



**Nissui Group's
Competitive Advantage**

Nissui Group's Competitive Advantage

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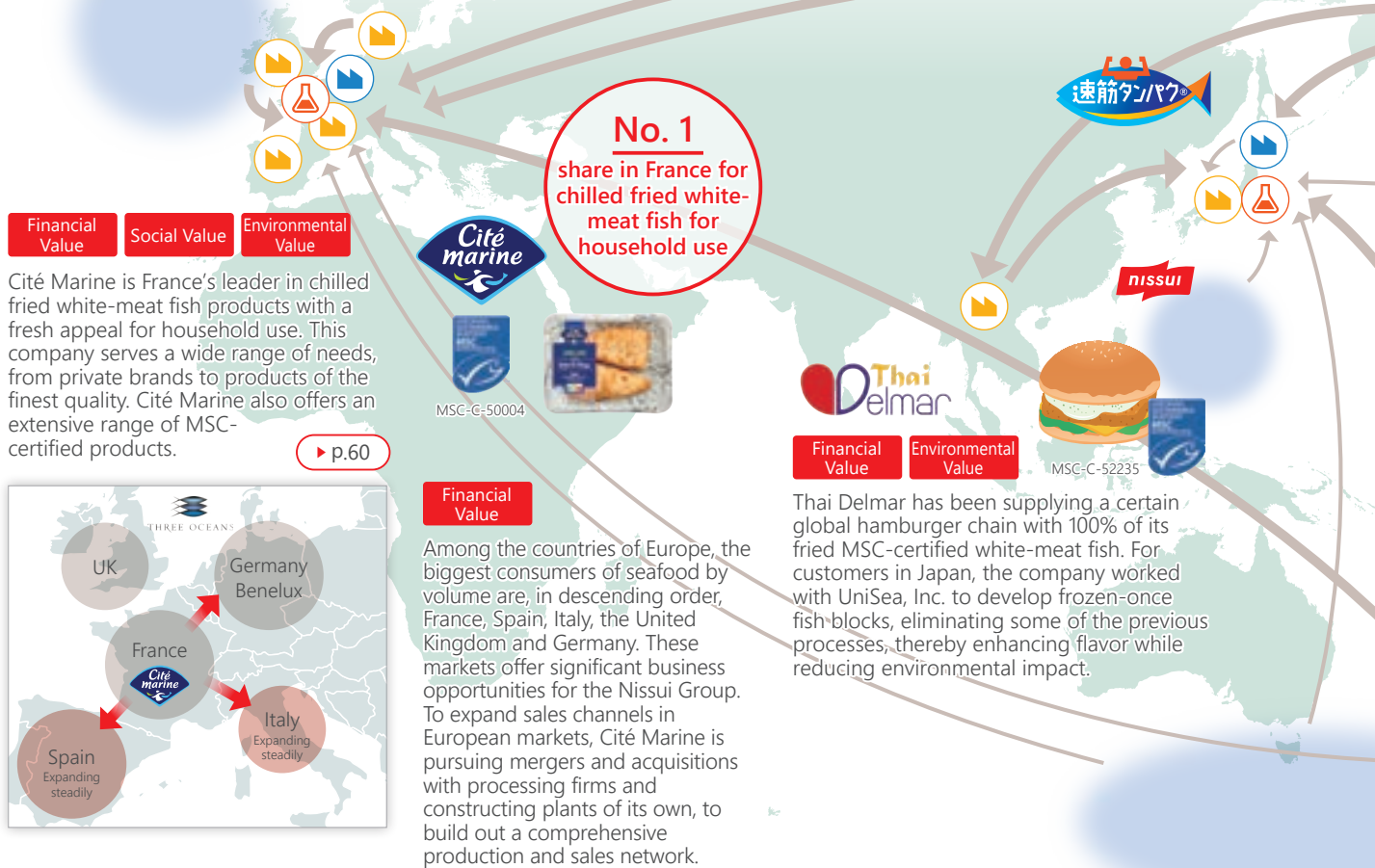
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The White-Meat Fish Value Chain Spans the World

The Nissui Group, sharing its mission Group-wide, is building a global network (Global Links & Local Links) to co-create innovative food solutions. A prime example of the competitive edge this network delivers is the Group's value chain for white-meat fish. Group sales of fried white-meat fish are No. 1 in the world (according to Nissui surveys). Group companies leverage their access to resources to conduct sustainable resource procurement, then provide those resources to other Group companies through Global Links & Local Links. The white-meat fish thus procured is processed into fried fish, surimi-based products or other finished goods according to the food cultures of each country, and value is added through marketing and R&D, serving customers in both B2B and B2C business models.

Nissui TV Commercial: GOOD FOODS for YOU! (Global version)
 ▶ <https://www.youtube.com/watch?v=B9dNMPjEzw4>



Financial Value **Social Value** **Environmental Value**

Cité Marine is France's leader in chilled fried white-meat fish products with a fresh appeal for household use. This company serves a wide range of needs, from private brands to products of the finest quality. Cité Marine also offers an extensive range of MSC-certified products. ▶ p.60



Financial Value

Among the countries of Europe, the biggest consumers of seafood by volume are, in descending order, France, Spain, Italy, the United Kingdom and Germany. These markets offer significant business opportunities for the Nissui Group. To expand sales channels in European markets, Cité Marine is pursuing mergers and acquisitions with processing firms and constructing plants of its own, to build out a comprehensive production and sales network.

Financial Value **Environmental Value**

Thai Delmar has been supplying a certain global hamburger chain with 100% of its fried MSC-certified white-meat fish. For customers in Japan, the company worked with UniSea, Inc. to develop frozen-once fish blocks, eliminating some of the previous processes, thereby enhancing flavor while reducing environmental impact.



Serving diverse food needs as a core producer in Europe

Eric Le Hénaff
 President
 Cité Marine S.A.S.

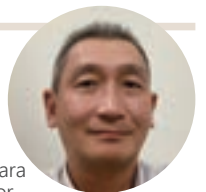


Europe is a continent of diverse food cultures and values. Cité Marine is highly regarded as a company that serves the widely varied needs of its customers quickly and with attention to detail. To expand sales in Europe, the company is building out its production organization and forging synergies with other Group companies.



