

The future of fish

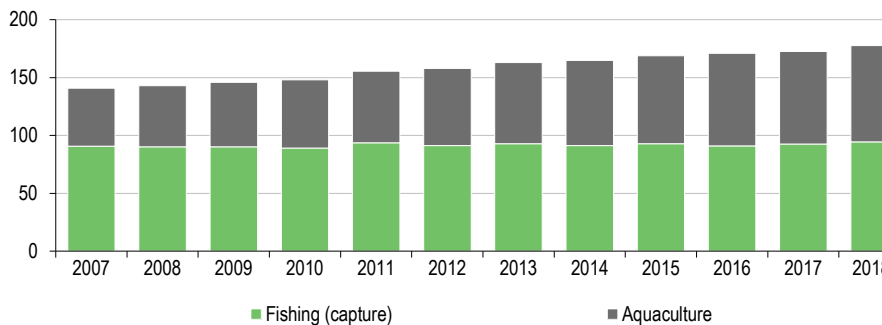
The investment case for sustainable fishing

Overfishing and commercial fishing practices are depleting fish populations. Farmed fish has come under scrutiny over the years as intensive production, including greater use of antibiotics, is leading to reduced product quality and raises key questions on sustainability. Overfishing poses a threat to global ecosystems with unmeasurable adverse economic and environmental implications. Simultaneously, pollution in oceans, predominantly plastics and heavy metals, is increasingly of concern to consumers and authorities. The future of fish and its sustainability will depend on changing production and consumption habits, backed by regulatory moves. Alternatives to natural fish protein, for example cell-based fish production, are being pursued.

Demand for fish is increasing...

World fish production has been rising as global demand for protein has been growing. This is becoming increasingly unsustainable as global wild fish stocks become depleted and intensive fish farming is contributing to an increase in disease and perceived reduction in quality. In an industry thought to be worth over \$400bn, farmed fish is now estimated to account for more than half of global fish production.

Exhibit 1: World fish production, by fishing and aquaculture (million metric tonnes)



Source: Statista, Food and Agriculture Organization of the United Nations (FAO). Note: *Estimated.

The largest global fish producers are in Asia, which also accounts for the world's largest market in terms of consumption (China), and four out of the top five markets, with high consumption also in Japan, India and Indonesia. The US completes the top five markets worldwide.

...as is the number of fishers and fish farmers

The total number of fishers and fish farmers globally has been on an upward trend as more people living in coastal areas turn to fishing and aquaculture to sustain their livelihoods.

Edison themes



6 September 2021

Edison themes

As one of the largest issuer-sponsored research firms, we are known for our bottom-up work on individual stocks. However, our thinking does not stop at the company level. Through our regular dialogue with management teams and investors, we consider the broad themes related to the companies we follow. Edison themes aims to identify the big issues likely to shape company strategy and portfolios in the years ahead.

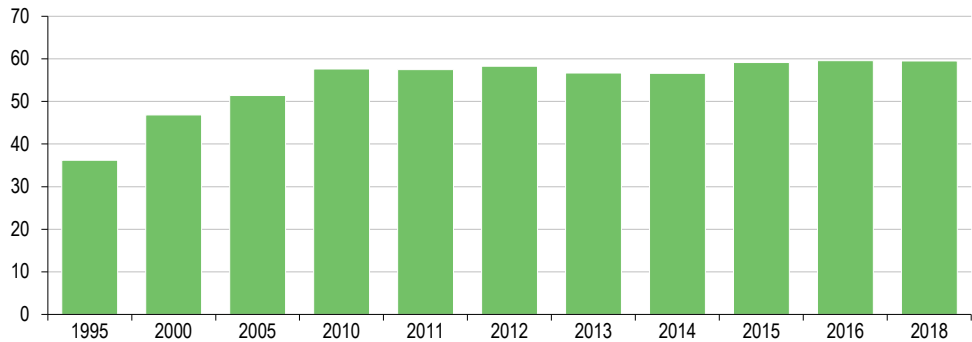
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Exhibit 2: Total number of fishers and fish farmers worldwide (m)



Source: Statista, FAO

What are the alternatives to preserve sustainability?

The fish space encompasses both private and listed companies. Mitsubishi Corp is present in the fishing industry though, as a conglomerate, only some of its value can be ascribed to its fish business (which is part of its Food division).

