, such as changes to oceanic circulation and uncertain climate variability patterns (e.g. El Nino), or changes in average precipitation. Mowi also considers how its salmon farming operations are exposed to biological risks which might impact profitability and cash flows through adverse effect on factors such growth, harvest weight, harvest volume, mortality, downgrading percentage and claims from customers.[7]

Algal blooms in Chile cost

$800m

in damage following death of 20% of salmon stock

Effluents

Most marine aquaculture production systems are open systems, with no boundary between the farm and the wider environment. The effluents and waste water discharged from fish farms into the sea is associated with the risk of toxic algal blooms and negative effects on the health of fish. As just one example of the material significance of this issue, algal blooms in 2016 caused an estimated $800m in damage to the Chilean salmon industry and killed nearly 27 million fish (20% of that years' salmon production).[8] According to media reports, Invermar, a Chilean salmon producer, reported a loss of $8.25 million, which amounts to approximately 4% of their $206 million revenue for that year, [9] after algal blooms killed around 1,600 metric tons of salmon.[10]

Mowi lost

$3.4m

and over 690,000 salmon when a storm severely damaged 10 net pens

Habitat destruction and biodiversity loss

Fish escapees reduce farm profitability. In July 2018, Mowi lost $3.4 million and over 690,000 salmon when a storm severely damaged 10 net pens.[11] Research in six European countries from 2007-2009 found nearly nine million fish escaped from farms, resulting in a direct product loss of €47.5 million.[12] In addition to direct financial losses, farmed fish escapees can cause harmful impacts to their wild counterparts. When farmed fish mix with native marine populations, they modify the gene pool and outcompete local species – an issue that threatens regulatory costs and reputational damage to the companies involved. In 77 out of 147 rivers sampled in Norway, researchers found wild salmon impacted by gene flow from farmed salmon. [13]

Fishmeal and fish oil production uses nearly

20%

of the global catch – and prices may rise by up to 90% over 2010-2030

Fish feed supply

Salmon and shrimp are carnivorous fish that require other fish in their diets, however demand is set to outstrip supply – the UN FAO warns that low supply will constrain the sector's future growth.[14] Carnivorous fish feed typically contains fishmeal and fish oil, which are made from wild-caught juvenile fish. In 2016, around a fifth of the world's commercially caught fish was used for fishmeal and fish oil production.[15] This makes the industry highly dependent on wild stocks of certain fish for future growth. Aquaculture is not a full solution to depleting fish stocks until this dependence is severely reduced. Prices of fishmeal and fish oil are set to rise by 90% and 70% respectively over 2010-2030.[16] Feed is already the most cost-intensive part of fish production, accounting for 30-70% of production costs. Rising marine ingredient prices will put additional pressure on producers' margins.

Disease

The World Bank estimates that disease costs the sector

$6bn

per year

Disease and parasites in aquaculture, such as sea lice on salmon or Early Mortality Syndrome for shrimp, significantly increase production costs, due to the cost of infection control and loss of stock. A World Bank report from 2014 estimates that disease costs the sector $6 billion per year.[17] Norwegian salmon farms are estimated to lose around 9% of revenues each harvest to sea lice-related costs.[18] A second World Bank analysis found that continued expansion and intensification of aquaculture increases the risk and severity of disease outbreaks. Its scenario analysis found that if South-East Asia shrimp producers were to experience a disease outbreak causing a 35% production drop, 15 years later production would still be 5.8% less than the baseline projection.[19]

Antibiotic use

High use of antibiotics in certain regions is contributing to the development of antimicrobial resistance (AMR) and creating export risks for parts of the sector. Chilean salmon and Asian shrimp production represent some of the highest antimicrobial use in food production. A 2015 study suggests Chilean salmon industry, for example, uses nearly ten times more antibiotics than in global average chicken production.[20] In January 2019, the US FDA blocked 26 shipments of Indian shrimp from entering the country (more than the total for all of 2017-18), due to detection of banned antibiotics.[21]

Chilean salmon production:

up to 1,400mg/PCU

Global chicken production:

148mg/PCU

Case study: Antibiotic residues and export risk

The US imports about half of its seafood from Asia,[22] seriously exposing the country to risks associated with this market. In January 2019, the US FDA prevented 26 shipments of Indian shrimp from entering (15% of the total for that month), due to detection of banned antibiotics. This compares to a total of 27 refused shipments of Indian shrimp for all of 2017 and 2018 combined.[23] This sharp spike in refusals is particularly worrying for US importers given that India is the country's top shrimp supplier, making up 36% of all imports. [24]