Penetrating Asian markets with the advantage of top-level quality control

Takakuni Yanagihara
 Managing Director
 Thai Delmar Co., Ltd.



Thai Delmar enjoys a well-deserved reputation for top-level quality control, not only following the strict standards of its customers but also establishing even more stringent standards of its own. Our eco-friendly factories are another crucial advantage as we penetrate B2B markets across Asia.



MSC-C-50036

Financial Value

Value in Human Capital

【Local Links in North America】

UniSea is a primary processor of white-meat fish from the Bering Sea, where resources and fishing are stringently managed. Nissui Group companies share their specialized knowledge and quality assurance systems with UniSea, forming synergies that result in high-quality product supplies.

No. 1
share in the United States for frozen marine foods for household use



Financial Value

Social Value



Gorton's developed and is selling "Air Fried" products, health-conscious products whose fat content is half that of conventional products.

Financial Value

Environmental Value



MSC-C-50222

Founded in 1849, Gorton's is one of the United States' best-loved brands for delicious, convenient, high-quality seafood. Gorton's has been supplying a certain global hamburger chain with 100% of its fried MSC-certified white-meat fish and markets a great many MSC-certified products under its own brand.

Financial Value Social Value

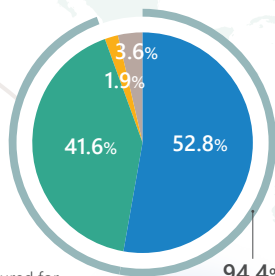
Nissui is partnering with outside research organizations on R&D to create new value for protein from Alaska pollock. The brand is commercialized through the "Fast-Twitch skeletal muscle protein" brand.

Financial Value Environmental Value

Survey of resource status of wild-caught white-meat fish procured by the Nissui Group (2019)

Four evaluation levels

- Well Managed
- Managed
- Needs Improvement
- Not Scored



White-meat fish other than salmon and trout, procured for food purposes, estimated by procurement route. Includes only fish species procured in quantities of 10,000 MT per year or more.

94.4%
of white-meat fish for food use are in the managed resource condition.

No. 1
share in New Zealand for frozen fried white-meat fish for household use



Sealord, a seafood company based in New Zealand (affiliated company accounted for by the equity-method), has been supplying Group companies with MSC-certified blue grenadier, white-meat fish.



MSC-C-50009

- Fishing area for white-meat fish
- Primary processing plant
- Secondary processing plant
- R&D facility



Supporting the Group with resource-managed marine products and processed goods

Tom Enlow
President
UniSea, Inc.



As a major processor of wild Alaskan wild-caught seafood, UniSea enjoys a favorable position from which to exercise synergies with numerous Group companies. Our seasoned and talented people are the greatest strength backing our highly efficient, high-quality production.



Burnishing our brand with strengths in marketing and development

Kurt Hogan
President & CEO
Gorton's, Inc.



The greatest strength of Gorton's is the Gorton's brand. Gorton's is one of America's most trusted, most recognized brands in the field. Gorton's health-oriented "Air Fried" products testify to its excellence in developing products suited to market trends, while the company's effective marketing through social media attracts growing ranks of new customers.

Advancement of the Aquaculture Business



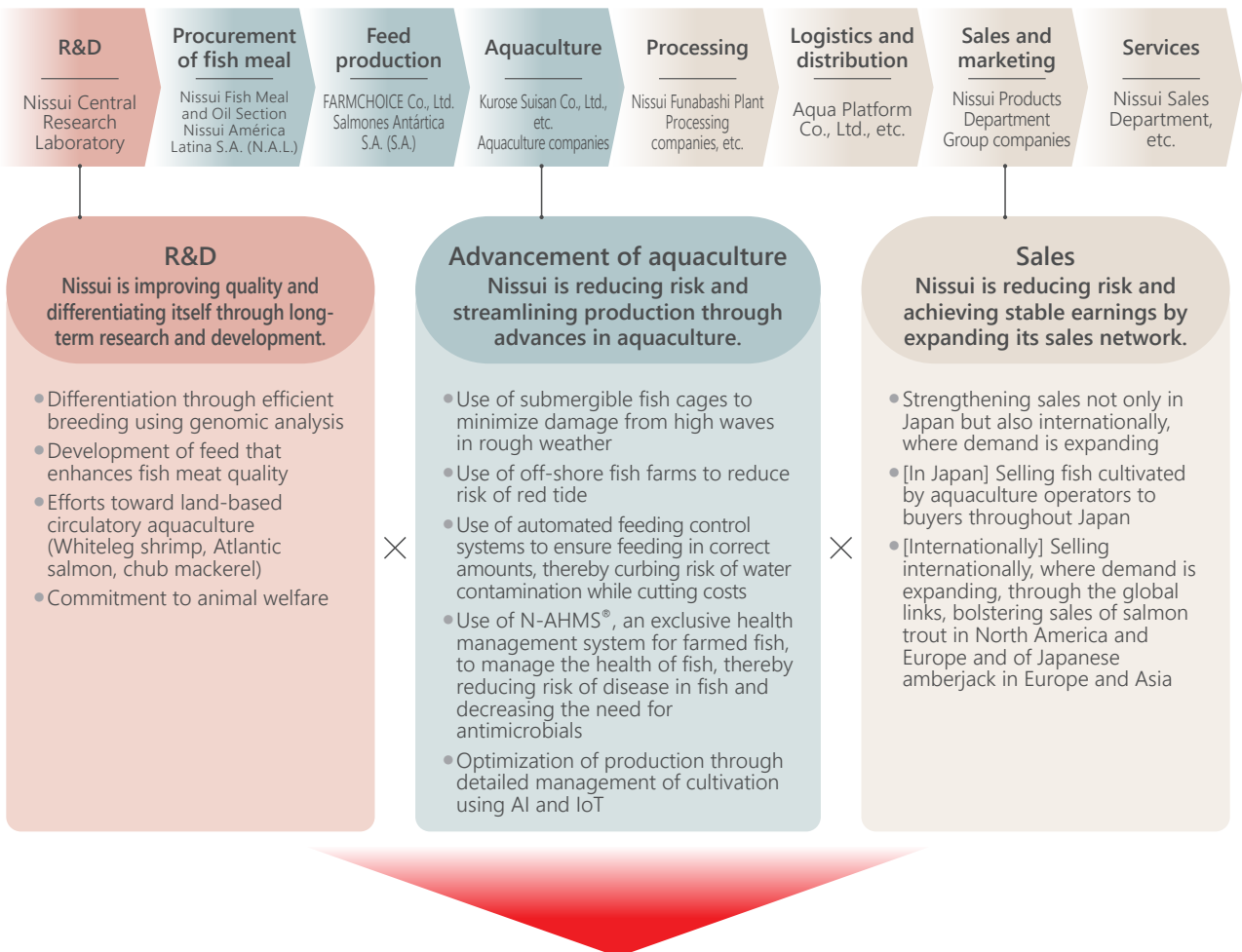
Demand for seafood is expected to grow worldwide, particularly in Asia and Africa. In its long-term vision for 2030, Nissui positions "expansion of the aquaculture business" as a key factor in its future growth, as the Company looks forward to serving the burgeoning demand for these products.

