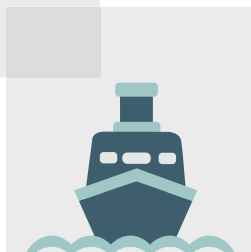


# PERFECT STORM

**PROFITS AT RISK IN THE  
JAPANESE SEAFOOD INDUSTRY**

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OCTOBER 2019



Planet Tracker

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## ABOUT PLANET TRACKER

Planet Tracker is a non-profit financial think tank aligning capital markets with planetary limits. It was launched in 2018 by the Investor Watch Group whose founders, Mark Campanale and Nick Robins, created the Carbon Tracker Initiative.

Planet Tracker was created to investigate market failure related to ecological limits. This investigation is for the investor community where, in contrast to climate change, other ecological limits are poorly understood and even more poorly communicated, and not aligned with investor capital.

## THE FISH TRACKER PROGRAMME

The Fish Tracker Initiative investigates the impact that financial institutions have in financing global wild-catch fisheries and seafood trade. Our aim is to align capital markets with sustainable fisheries management. Fish Tracker is a part of the wider Planet Tracker group of Initiatives.

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# FOREWORD

The publication of this report is particularly timely because it coincides with a critical period in the development of the Japanese seafood industry which, historically, has been a leading force in supplying wild-catch fish to satisfy global demand. The future importance of seafood as a food source for the ever-growing global population is undisputed yet, as our report demonstrates, Japan's place in that market is now under serious pressure.

The facts speak for themselves. Seafood production in Japan has been in serious long-term decline since 1985 and is projected to continue to fall to 2025. To mitigate this decline, Japanese seafood companies have increased imports and invested in aquaculture. Since 2009, the share value of Japanese seafood companies has shown steady growth. The implication of these two trends is that, unless there is a recovery in wild-catch fish stocks to support a regeneration of industry growth, investors are facing the serious possibility of a seafood bubble which is ready to burst in the near future.

The overall message of our report is that it is not too late to turn things around. The focus of Planet Tracker is to use global capital allocation to stimulate companies and industries to adopt different and more sustainable practices.

Planet Tracker is concerned with studying different commodity markets to identify risk for investors arising from a variety of factors, but we are principally concerned with risk arising from the way in which natural environments are managed and how unsustainable practices undermine the stability of global investment portfolios.

We chose Japan as the focus of this study, not just because there are clear issues to be addressed, but also because, as our report highlights, the Japanese seafood industry potentially has such an important role to play in moving things in a positive direction.

The Japanese Government has also shown its willingness to address these issues through the revision of the Fisheries Act in 2018.

The financial lessons to be learnt from where the seafood industry is today give a clear message to investors and credit lenders who support companies in the industry. The solution to this may be complex – but it is not unachievable. We have set out detailed recommendations for action in our report, which we urge all the relevant interests, seafood companies, asset owners, credit lenders, regulators and Government to consider carefully, as they *all* have a part to play in creating sustainable wild-catch fisheries and sustainable profits for seafood companies.

I hope that the findings of the report will generate conversations and actions which will serve to regenerate the wild-catch fish stocks which underpin this important industry before it is too late.

*"Japan was the biggest seafood country in the world but various combining factors in the last 30 years contributed to its marine resources decreasing to less than half of the peak catch volume. However, Japan is surrounded by some of the best fishing grounds in the world and we should do what it takes to replenish our marine resources. By both establishing large-scale, comprehensive frameworks and achieving detailed, continuous reforms, we will strengthen how we implement stock assessments, resource management and IUU measures in Japanese-specific ways."*

*Shigeto Hase,  
Director General, Fisheries Agency, 2018*

*Mark Campanale  
Founder, Planet Tracker*

CON

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# EXECUTIVE SUMMARY

Wild-catch fish and aquaculture produce, defined jointly as seafood, represent one of the world's most valuable globally traded food commodities, according to the UN Food and Agriculture Organisation (FAO).<sup>1</sup> Seafood is an essential part of the diet for billions of people and supports hundreds of millions of jobs.

Global seafood production peaked at 171 million tonnes in 2016, with wild-catch fisheries and aquaculture generating sales of \$130 billion and \$232 billion respectively. In 2017, the 100 top global seafood companies generated wild-catch fisheries and aquaculture revenues of \$101 billion.

Japan's seafood industry is the leader in the global listed equity wild-catch fishing market and is home to 23 of the top 100 listed companies worldwide, with revenues of \$37 billion from global seafood sales in 2017.<sup>2</sup>

Recent decades have seen a steep decline in Japan's seafood production which peaked in 1985 at 12.8 million tonnes (metric tonnes) and has since decreased by two thirds to 4.3 million tonnes in 2017 (3.3 million tonnes wild-catch and 1.0 million tonnes farm-raised) – see Figure 1.

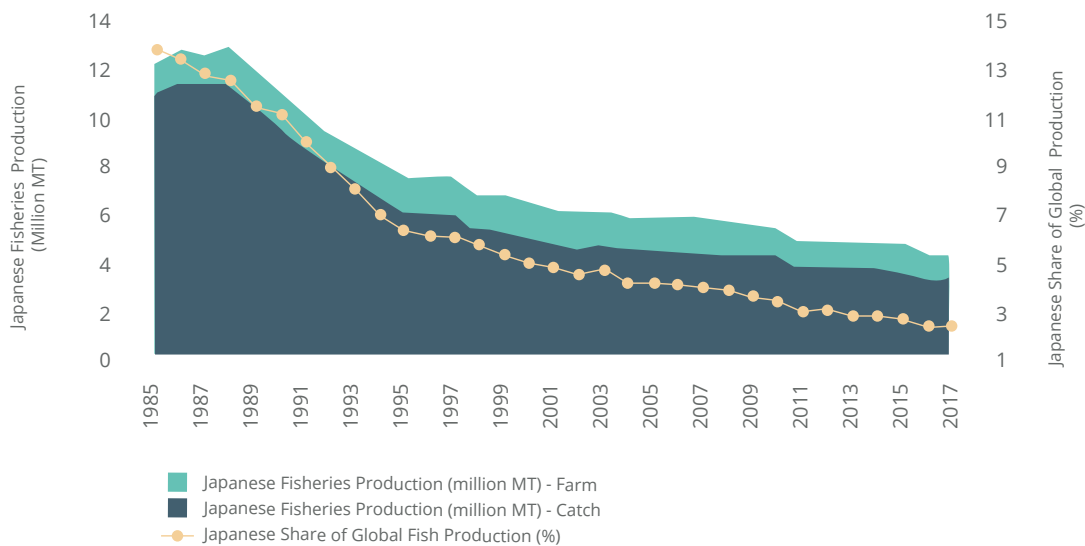


Figure 1: Japan's Fisheries and Global Market Share 1985-17.<sup>3</sup>

Japan's share of global seafood production has been impacted by overfishing as a result of growing competition from other nations. This has caused Japan's combined share of global wild-catch fish and aquaculture production to fall by 85%, from 13.4% in 1985 to 2.2% in 2017.

In 2016, a third of the world's fisheries were overexploited and just 7% under-exploited. By contrast, in 1975 only about 10% of global fisheries were overexploited while 40% were underexploited.<sup>4</sup>

Overfishing poses serious financial and reputational risks, not just to Japanese wild-catch companies, but to the investors and credit lenders who finance them. Currently they have limited ability to tell whether the companies they finance are sourcing wild-catch fish sustainably or not.

As a result investors and lenders face unpriced financial and credit risks and companies are experiencing lost revenues and escalating operating costs as vessels go further afield and stay out longer to catch dwindling stocks of fish.



Investors and lenders are also exposed to the reputational risk of companies in which they

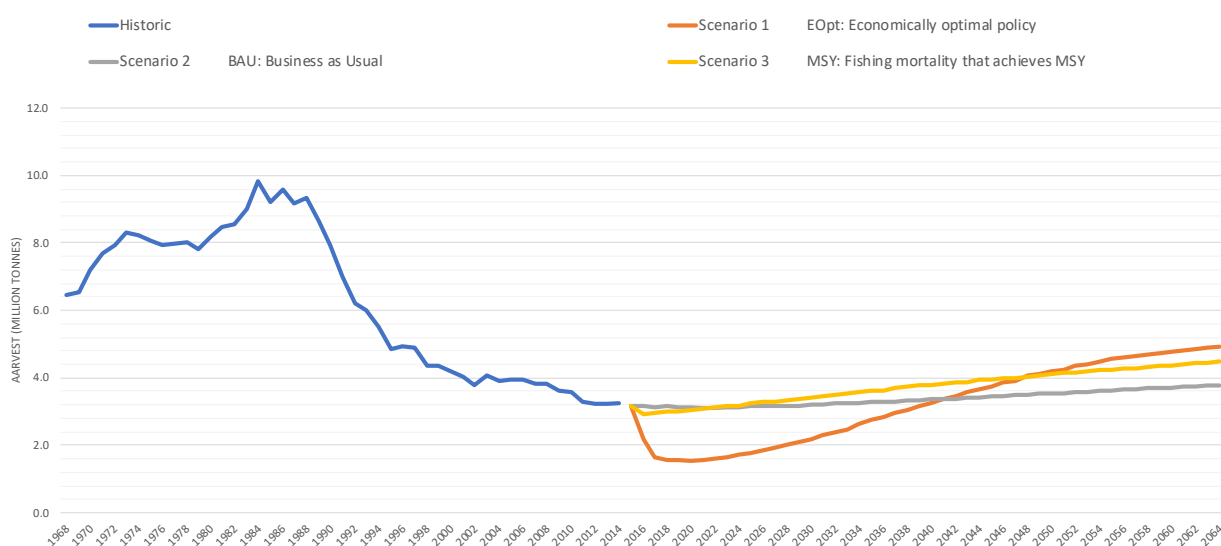


invest that import fish caught unsustainably or illegally. Global seafood firms apply a variety of different norms and values to their sourcing, which are seldom equivalent to Japanese standards.

If investors and credit lenders adopt policies that support the sustainability of wild-catch seafood stocks, these financial risks can be mitigated. Similarly, when seafood firms are prepared to apply sustainable fishing practices, they can reduce their exposure to financial and reputational risks and strengthen market positioning to grow future revenues.

**If fisheries were managed sustainably to achieve their maximum sustainable yield, the global industry could earn an estimated \$51 billion to \$83 billion extra every year, part of which would transition back to investors and credit lenders.**<sup>5,6,7</sup>

Research published in October in the journal Marine Policy (Vol. 108) finds that Japanese fisheries alone could generate an extra \$5.5 billion a year by 2065 if catches are reduced in the short term to allow stocks to rebuild - see Figure 2.



K. Tokunaga et al (2019) Alternative outcomes under different fisheries management policies: A bioeconomic analysis of Japanese fisheries.

**Figure 2: Catch Trajectories Under Three Policy Scenarios.**

Leading Japanese funds are among the biggest investors, including Japan’s Government Pension Investment Fund, the world’s largest pension fund, as are many of the world’s biggest asset managers including BlackRock, State Street and Vanguard, all based in the United States.

Japan’s seafood industry, as the world leader, including Japanese companies whose interests include seafood production, has a unique role to play by using its influence to ensure fisheries are managed sustainably to achieve maximum sustainable fish production (maximum sustainable yield) which will secure both industry and investor positions.

Planet Tracker analysed a group of 41 Japanese listed companies (see Appendix 8) active in the seafood business with a combined market capitalisation of \$134 billion in 2019.

This report focuses on seven key risks facing these companies and the investors and credit lenders that finance them and makes recommendations on how to address these risks.



## Investors are Not Pricing or Reporting on Seafood Risk

Investment performance of Japanese seafood companies is being compromised by the following factors adding risk to shareholder capital and lender credit:



**Declining seafood stocks:** Reducing catch and increasing operating costs resulting in lower profit margins.



**Industry accounting standards:** Provide no mechanism to value wild-catch seafood asset values on company balance sheets.



**Climate change:** Warming sea temperatures impact distribution range, migratory habits and stock size of wild-catch fisheries.<sup>8</sup>



**Traceability of fish catches:** Investors have no mechanism to obtain public and independently validated data on seafood type or when, where and how much is caught or purchased by seafood companies.



**Transparency of operations:** Lack of supply chain transparency and performance disclosure by seafood companies makes it impossible for investors to link company revenue figures with fisheries that are over-fished or at risk of overexploitation.



**Opaque subsidiaries:** Planet Tracker found 2,900 subsidiaries of the 41 listed companies assessed in this report. It is difficult to determine how many of these operate in the seafood industry. Investors in the 41 seafood companies have no visibility of these subsidiaries' operations, liabilities and performance.



**Industry inefficiencies:** The wild-catch fishing industry is failing to realize annual economic benefits from \$51 billion to \$83 billion<sup>9,10,11</sup> because of fisheries mismanagement where biomass has been reduced below maximum sustainable yields, leading to higher access and extraction costs.<sup>12</sup>



Ten of the Top 15 investors in the sector are Japanese, accounting for 51% of the equity of the leading 41 Japanese seafood companies by market capitalisation.

## Emerging Insights for Investors

### Japanese Seafood Companies can:

- **Secure Sustainability Certification:** Demonstrate global leadership by transitioning towards full certification by an internationally recognised standard such as the publicly accessible Marine Stewardship Council (MSC) Fisheries Standard or an equivalent.
- **Adopt Full Traceability:** Carry independent observers and/or vessel monitoring systems (VMS) on all vessels to record catches. Companies can then publicly report on where their seafood has been caught, under which quota and from which vessels. Full traceability creates conditions in which Japanese fisheries are better able to demonstrate industry-leading legal labour conditions and support full employment in the sector.
- **Report Operations Transparently:** Publicly report each year on their beneficial ownership of subsidiaries and related vessels and transport and processing infrastructure, eligible quotas, their fishing activities, catch data and taxes accrued to the Government of Japan.
- **Biological Reporting:** Apply International Accounting Standard (IAS) 41 or equivalent to audited company accounts for wild-catch fisheries, fully reporting on biological stock values, to improve sector wide accounting evaluations.
- **Adopt a Sustainability Policy:** Implement and report against a credible sustainability policy, with independently verifiable performance. This could include adopting Norges Bank Investment Management Policy on *Ocean Sustainability Expectations Towards Companies* by 2020 (see Appendix 5).