Indian shrimp exporters are likely to face further challenges with the US market. The new Seafood Import Monitoring Program in the US is in force from 1 January 2019; it requires traceability data from point of harvest to point of entry into the US, which many Indian exporters will struggle to provide.[25]

Transparency and food fraud

Studies find

1/3

of seafood sold in US and Canada is mislabelled

The seafood industry is vulnerable to food fraud. Fraud leads to costly product recalls and legal battles for companies and can generate lasting reputational damage. One academic study found that in Canada, approximately 32% of fish sold in the country is mislabelled.[26] A conservation group found similar mislabelling rates in the US.[27] Often, lower-value species are passed off as higher-value fish. One example was the 2015 interception by Chilean authorities of over 37,000 cans of 'horse mackerel' which turned out to be Pacific menhaden, a lower-value species. If sold, the mislabelled cans would have retailed for more than $19 million.[28]

In Europe, the salmon industry is facing investigation by US and EU authorities. Several salmon buyers have accused producers of artificially inflating prices. As of April 2019, it is anticipated that a class action lawsuit will be filed in the US during May 2019 against 15 producing companies.[29]

Case study: Risks in international trade

Seafood is the world's most highly-traded food commodity, exposing seafood to considerable trade risk. In 2016, about 35% of global seafood entered international trade with export value of $143 billion.[30] This is nearly triple that of soybeans, at $52 billion.

The US in particular is tightening import requirements for seafood, increasing risk for exporting countries that do not meet specified standards. In 2018, the US government stated its aim to make the US more self-sufficient in seafood supply by expanding domestic production[31] and criticised perceived lower standards in importing nations.[32]

New US regulation is increasing traceability requirements for imported seafood. Nations heavily reliant on exporting seafood to the US will have to meet these standards in order to remain competitive.

Forced labour

Thailand placed on EU 'warning list' for nearly four years following allegations of slave labour in seafood industry

The seafood industry, especially in Asia, has been associated with labour and human rights issues. Seafood production often takes place in areas with high rates of poverty and using high levels of migrant workers.[33] This exposes the aquaculture sector to consumer backlash and to the increasing regulation around the world to improve labour rights in supply chains, including Modern Slavery legislation in the UK and Australia and the Transparency in Supply Chains Act in California. The European Commission warned Thailand in 2015 that imports may be blocked, following revelations of human rights abuses. The warning was only lifted nearly four years later in January 2019.