Teru Tanaka

Deputy Marine Products Business Operating Officer
In charge of Aquaculture Business Promotion Department

Full Aquaculture Value Chain

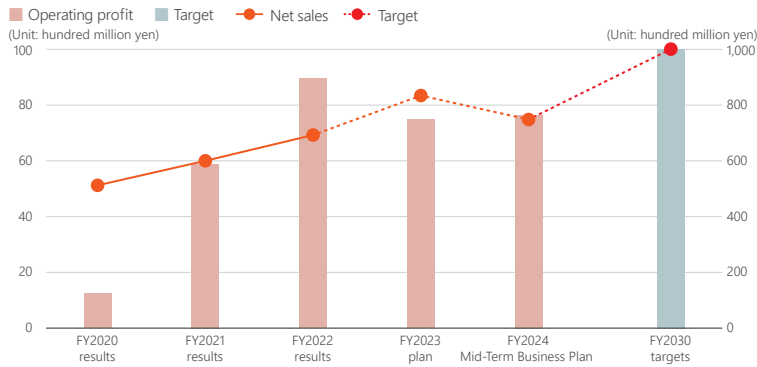
Nissui reduces cost and risk taking advantage of the full value chain from research and development through material purchasing and aquaculture to processing and sales, achieving highly competitive supply on the world market.



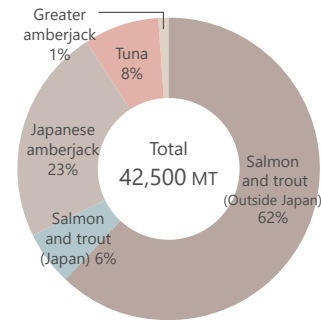
Honing Our Competitive Edge

Targets for 2030 in Aquaculture

Net sales 100 billion yen • Operating profit 10 billion yen



Share of total harvest volume by type of farmed fish (FY2022)



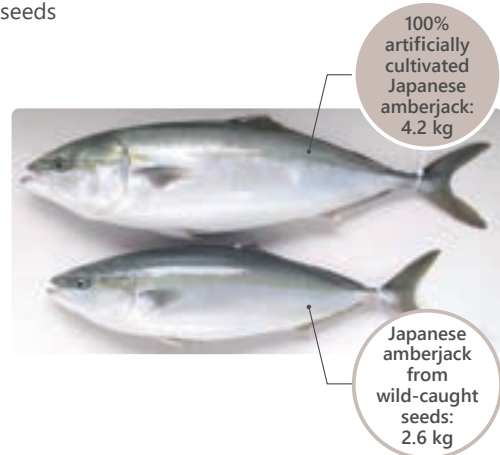
Full-life cycle aquaculture for Kurose Buri, Japanese amberjack, breeding is established by genomic analysis to supply delicious Japanese amberjack year-round.

- Selective breeding is used to produce quick-maturing Japanese amberjack. This solution reduces the risk of natural disasters, enabling us to reduce inventories.
- Advances in breeding and feeding make fish more delicious and oil-rich and less prone to discoloration from processing, enabling us to furnish customers with products that suit their needs.
- Controlling the roe collection season enables us to ship products year-round, improving their ability to respond flexibly to changing market conditions.

In conventional aquaculture, wild-caught seeds are used. With its Kurose Buri, Japanese amberjack, Kurose Suisan Co., Ltd. is the first company in Japan to use 100% artificial seeds. By artificially controlling sunlight and water temperature, which vary day-to-day in the nature, Kurose Suisan succeeded in collecting roe and sperm effectively from the parent fish. The artificial seeds of Japanese amberjack can thus be produced year-round in a planned manner. As a result, whereas natural Japanese amberjack are caught in winter, Kurose Suisan is able to produce and ship delicious Japanese amberjack even in spring and summer.

Like Wagyu breeding, Kurose Suisan's breeding system uses DNA to select breeding pairs. Genealogy is managed to prevent inbreeding. Kurose Suisan practices selective breeding, carefully choosing Japanese amberjack specimens from each generation so that only Japanese amberjack of excellent characteristics, including weight, oil content, proportion and genetic immune response, become breeding pairs for the next generation.

Two-year breeding period: Difference between Kurose Suisan's artificial seeds versus wild-caught seeds



8 hours after sashimi processing (stored at 15°C)



The quality of farmed Japanese amberjack depends heavily on its feed. Normally, the dark muscle meat (blood-rich mean close to the spine) of Japanese amberjack begins to discolor shortly after processing. However, Marbless, an original feed developed by Nissui, is compounded with chili pepper, which delays dark-meat discoloration and improves oil content and texture, enabling cultivation of high-quality farmed Japanese amberjack.

Off-Shore Fish Farming: Japanese Amberjack

Farming Japanese amberjack is switching over to use of large submergible fish cages in off-shore fish farms in Japan, applying technology to overcome the harsh environment of the ocean. Remote feeding systems are also being introduced to automate operations and reduce personnel requirements, thus ensuring stable supplies.