- **Report in English:** Publish annually all traceability, transparency, beneficial ownership, sustainability policies and sustainability performance data in English as well as Japanese so as to ensure that global financial data providers accurately report on Japanese seafood companies' activities. Planet Tracker research found certain companies publishing high quality sustainability reports not available in English which limits the ability for improved investment decision-making.

#### Asset Owners and Credit Lenders can:

- **Require Sustainability Certification:** Only invest in, and issue credit to, companies and fisheries fully certified by, or transitioning towards, an internationally recognised standard such as the MSC Fisheries Standard or an equivalent.
- **Conduct Due Diligence and Monitoring:** Assess companies annually to ensure they meet all sustainability requirements as set by the credit lender.
- **Mandate Full Traceability and Transparency:** Request independently validated reports on when, where and by what method fish used by company operations have been caught and under which quota.
- **Establish Sustainability Policies:** Ask seafood companies without sustainability policies to adopt and implement these in order to mitigate investment risks detailed in this report.
- **Adopt Sustainable Investment and Lending Principles:** Utilise the Principles for Investment in Sustainable Wild-caught Fisheries launched at the World Ocean Summit in 2018 to assess seafood investment opportunities for portfolios, with 3<sup>rd</sup> party compliance verification.<sup>13</sup> These Principles were designed by a coalition of asset managers, banks, conservation organisations and foundations. As the Government of Japan is a global leader in supporting the SDGs, there is a convergence between these Principles and their alignment with the UN Principles of Responsible Investment and the UN SDGs.

#### Japanese Regulators and the Japanese Ministry of Agriculture, Forestry and Fisheries can:

- **Mandate On-Ship Monitoring:** Require all vessels registered to Japanese companies and their subsidiaries and related parties to carry independent observers and/or use VMS tools to record catch – such schemes are beginning to roll out in other global fisheries. Such tools can also enable accurate reporting of tax revenue from seafood production to the Government of Japan.
- **Mandate Vessel Ownership Disclosure:** Require companies regulated by the Japan Financial Services Authority to annually disclose and publish any beneficial ownership in vessels and related processing and transport infrastructure by their company.
- **Require transparent sourcing for wild-catch fisheries:**
  - Level the playing field between Japanese companies and foreign operators
  - Reduce mislabelling of seafood
  - Improve food safety
  - Decrease wasted by-catch
  - Decrease market access to criminal elements
  - Monitor fish transshipment events
  - Assert sovereignty and rule of law in Japan's Exclusive Economic Zone.



## SECTION 1

# GLOBAL CONSUMPTION OF SEAFOOD IS GROWING BUT STOCKS ARE DECLINING

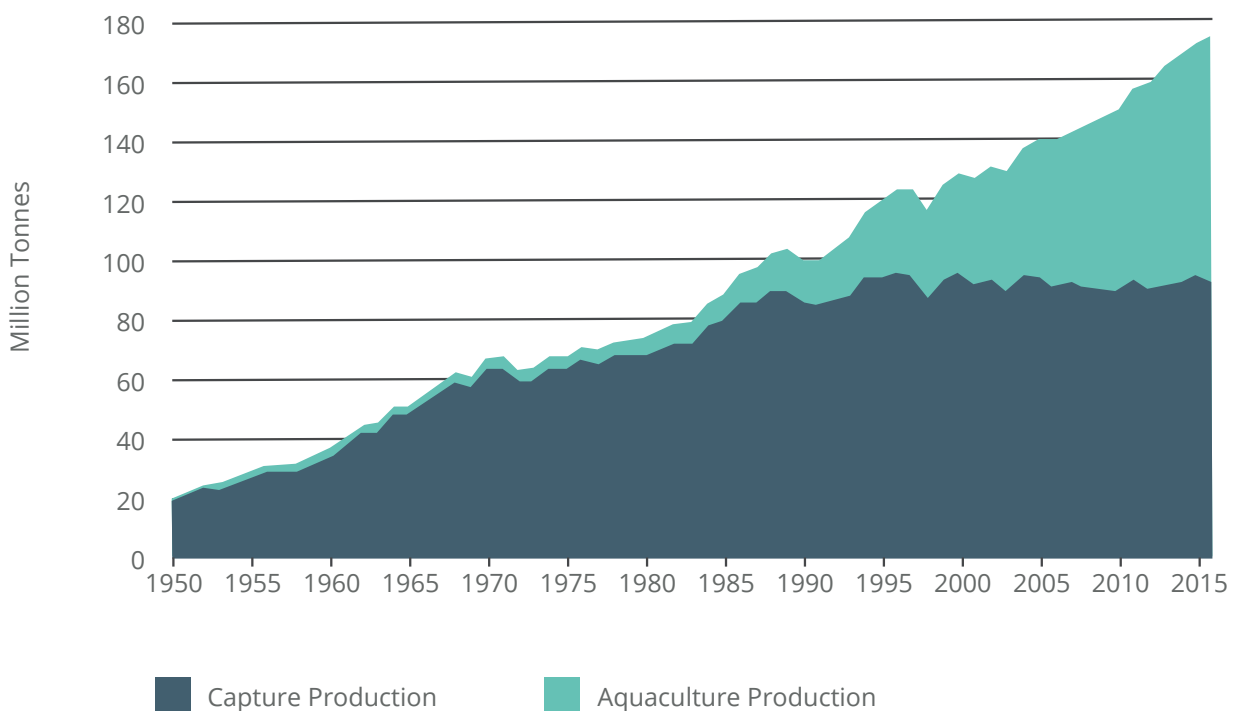
Seafood is essential to human nutrition. 3.2 billion people rely on seafood for a fifth of their animal protein<sup>14</sup> and globally an estimated 660 to 880 million people depend on the seafood industry for their livelihoods<sup>15</sup>, including an estimated 60 million employed in the primary sectors of wild-catch fisheries and aquaculture.<sup>16</sup>

The UN expects world population to reach 9.8 billion by 2050. This is likely to lead to even more demand for seafood and compound stress on global fisheries. The 2019 Lancet Commission Report 'Food in the Anthropocene' states that protein sourced from seafood may have to double per capita by 2050 to meet global nutritional demand.<sup>17</sup>

Global demand for seafood is already outpacing other proteins. Seafood demand grew 3.2% annually from 1961 to 2016, compared to 2.8% for meat protein. Over the same period, seafood consumption per capita more than doubled from 9 kg to 21 kg.

Growing protein demand is a two-edged sword. It can create market opportunities for seafood companies able to service the demand, but at the same time it increases pressure on wild fish stocks.

One result of this is that while global wild-catch fisheries grew until the mid-1990s, when catch volumes plateaued at around 90 million tonnes, since the 1990s volumes have declined to 79.3 million tonnes in 2016.<sup>18</sup> And, as wild-catch fisheries declined, aquaculture grew to 53% of global seafood production by 2016 - see Figure 3.

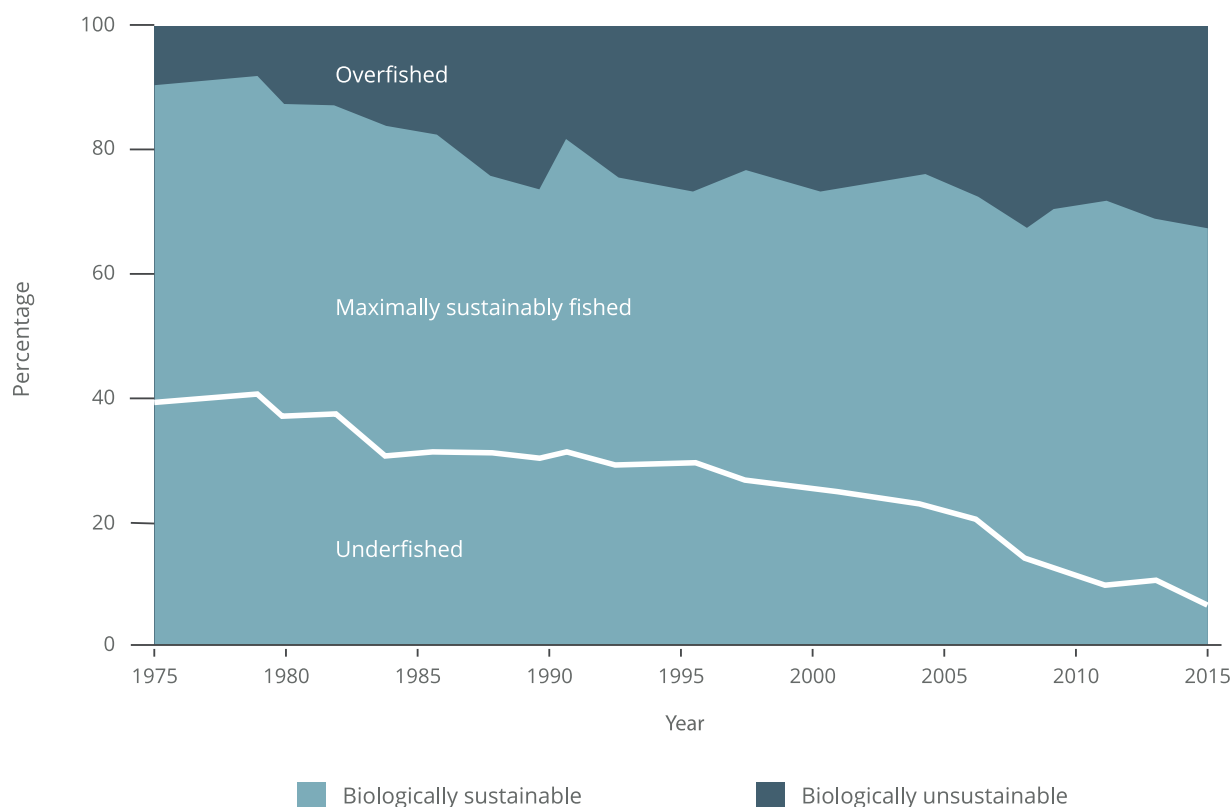


NOTE: Excludes aquatic mammals, crocodiles, alligators and caimans, seaweeds and other aquatic plants



Figure 3: Wild-catch Fisheries and Aquaculture, 1950–2016.<sup>19</sup>

Growing global demand for fish has driven decline in the world's more than 4,800 wild-catch fisheries. In 2016, 33% of fisheries were overfished, 60% were fully exploited and just 7% under-exploited, according to the FAO. By contrast, in 1975 only about 10% of global fisheries were overexploited, while 40% were underexploited<sup>20</sup> - see Figure 4.



**Figure 4: Percentage of Global Marine Fish Stocks Overfished, Maximum Sustainably Fished, Underfished, 1974–2015.<sup>21</sup>**

'Overfished' describes the state of a fishery when its biomass has dropped below a prescribed threshold – usually defined as the threshold required to produce maximum sustainable yield. It is important to note that 29% of FAO member states do not report statistics on overfishing.

When fisheries are overexploited, there are not only fewer fish to catch, but the variable costs of production for accessing and processing them increase. Fleets are required to be at sea for longer and cover greater distances, increasing fuel and staff costs. As a result, processors and traders have less product and companies are less able to pay credit liabilities and generate profits.

Since global wild-catch catches peaked in the 1990s, seafood companies in Japan have responded by expanding fish farming. However, aquaculture should not be viewed as a simple alternative to wild-catch fishing as it raises its own significant sustainability challenges.

Aquaculture can have a negative environmental footprint, which includes:<sup>22</sup>

- High greenhouse gas emissions
- Effluents causing algal blooms
- Habitat destruction and biodiversity loss
- Fish feed supply from wild-catch fish or farmed agriculture resources
- Disease such as infectious anaemia and sea lice
- Unregulated and overuse of antibiotics.



As demonstrated by the Schaeffer Surplus-Production Model - see Figure 5, as maximum sustainable yields decrease, total costs of fishing effort increase and total revenues decline.

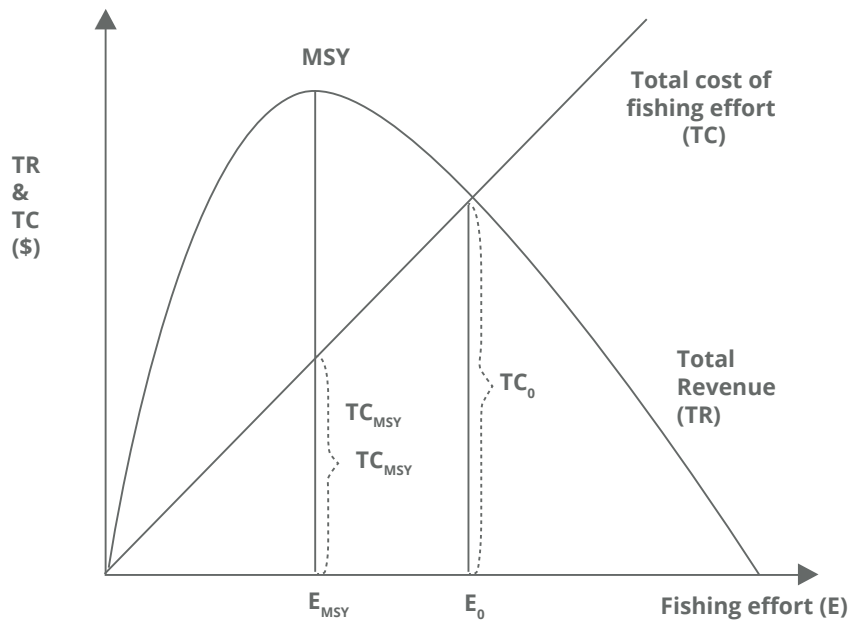


Figure 5: Schaeffer Surplus-Production Model.<sup>23</sup>

For the 913 identified equity funds invested in the 41 Japanese equities assessed in this report, this means increased exposure to escalating seafood production costs, as fish stocks decline and climate effects drive fish into more remote fishing waters.

