



Executive Summary

What Lies Beneath:

Uncovering the truth about Peru's colossal fishmeal and fish oil industry

The purpose of this report is to shed light on industry-specific issues related to the environmental and food security impacts of the use of wild-caught fish as feed inputs in the aquaculture industry.

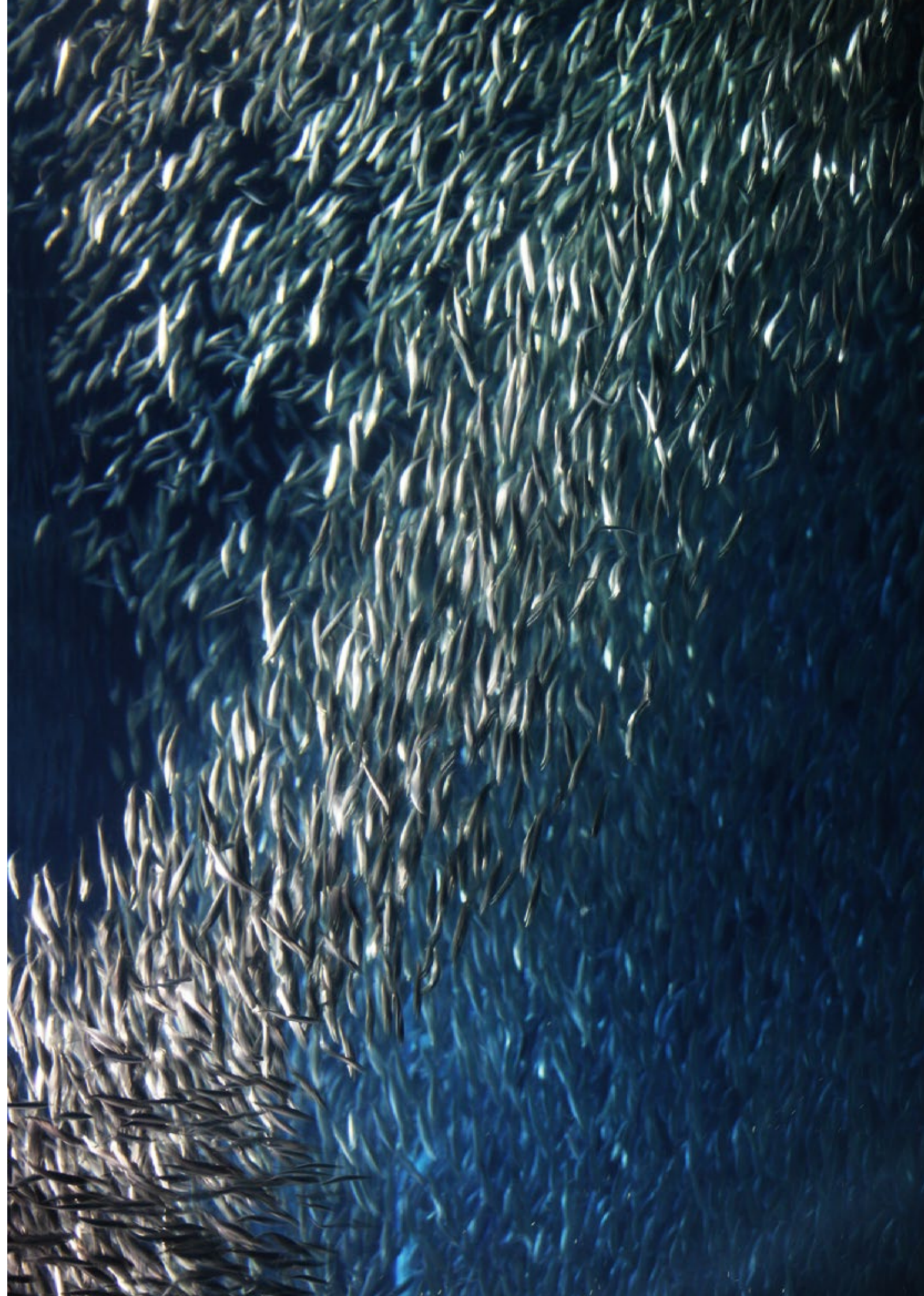
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Executive summary