Fish farming using submergible fish cages

Increasing the Size of Fish Cages

To achieve its target harvest volume of 3 million farmed Japanese amberjack by FY2030, Nissui is moving forward with development of off-shore fish farming technologies. By switching from 10 m fish cages to 30 m cages in diameter, Nissui has succeeded in boosting production volume per block by 50%, raising both efficiency and productivity. Conquering the harsh environment of off-shore fish farms enables Nissui to achieve its sustainable aquaculture business.



Enlargement of aquaculture units using large fish cages (30 m in diameter)

Advantages of off-shore fishing grounds

- Large numbers of fish can be cultivated at once, raising productivity.
- An environment conducive to fish cultivation is easier to maintain in off-shore farming than in coastal farming.

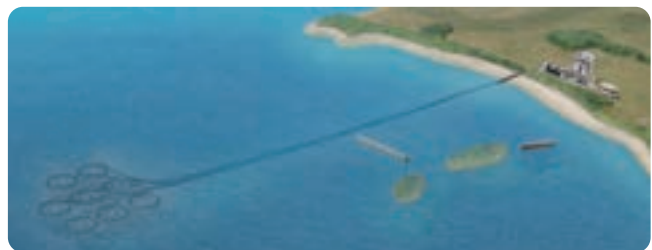
Disadvantages of off-shore fishing grounds

- Trade-off with the harsh environment of the open sea for rearing.
- Restrictions on feeding operations.

The Remote Feeding System Concept

Smart aquaculture technologies such as remote feeding systems improve the efficiency of aquaculture. By introducing such innovations, Nissui is developing a comprehensive suite of aquaculture solutions. Remote feeding systems improve productivity through automation and personnel reduction, enabling safe and uninterrupted feeding operation. Inside the fish cages, appetite sensors, underwater cameras and sensors for dissolved oxygen and temperature are installed, monitoring the status of farmed-fish cultivation and the fish-cage environment in real time. Times, quantity, and intervals of feeding can all be adjusted remotely. Already, in the case of salmon aquaculture, Nissui has introduced an original feeding system that feeds fish according to their appetite, maximizing fish growth and minimizing impact on the surrounding environment from unconsumed feed.

Nissui installs land-based silos and connects them to off-shore fish farms by laying pipes along the ocean floor. Feed is sent to the fish cages by compressed air. This innovation greatly reduces the need for fish-feeding vessels, reducing labor requirements and slashing CO₂ emissions.



The remote feeding system concept



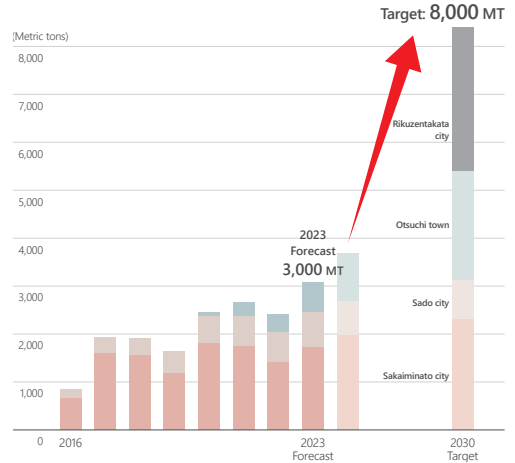
Land-based silos used in a remote feeding system
Source: Nippon Steel Engineering Co., Ltd.

Expansion of Production through Development of Fish Farms in Various Locations: Salmon

For domestically farmed salmon, Nissui is advancing stable production by improving aquaculture management at three locations in Japan: Sakaiminato city, Tottori Prefecture; Sado city, Niigata Prefecture; and Otsuchi town, Iwate Prefecture. In Otsuchi town, Nissui is expanding its scale of operations. In November 2023, the Company plans to begin test cultivation at Rikuzentakata city, Iwate Prefecture. Nissui is constantly working to expand production and ensure efficient and reliable operations.



Production results and plans for salmon in Japan



Efforts Toward Land-Based Circulatory Aquaculture: Whiteleg Shrimp, Chub Mackerel, Salmon Trout

Nissui is moving forward with land-based circulatory aquaculture to secure future supplies of seafood and as a strategy for growth.

Following on from its establishment of land-based aquaculture of whiteleg shrimp in April 2023, Nissui is conducting a feasibility study on land-based circulatory aquaculture of chub mackerel, aiming for commercialization in FY2026.

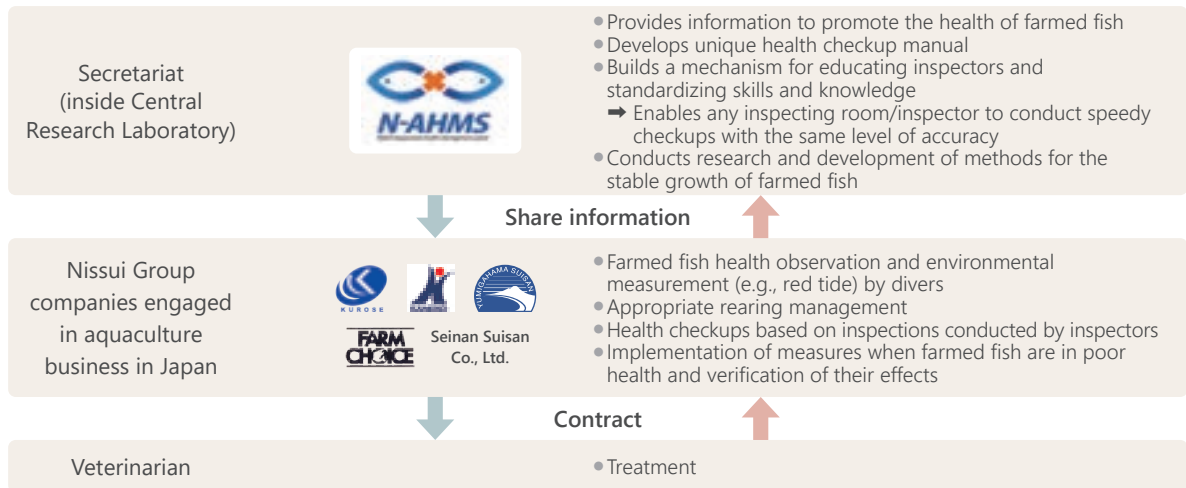


Yumigahama Suisan Kaisha, Ltd.'s Yonago Land-Based Circulatory Aquaculture Center, where Nissui is conducting a feasibility study on land-based circulatory cultivation of chub mackerel

TOPICS

Nissui Group's Fish Health Management: N-AHMS®

The Nissui Group has built a system to manage the health of farmed fish in Japan named N-AHMS (NISSUI Aquaculture Health Management System). Under N-AHMS, standardization of inspection quality is pursued through the establishment of an in-house certification scheme for grade-A inspectors in charge of checking the health of farmed fish, etc. aimed at improving the accuracy and reliability of health checkups of farmed fish.