## SECTION 2

# JAPAN'S SEAFOOD PRODUCTION IS DECLINING FASTER THAN THE GLOBAL TREND

Recent decades have seen a steep decline in Japan's seafood production which peaked in 1985 at 12.8 million tonnes and has since decreased by two thirds to 4.3 million tonnes in 2017 (3.3 million tonnes wild-catch and 1.0 million tonnes farm-raised) - see Figure 6.

The principal reasons for this decline are overfishing, climate change and changes in consumer consumption patterns.

### Overfishing through Increased Global Competition

Japan's share of global seafood production has been impacted by overfishing as a result of growing competition from other nations. This has caused Japan's share of global wild-catch fish and aquaculture production to fall by 85%, from 13.4% in 1985 to 2.2% in 2017- See Figure 6.

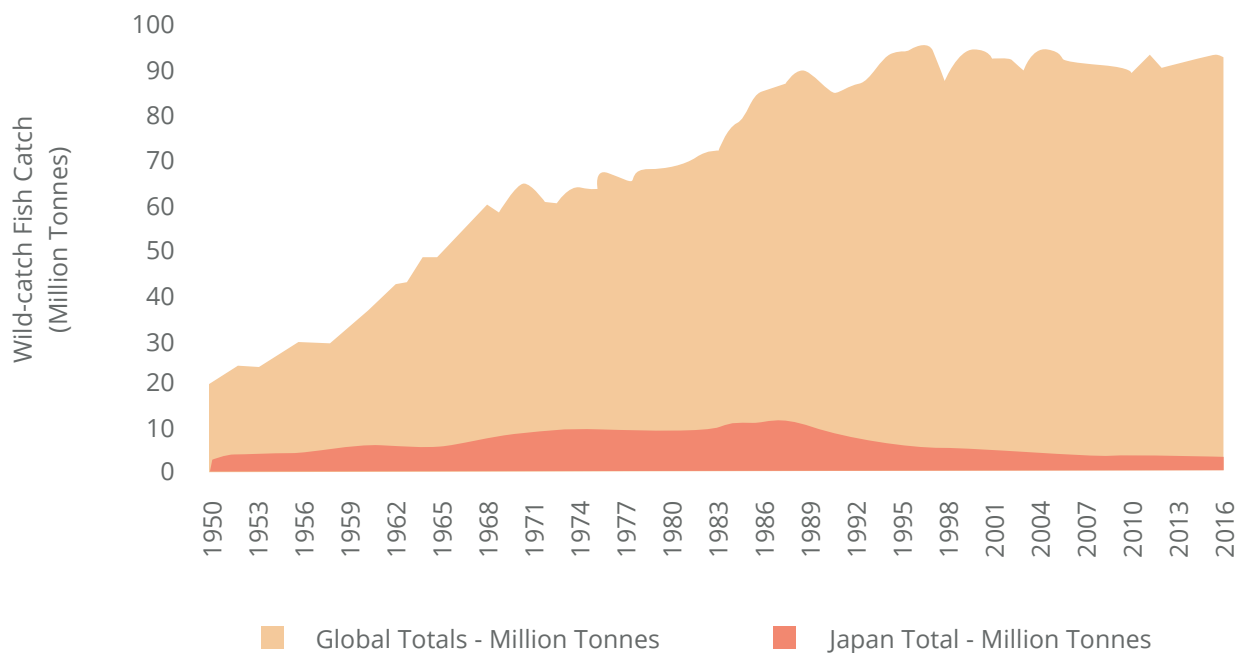


Figure 6: Japan Wild-catch Fish Catch vs. Global, 1950–2016. <sup>24</sup>

Japan's Ministry of Agriculture, Forestry and Fisheries' annual survey revealed that wild-catch fisheries reached a record low of 3.2 million tonnes in 2017. Ocean-farmed fish output also fell to 985,000 tonnes, a 4.6% drop from a year earlier. Together, Japan's fisheries catch was 4.3 million metric tonnes in 2017.

As projected in February 2019 by Associate Professor Katsukawa Toshio at the Tokyo University of Marine Science and Technology, national catch volumes are expected to continue declining steadily up to 2025.



## Case Study: Financial Losses from Declining Fisheries

In February 2019, Sildarvinnslan, an Icelandic fishing and processing firm, announced it was closing one of its fishmeal and oil production facilities because capacity utilisation was effectively zero. The closure and its financial impacts were blamed on environmental issues which had led to a steep fall in fish supply. Simply put there were no fish to catch. Breaching planetary boundaries upstream by overfishing resulted in financial losses downstream. As shown in Figure 6, catches of Capelin, a small northern ocean fish, fell 80% 2002–18 – from more than one million tonnes to 202,000 tonnes in 2018. In 2002 Capelin represented 75% of Sildarvinnslan’s total wild-catch landings, by 2018 they contributed only 30%.

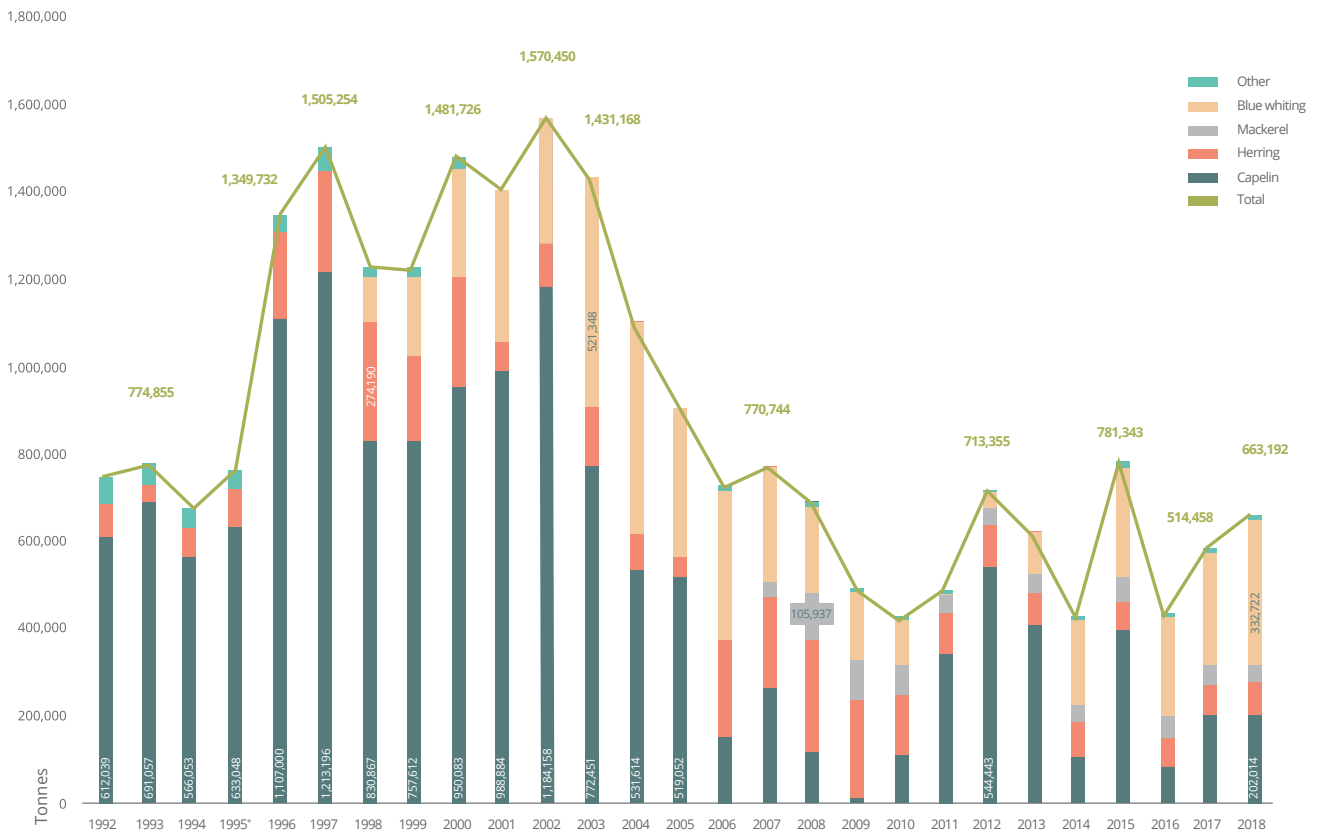


Figure 7: Total Wild-Catch Landings for Fishmeal and Fish Oil Production Iceland, 1992–2018.

## Climate Change

It is difficult to predict the effects of climate change and the results of warming ocean temperatures on seafood populations, but scientific studies point to a ‘winner – loser’ scenario with increases in certain fisheries and decreases in others.



However, in 2019 the journal Science stated:

*“Losses from (fish) populations responding negatively to warming outweighed gains from those responding positively because negatively responding populations constituted a larger biomass. The greatest losses in productivity occurred in the Sea of Japan, North Sea, Iberian Coastal, Kuroshio Current, and Celtic-Biscay Shelf ecoregions. Studies that project fisheries productivity under future emissions scenarios often predict increases in productivity at the poles and decreases at the equator”.*<sup>25</sup>

### Case Study: Climate Change and Competition-hit Saury Stocks

Catches of saury fish, a traditional Japanese delicacy, fell to 100,000 tonnes in 2017, as reported by the country’s Fisheries Agency. Japan’s saury catches peaked at 575,000 tonnes in 1958, but since 2015 there have been poor catches at around 100,000 tonnes a year.

Climate change and competition from other countries lie behind the collapse in stocks. Rising seawater temperatures have seen the fish migration shift from the waters east of Hokkaido to the high seas, far from Japan. In addition, Chinese and Taiwanese fishermen are also catching large amounts before the fish reach Japanese waters.

In 2019, the eight-nation North Pacific Fisheries Commission agreed for the first time that saury stocks in the north Pacific were at low levels. At the time of writing, Japan had proposed setting a global ceiling on catches of 450,000 tonnes a year above the catch achieved in 2016-17. Investors should be careful to base financial analysis on transparently achieved wild-catch volumes instead of notional quotas.

### Changes in Consumer Consumption

In contrast to the global growth trend in fish protein consumption, Japan has experienced a decline in domestic per capita consumption. In 2016, the average person consumed 24.6kg of seafood, down from a peak of 40.2 kg in 2001.<sup>26</sup> Consumption of beef, pork and chicken surpassed fish in 2011 - see Figure 8.

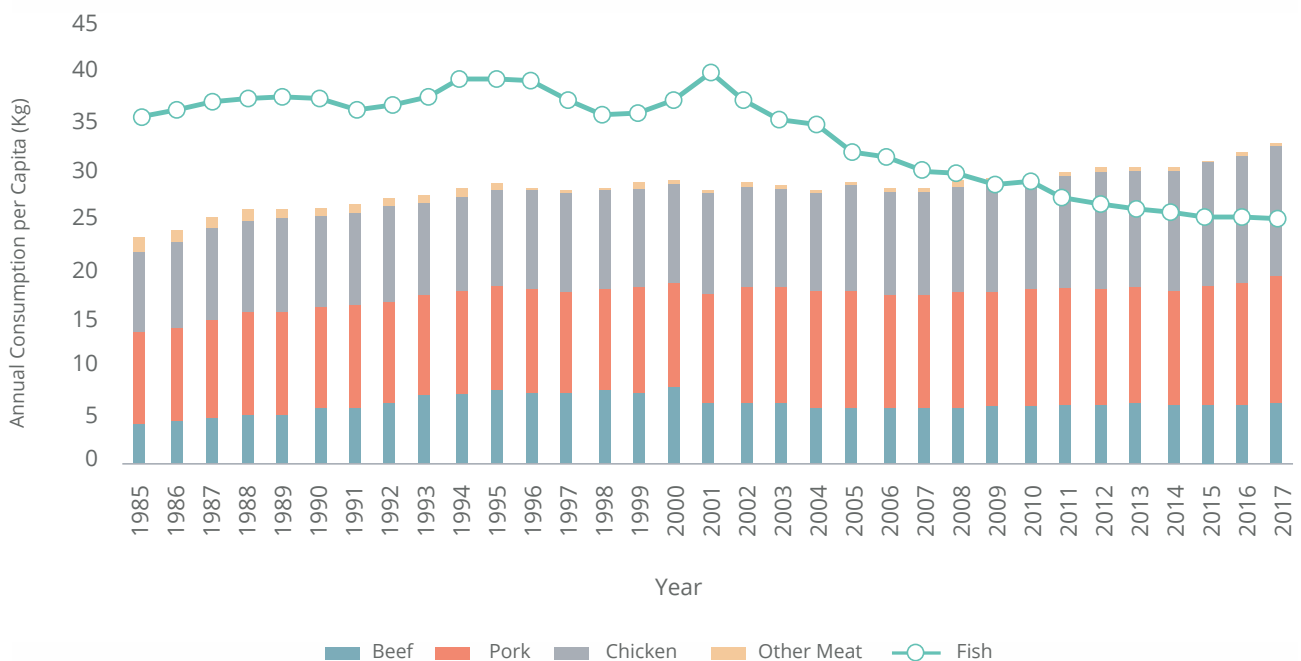


Figure 8: Japan Fish and Meat Consumption per Capita, 1985–2017.<sup>27</sup>



## Despite Declines Seafood Remains Core to the Economy

The decline in Japan's seafood industry must be seen in the context of global overfishing and increased competition. Other nations have built up their fishing fleets, with the result that more and more vessels are harvesting fewer and smaller fish.