Overview

Peru is the largest fishmeal and fish oil (FMFO) producer in the world. It accounts for one-third of global production,¹ and exports over 1 million tonnes of FMFO every year.² According to the international FMFO trade body, the Marine Ingredients Association (IFFO), the amount of FMFO produced from Peruvian anchovy (*anchoveta*), the main target species, is enough to supply half the world's fed farmed fish.³

Unslowed by the global Covid-19 pandemic, the sector is expected to generate \$2 billion in export revenue in 2020.⁴ It has customers in countries around the globe, from Asia to Europe and North America.

The industry portrays itself as a model of sustainability, boasting that more of its FMFO plants are certified by the MarineTrust Global Standard for Responsible Supply (formerly IFFO RS) than anywhere else in the world.⁵ However, in reality, it is plagued by corruption and scandals – from underreporting fish catches and overfishing juvenile fish⁶ to diverting thousands of tonnes of anchovy destined for human consumption to FMFO production instead. Recent investigations show that Chimbote, the 'fishmeal capital of the world,'⁶ remains one of the most polluted places on the planet.⁷

This wanton plundering of Peru's precious anchovy populations is all the more indefensible, given the key role the species plays in the Humboldt Current System, one of the most productive marine ecosystems on earth.⁸ Assessing the status of the anchovy population under a precautionary ecosystem-based approach would require careful consideration of the impacts on fish, bird and marine-mammal populations; however, to the best of our knowledge ecosystem impacts are not given adequate consideration when *anchoveta* quotas are set, and there is no strategy to do so in the near future. Moreover, while the Peruvian FMFO industry and global aquafeed producers are keen to gain Marine Stewardship Council (MSC) certification of the *anchoveta* fishery to improve their image, scientists point to numerous risk factors affecting the fishery which increase the likelihood of overexploitation of the stock, particularly when considered alongside the threat posed by climate change. Against this backdrop, experts interviewed for this report expressed concerns about future prospects for the *anchoveta* fishery – including fears of a potential collapse, similar to that which took place during the 1972 El Niño.⁹

Although Peru is by far the world's largest FMFO producer, very little is known about its supply chain or relationships with companies in Europe, which trade data shows to be a key FMFO export market. This report sets out to address this knowledge gap by mapping the links between Peruvian FMFO companies and major international feed and aquaculture corporations based in Europe. It shows the farmed fish, such as salmon, that ends up on European plates is produced with FMFO inputs from companies that have been involved in corrupt and unsustainable

A Peruvian fishing vessels are permitted by law to catch 10% of juveniles, on condition they notify the authorities of this. However, companies regularly exceed this limit, despite protests by fishermen themselves, who view this practice as a threat to the future of the fishery. In January 2020, fishermen desperate at the very high presence of juvenile fish in catches (in some cases, 100% of the catches were made up of juveniles) marched from Coishco to Chimbote to protest against the 'pillaging' of Peru's anchovy stocks, and demanded the immediate closure of the fishing season to protect fish stocks. Correo (2020) Bloquean túnel y exigen veda de anchoveta. 1 August. [ONLINE] Available at: <https://diariocorreo.pe/edicion/chimbote/bloquean-tunel-y-exigen-veda-de-anchoveta-929394/>.

practices such as fishing high volumes of juvenile anchovies – a practice that can have a devastating impact on marine ecosystems. It also highlights complicity between FMFO companies and Peruvian regulators, which have not only turned a blind eye to the industrial fleet's plundering of precious fish stocks but also actively encouraged overfishing by setting unscientific and overly high fishing quotas.