Aiming to Enhance the Sustainability of Natural Capital

Climate Change

Biodiversity

The Nissui Group's business depends not just on white-meat fish and aquaculture but on natural capital in general. As a beneficiary of ecosystem services in a broad sense, the Group recognizes the potential loss of sustainability of natural capital as a significant risk. Climate change in particular relates to a wide range of risks affecting the Group. Given that changes in biodiversity and climate interact with each other, both constitute serious risks to the procurement of ingredients and other aspects of Group business. For these reasons, environmental issues require comprehensive approaches and responses. Addressing those risks is a vital task for enhancing the Group's resilience and a key to growth opportunities.

Climate Change

Initiatives for TCFD Recommendations
 ▶ <https://nissui.disclosure.site/en/themes/223>

Climate change impacts other risks. For the Nissui Group, which aspires to sustainable growth over the mid- to long-term, the risks are great but so are the opportunities. For that reason, the Group conducts scenario analysis based on the TCFD Declaration (declaration of the Task Force on Climate-related Disclosures), assessing risks and opportunities and their financial impact, and weaves the results into its management strategy. This fiscal year, the Group is repeating from the previous fiscal year its analysis of the Marine Products and Food Products Businesses and adding analysis of the Fine Chemicals Business. We are participating in two scenarios from the Intergovernmental Panel on Climate Change (IPCC), namely RCP 2.6 (scenario with warming of less than 2°C) and RCP 8.5 (scenario with warming of 4°C), as well as a scenario from the International Energy Agency (IEA). Our analysis indicated that, in the 1.5°C/2°C scenario, the introduction of a carbon tax would introduce an operating cost obstructive to business growth; accordingly, slashing greenhouse-gas emissions aggressively, raising the efficiency of production activities and capturing new customer demand would lead to business growth. Under the 4°C scenario, however, physical risk from intensification of natural disasters would be a factor obstructing business growth, so we could minimize impact on earnings by advancing the sophistication of our aquaculture business.

Since not only response to risks but also capturing of opportunities are vital for securing growth, the Group is pursuing close coordination among the Sustainability Committee, various subcommittees and the Risk Management Committee to devise specific response measures and strategies.

1.5°C/2°C Scenario

Risks / Opportunities	Classification	Main risks and opportunities that are expected	Impact on business	Timing of impact	Financial impact	Main countermeasures
Transition risk	Regulations	Impact of tightening environment-related regulations	Increase in costs of dealing with introduction of carbon pricing	Medium-term	High	<ul style="list-style-type: none"> Set emissions reduction target for each business location Introduce renewable energy sources more widely, invest in energy-saving equipment Reduce plastics in containers and packaging Execute modal shift and improve transportation efficiency Reduce food loss and waste Consider introducing ICP
			Increase in costs of dealing with tougher regulations on energy-saving, greenhouse gas emissions, etc.			
		Growing requests to become HFC-free due to tougher regulations against HFCs	Medium-term	High	<ul style="list-style-type: none"> Switch to natural refrigerants 	
	Reputation	Deterioration in reputation among investors and financial institutions in cases where action against climate change is inadequate	–	Medium-term	High	<ul style="list-style-type: none"> Set CO₂ emissions reduction target, including emissions up to Scope 3 Proactively disclose information on action against climate change
Opportunities	Products and services	Changes in consumers' purchasing behavior (greater environmental awareness, consideration for sustainability)	Increase in demand for sustainability-conscious products	Short-term	High	<ul style="list-style-type: none"> Continue to conduct survey on status of procured marine resources Handle more environmentally-friendly products and certified products
			Increase in demand for alternative protein sources due to growing demand for low-carbon products	Medium-term	High	
		Increase in demand for marine resources as a low-carbon food source	Long-term	Medium	<ul style="list-style-type: none"> Conduct LCA and proactively disclose information 	
	Resource efficiency	Reduction of operating costs by implementing energy-saving technology and adopting renewable energy and fuel substitution	Reduction of operating costs through reduction and streamlining of energy consumption	Medium-term	Medium	<ul style="list-style-type: none"> Support for energy-efficient and energy-saving equipment

Timing of impact was divided into short-term (within 3 years), medium-term (3 to 10 years) and long-term (10 to about 20 years). The respective financial impacts were large (1 billion yen or more), intermediate (from 300 million yen to 1 billion yen) and small (300 million yen or less).