However, Japan's strong import/export trade balance of seafood products underlines the economic importance of Japan's seafood industry in satisfying global market demand for fish proteins. As a result, Japanese seafood companies and Government departments responsible for managing the economy have a clear incentive to continue to play a major international role in driving a more sustainable wild-catch fishing industry.

Japan's government has already taken positive steps towards creating a more sustainable and financially secure industry by revising the Fisheries Act in 2018.

The key to achieving a sustainable seafood industry is the effective management of wild-catch fish stocks. When stocks are healthy, they lead to higher catches, more revenues and greater stability, all important assets for the industry.

If fisheries were managed to achieve their maximum sustainable yield, analysis suggests that the global seafood industry could increase annual revenue from \$51 billion to \$83 billion.<sup>28,29,30</sup>

### Case Study: Japan Fisheries Act Revised

On December 8, 2018, Japan revised its Fisheries Act for the first time since it was established in 1949.<sup>31</sup> Key revisions include:

- *New quota system:* Japan will use science-based targets to introduce individual quotas within the total allowable catch (TAC) and increase these quotas from eight species<sup>32</sup> to most commercial fishing species. TAC quotas will be set by The Ministry of Agriculture, Forestry and Fisheries.
- *Devolved powers:* TAC will be managed through an individual quota system allocated to individual fishing vessels.
- *Renewed licensing:* To encourage new entrants to the industry, barriers hindering new fishing licenses have been removed. This is expected to increase private sector access beyond domestic co-operatives for many commercial fisheries. Norinchukin Bank is the leading bank in Japan that provides financing to Japan's agriculture co-operatives. In 2017 there were 957 Japanese fishery co-operatives working in the domestic fisheries. Local fishers purchase an ownership in the co-operatives, which then aggregates their influence.
- *Poaching penalties:* Poaching fines have increased 15 times to about \$273,000.
- *Management of fishing grounds:* Under the instruction and oversight of prefecture governors, local fisheries' co-operative associations are responsible for the conservation and management of fisheries. This enables co-operatives to set sustainability policies for their members, creating widespread adoption of such policies. It also increases accountability and provides greater assurance for credit lenders.

## SECTION 3

# JAPAN'S SEAFOOD INDUSTRY REMAINS THE GLOBAL LEADER BY REVENUE

As we have already seen in this report, Japan's seafood industry has declined over an extended period of time and this has been mirrored by a fall in industry employment from 301,000 jobs in 1995 to 153,000 in 2017.<sup>33</sup>

Nevertheless, Japan's seafood industry remains a key part of the country's economy. In 2017 out of \$632 billion of total imports, Japan's seafood product imports at \$14.6 billion were one of the country's top 6 import sectors together with crude petroleum (\$57.7 billion), petroleum gas (\$37.1 billion), coal briquettes (\$19.5 billion), broadcasting equipment (\$22.1 billion) and integrated circuits (\$21.8 billion) – see Figure 9.<sup>34</sup> This ranked Japan as the world's second biggest importer of seafood products after the US. In 2018, Japan increased imports of seafood products to \$14.9 billion.

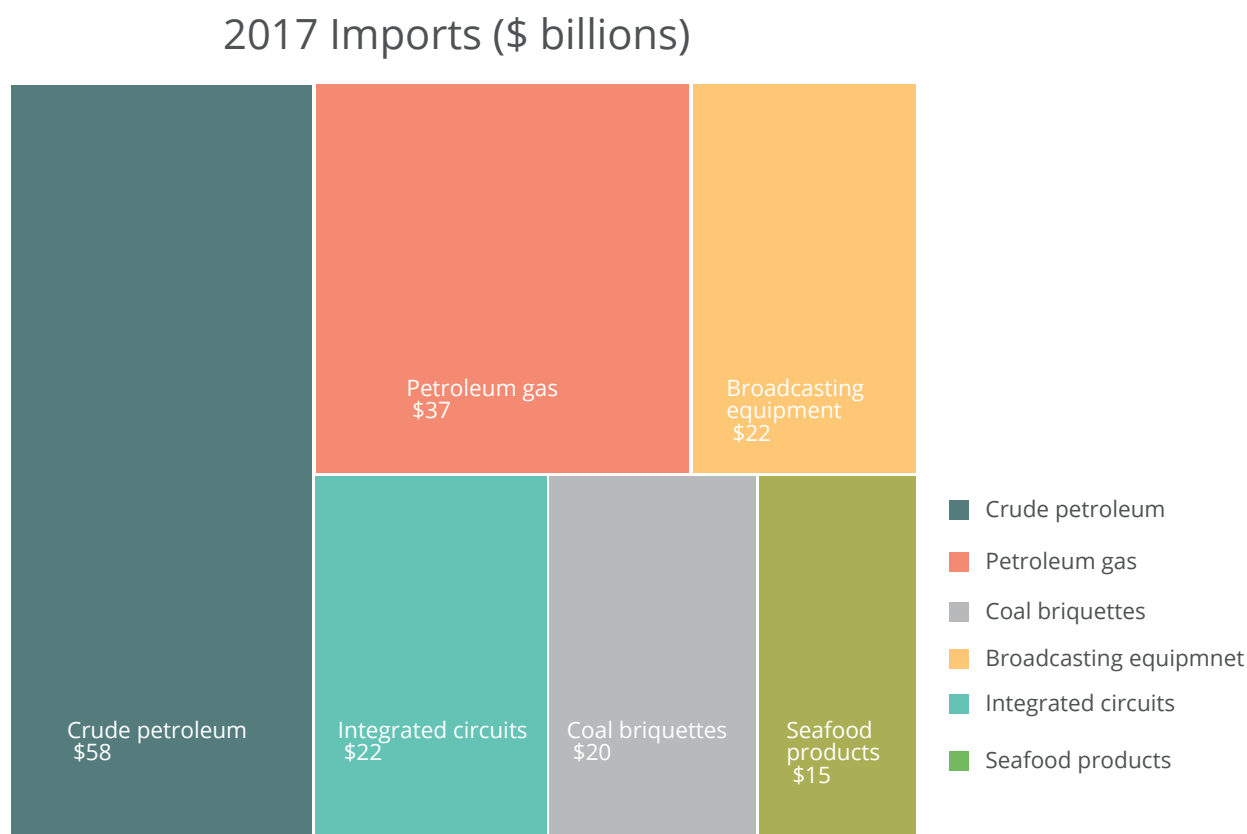


Figure 9: Japan Top 6 Import Sectors 2017.<sup>35</sup>

Central to the macroeconomic value of the seafood sector are Japanese seafood companies.

## Japanese Seafood Companies and Their Investors

In 2017, the 100 top global seafood companies exported 54% of the world's fish by value. Their net fish export revenues after imports are higher than those of other agricultural commodities such as meat, tobacco, rice and sugar combined.<sup>36</sup>

In the same year, Japan's 23 largest seafood companies had combined global revenues of \$37 billion. The ten largest each earned more than \$1 billion in seafood revenues with combined revenues of \$29 billion.

Japanese companies catch and sell fish all over the world. Because they source globally, their impact on the status of the world's wild-catch fisheries is considerable.<sup>37</sup>

Maruha Nichiro, for example, the world's largest seafood company by revenue, sources from SE Asia, West Africa and the Pacific and is active in 70 countries, with production facilities in China, Thailand, and other SE Asian countries - see Figure 10.

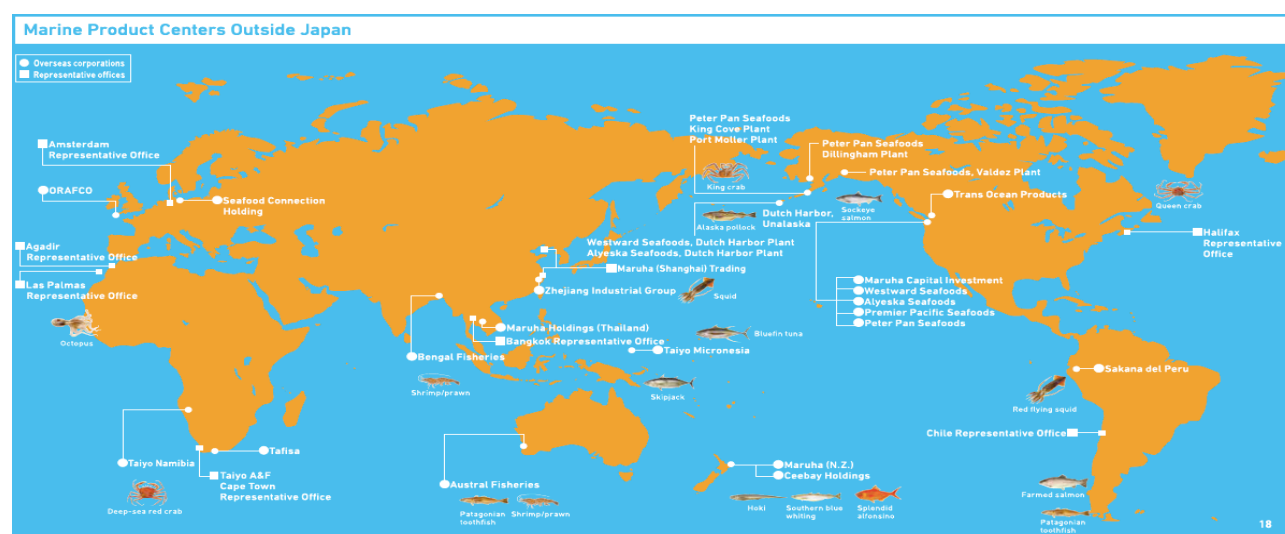


Figure 10: Maruha Nichiro's Global Seafood Presence, 2018.<sup>38</sup>

Maruha Nichiro had \$7.5 billion in seafood revenues in 2017, more than Spain's total seafood imports (see Table 1). Nissui – *Nippon Suisan Kaisha* – the second largest by revenue, had \$6.2 billion in seafood revenues in 2017.

Japan's largest seafood companies also include corporations such as Mitsubishi and ITOCHU that are active in many other sectors besides seafood.

Table 1:  
Top Countries by Imports Compared with Japanese Companies by Revenue, 2017.<sup>39, 40, 41</sup>

Country	Country Seafood Imports (\$ billion)	Company	Company Seafood Revenue (\$ billion)
USA	20.5	Maruha Nichiro	7.5
Japan	13.9	Nissui	6.2
China	8.7	Mitsubishi	3.5
Spain	7.1	OUG Holdings	2.9
France	6.2	Kyokuyo	2.3
Germany	6.1	Marubeni	1.9
Italy	5.6	Chuo Gyorui	1.8
Sweden	5.1	Daisui	1.2
South Korea	4.6	Maruichi	1.2
United Kingdom	4.2	Tohto	1.1
<b>TOTAL</b>	<b>82</b>	<b>TOTAL</b>	<b>29.6</b>



Japanese seafood companies are often vertically integrated, with upstream aquaculture and wild-catch fisheries production and midstream processing and distribution.

Planet Tracker analysed a wider group of 41 Japanese listed companies active in the seafood business with a combined market capitalisation of \$134 billion in 2019 (see Table 2).

*Table 2: 41 Listed Seafood Companies Analysed by Planet Tracker.<sup>42</sup>*

Mitsubishi	Yokohama Reito	Yonkyu	Yokohama Maruuo
ITOCHU	Feed One	Satoh	Hayashikane Sangyo
Mitsui	Kyokuyo	OUG	Higashimaru
Marubeni	Hagoromo Foods	Chuo Gyorui	Chubu Suisan
Sojitz	Natori	Tohto Suisan	Yokohama Gyorui
Toyo Suisan Kaisha	Maruichi	Global Food Creators	Uoki
Nichirei	Albis	Ahjikan	Shinyei Kaisha
Nippon Suisan Kaisha	Uoriki	Hohsui	Daisui
Maruha Nichiro	Ichimasa Kamaboko	Nichimo	Daito Gyorui
Hanwa	Maxvalu Kyushu	Tokyo Ichiban Foods	Tsukiji Uoichiba
Nihon Seima			

## Japanese Seafood Investors

Planet Tracker identified 913 equity funds with investments in these 41 companies. The top 15 institutional asset owners collectively have a \$66 billion equity investment in these 41 companies (see Table 3).<sup>43</sup>

The biggest investor, with a \$20.7 billion public-equity investment in the Japanese seafood sector is Japan's Government Pension Investment Fund, the world's largest pension fund.

*Table 3:  
Top 15 Shareholders of 41 Listed Seafood Companies Analysed by Planet Tracker.<sup>44</sup>*

Asset Manager	Shareholding Market Value (\$ billion)	Total (%)
Government Pension Investment Fund	20.7	21%
Sumitomo Mitsui Trust	8.2	8%
Mizuho Financial Group	5.6	6%
BlackRock	4.9	5%
Nomura	3.7	4%
Norges Bank & Norges Bank Investment Management	3.4	3%
State Street	3.3	3%
Vanguard	3.0	3%
Tokio Marine Holdings	2.8	3%
Mitsubishi UFJ Trust	2.3	2%
Daiwa Securities Group	1.9	2%
Ichigo Asset Management	1.5	2%
Ichigo Trust	1.5	2%
Mitsubishi Heavy Industries	1.4	1%
Societe Generale	1.4	1%
<b>TOTAL</b>	<b>65.6</b>	<b>66%</b>



## SECTION 4

# RISKS TO INVESTORS AND CREDIT LENDERS

Planet Tracker has identified seven unpriced financial risks for investors and credit lenders resulting from wild-catch seafood declines, related escalating operating costs, increasing credit risk and lost industry revenue.

These pose business, financial and reputational risks to these financiers. In addition to the risks already described in this report including climate change, declining seafood stocks and industry inefficiencies, the investment performance of Japanese seafood companies is being compromised by the following factors:

### 1. Traceability of Fish Catches

Investors and credit lenders are unable to tell whether the companies they finance are catching fish from sustainable fisheries. There is no widely adopted mechanism to obtain public and independently validated data on the source of fish that is caught or purchased by seafood companies.