Community resistance

Non-native fish culture banned in Washington state following community protests

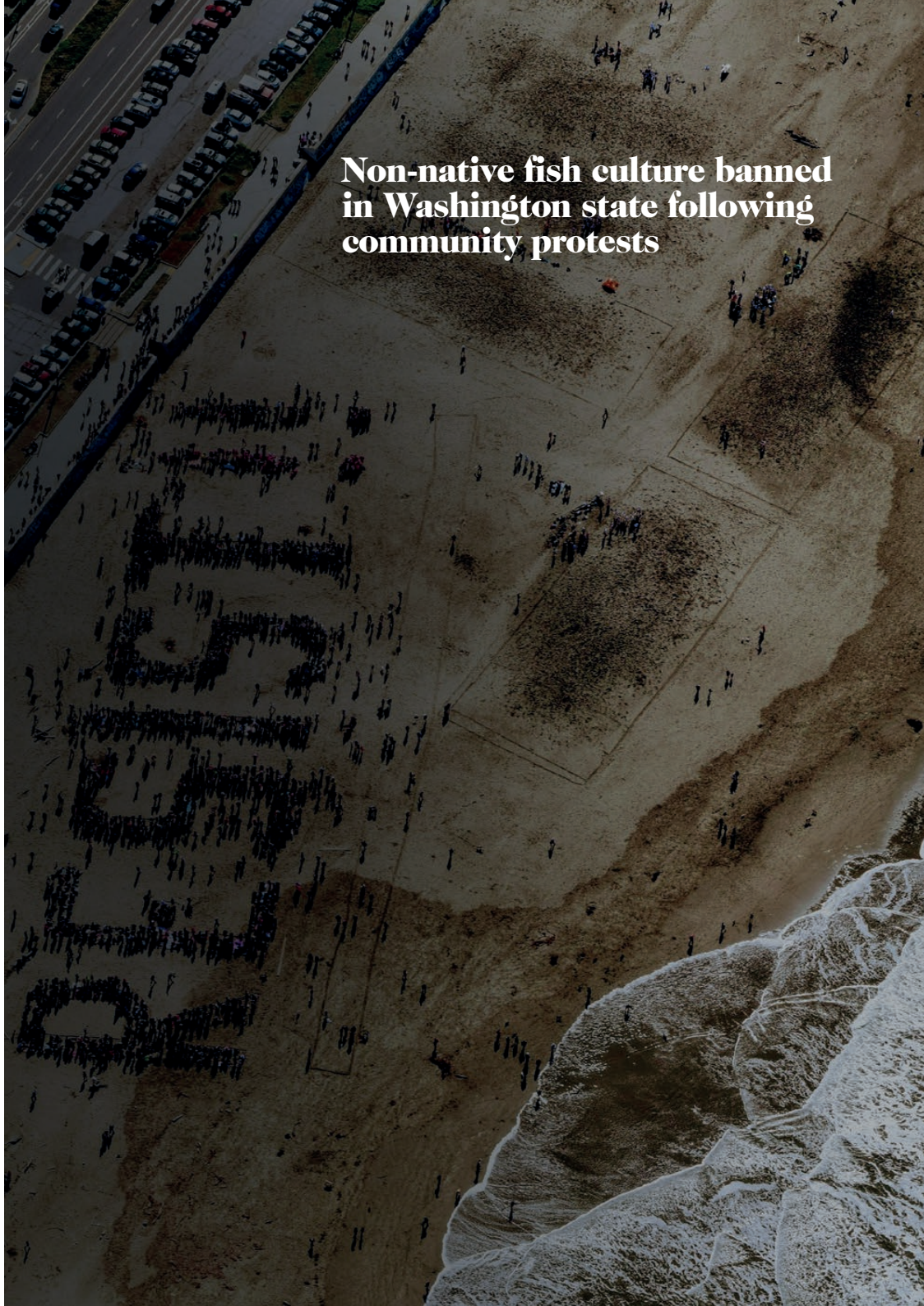
First Nations groups and local communities are increasingly resistant to new aquaculture projects in coastal waters, particularly in the US, Canada and Australia.[34] Protests and resistance to aquaculture pose risks to companies, whose operations could be limited or halted as a result of controversies. In 2018, the Washington state senate voted to phase out non-native fish culture across the entire state by 2025 after local communities protested against its biodiversity impacts.[35]

Fish welfare: an emerging risk

79%

of European consumers want to see more information on fish welfare on product labels

There are concerns that the physical and mental well-being of fish are compromised in aquaculture, at a time when research suggests consumer perceptions are shifting to support high-welfare products. A poll of 9,000 Europeans found that 79% of respondents believed fish welfare should be protected at the same level of other food animals and indicated they would like to see welfare information on the label of all fish products.[36] Investors also increasingly use welfare standards as a proxy to judge corporate attributes relating to food safety and health. Recently a Norwegian seafood analyst linked those companies that prioritised welfare issues with financial outperformance.[37] Companies are not currently well positioned to react to a rise in consumer concerns over fish welfare – the Coller FAIRR Protein Producer Index finds that very few global aquaculture companies are reporting on fish welfare using measures beyond physical health indicators.



Certification and beyond

Certification is a common tool for many food producers to communicate sustainability standards, however it is often difficult to ascertain what this means in practice.

Summary of certification scheme criteria Source: Fidra (2018)

	Environmental Impact	Disease	Transparency	Treatment	Feed	Marine protected areas	Predators	Escapes	Animal welfare	Traceability	Social responsibility	Enforcement	Score
ASC	✓	✓	✓	●	●	●	✓	●	●	●	✓	●	29
Global GAP	●	–	●	●	●	✓	●	●	●	✓	●	●	25
RSPCA	●	●	–	●	●	○	●	✓	✓	●	●	●	23
Organic – Soil Association	●	●	–	✓	✓	–	○	●	●	●	●	✓	22
GAA BAP	●	●	–	●	●	○	●	●	●	●	●	●	21
Friends of the Sea	●	–	–	●	●	–	●	●	–	●	●	●	16