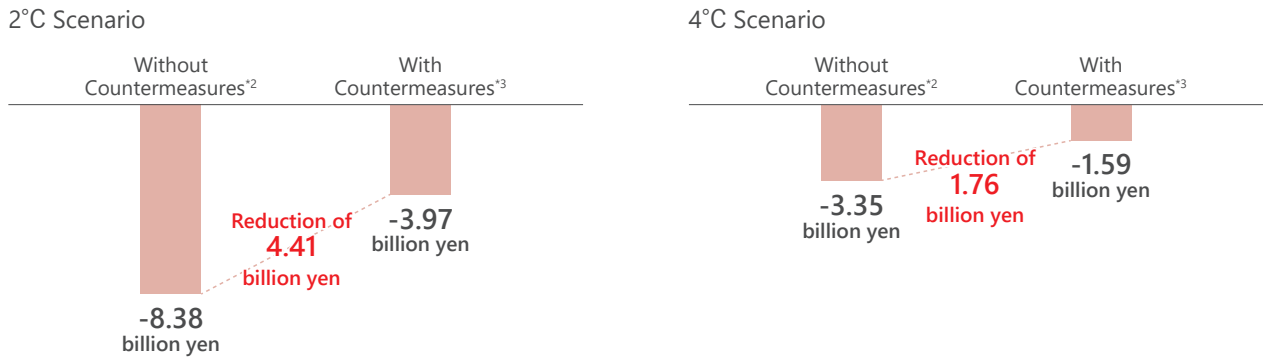
4°C Scenario

Risks / Opportunities	Classification	Main risks and opportunities expected	Impact on business	Timing of impact	Financial impact	Main countermeasures
Physical risk	Acute	Increase in business suspension risk and administrative costs due to increasing severity of wind and flood disasters	Damage due to manufacturing/logistics sites being struck by disaster	Medium-term	Medium	<ul style="list-style-type: none"> Hedge risks by dispersing bases Review the content of insurance to prepare against physical damage Review BCP and conduct in-house drills
			Damage due to destruction of aquaculture facilities	Short-term	Low	<ul style="list-style-type: none"> Introduce submergible fish cages and reinforce facilities Predict red tide and minimize damage Enhance land-based aquaculture solutions
		Procurement risk of raw materials (rice, chicken) due to abnormal climate	Higher cost of procurement of raw materials	Short-term	Medium	<ul style="list-style-type: none"> Reduce risks by dispersing places of production and diversifying suppliers
		Procurement risk of raw materials (marine products) due to abnormal climate	Decrease in catch, and higher cost of procurement of raw materials	Long-term	Low	<ul style="list-style-type: none"> Securing inventories of fish oils that are a source of EPA (Japanese anchovy) Development of alternative materials (post-EPA)
	Acute, Chronic	Business suspension risk of drought	Drought damage at aquaculture sites	Short-term	Medium	<ul style="list-style-type: none"> Identification of high-risk sites, transfer to other sites and reinforcement of equipment
			Drought damage to manufacturing/logistics sites	Short-term	Medium	<ul style="list-style-type: none"> Restriction of water use, use of well water Scattering of sites over multiple locations to hedge risk
Chronic	Procurement risk of marine resources due to changes in marine environment	Decrease in catch of wild-caught fish and farmed fish	Medium-term	Low	<ul style="list-style-type: none"> Build procurement networks Enhance land-based aquaculture solutions Develop high-temperature-tolerant breeds and explore places suited to aquaculture 	
		Decrease in catch and increase in procurement cost of fish serving as the ingredient for aquaculture feed	Medium-term	High	<ul style="list-style-type: none"> Develop alternative feed (low-fishmeal formula feed) 	
Opportunities	Products and services	Increase in demand through products and services for dealing with disasters and climate change	Increase in aquaculture demand in association with decrease in natural resources	Short-term	High	<ul style="list-style-type: none"> Enhance land-based aquaculture solutions Develop high-temperature-tolerant breeds and explore places suited to aquaculture
			Decrease in costs based on smart aquaculture solutions	Short-term	Medium	<ul style="list-style-type: none"> Improve efficiency and save labor by utilizing AI and IoT
		Greater awareness of health in association with temperature rise	Increase in demand for products that meet demand for health	Short-term	Medium	<ul style="list-style-type: none"> Expand sales of products in the field of health Pursue functionality of marine products

Timing of impact was divided into short-term (within 3 years), medium-term (3 to 10 years) and long-term (10 to about 20 years). The respective financial impacts were large (1 billion yen or more), intermediate (from 300 million yen to 1 billion yen) and small (300 million yen or less).

Transition risk **Impact of Carbon Pricing**

For carbon pricing, whose impact was particularly large in terms of financial impact, estimates were made on the premise of the following basis of calculation. Future CO₂ emissions (Scope 1 and Scope 2) were calculated based on the sales forecast for 2030, and the amount of impact in terms of operation cost was calculated by multiplying it with the carbon price according to IEA's forecast with respect to each scenario, i.e., 2°C scenario and 4°C scenario*1. This revealed that a reduction in total CO₂ emissions by 30%, which is our target for 2030, will translate into a Group-wide reduction amounting to 4.41 billion yen in the 2°C scenario and 1.76 billion yen in the 4°C scenario.



*1 Carbon tax: Assumed to be USD135/t-CO₂ in the 2°C scenario and USD54/t-CO₂ in the 4°C scenario, assuming an exchange rate of USD1.00=JPY118 in both scenarios (Referenced IEA World Energy Outlook 2022).
 *2 Without Countermeasures: With respect to Scope 1, 2 emissions, per-unit CO₂ emissions released are assumed to be at a similar level as in the base year, i.e., FY2018.
 *3 With Countermeasures: With respect to Scope 1, 2 emissions, CO₂ emissions are assumed to be reduced by 30% from the FY2018 level through the achievement of the 2030 target.

Improving the Sustainability of Natural Capital

Climate Change

Biodiversity

Physical risk Evaluation of Impact on Natural Marine Resources (Japanese Anchovy and Alaska Pollock)

In FY2022, the Nissui Group used a model from the United Nations Food and Agriculture Organization (FAO) to evaluate expected changes in allowable catch of two important fish species that the Group sources in large quantities. Two scenarios were developed and applied to Japanese anchovy and Alaska pollock, to assess allowable catch of each in 2030 and 2050. In the 1.5°C scenario, allowable catch for both species was forecast to decrease slightly in 2030 and 2050. In the 4°C scenario, allowable catch for Japanese anchovy was forecast to decrease both in 2030 and 2050, while allowable catch for Alaska pollock was forecast to increase slightly in 2030 but to increase more significantly in 2050. Because the change in allowable catch in 2030 was modest, it was confirmed that impact on the Group's finances would be modest. However, because the degree of change in allowable catch in 2050 was relatively high, a concerted response was deemed to be necessary. This need was particularly pronounced for Japanese anchovy, which was forecast to decline.