Fish stocks can, in theory, be endlessly harvested if they are sustainably managed. It means that the growth and yield of specific fisheries, and these fisheries' risks, should be viewed accumulatively and in the long-term, to coincide with sustainability and planetary boundaries.

Sustainable management of global seafood stocks requires full traceability of catches, including the type of fish, from which fisheries the catch was derived, when, by which vessel and under which quota.

Overall biodiversity within a fishery needs to be calculated because of the large variety of species that all contribute to an ecosystem. In the past, overfishing has often been masked because species were aggregated in catch levels. While volumes remained similar, species composition changed over time. Today, mixed species fisheries still exist, particularly in SE Asia.

Effective risk management forms the basis on which a board of directors holds executives responsible for business operations. Norges Bank Investment Management (NBIM) stated in 2018:

*"Boards should understand the broader environmental and social consequences of business operations. Where relevant, boards should ensure that material ocean-related risks and opportunities are integrated in corporate strategy, risk management and reporting. They should ascertain that the ensuing responsibilities are clearly defined within the organisation, and they should effectively guide, monitor and review company management in these efforts."*<sup>45</sup>

Following the positive example set by NBIM, companies are strongly advised to integrate ocean sustainability risks and opportunities into their strategy employing a full value-chain perspective including forecasting projections for future marine resource availability when involved in wild-catch fisheries.<sup>46</sup>

Traceability is an effective form of risk management enabling executives to enact strategies to conserve fisheries and preserve capital over the short-, medium- and long-term.



## **Case Study: U.S. Department of Justice Charge Japanese-Flagged Fishing Vessel, M.V. Kyoshin Maru No. 20**

In November 2018, the U.S. Department of Justice charged the owners of the Japanese-flagged fishing vessel M.V. Kyoshin Maru No. 20 with illegal trafficking of shark fins. The vessel had spent the previous year engaged in longline tuna fishing in the southern Pacific Ocean. The vessel's officers were Japanese nationals. Its fishermen were Indonesian nationals.<sup>47</sup>

Asahi, a news agency focusing on Japan and Asia, reported that "Japanese business Hamada Suisan Co. Ltd., and JF Zengyoren, a Japanese fishing co-operative that the vessel belongs to, were charged with aiding and abetting the trafficking and smuggling of 962 shark fins, according to the U.S. attorney's office in Hawaii". The companies now face a \$5.5 million fine for violation of the Lacey Act and other laws, not only weakening shareholder financial positions, but also creating reputation damage in their association with the company.

## **Case Study: Credit Suisse Mozambique Tuna Bond**

In January 2019, former Credit Suisse bankers were arrested for allegedly diverting and personally pocketing \$200 million from a \$2 billion loan to the Government of Mozambique intended for the purpose of expanding Mozambique's tuna fishing fleet and fishing port infrastructure. The bankers were arrested under the US Foreign Corrupt Practices Act. (FCPA).<sup>48</sup>

The FCPA accounting provisions require companies whose securities trade in the US to maintain accurate books and records and to have in place effective internal controls over corporate recordkeeping and corporate assets. This means that companies and/or their subsidiaries can be prosecuted for keeping inaccurate books and records of upstream subsidiaries in the wild-catch fisheries industry. The accounting provision also includes third-party documentation such as direct and indirect suppliers' records. This also means that non-listed subsidiaries' false accounting entries that gross-up into the issuer's accounts can incur liabilities for the parent. Finally, there is no minimum financial threshold.

The legal case focuses on various alleged illegal activities, yet what matters broadly to the wild-catch fisheries industry and the firms that invest in and finance this industry, is that both branches of the US Foreign Corrupt Practices Act of 1977 - the "anti-bribery provisions" and the "accounting" provisions - were employed in developing the case against the former Credit Suisse bankers. Importantly, the US government can choose to enforce the FCPA via a criminal action (Department of Justice) or civil action (Securities Exchange Commission).

An action can be brought against any company whose shares trade on a US exchange, including American Depository Receipts, and/or conduct business activities in the US or in US dollars, as long as there is a nexus through US-based commercial activities.

The US Department of Justice case against the former Credit Suisse bankers is premised on this second lesser-known provision of FCPA. The case, which is based on wild-catch fisheries funding, cites:

- Material misrepresentations and omissions
- Misuse of loan proceeds
- Bribery and kickback payments
- Inflated prices for equipment and services provided
- Lack of accounting controls
- Conflicts of interest
- Lack of oversight and internal controls

In summary, the case is based on the need for the private sector and related financial institutions to be transparent about ownership funding streams and ownership of physical assets in the wild-catch fisheries supply chain. If, in hindsight, the private sector and related financial institutions had been transparent about their funding streams and physical assets ownership, the likelihood of the legal risk facing Credit Suisse's former bankers - and potentially Credit Suisse itself - might have been mitigated or greatly reduced.



## 2. Transparency of Operations

Many seafood companies exist on top of a web of complex inter-company relationships that are opaquely reported and described. Investors and credit lenders have little information about companies' risks and liabilities, what vessels they own directly and through subsidiaries and who they trade with.

None of the Japanese publicly traded companies analysed in this report have transparently and exhaustively described their supply chains, direct or indirect beneficial ownership in upstream fishing vessels, transshipment vessels (reefers), port facilities, processing centres or transport infrastructure.

Limited disclosure by seafood companies makes it difficult to accurately link company production and revenue figures to national and global seafood production figures. It is often challenging for investors and credit lenders to assess how much company revenue depends on fisheries that are overfished or at risk of overexploitation.

Poor transparency also makes it hard to be certain that the seafood companies they finance are not involved with Illegal, Unregulated and Unreported Fishing (IUU).

In 2014 Indonesia lost an estimated \$4 billion in revenue due to IUU fishing. This led to a strong regulatory response within its Exclusive Economic Zone (EEZ), enforced on three fronts:

- Banning foreign fishing vessels
- Banning transfers of fish at sea
- Sinking illegal vessels

The regulatory response led to a 95% decline in foreign fishing activity in Indonesian waters.

## 3. Opaque Subsidiaries

Planet Tracker found that the 41 listed companies assessed in this report had approximately 2,900 subsidiaries, but it is hard to determine which operate in the seafood industry. Investors and credit lenders have no visibility of the wild-catch fishing operations of these subsidiaries' operations, performance and liabilities.

Many Japanese seafood companies have cross holdings – investments in competitors, buyers or suppliers (see Figure 11 and Table 4). This poses governance risks as the companies may compete with each other directly or indirectly. Investors may see their financial risk multiplied if companies have significant cross holdings in the same industry.

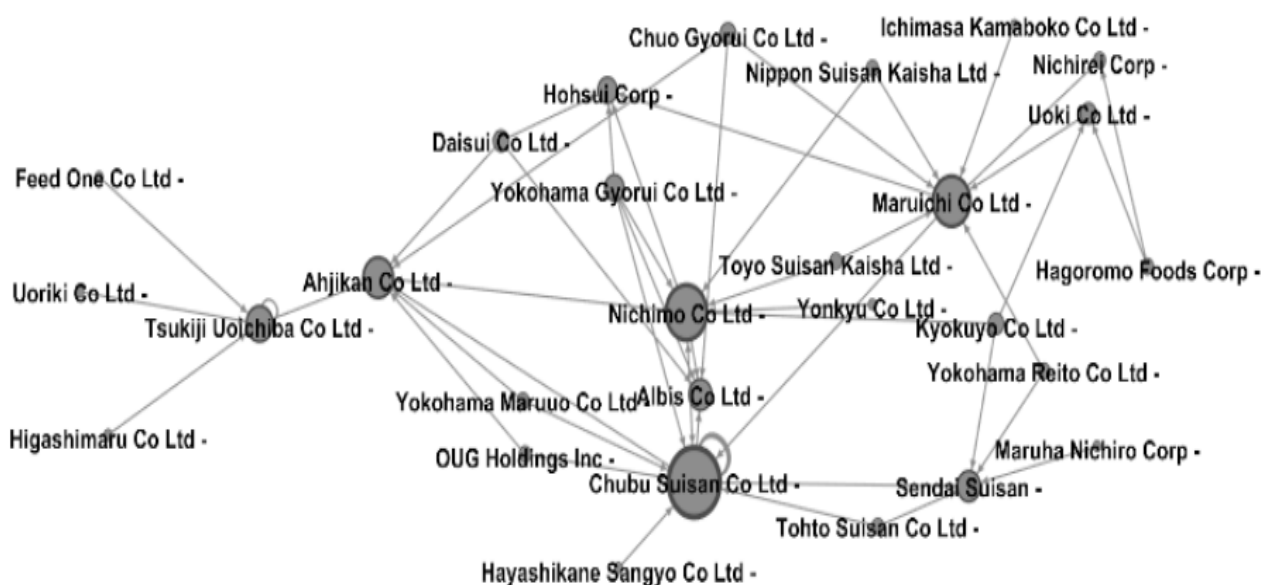


Figure 11: Equity Cross Holdings Between 41 Japanese Seafood Companies.<sup>49</sup>



Table 4: Top 10 Equity Cross Holdings Between 41 Japanese Listed Equities.<sup>50</sup>

Company	Market Value of Cross Holdings Between 41 Japanese Listed Equities (\$ million)
Mitsui	131
Mitsubishi	72
Nippon Suisan Kaisha	54
Chuo Gyorui	40
OUG Holdings	33
Nichimo	32
Yokohama Maruuo	21
Hagoromo Foods	20
Hayashikane Sangyo	18
Chubu Suisan	17
<b>TOTAL</b>	<b>438</b>

### Case Study: Future of Fish - Five Core Functions of Traceability<sup>51</sup>

Future of Fish, a non-profit research organisation, which addresses wild-catch overfishing has developed five core functions of traceability for the seafood industry:

- **Vessel-Dock Capture:** The ability to create a supply chain with verifiable, accurate and traceable data starts with the capture of catch information at the point of harvest or with the first receiver (e.g., at the dock). Once collected, this information can be paired with a product and uploaded to a database, where it can be pushed through the supply chain via one or more traceability technology systems.
- **Product-Data Pairing:** Once data has been captured at the source, the physical attachment of product information to the product itself is critical for preserving the integrity of that data. This can be achieved with a barcode, RFID chip, QR code or alphanumeric (human-readable) code that journeys with the product as it moves through the supply chain. Information thus accumulates through each step, eliminating the problem of data attrition that occurs with internal traceability.
- **Internal Traceability:** Also known as, “one-up, one-down product tracking”, internal traceability is prevalent throughout the supply chain as it assists with basic supply chain management and is required by multiple regulatory agencies for food safety compliance.
- **Transparency:** Information about the companies supplying products - where they are located, what they do, how they do it and whether their licenses and practices fall within legal limits. The focus of this core business function is at the company or facility level, not at the product level. Its key value is proof of compliance with particular requirements such as IUU and sustainability certification and with risk management.
- **Data Verification:** The capacity to cross-check product or company-level information at any point in the supply chain with data supplied by other players (or data vetted by third parties) is critical for proving the legitimacy of the data and for preventing what might develop as traceability fraud.



## 4. Industry Accounting Standards

Investors and credit lenders are unable to accurately value companies operating in wild-catch fisheries because companies are not required to report on the maximum sustainable yield, overall fish stock levels, quotas and location of the wild-catch fish stocks on which they derive their revenues. In other words, it is difficult to forecast accurately revenue and costs of goods sold for companies whose net income is partially or fully from wild-catch fisheries.

There are no rules obliging companies to report on the levels of stock in the wild-catch fisheries they harvest and on the related risks to their operations. Companies are not required to report their beneficial ownership and exposure for their upstream activities.

This may enable companies to avoid having to clearly define or address their business or financial risks associated with wild-catch fisheries production. Consequently, investors and credit lenders are unable to accurately value their investments in the wild-catch seafood industry using consistent and comparable financial accounting data.

By comparison, aquaculture companies do have clear prescriptive financial accounting rules on how to account for their harvesting operations, opportunities and risks. Aquaculture companies' activities are covered under International Accounting Standard (IAS) 41: Agriculture, as it concerns the management of the growth of fish for subsequent slaughter or sale as an agricultural activity.

For example, in comparison, aquaculture companies must:

- Apply International Accounting Standard (IAS) 41: Agriculture
- Recognize (farming) licences (concessions) as tangible assets
- Not amortize licences (concessions) if they have indefinite lives
- Be able to adjust the value of their licences annually based on impairments, which can include natural capital risks such as biomass production levels

Aquaculture companies continue to have a distinct advantage over wild-catch fisheries from a financial accounting perspective. Aquaculture companies are held responsible for the biomass – or biological assets – of their stock, which includes eggs, juveniles, smolt and fish. Applying IAS 41, these biological assets are measured at fair value less cost to sell. Changes in the estimated fair value of the biomass are recognised in a company's profit and loss accounts. This is because for aquaculture companies, the assumptions for determining the financial value of live fish as an asset are easier to calculate – and therefore the risks are easier to mitigate.

Clear financial accounting rules do not generally exist for wild-catch fisheries companies. While many vessels sell their harvested fish based on production or market contracts, neither production nor market contracts include impacts on biomass itself, nor on this biomass variability and impacts on prices within the contracts. In other words, no clear financial accounting incentives exist at the vessel production level to mitigate declining fish stocks and other natural capital risks, to the detriment to investors' and creditors' financial valuation.

## Case Study: The 2014 China Industry Tuna Group IPO

The China Industry Tuna Group (China Tuna) was the largest Chinese supplier of tuna to Japan between 2011–13. Over 70% of its \$62 million in annual sales were made to a single company, Toyo Reizo, a subsidiary of Japan's Mitsubishi Corp.<sup>52</sup>

In 2014, China Tuna posted an initial public offering (IPO) on the Hong Kong Stock Exchange aiming to raise \$150 million to expand its fishing fleet. The sole sponsor of the IPO was Deutsche Bank.<sup>53</sup>

China Tuna's target fish stocks, Bigeye and Yellowfin tuna, are both in decline. The IUCN lists Yellowfin tuna as "near threatened".<sup>54</sup> Bigeye tuna are already overfished and listed as "vulnerable".<sup>55</sup> To avoid stakeholder issues in the face of significant supply side constraints due to dwindling fish stocks, China Tuna cited a 2011 fisheries assessment in the IPO draft, which rated Bigeye tuna stocks as healthy.