To make matters worse, at a time when Peru is struggling to cope with one of the worst Covid-19 crises in Latin America, hundreds of fishermen and FMFO workers have fallen ill, largely as a result of companies' failure to ensure their safety and provide them with medical care. Industry lobbying overturned an initial decision by the Peruvian government that deemed the FMFO industry non-essential, which led to the resumption of the fishing season, indicating the drive to catch fish to supply the voracious FMFO industry overrode considerations about workers' health. In the end – after a slow start, owing to a juvenile fishing scandal – the first 2020 season was another bumper season for Peru's FMFO fleet.¹⁰

This report provides evidence that two major companies – Peru's largest FMFO producer, Tecnológica de Alimentos (TASA), and the Norwegian-owned Austral Group – that supply FMFO to customers around the world violated their own health and safety protocols, putting their workers' health at risk and (at least in TASA's case) leading to widespread infections.

The biggest fishery in the world

In 2018, 18 million tonnes (Mt) of global fish catches were used to make FMFO.¹¹ Peru's anchovy fishery, which mainly supplies the country's FMFO sector, made up a significant share of these catches, and is the largest single-species fishery in the world.

Globally, catches of *anchoveta*, the vast majority of which is supplied by Peru, topped 7 Mt in 2018, representing 10% of overall marine-capture production.¹² The scale of the Peruvian *anchoveta* fishery is eye-watering: In 2018, 6,053,201 metric tonnes (MT) of anchovy destined for FMFO were landed in Peru, representing an 88% increase on the previous year (3,219,612 MT).¹³

The cumulative impact of the fishery is staggering: Between 1950 and 2006, more than 285 Mt of anchovy were caught off the coast of Peru.¹⁴ In weight terms, that's the equivalent of 2.3 million blue whales being taken out of the ocean over that period, or 41,000 blue whales disappearing every single year.¹⁵

In recent years, some of Peru's top FMFO producers have presided over significant anchovy catches and FMFO production, despite evidence that companies have repeatedly engaged in unsustainable fishing practices. In 2018, Peru's biggest FMFO producer, Tecnológica de Alimentos (TASA), landed 1,352,468 MT of anchovy (a 64% increase on 2017), representing 22.3% of the national catch. Austral, a Norwegian-owned company, landed 557,336 MT of anchovy (a 105% increase on 2017), equivalent to 9.2% of national landings. Most of this was made into FMFO.¹⁶

B Calculation made for a blue whale weighing 125 tonnes. The Marine Mammal Center (2020) *Blue whales: The largest animal on Earth*. [ONLINE] Available at: <https://www.marinemammalcenter.org/education/marine-mammal-information/cetaceans/blue-whale.html>.

C Although Peru is the largest fishmeal producer in the world, with a sector that generates hundreds of millions of dollars in revenues every year, until 2019 FMFO companies only paid 0.25% tax on their exports, equivalent to around \$3.75 per tonne of fishmeal (based on an international market price of \$1,500 per tonne). From 2019, this percentage was increased – but only to 0.43%, representing \$6.45 per tonne (based on the same price).

The investigation

This investigation was carried out between February and October 2020. It involved telephone interviews with relatives of industrial fishermen who had died of Covid-19, as well as fishermen and FMFO plant workers who had been infected. We also spoke, in person and over the phone, to senior FMFO company officers (who spoke on condition of anonymity), local activists and trade union representatives. The investigation included an analysis of Peruvian trade data from the SUNAT Peruvian customs agency, gathered via the Veritrade database, as well as official company records and corporate documents to establish supply-chain links with companies in Europe.

Key findings

Global supply chain: the Norwegian connection

For the first time, this report maps the links between the Peruvian companies that produce FMFO and their overseas clients, which supply feed to global aquaculture giants in Europe and around the world.