✓ Strictest requirements ● Requirements ○ Recommendations – No recommendations or requirements

Source: Fidra (2018)[38]

This report reviews three standards that dominate the global certification of aquaculture operations: The Global Good Agricultural Practice (GLOBALG.A.P.), the Global Aquaculture Alliance Best Aquaculture Practices (GAA-BAP) and the Aquaculture Stewardship Council (ASC) standard. ASC is currently the sole aquaculture certification scheme to be recognised as a full member of the ISEAL Alliance Code of Good Practice, for Setting Social and Environmental Standards. ISEAL members are verified as credible sustainability standards, ensuring that they address the most pressing sustainability issues.[39] This makes ASC one of the most stringent certification schemes.

While certification helps farmers communicate good practices to stakeholders, it costly to achieve and maintain, especially given the complex supply chains involved in seafood production. Risk-based tools that use a variety of sustainability data to highlight regions at higher risk of poor standards are an interesting method to prioritise where companies should focus efforts.

The way forward

Finally, this report explores innovations in the aquaculture sector that aim to better manage the ESG challenges it faces, as well as new product developments that may disrupt the sector over the long-term.

The innovations and best practices analysed include innovative solutions to improve fish health such as the use of cleaner fish to fight sea lice and probiotics, i.e. natural microorganisms that improve animal gut flora and disease immunity. It also explores emerging types of production systems that may have reduced ecosystem impacts. Offshore systems in deeper water, for example, have the potential to reduce marine pollution and risk of parasite infection – but come with exposure to increased physical risk. Integrated multi-trophic (IMTA) systems allow uneaten feed, waste, nutrients and by-products to be recaptured and used as feed and energy, but are yet to scale up successfully.[40] Finally, the chapter also explores emerging alternative protein solutions in feed production and new products for human consumption, such as plant-based replications of fish products and cell-cultured seafood.

Feed innovation

Salmon and shrimp require fishmeal and fish oil in their diets. Feed producers and startup companies are exploring alternative ingredients that can provide the protein and omega-3 profile required by these species without relying on fish harvested from the wild.

Repurposing waste as feed

Waste and by-products from agriculture, aquaculture and livestock production are increasingly used as feed ingredients. World Bank projections show that if all producing countries integrated fish processing waste into fishmeal production, global fishmeal production would increase by 11.8% and aquaculture production would grow by an additional 1.9% compared to the baseline scenario.[41]

Fish oil replacement from algae

Fish oil is an excellent source of omega-3 fatty acids or DHA, but with rising prices of forage fish, the feed industry is seeking alternate sources of omega-3 fatty acids. Companies are pioneering ways to produce omega-3 fatty acids (essential in salmon diets) from heterotrophic algae which require no light and can be produced efficiently and in greater quantities than light-dependent algae.

Single cell proteins

While still in early stages of development, several companies are innovating to produce single cell proteins for aquafeed. Single cell proteins are proteins from the cells of microorganisms such as yeast, fungi, bacteria and algae. They can potentially reduce GHG emissions by converting methane to protein with minimal water and space. Thai Union Group is trialling use of these feeds, produced by Calysta, to replace the wild-caught fish ingredients in its shrimp feed.[42]

Farming insects

Due to their low input and exponential growth, insects are poised to become major alternatives to fish feeds. Several studies show that fly larvae are excellent nutrient sources for Atlantic salmon and other high-value species. The Dutch agribank Rabobank sees insects as a major area of growth and estimates the supply of feed alternatives to jump by 500,000 metric tons by 2022.[43]

New product developments

In addition to the above technologies in the aquaculture sector, new plant-based products are being developed that imitate seafood, as in the meat and dairy sectors.

Over the long-term, these innovations could disrupt the protein industry by providing attractive, viable products through significantly less resource-intensive production methods.