The IPO draft, now redacted, revealed that China Tuna is a Chinese-flagged transnational corporation, operating 17 Japanese and Chinese vessels in the Pacific. The licensed Chinese vessels were registered in the Cayman Islands. The IPO only listed two primary shareholders and the address of a firm named Asialink, which refused to disclose more information on the firm.

Opaque company structures may lead to incomplete reporting that can inhibit investors' ability to ask companies about their approach to fisheries' management.

Greenpeace filed a complaint with the Hong Kong Stock Exchange in September 2014. It stated that China Tuna was deliberately misleading investors about the health of tuna populations. The Hong Kong Stock Exchange ordered China Tuna to suspend its draft IPO. In Greenpeace's view, Chinese tuna companies are facing a future of either significantly reduced fishing opportunities, or complete defiance of international regulation. Both scenarios represent significant governance risks to potential investors.

China reported that from 2000 to 2011, it caught 368,000 tonnes of fish annually in international waters. However, the European Commission estimates the catch at 4.6 million tonnes annually<sup>56</sup> – 12 times greater than China's estimate.



## SECTION 5

# EMERGING INSIGHTS FOR SUSTAINABLE FISHERIES AND CAPITAL PRESERVATION

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Seafood companies, asset owners, credit lenders, regulators and governments all have a part to play in creating sustainable wild-catch fisheries and sustainable profits for seafood companies. As we note in our examples, many are already taking action.

### Japanese Seafood Companies can:

- **Secure Sustainability Certification:** Demonstrate global leadership by transitioning towards full certification by an internationally recognised standard such as the publicly accessible Marine Stewardship Council (MSC) Fisheries Standard or an equivalent.
- **Adopt Full Traceability:** Carry independent observers and/or vessel monitoring systems (VMS) on all vessels to record catches. Companies can then publicly report on where their seafood has been caught, under which quota and from which vessels. Full traceability creates conditions in which Japanese fisheries are better able to demonstrate industry-leading legal labour conditions and support full employment in the sector.
- **Report Operations Transparently:** Beneficial ownership of subsidiaries and related vessels and transport and processing infrastructure. Publicly report each year on their eligible quotas, their fishing activities, catch data, and taxes accrued to the Government of Japan.
- **Biological Reporting:** Apply International Accounting Standard (IAS) 41 or equivalent to audited company accounts for wild-catch fisheries, fully reporting on biological stock values, to improve sector wide accounting evaluations.
- **Adopt a Sustainability Policy:** Implement and report against a credible sustainability policy, with independently verifiable performance. This could include adopting Norges Bank Investment Management Policy on *Ocean Sustainability Expectations Towards Companies* by 2020 (see Appendix 5).
- **Report in English:** Publish annually all traceability, transparency, beneficial ownership, sustainability policies and sustainability performance data in English as well as Japanese so as to ensure that global financial data providers accurately report on Japanese seafood companies' activities. Planet Tracker research found certain companies publishing high quality sustainability reports not available in English which limits the ability for improved investment decision-making.

### Asset Owners and Credit Lenders can:

- **Require Sustainability Certification:** Only invest in, and issue credit to, companies and fisheries fully certified by or transitioning towards an internationally recognised standard such as the MSC Fisheries Standard or an equivalent.
- **Conduct Due Diligence and Monitoring:** Assess companies annually to ensure they meet all sustainability requirements as set by the credit lender.
- **Mandate Full Traceability and Transparency:** Request independently validated reports on when, where and by what method fish used by company operations have been caught and under which quota.
- **Establish Sustainability Policies:** Ask seafood companies without sustainability policies to adopt and implement these in order to mitigate investment risks detailed in this report.



- **Adopt Sustainable Investment and Lending Principles:** Utilise the Principles for Investment in Sustainable Wild-caught Fisheries launched at the World Ocean Summit in 2018 to assess seafood investment opportunities for portfolios, with 3<sup>rd</sup> party compliance verification.<sup>57</sup> These Principles were designed by a coalition of asset managers, banks, conservation organisations and foundations. As the Government of Japan is a global leader in supporting the SDGs, there is a convergence between these Principles and their alignment with the UN Principles of Responsible Investment and the UN SDGs.

### **Japanese Regulators and the Japanese Ministry of Agriculture, Forestry and Fisheries can:**

- **Mandate On-Ship Monitoring:** Require all vessels registered to Japanese companies and their subsidiaries and related parties to carry independent observers and/or use VMS tools to record catch – such schemes are beginning to roll out in other global fisheries. Such tools can also enable accurate reporting of tax revenue from seafood production to the Government of Japan.
- **Mandate Vessel Ownership Disclosure:** Require companies regulated by the Japan Financial Services Authority to annually disclose and publish any beneficial ownership in vessels and related processing and transport infrastructure by their company.
- **Require transparent sourcing for wild-catch fisheries:**
  - Level the playing field between Japanese companies and foreign operators
  - Reduce mislabelling of seafood
  - Improve food safety
  - Decrease wasted by-catch
  - Decrease market access to criminal elements
  - Monitor fish transshipment events
  - Assert sovereignty and rule of law in Japan's Exclusive Economic Zone.

**If investors and credit lenders adopt practices that support the sustainability of wild-catch seafood stocks and seafood firms are prepared to apply sustainable fishing practices, exposure to financial and reputational risks can be mitigated and market positioning to grow future revenues can be strengthened.**

**Japan's seafood industry, as the world leader, has the opportunity and responsibility to use its influence to ensure fisheries are managed sustainably in a way which ensures maximum sustainable yield to secure investment returns and enable, economic opportunity for all.**



## APPENDIX 1

# EXISTING SUSTAINABLE INVESTMENT AND LENDING POLICIES FOR INVESTORS

### Aviva Investors Responsible Investment Questions for Wild-Catch Seafood Companies

Aviva Investors engages seafood companies using the following set of questions:

- Does the company have a policy regarding the sustainable management of the seafood resources it uses in its business?
- Has the company assessed the current management status of all the stocks of wild fish that are part of their business?
- Does the company have traceability systems in place that ensure the avoidance of illegally caught fish? What sanctions have been adopted when illegal raw material has been detected?
- What is the company policy towards producing/purchasing wild seafood that is certified sustainable?
- What is the company policy towards producing/purchasing seafood from fisheries engaged in fishery improvement projects?
- What is the company policy regarding the disclosure of source fisheries that produce raw material for the business?

### Case Studies: Credit Lenders Sustainable Seafood Lending Policies

#### Rabobank Seafood Lending Policies

Alongside the Sustainable Development Policy and core sustainability policies, Rabobank expects clients operating in wild-catch business to:<sup>58</sup>

- Take action to become certified under a credible scheme, for example the MSC standard for sustainable fishing.
- Embed a purchasing policy which is attentive to the sustainability issues for the fishery sector.
- Conduct the fishery in a manner that does not lead to over-fishing or depletion and that demonstrably leads to the recovery of populations that are depleted.
- Use catching methods that minimize the impact on other marine species and/or habitats and avoid the capture of non-target species.

#### Deutsche Bank Seafood Lending Policies

Deutsche Bank's criteria are set along a number of factors specific to the industry. It requires formal environmental and social reviews before investments are made. This includes a client's management systems, track record and ability to demonstrate:<sup>59</sup>

- Policies and procedures to regularly monitor the status of targeted fish stocks.
- Processes to ensure no breaches of internationally agreed catch-limits for the targeted fish stocks, including measures to reduce by-catch; and a commitment to align management systems with recommendations of the FAO's Code of Conduct for Responsible Fisheries and/or plans to attain MSC certification or any other equivalent certification.
- Non-engagement in business relationships where there is clear and known evidence of reoccurring material breaches of imposed catch-limits, or non-compliance with national health and safety requirements, including rules against forced and child labour.



As highlighted above, in 2014 Deutsche Bank was the sole sponsor of China Tuna Industry Group's \$150 million IPO, which had material omissions regarding the size of the bigeye tuna stock in the Western and Central Pacific Fisheries Commission.<sup>60</sup> The IPO was cancelled later in 2014.

## APPENDIX 2

# MARUHA NICHIRO'S AUSTRAL FISHERIES INVESTMENT YIELDS 7%-10% REVENUE PREMIUM

Austral Fisheries demonstrates that well executed sustainability commitments can contribute to achieving revenue premiums. It shows a commitment to consumers, the environment and the continual development of the fishing industry.

Austral is jointly owned by Kailis Fisheries Holdings, a private Australian company, and Maruha Nichiro, a Tokyo Stock Exchange listed fishing, aquaculture and fish processing major with \$1.84 billion total market cap.<sup>61</sup>

It is one of Australia's largest integrated commercial fishing companies, with interests in both deep-sea fishing and tropical prawn fisheries. Its four fisheries are independently certified by MSC.

In 2016, Austral became the first fishing company in the world to receive carbon neutral certification for both its organisation and products, verified by Ernst & Young. Austral offsets its emissions via investing in the Yarra Biodiversity Corridor project. The project is certified by the Gold Standard and managed by Carbon Neutral Pty Ltd. Austral is certified as carbon neutral under the Australian Government Carbon Neutral Program.<sup>62</sup>

Austral's CEO has cited both MSC certification and carbon neutrality as contributing factors driving consumer demand resulting in the company's Skull Island brand achieving a 7%-10% revenue premium over like-for-like products.

Extending its sustainability programme, in 2019 Austral partnered with Boston Consulting Group Digital Ventures and WWF Australia to successfully launch OpenSC. This platform allows for tracing of food supply chains using distributed ledger technology. This technology allows for Austral's Glacier 51 brand to track its toothfish harvest from Heard Island to a restaurant's plate – *customers can trace their food real-time from ocean to fork*. By applying this technology, Austral Fisheries can prevent fraud in the supply chain, demonstrate its sustainability credentials and claims to customers and consumers and charge a price premium for the sustainable production of its fish.<sup>63</sup>

According to Austral's most recent GHG inventory and life cycle analysis audit from 2017, as shown in Table 5, its 2017 carbon footprint was 32,225 mtCO<sub>2</sub>e for a total direct catch of 4,632 metric tonnes of fish and prawns. This equals 6.54 mtCO<sub>2</sub>e per tonne of fish and prawns.

However, given that 85% of their emissions come from diesel usage – 9 million litres per annum on their vessels – the most relevant metric to track their progress is the emissions intensity of mtCO<sub>2</sub>e/metric tonne of product landed.<sup>64</sup> This case highlights that the stock accessibility and catch volume directly impact both mtCO<sub>2</sub>e/product tonne landed and fuel consumption by needing to range further afield. Both should raise questions for investors in the sector.



As an illustration, annual landings of Austral's key Southern Fish product declined 15% and prawn product 26% from 2014 to 2017. Overall, total product of fish and prawn landed in 2017 was 24% lower than 2014. Because of decreased total landings per emission in 2017, Austral's 2017 emissions' intensity increased 32% over 2014. Half of the total emissions growth is from increased use of diesel in the Southern Fish harvest due to lower catch rates than the baseline year.

Austral's earnings performance generated by premium rates for their sustainable product ranges enables them to weather such events. Other industry players and investors alike should take note and replicate Austral's model to mitigate against environmental materiality risks.

*Table 5: Austral Fisheries' Emissions Comparison to Revised Baseline Year, 2014-17.<sup>65,66</sup>*

	Metric tonne CO2e	Metric tonne CO2e / metric tonne product
<b>Total 2014</b>	30,299	6.54 mtCO2e / metric tonne fish + prawn
<b>Total 2017</b>	32,225	8.62 mtCO2e / metric tonne fish + prawn
<b>Southern Fish 2014</b>	13,142	5.12 mtCO2e / metric tonne fish
<b>Southern Fish 2017</b>	13,859	6.35 mtCO2e / metric tonne fish
<b>Prawn 2014</b>	13,939	6.76 mtCO2e / metric tonne prawn
<b>Prawn 2017</b>	13,945	9.09 mtCO2e / metric tonne prawn

## Maruha Nichiro

Maruha Nichiro's 50% equity ownership stake in Austral Fisheries since 2016 has enabled Austral to grow its brand and earnings premiums while achieving carbon neutral status in this cyclical high-value/low-volume wild-catch fish market. EBITDA grew 40% from \$19 million to \$26 million in the year following the acquisition.

Maruha is a committed member of the Seafood Business for Ocean Stewardship (SeaBOS) initiative. SeaBOS enables seafood industry leaders to share best practice to transform the global seafood system through a framework which encourages a pre-competitive dialogue. Shigeru Ito, CEO and President of Maruha Nichiro Corporation, was the first chairman of SeaBOS. This and other initiatives are encouraging these companies to seek higher revenue premiums by implementing sustainability pledges to reduce their environmental impacts and protect fish stocks and mitigating risk through traceability.

Maruha's 15 largest investors own more than 52% of the firm's public-traded equity (Table 6). These investment positions therefore vary both upside and downside to Maruha's investment in Austral Fisheries.