In 2019, almost one-third of Peru's fishmeal exports (32%) and fish oil exports (29%) were generated by two companies - TASA and Austral Group¹⁵ - which have been linked to not only overfishing juvenile anchovies and underreporting catches but also violating critical health and safety standards as the global Covid-19 pandemic ravages Peru.





















































































































































Supply-chain analysis shows TASA has supplied FMFO to feed giants that collectively produce millions of tonnes of aquafeed for the global market. Among its customers are Norwegian feed companies EWOS/Cargill and Skretting, as well as Danish-owned BioMar, which in turn supply to the world's biggest fish-farming companies.¹⁶ These companies' customers are major retailers, including the likes of Aldi, Marks & Spencer and REWE in Europe. All three aquafeed companies are also listed as suppliers to Lerøy, the world's second-largest farmed Atlantic salmon producer,¹⁶ in the company's 2017 and 2018 sustainability reports.^{17,18}

In 2019, Mowi - Norwegian salmon-farming and feed giant, and the world's largest producer of farmed Atlantic salmon - sourced 40.2% of its fish oil from *anchoveta* fished in Peruvian and Chilean waters.¹⁹ Mowi supplies farmed salmon to some of Europe's biggest supermarket chains; for example, trade reports indicate it is UK retail giant Sainsbury's main supplier.²⁰









Lerøy sourced over one-quarter (26.4%) of its fish oil from Peru in 2019.²¹ Like its sister company Austral, Lerøy is a subsidiary of Norwegian seafood giant Austevoll, one of the largest fishing groups in the world. In turn, Lerøy supplies farmed salmon to major international retailers, including Ikea,²² Tesco,²³ Carrefour²⁴ and Spanish retailer Mercadona.²⁵ Through its UK subsidiary, Scottish Sea Farms, Lerøy also supplies salmon to British retailer Marks & Spencer.²⁶



OVERVIEW OF PERU'S MAJOR FMFO PRODUCERS, THEIR CUSTOMERS AND INVOLVEMENT IN CORRUPTION, ENVIRONMENTAL AND SOCIAL SCANDALS

COMPANY	SHARE OF MARKET	INVOLVED IN RECORDINGS SCANDAL?	ACCUSED OF OVERFISHING JUVENILES?	UNDERREPORTING CATCHES?	COVID SAFETY PROTOCOL VIOLATIONS?	CERTIFIED?	INTERNATIONAL SUPPLY CHAIN LINKS	MEMBERSHIP
 Pesquera Exalmar OWNERSHIP MAJORITY SHAREHOLDER CALETA DE ORO HOLDING SA (CHILEAN PRIVATE COMPANY)	 12.74% EXPORTS (2019)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	 (5 SITES) 	        	 
	 9.42% EXPORTS (2019)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	 (9 SITES) 	      
 TASA OWNERSHIP REGISTERED IN LIMA, PERU. PARENT COMPANY - GRUPO BRECA	 22.3% OF NATIONAL ANCHOVY CATCH (2018)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	 (9 SITES) 	      	  
	 16.76% EXPORTS (2019)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	 (4 SITES) 	      
 Austral Group S.A.A. Austevoll Seafood Company OWNERSHIP SUBSIDIARY OF AUSTEVOLL SEAFOOD (NORWEGIAN COMPANY)	 9.33% EXPORTS (2019)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	 (4 SITES) 	      	  (Amcham)
	 7.34% EXPORTS (2019)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	 (5 SITES) 	    
 PESQUERA DIAMANTE OWNERSHIP REGISTERED IN PERU	 11.31% EXPORTS (2019)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	 (5 SITES) 	    	 
	 6.07% EXPORTS (2019)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	 (4 SITES) 	     
 COPEINCA CORPORACION PESQUERA INCA S.A. OWNERSHIP REGISTERED IN NORWAY. PARENT COMPANY - CFG INVESTMENT	 14% EXPORTS (2019)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	 (4 SITES) 	     	 
	 11.52% EXPORTS (2019)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	 (5 SITES) 	    
 CFG INVESTMENT SAC OWNERSHIP OWNED BY CHINA FISHERY GROUP. REGISTERED IN HONG KONG	 7.8% EXPORTS (2019)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	 (5 SITES) 	    	 
	 4.5% EXPORTS (2019)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	 (4 SITES) 	    
 HAYDUK OWNERSHIP REGISTERED IN PERU	 10.68% EXPORTS (2019)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	 (4 SITES) 	    	 
	 9.54% EXPORTS (2019)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	 (4 SITES) 	    