Snapshot: Plant-based seafood alternative products

Sophie's Kitchen, a plant-based seafood brand, is participating in an accelerator program overseen by Chipotle Mexican Grill. The company reported a 72% jump in sales from Q1 2017 compared with Q1 2018, demonstrating early consumer and corporate appetite for its products.[44]

Good Catch Foods, an emerging vegan seafood company, is expanding international distribution of its plant-based tuna product in 2019 following a US release the previous year. The company is attracting attention from mainstream animal protein producers: in August 2018, Good Catch Foods closed an $8.7 million Series A funding round including investment from PHW Group, a European poultry processor.[45]

Quorn Foods, an established player in the meat alternative market, launched a new range of plant-based 'Fishless Fillets' in March 2019. Quorn has launched a mixture of vegan and vegetarian meat alternatives in the past and company representatives report that on launch, its vegan products typically outsell the rest of the frozen meat free category by a factor of ten.[46]

Snapshot: Cell-cultured seafood products

Among the most radical and promising approaches to seafood production is cellular agriculture, where the meat of fish, shrimp or other seafood is grown directly from cells. The final product is made of the same cell types as the original tissue taken from the host animal. This technology is in early stages: as of August 2018, the Good Food Institute had identified four companies that focused on cultivating cells from fish or other marine animals.[47]

While fewer companies are developing cell-cultured seafood than poultry or meat, research suggests cell-cultured seafood may develop faster. The process has lower energy requirements than cell-culture of terrestrial animal protein. Secondly, finfish meat is structurally much simpler than land animal meat, which makes it easier to replicate in cellular production methods.[48]

Shiok Meats is a Singapore-based company developing a cell-based shrimp product. It has raised $4.6 million in seed funding, led by investor Monde Nissin Corporation, owner of Quorn Foods. The company aims to bring a product to market around 3-5 years from 2019.[49] BlueNalu, based in California, US is developing a range of cell-based seafood products, focusing first on fish fillets. Its team draw on a multitude of experience within the food industry. The company's CEO and several members of its advisory board have held senior roles at Nestlé, ConAgra, Campbell's and PepsiCo.[50, 51]

Selected engagement questions for investors

Further discussion and additional engagement questions are included in the full version of this report, available to FAIRR's Investor Members. Visit www.fairr.org for further details.

Greenhouse gas emissions

1. Does the company have a strategy to reduce GHG emissions? Does the company have or plan to set a science-based target to reduce GHG emissions?
2. Does the company report annually on scope 1, 2 and 3 emissions? Does this include emissions from the sourcing of fish feed?

Effluents

3. How does the company measure its impact on benthic environments? How does this data impact calculation of farms' fallow periods?
4. How is the company measuring, reporting and managing organic and inorganic loading/ eutrophication linked to its farming operations?

Fish feed supply

1. Does the company track and disclose feed ingredients by source (fish stocks or plant origin), volume and percentage?
2. What metrics does the company use to track FCR across various farmed seafood products? Is there a downward trend in FCR?

Habitat destruction and biodiversity loss

1. Is the company publicly reporting on escape events, including the number of lost fish, associated production value and cause of event?
2. Has the company invested in infrastructure improvements and employee training to reduce fish escapee events?

Disease management

1. Does the company disclose stock losses, revenue losses and causes of disease outbreaks?
2. What measures are in place to help the company prevent disease from occurring and control disease after an outbreak has occurred?

Antibiotic use

1. Does the company forbid use of medically important antibiotics for non-therapeutic purposes? How is compliance to the policy monitored and verified?
2. Does the company publicly report its use of antibiotics, broken down by country and type (e.g. CIAs, MIAs)?

Transparency and food fraud

1. What steps has the company taken to mitigate mislabelling in its supply chain?
2. What proportion of the company's operations and its suppliers are certified to a GFSI-recognised scheme?

Labour conditions

1. Does the company have a policy to uphold human rights and fair employment policies throughout its own operations and supply chains? How does it monitor compliance with this policy?
2. How does the company track risk and mitigation actions, review or update information sources and systems and incorporate learnings from previous incidents into its long-term abuse prevention strategy?

Community resistance

1. Does the company conduct a community engagement programme (e.g., consulting local stakeholders) when assessing viability of new production sites?
2. How does the company respond to community resistance to its operations?

Fish welfare

1. What steps is the company taking to manage fish welfare (e.g., policies, implementation, monitoring)? How does the company ensure its actions are relevant to the species in question?
2. Has the company assessed changing consumer concerns on fish welfare in its key markets?

The way forward: sustainability solutions

1. How is the company thinking about the evolution of plant-based and cell-based meat production, and how this may affect the seafood industry?
2. Is the company investing in feed innovations that reduce reliance on fish or soy?

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For more information, please contact:

Aarti Ramachandran
Head of Research and Engagements
aarti.ramachandran@fairr.org

Faazi Adam
Research Manager
faazi.adam@fairr.org

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