Table 6: Top 15 Investors in Maruha Nichiro, 2018.<sup>67</sup>

Shareholder Name	Country	Market Value (\$ million)
Daitoh Trading	Japan	173
Mizuho Financial Group	Japan	132
Government Pension Investment Fund	Japan	129
Nomura Holdings	Japan	94
Mitsubishi UFJ Financial Group	Japan	75
Norinchukin Bank	Japan	62
Sumitomo Mitsui Financial Group	Japan	41
Dimensional Fund Advisors	United States	41
Tokio Marine Holdings	Japan	36
BlackRock	United States	35
Nikko Asset Management	Japan	32
Vanguard	United States	31
Daiwa Securities	Japan	31
Toyo Seikan Group Holdings	Japan	29
OUG Holdings	Japan	28
	<b>TOTAL</b>	971

## APPENDIX 3

# PRINCIPLES FOR INVESTMENT IN SUSTAINABLE WILD-CAUGHT FISHERIES

Modelled after the Equator Principles, the Principles for Investment in Sustainable Wild-caught Fisheries are designed to further the implementation of the United Nations (UN) Sustainable Development Goals (SDGs) and be compliant with IFC Performance Standards, UN Principles for Responsible Investment and World Bank Environmental, Health and Safety Guidelines.<sup>68</sup>

The Principles for Investment in Sustainable Wild-caught Fisheries have been adopted by Althelia, the Meloy Fund, Encourage Capital, Clarmondial, Zoma Capital, Calvert Impact Capital and others.

The Principles are intended to be adopted as a common framework for investors financing or seeking to finance sustainable fisheries projects and/or companies. As adopters, institutions commit to implement the Principles as part of their investment decision making, and not to finance projects and/or companies that do not satisfy these Principles or have not demonstrated commitment to achieving necessary levels of performance over the course of the investment.

The Principles apply globally to all debt and equity investment products deployed to finance a project and/or a company and where the project or company currently has, or is expected to have, an impact on wild-catch fisheries and their associated ecosystems and communities.



The Principles are:

- **Compliance with local, national and international fisheries laws and regulations:** Investors should ensure that the investment complies with local, national and relevant international laws and regulations governing wild-capture fisheries.
- **Current environmental status:** Investors or project investees should undertake or consult an objective assessment of the status of exploited fish populations and the impact of target fisheries on surrounding ecosystems.
- **Future environmental status:** Depending on the scale of the investment, investors should ensure that the company/project receiving financing contributes to the sustainable management of targeted fisheries and their ecosystems, as well as the mitigation of adverse ecosystem impacts from fishing.
- **Monitoring and enforcement:** Investors should ensure that robust monitoring and enforcement are implemented for any company/project receiving financing, and that it contributes to monitoring and enforcement efforts in the broader fishery. Such systems should monitor fishing activity, targets and incidental catch, and social outcomes wherever possible.
- **Traceability and transparency:** The company/project receiving financing should have effective systems in place to track seafood products back to their source fishery in order to ensure their sustainability and have the capability to provide timely traceability information to key parties. The company/project should also establish mechanisms for reporting progress against social and environmental objectives to interested parties.
- **Human rights:** Investors should ensure that the rights of local communities and stakeholders affected by the company/project being financed are respected regardless of gender, ethnicity, culture, political or socioeconomic status.
- **Stakeholder engagement:** Local communities and stakeholders, regardless of gender, ethnicity, culture, political or socioeconomic status, should be consulted on any potential change to their livelihoods and local environments as a result of the company or project being financed.
- **Stakeholder access:** The company/project will seek to avoid engagement in activities that would involve involuntary restrictions of access to, and use of, natural resources, involuntary resettlement or the taking of shelter and other assets belonging to local communities or individuals.
- **Food, nutrition and livelihood security:** The impact of investment on affected fisheries should not have a negative overall impact on local communities' food, nutrition and livelihood security.

## APPENDIX 4

# GOVERNMENT OF JAPAN AND JAPAN'S CAPITAL MARKETS ACT ON FISHERIES RISKS

### Japan's Financial Services Agency Regulatory Pressure

Japan's Financial Services Agency (JFSA) recently revised both its Corporate Governance Code to encourage corporate disclosure of ESG information and its Stewardship Code to encourage asset owners and asset managers to review their investments' risks and opportunities for ESG criteria.

The JFSA is also pushing Japan's regional banks to incorporate the Sustainable Development Goals as part of creating shared value between the financial services industry and the communities it serves.

### Ministry of Economy, Trade and Industry

As of 2018, Japan had at least 28 reporting mechanisms that consider ESG issues. 71% of these provisions address environmental issues.<sup>69</sup>

In 2017, Japan's Ministry of Economy, Trade and Industry (METI) published its *Guidance for integrated corporate disclosure and company-investor dialogue for collaborative value creation*.<sup>70</sup> The guidance provides specific requirements to address cross-border risks that are material for companies in the wild-catch seafood industry:

*"In a situation where companies' businesses and their supply chains extend across multiple countries, responding to changes in local laws and regulations and to social responsibilities constitute both cost factors and long-term risk factors. Explaining and obtaining the understanding of investors on the significance of and response to these challenges, such as securing resilient supply chains, will contribute to the shared interests of stakeholders, including investors."*<sup>71</sup>

As a result of previous efforts, in 2018, METI created a label to identify companies that are actively disclosing ESG performance to improve corporate disclosure and improve long-term investor interest.

The Tokyo Stock Exchange, the Japan Investor Relations Association (JIRA) and the Securities Analysts Association of Japan have all endorsed the guidance.

Companies that proactively disclose ESG information will be labelled as such by METI. Fund managers who apply the Guidance will receive a "Declaration of Active Fund Managers".<sup>72</sup> In May 2018, executives from the following institutions were the original supporters of the Declaration:<sup>73</sup>

- Asset Management One Company
- SPARX Asset Management Company
- BlackRock Japan Company
- Lim Advisers
- Rheos Capital Works Inc.
- Institutional Investors Collective Engagement Forum
- Mitsui Asset Management Company
- Daiwa Asset Management
- The Dai-ichi Life Insurance Company
- Nomura Funds Research and Technologies Company.



## Prime Minister Abe's Leadership

Prime Minister Abe represents Japan on the High Level Panel for a Sustainable Ocean Economy (HLPSO). HLPSO brings together world leaders who recognize that economic production and ocean protection must be mutually supportive if countries and industry are to “produce, protect and prosper”. It is an initiative of serving heads of government committed to catalysing bold, pragmatic solutions for ocean health and wealth that support the Sustainable Development Goals and build a better future for people and planet.

The key aims of the High Level Panel for a Sustainable Ocean Economy are as follows:

- The goal is to advance a new contract between humanity and the sea that protects the ocean and optimizes its value to humankind.
- By focusing on the protection of, production from, and investment in, the ocean, the panel will demonstrate how transitioning to a sustainable ocean economy is critical to achieving the Sustainable Development Goals related to hunger, health, jobs, energy, sustainable communities and global partnerships.
- The urgency of the panel's work is driven by the knowledge that failure to take rapid action on marine pollution, overfishing, climate change and habitat loss will lead to failure to realize the SDG vision of a peaceful, prosperous, sustainable future.
- The objective of the panel is to build a new, shared understanding of the current and potential future state of ocean economy and ecology and generate a set of policy, governance, technology and investment solutions aimed at catalysing a truly sustainable ocean economy.

Japan's commitment to the High Level Panel for a Sustainable Ocean Economy under the representation of Prime Minister Abe reflects its wider public commitments to sustainable oceans and the seafood sector they feed.

*“With the overlapping of ocean related problems such as marine plastics, climate change and impacts to biodiversity, our marine environment is in a very difficult situation. That's why we should work on achieving post-Aichi Biodiversity Targets and SDGs at national, regional, and business levels. Stakeholders must cooperate to build a circular economy in order to realize the sustainability of our oceans.”*

Hideka Morimoto, Permanent Secretary, Ministry of the Environment, Japan.<sup>74</sup>

## APPENDIX 5

# PENSION AND SOVEREIGN WEALTH FUNDS BEGIN TO ADDRESS OCEAN RISKS

Similar to Aviva's questions about seafood risks, the Government Pension Investment Fund in Japan and the Government Pension Fund of Norway, with a combined \$2.4 trillion in assets, have started to actively assess ocean related risks.

Japan's Government Pension Investment Fund (GPIF) is the world's largest pension fund, with \$1.4 trillion in assets under management as of 2018. It has held five Business and Asset Owners' Forums where the topics discussed have frequently included recommending that Japanese companies incorporate the UN Sustainable Development Goals (SDG) into their operating strategies because this will mitigate environmental impacts, including microplastics.<sup>75</sup>

Concurrently, global investors like Norges Bank Investment Management (NBIM) are now engaging companies on their wild-catch fisheries impacts. NBIM manages the Government Pension Fund of Norway, the world's largest sovereign wealth fund with more than \$1 trillion in assets under management. In 2018, Norges published its oceans sustainability guidance for companies in which it invests,<sup>76</sup> including some of Japan's publicly traded seafood companies. NBIM states that ocean degradation can reduce revenue while increasing legal, regulatory, financial and physical risks from over-exploited resources.

NBIM states that it wants the boards of companies in which it invests to:

- Understand the broader environmental and social consequences of business operations;
- Integrate material ocean-related risks and opportunities into corporate strategy, risk management, and reporting;
- Define responsibilities within the organization that are effectively guided, monitored, and reviewed by company management.

NBIM set out specific requirements for companies potentially impacted by ocean degradation risks:<sup>77</sup>

- Companies should integrate ocean sustainability risks and opportunities into their strategy, employing a full value-chain perspective. This should include forecasting projections for future marine resource availability when involved in wild-catch fisheries. When involved in the plastics value chain, it should include developing a transition towards a circular economy.
- Companies should integrate ocean-related risks into their risk management framework. They should identify and monitor risks from the sourcing, use and disposal of their products and packaging, focusing on methods to minimise their negative impact on the ocean.
- Companies developing infrastructure or performing other activities that may adversely affect ocean sustainability, such as offshore oil, gas or mining, should perform thorough impact assessments and adopt a precautionary approach. Special care should be taken in areas of high ecological or biological significance.
- Companies buying or selling wild-catch fish should monitor that these activities do not involve stocks that are overfished or exploited beyond the maximum sustainable yield, or fishing which is illegal, unregulated or unreported.
- Companies involved in agriculture, mining, waste management and other activities that can result in land-based marine pollution and related supply chains, should work towards preventing or significantly reducing such pollution.



- Companies should disclose transparently how ocean health and sustainability form part of their strategies, policies, and commitments, and report on associated goals, targets, performance against these, and action plans. Companies need to develop end-of-life solutions for their plastic packaging.
- Companies should act responsibly and transparently on ocean-related governance, including how they engage with policy makers and regulators, while outlining their positions on evolving ocean regulations relevant to their business.
- Companies should disclose any/all potential conflicts of interests including memberships in trade associations, interest groups or other initiatives which perform advocacy on their behalf.
- Companies must support the development of relevant standards, certifications and best practices to promote ocean sustainability.
- Finally, companies should transparently and within their financial objectives, act responsibly in managing activities in poorly regulated sectors and geographies. This may include supporting regulatory efforts or co-operating with stakeholders to find private sector-led responses to risks or opportunities.

## APPENDIX 6

# SEABOS AND THE JAPANESE CABINET ROLE SUPPORTING SDGS IMPLEMENTATION

*“At the time when we adopted sustainability into our mid- and long-term corporate plans the feeling was it would be wasteful cost-wise. However, we were encouraged to adopt it after the risk of not doing so was pointed out by an outside Director, growing interest regarding tuna issues from the general public and media, and the support from regional presidents that are expanding their business overseas. We are currently working toward meeting SDGs, re-evaluating what are materialities, and also participating in SeaBOS. Although we still need to organize the information to disclose publicly, we would like to be able to openly disclose details regarding our activities in a timely manner.”*

Shinya Yamamoto, Director, Managing Executive Officer, and CFO, Nippon Suisan Kaisha<sup>78</sup>

Four Japanese companies, Maruha Nichiro, Nissui, Kyokuyo and Mitsubishi via its subsidiary Cermaq, and are among 10 industry leaders driving the Seafood Business for Ocean Stewardship (SeaBOS Initiative). The SeaBOS Initiative is a pre-competitive platform to support upstream transparency and traceability that will then enable healthier fisheries.<sup>79</sup> These leading companies have made public pledges to improve transparency and traceability in their own operations. They are now working together to share information and best practice.

The objectives of SeaBOS are to:

- Improve transparency and traceability in own operations and work together to share information and best practice, building on existing industry partnerships and collaborations.
- Engage in concerted efforts to help reduce IUU fishing and seek to ensure that IUU products and endangered species are not present in members supply chains.
- Engage in science-based efforts to improve fisheries and aquaculture management and productivity, through collaboration with industry, regulators and civil society.
- Engage in concerted efforts to eliminate any form of modern slavery including forced, bonded and child labour in our supply chains.



- Work towards reducing the use of antibiotics in aquaculture.
- Reduce the use of plastics in seafood operations and encourage global efforts to reduce plastic pollution.
- Reduce greenhouse gas emissions.
- Secure new growth in aquaculture, by deploying best practices in preventive health management, including improved regulatory regimes.
- Collaborate and invest in the development and deployment of emerging approaches and technologies for sustainable fisheries and aquaculture.
- Support novel initiatives and innovations for ocean stewardship.

In May 2016, the Government of Japan established a new Cabinet body called the “SDGs Promotion Headquarters”, headed by the Prime Minister and composed of all ministers. The SDGs Promotion Headquarters fosters close co-operation among relevant ministries and government agencies and leads the comprehensive and effective implementation of SDG-related measures as a control tower.<sup>80</sup>

Japanese leaders such as Maruha Nichiro<sup>81</sup> are aligning their corporate strategy to achieve the SDGs, including SDG 14. SDG 14 is to “Conserve and sustainably use the oceans, seas and marine resources for sustainable development”.<sup>82</sup> UN SDG 14 targets are to advance the sustainable use and conservation of the oceans which continue to require effective strategies and management to combat the adverse effects of overfishing, growing ocean acidification and worsening coastal eutrophication. The expansion of protected areas for marine biodiversity, intensification of research capacity and increases in ocean science funding remain critically important to preserve marine resources.