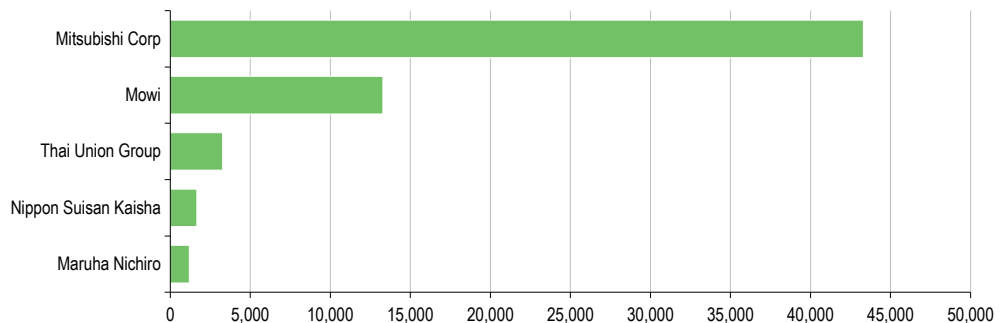
As investors consider how to invest in industries committed to sustainability, and are increasingly measuring the environmental, social, and governance (ESG) aspects, they are likely to focus on elements of the food production industry that offer alternatives. Plant-based foods are proliferating (as discussed in our [note on meat alternatives](#)) and in aquaculture there are many approaches. These include energy conservation, enhanced environmental measures and improved farming practices. Novel scientific approaches such as the production of cultured fish and seafood are also being developed. Cellular fish (cell-based production) could solve many environmental and sustainability issues, but its three main challenges are: (1) viability of the technology on a commercial scale, (2) cost and (3) consumer acceptance and the regulatory environment.

There are a number of companies looking to launch novel fish and seafood products, such as BlueNalu and ShioK Meats on the cell-based side and Nestlé and New Wave Foods looking to launch plant-based seafood alternatives.

Environmental regulatory support

The sustainability of the fish industry and moves to research and produce alternative sources are underpinned by global and regional environmental directives such as the UN SDG (Sustainable Development Goals) 14, to 'conserve and sustainably use the oceans, seas and marine resources.'

Exhibit 3: Largest fishing companies, by market capitalisation (US\$m)

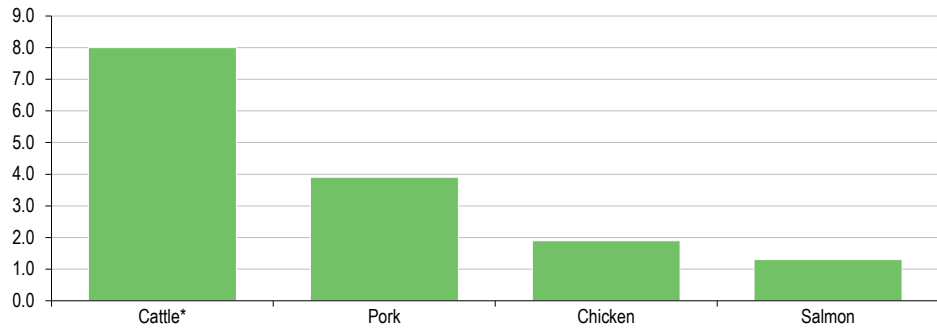


Source: Refinitiv, priced at 3 August 2021. Note: Mitsubishi's fish business is within its Food division.

An efficient source of protein

Fish is a relatively efficient source of protein, as its feed conversion ratio is lower than that of any traditionally farmed meat. Cattle is the most inefficient source of protein, as it takes a substantial amount of feed and water (and land) for each kilogram or calorie of meat. In addition, it takes a significant amount of time to rear the animals before they can be slaughtered. In this respect, fish is more efficient.

Exhibit 4: Global feed conversion ratio of selected meat and fish

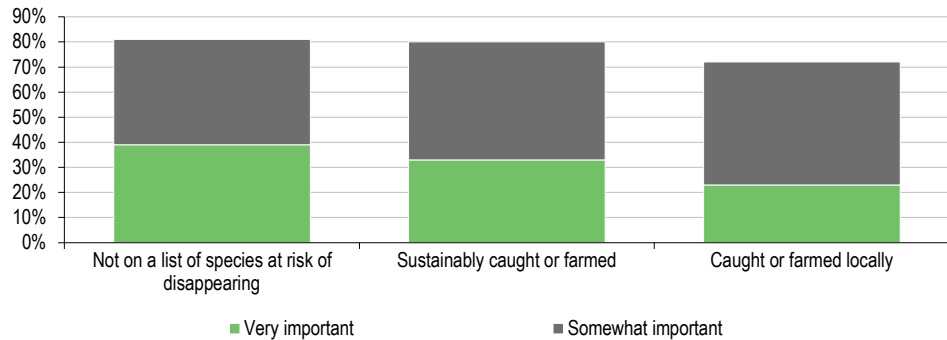


Source: Statista, Mowi, Salmon Farming Industry Handbook 2021. Note: Feed conversion ratio defined as kilogram of feed required to increase the animal's bodyweight by 1kg. *Range of 4–10.

Sustainability is important to consumers

Environmental concerns have come to the fore over the last decade and consumers demand more sustainable products. Fishing is no exception, with consumers now trying to avoid species that are at risk and fish that is not sustainably caught or farmed. This should help to effect lasting change within the industry, as suppliers adapt to satisfy growing consumer concerns.

Exhibit 5: Perceived importance of sustainable fishing worldwide 2019



Source: Statista, Ipsos

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