Degree of change in allowable catch*

↘ Decrease of less than 5%
 ↘ Decrease of 5–25%
 ↘ Decrease of over 25%
↗ Increase of less than 5%
 ↗ Increase of 5–25%
 ↗ Increase of over 25%

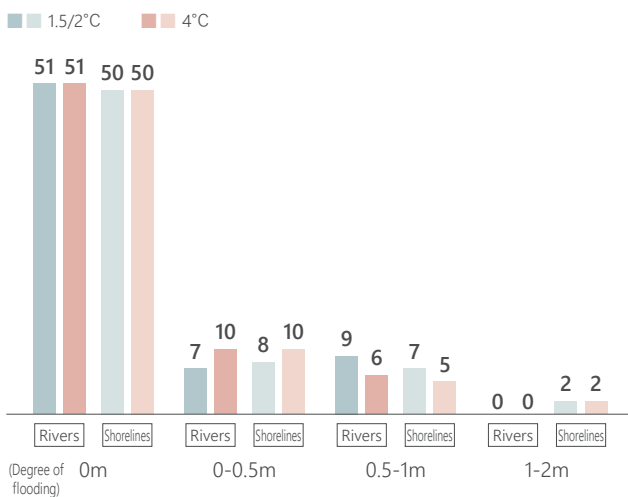
Species	Fishing ground	1.5°C/2°C		4°C	
		2030	2050	2030	2050
Japanese anchovy	Peru	↘	↘	↘	↘
Alaska pollock	Alaska	↘	↘	↗	↗

*Nissui estimates based on "Impacts of climate change on fisheries and aquaculture (2018)," United Nations Food and Agriculture Organization (FAO)

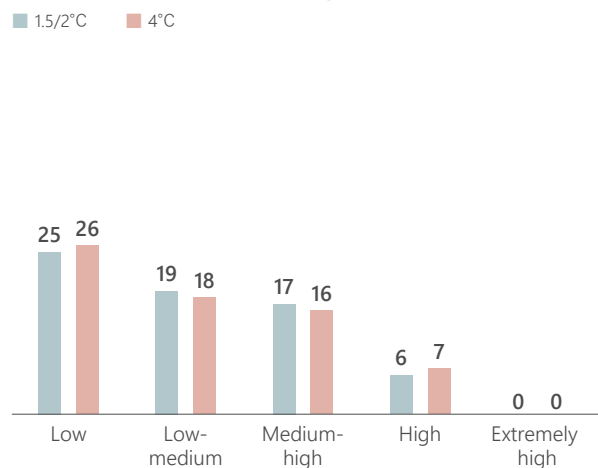
Physical risk Evaluation of Water Risk

In FY2022, the Group applied Aqueduct, a standard of the World Resources Institute (WRI), to evaluate individual manufacturing and logistics sites in Japan and overseas. Regarding opportunity loss from production shutdowns due to water damage, the flood depths specified in Aqueduct for the locations of each site were used to identify the number of days of production shutdown and the degree (percentage) of inventory damage at each site; this information was then used to calculate the financial impact of water damage. The results confirmed that the level of financial impact was intermediate. Regarding water stress (drought), while none of the Group's sites corresponded to the highest risk level, it was determined that some production sites in Japan, Thailand and the Americas were located in regions subject to water stress. Going forward, the Group will continue to implement measures to reduce water use and explore ways of refining methods of evaluating water risk.

Results of flood risk evaluation (number of sites)



Results of evaluation of drought risk (number of sites)



Metrics and Targets

Results (Scope 1,2) ▶ p.93

Today the Nissui Group is steadily cutting emissions at a pace exceeding the original plan. To achieve still further reductions, the Nissui Group is striving at every business location to reduce energy use, upgrade to more efficient equipment that uses less energy, and advancing the use of renewable energy and a modal shift. We have plotted a roadmap to carbon neutrality by 2050 and are drafting a plan for reduction of CO₂ emissions over the medium to long term. In aquaculture, for example, the Group is working toward this goal by developing "remote feeding systems," in which feed is piped to farming sites from silos on land, as well as "hydrogen-powered feeding vessels."

▶ p.31

CO₂ Emissions (Scope 1, 2) Reduction Target: Compared to FY2018, Total Emissions

Nissui Group will aim to reduce CO₂ emissions by **10%** by 2024, **30%** by 2030

→ Achieve carbon neutrality by 2050

Targets and Measures to Realize Sustainable Use

We will promote initiatives also with respect to wild-caught marine resources to be procured, plastics, food loss and waste, water, etc. by announcing their respective targets and measures to realize sustainable use.

Sustainability Targets and Results

▶ <https://nissui.disclosure.site/en/themes/150>

ESG Data Book (Scope 3)

▶ <https://nissui.disclosure.site/en/themes/119#225>

TOPICS

Opportunities

By commercializing land-based aquaculture of Asparagopsis, the Nissui Group aims to curtail greenhouse-gas emissions throughout its supply chain.



In May 2023, Nissui concluded a business partnership agreement with Seascope Restorations Australia (trade name: Immersion Group, "IG") to land-based aquaculture of Asparagopsis. Asparagopsis is a type of red seaweed that is attracting attention for its ability to suppress the generation of methane gas by ruminants, which makes it a potentially valuable tool for reducing greenhouse-gas emissions in the livestock industry. Asparagopsis suppresses methane emissions from cattle by up to 98% by inhibiting methanogenic bacteria, and has also been found to improve growth by up to 22% - 26% by improving metabolism. Based on these findings, research is now underway to cultivate and produce Asparagopsis as a feedstuff.

IG builds technologies for producing seeds and is developing an original system for high-efficiency land-based aquaculture, with plans calling for construction of a pilot plant in Australia to move toward commercialization. Nissui is supporting the construction of this pilot plant and expansion of processing facilities. Beginning in 2024, we will proceed with commercialization through verification of effectiveness and safety, and sales in Japan, thereby reducing greenhouse-gas emissions throughout our supply chain. Moreover, this partnership will make it easier to access knowledge and technology related to land-based aquaculture of seaweed, generating synergies with our aquaculture business.