The SeaBOS Initiative recognises that the Japanese industry is the keystone to healthier global fisheries given its leading position in the global market. It supports incorporating SDGs, as stated below:

*“Participating in SeaBOS led us to formulate our medium- and long-term corporate sustainability vision. In considering the impact we have on other companies as the biggest seafood company, we will strive to achieve the SDGs with our three-pillar model of building economic value, social value, and environmental value. If the 10 companies participating in SeaBOS take the leadership and positively influence other companies I believe the initiative will be considered a success.”*

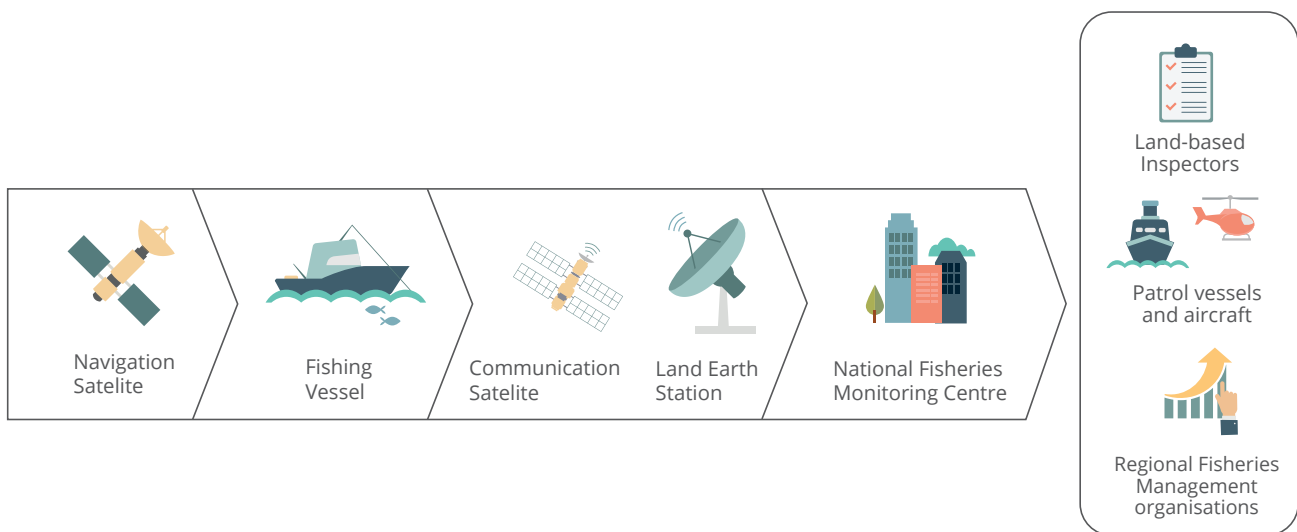
Hiroyuki Sato, Deputy Manager, Corporate Strategy Group, Corporate Planning Department, Maruha Nichiro.<sup>83</sup>



## APPENDIX 7

# VESSEL MONITORING SYSTEMS

As shown in Figure 12, VMS are satellite-based monitoring systems which at regular intervals provide data on the location, course and speed of monitored vessels. It is a standard tool of fisheries monitoring and control worldwide. Although data are usually kept private, the Indonesian government recently changed policy to publicly release VMS data as an indication of its commitment against IUU activity and to support legal fisheries activities.



*Figure 12: Process and Users of Vessel Monitoring Systems.<sup>84</sup>*

Recent research using infrared imaging and a Visible Infrared Imager Radiometer Suite boat detection system has led to development of a cross-matching tool which could be used to identify potentially illegal vessels that lack VMS. Overlaying the two systems allows boats to be identified and analysed by speed and direction to discover their activity. 96% of matches occurred while ships were fishing.

Innovation in fishery policy enforcement decreases the risk of IUU fishing and increases the effectiveness of regional fisheries management organizations (RFMO). This, in turn allows for faster regeneration of fish stock and faster generation of productive fishery biomass. Heavier and more numerous fish lead to a greater regional export capacity and therefore higher potential for revenue generation in publicly listed fisheries. Conversely, poor enforcement of maritime policy increases supply side constraints in coastal fisheries and limits revenue.

Wild-catch fisheries and fishery product transport that are not transparent, for example IUU fishing, contribute to overexploitation of fish stocks and hinder the effective management and recovery of fish stocks.<sup>85</sup>

Illegal fishing in Indonesia, for example, often occurs at night. Fishing vessels do not broadcast their location, masking a potentially widespread problem of illegal and undocumented fishing. Nearly 94% of nocturnal marine activities in Indonesia do not use VMS. While some of this can be attributed to small-scale fishing vessels of less than 30 gross tonnage that are not required under the Indonesian law to use VMS, research has found large boats, both Indonesian-flagged and foreign, switching off their tracking devices to avoid detection.<sup>86</sup>



Up to 2014, Indonesia was losing an estimated \$4 billion in revenue annually due to IUU fishing. This led to a strong regulatory response in 2014 within its Exclusive Economic Zone (EEZ), enforced on three fronts:

- Banning foreign fishing vessels
- Banning transfers of fish at sea
- Sinking illegal vessels

In November 2014, Indonesia implemented two consecutive six-month moratoria on foreign vessels registered in the country. This prohibited 1,132 foreign-owned or foreign-made vessels from fishing in Indonesian waters. Trans-shipment at sea, or the transfer of fish between boats, was also banned. (Transfer from smaller fishing boats to larger transport vessels conceals the origins of illegally caught fish).

The regulatory response led to a 95% decline in foreign fishing activity in Indonesian waters.

Indonesia has blown up almost 500 fishing boats engaged in illegal fishing activities since 2014, primarily from Vietnam, the Philippines and Malaysia. In May 2019, the country sank another 51 vessels. However, the local, legal fleet has been allowed to resume trans-shipment at sea, provided boats comply with stringent regulations requiring an onboard observer, a vessel monitoring system (VMS) and CCTV.

Indonesia's measures have proved effective and fishermen are expected to enjoy a 14% increase in fish catch by 2035 and 12% rise in profit under a strict regime enforcing anti-IUU fishing and maximum sustainable yield levels (MSY).<sup>87</sup> This is compared to an expected 59% decrease in catch and 64% decrease in profit by 2035 under the pre-2014 open-access regime. For fish stocks to maintain a level in which greater profits can be harvested by investors, illegal fishing activity must be prevented.

This underlines the importance that all wild-catch fish – both domestic and imported – be sourced from vessels that employ Vessel Monitoring Systems (VMS).

As the Government of Japan requires transparent sourcing for aquaculture, by adopting the same requirements for wild-catch fisheries the Government of Japan could:

- Level the playing field between Japanese companies and foreign operators
- Reduce mislabelling of seafood
- Improve food safety
- Decrease wasted by-catch
- Decrease market access to criminal elements
- Monitor fish transshipment events
- Assert sovereignty and rule of law in Japan's Exclusive Economic Zone



# APPENDIX 8

## COMPANY CLASSIFICATIONS<sup>88</sup>

Original Company Name	Kanji Name	Ticker	ISIN	2019 Market Cap (USD mn)	2019 Employees	BICS Classification 4
Ahjikan Co Ltd	株式会社 あじかん	2907 JP EQUITY	JP3119400004	52	815	#N/A N/A
Albis Co Ltd	アルビス 株式会社	7475 JP EQUITY	JP3126300007	209	2,835	Supermarkets
Chubu Suisan =Co Ltd	中部水産 株式会社	8145 JP EQUITY	JP3525800003	43	148	Fish & Seafood Wholesalers
Chuo Gyorui Co Ltd	中央魚類 株式会社	8030 JP EQUITY	JP3514600000	109	701	Fish & Seafood Wholesalers
Daisui Co Ltd	株式会社 大水	7538 JP EQUITY	JP3485200004	30	436	Fish & Seafood Wholesalers
Daito Gyorui Co Ltd	大都魚類 株式会社	8044 JP EQUITY	JP3487800009	27	271	Fish & Seafood Wholesalers
Feed One Co Ltd	フィード・ワン 株式会社	2060 JP EQUITY	JP3802960009	293	891	Animal Feed
Global Food Creators Co Ltd	ジーエフシー 株式会社	7559 JP EQUITY	JP3385830009	82	257	Frozen, Canned & Perish Food
Hagoromo Foods Corp	はごろもフーズ 株式会社	2831 JP EQUITY	JP3767600004	261	703	Frozen, Canned & Perish Food
Hanwa	阪和興業	8078 JP EQUITY	JP3777800008	1,086	4,080	Steel Processors
Hayashikane Sangyo Co Ltd	林兼産業 株式会社	2286 JP EQUITY	JP3772200006	47	576	Meat Products
Higashimaru Co Ltd	株式会社 ヒガシマル	2058 JP EQUITY	JP3783700002	45	364	Animal Feed
Hohsui Corp	株式会社 ほうすい	1352 JP EQUITY	JP3839400003	64	363	Fish & Seafood Wholesalers
Ichimasa Kamaboko Co Ltd	一正蒲鉾 株式会社	2904 JP EQUITY	JP3142200009	184	971	Frozen, Canned & Perish Food
ITOCHU Corp	伊藤忠商事 株式会社	8001 JP EQUITY	JP3143600009	30,824	119,796	#N/A N/A
Kyokuyo Co Ltd	株式会社 極洋	1301 JP EQUITY	JP3257200000	294	2,264	Frozen, Canned & Perish Food
Marubeni Corp	丸紅 株式会社	8002 JP EQUITY	JP3877600001	11,035	42,882	Plastic Matl & Forms Whslrs
Maruha Nichiro Corp	マルハニチロ 株式会社	1333 JP EQUITY	JP3876600002	1,320	11,276	Frozen, Canned & Perish Food
Maruichi Co Ltd	株式会社 マルイチ産商	8228 JP EQUITY	JP3871400002	250	1,064	Fish & Seafood Wholesalers
Maxvalu Kyushu Co Ltd	マックスバリュ九州株式会社	3171 JP EQUITY	JP3864830009	149	7,602	Supermarkets
Mitsubishi Corp	三菱商事株式会社	8058 JP EQUITY	JP3898400001	38,428	79,994	#N/A N/A



Original Company Name	Kanji Name	Ticker	ISIN	2019 Market Cap (USD mn)	2019 Employees	BICS Classification 4
Mitsui & Co Ltd	三井物産 株式会社	8031 JP EQUITY	JP3893600001	26,923	43,993	#N/A N/A
Natori Co Ltd	株式会社 なとり	2922 JP EQUITY	JP3651060000	223	855	#N/A N/A
Nichimo Co Ltd	ニチモウ 株式会社	8091 JP EQUITY	JP3664400003	60	933	Frozen, Canned & Perish Food
Nichirei Corp	株式会社 ニチレイ	2871 JP EQUITY	JP3665200006	3,104	15,710	Frozen, Canned & Perish Food
Nihon Seima Co Ltd	日本製麻 株式会社	3306 JP EQUITY	JP3723400002	12	337	Flooring Products
Nippon Suisan Kaisha Ltd	日本水産 株式会社	1332 JP EQUITY	JP3718800000	1,753	9,065	Frozen, Canned & Perish Food
OUG Holdings Inc	OUGホールディングス 株式会社	8041 JP EQUITY	JP3180000006	137	1,407	Fish & Seafood Wholesalers
Satoh & Co Ltd	佐藤水産株式会社？	9996 JP EQUITY	JP3321500005	133	829	#N/A N/A
Shinyei Kaisha	神栄 株式会社	3004 JP EQUITY	JP3370400008	31	622	Packaged Frozen Food Whslrs
Sojitz Corp	双日 株式会社	2768 JP EQUITY	JP3663900003	3,788	18,634	Plastic Matl & Forms Whslrs
Tohto Suisan Co Ltd	東都水産 株式会社	8038 JP EQUITY	JP3596600001	98	342	Fish & Seafood Wholesalers
Tokyo Ichiban Foods Co Ltd	株式会社東京一番フーズ	3067 JP EQUITY	JP3570800007	51	191	Full Service Restaurants
Toyo Suisan Kaisha Ltd	東洋水産 株式会社	2875 JP EQUITY	JP3613000003	4,539	4,732	Bread & Bakery Products
Tsukiji Uoichiba Co Ltd	築地魚市場 株式会社	8039 JP EQUITY	JP3532600008	22	275	Fish & Seafood Wholesalers
Uoki Co Ltd	株式会社 魚喜	2683 JP EQUITY	JP3155500006	34	384	Specialty Food & Staples Stores
Uoriki Co Ltd	株式会社 魚力	7596 JP EQUITY	JP3155800000	212	1,166	Specialty Food & Staples Stores
Yokohama Gyorui Co Ltd	横浜魚類 株式会社	7443 JP EQUITY	JP3955300003	32	101	Fish & Seafood Wholesalers
Yokohama Maruuo Co Ltd	横浜丸魚 株式会社	8045 JP EQUITY	JP3956600005	58	193	Fish & Seafood Wholesalers
Yokohama Reito Co Ltd	横浜冷凍 株式会社	2874 JP EQUITY	JP3957000007	562	1,630	Fish & Seafood Wholesalers
Yonkyu Co Ltd	株式会社 ヨンキュウ	9955 JP EQUITY	JP3962200006	160	146	Fish & Seafood Wholesalers



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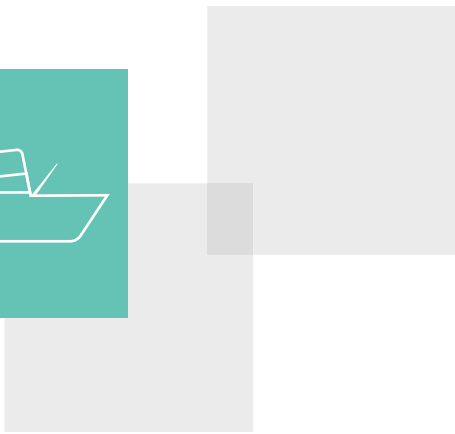
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## FUNDERS



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