D Over the past decade, the aquafeed industry has become increasingly consolidated. The four feed producers mentioned here (Mowi, Skretting, EWOS/ Cargill and BioMar) now control the majority of salmon-feed output. Mowi (2020) *Salmon farming industry handbook 2020*. [ONLINE] Available at: <https://mowi.com/it/wp-content/uploads/sites/16/2020/06/Mowi-Salmon-Farming-Industry-Handbook-2020.pdf>.

 INVOLVED IN RECORDINGS SCANDAL?	 UNDERREPORTING CATCHES?	 FISH MEAL	 ANCHOVY
 ACCUSED OF OVERFISHING JUVENILES?	 COVID SAFETY PROTOCOL VIOLATIONS?	 FISH OIL	 INDICATES COMPANY INVOLVEMENT

Flawed certification body

The certification body Peru's European clients rely on as a guarantor of the industry's sustainability, MarinTrust, is fatally flawed.

Despite its recent rebrand,²⁷ the MarinTrust Global Standard for Responsible Supply (formerly IFFO RS) continues to certify destructive companies and practices in Peru's *anchoveta* fishery, and companies it certifies are now seeking to use MSC certification to further greenwash these.²⁸ Specifically, this report shows MarinTrust has certified as sustainable Peruvian companies that have:

- historically underreported fishing catches;
- participated in highly unsustainable fishing practices, including overfishing juveniles, which puts the renewal of wild-fish populations at risk;
- recently been involved in a national corruption scandal, in which government officials inflated the anchovy biomass (and therefore fishing quotas) by several million tonnes - to the benefit of the industrial fishing and FMFO sector.

Fishermen on deck
© Rodrigo Abd



In addition - and continuing a trend first analysed by international marine conservation group, Oceana²⁹ - this report reveals that, between 2012 and 2018, Peru produced an average of 885,663 tonnes of fishmeal and reported 931,954 tonnes of fishmeal exports every year. This annual mismatch of 46,000 tonnes of 'phantom' fishmeal further undermines claims the sector's sustainability claims.

Covid-19 cover-up

Hundreds of FMFO workers and fishermen were infected with Covid-19 - and several died of the virus - during the fishing season, which started on 13 May 2020 and ended in late July.³⁰

Evidence presented in this report shows TASA, Austral Group and other companies flouted their own safety regulations by mixing fishermen and crews without respecting quarantine procedures, putting their workers at risk amid one of the most deadly outbreaks of Covid-19 in the world.

Companies have been reluctant to reveal the true extent of infections among their workforce. However, evidence from two of TASA's ten plants suggests infections have been widespread. According to information shared with Changing Markets, 76% of workers represented by the company's main trade union, SINTETASA, were infected at TASA's Vegueta plant (160km north of Lima), while 48% of the entire workforce at its Samanco plant - located near Chimbote, the '*fishmeal capital of the world*'³¹ (430km north of Lima) - were infected.

We have also found evidence that TASA failed to report at least two Covid-19 cases in its workforce to the Peruvian Ministry of Health, suggesting the company is trying to cover up the true scale of infections among its workforce.

This report lifts the veil on a deeply unsustainable industry that seems to stop at nothing - not even a global pandemic - in its pursuit of ever more wild-caught fish to feed the booming aquaculture sector. Mindful of shielding its reputation, it has instrumentalised certification standards, such as MarinTrust, to cover up its failings and improve its access to the lucrative global market. This report examines why Peru's FMFO industry is failing to live up to its sustainable image, and why its global customers in the feed and retail sectors should think twice about sourcing from Peru. Exposing a sector rife with environmental and social violations, it calls for a rapid phase-out of FMFO from the global aquaculture industry.



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