Aiming to Enhance the Sustainability of Natural Capital

Climate Change

Biodiversity

Biodiversity

Biodiversity Preservation
 ▶ <https://nissui.disclosure.site/en/themes/89>

Access to resources is the strength of the Nissui Group. The Group's ability to procure materials from around the world, with focus on marine products, is the wellspring of its value creation. By the same token, however, our business activities are heavily dependent on natural capital and easily impacted by changes to it. Always mindful that we do business by receiving the bounty of earth and sea, we constantly gauge the dependence and impact of our value chain on biodiversity. The Nissui Group strives to avoid and minimize negative impacts from its operations, and to restore and regenerate where possible.

The Nissui Group recognizes the preservation of biodiversity as a vital management issue. In September 2023, the Group joined the TNFD*1 Forum. Aiming to provide disclosure in accordance with the TNFD framework, the Group implemented the LEAP*2 approach on a trial basis, assessing its dependence and impact on nature and evaluating associated risks and opportunities.

Evaluating Risks and Opportunities with the LEAP Approach

In the LEAP approach, companies typically identify their geographical regions of priority and assess their dependence and impact on its natural environment in the "Locate" step. The Nissui Group modified this approach, identifying no geographical region but instead evaluating the upstream processes of its value chain, fisheries and aquaculture, from a bird's-eye view.

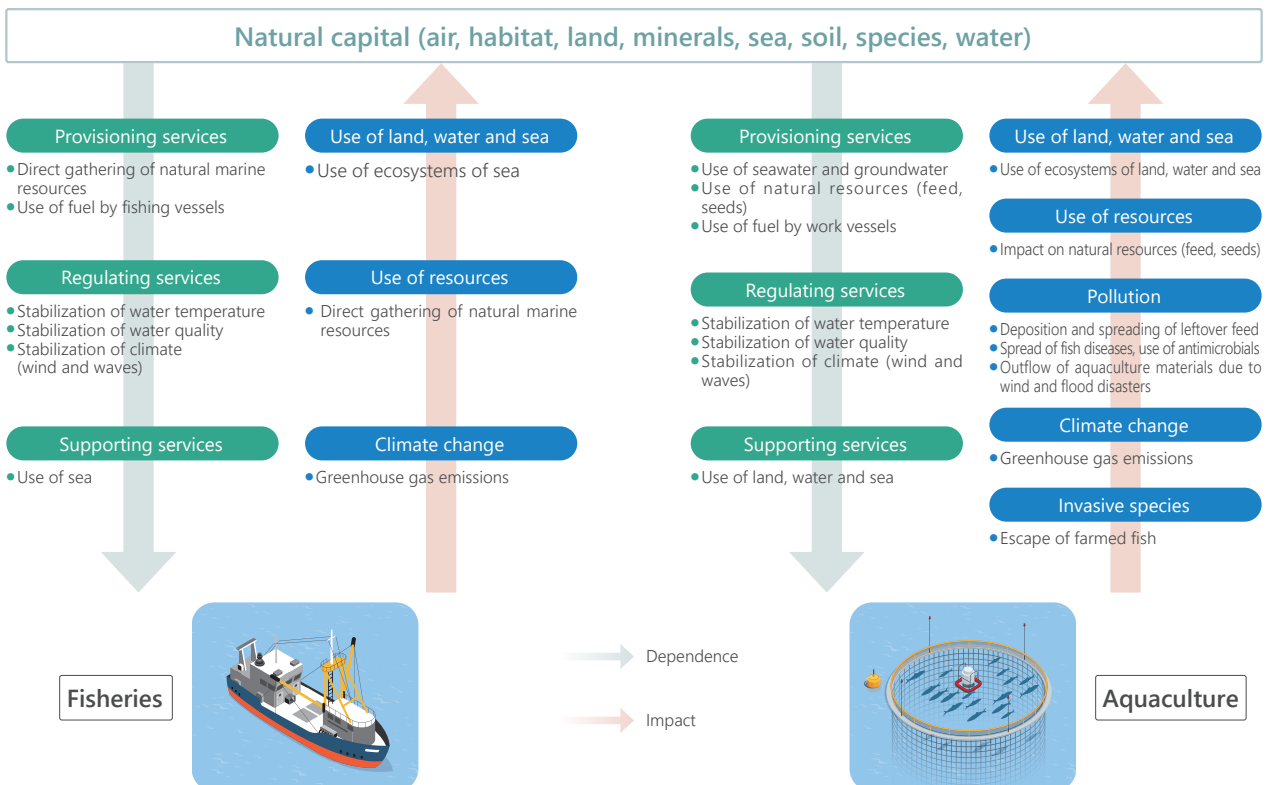
Locate: Find the Group's Points of Contact with Nature

- Natural marine resources (direct operation and procurement): 21 of the world's FAO Major Fishing Areas
- Farming sites (direct operation): 32 locations in Japan and 39 locations outside Japan

Evaluate: Diagnose Dependence and Impact

To clarify the relationship between the Group's dependence on nature for its fisheries and aquaculture operations and the impact those operations have on nature, the Nissui Group conducted a two-step evaluation. First, the Group used ENCORE*3 to conduct a primary evaluation. Next, the Group conducted a secondary (qualitative) evaluation tailored to the current state of Group operations.

The results showed that fisheries in the Group were found to be highly dependent on marine habitat services for specific regions of ocean and marine resources. The degree of impact on resource quantity and on species depended on the size of the catch. In the case of aquaculture, the Group was found to be dependent on particular areas of land, water and sea used, as well as on services to adjust ecosystem features such as water temperature and quality. Impact on nature was found in the form of deterioration of water quality and water pollution around farming sites.



Assess: Evaluate Risks and Opportunities

Based on the evaluation of dependence and impact on nature it conducted in the "Evaluate" step above, the Nissui Group deduced the nature-related risks and opportunities to which it needed to respond.

Main Risks and Opportunities Expected

Object	Risks/ Opportunities	Main risks and opportunities expected	Impact on business	Main responses
Fisheries	Physical risk	Depletion of marine resources	<ul style="list-style-type: none"> Reduced procurement volumes Increased procurement costs 	<ul style="list-style-type: none"> Further strengthening of access to resources Construction of procurement networks Strengthening of aquaculture business Development of substitutes for marine resources
	Transitional risk	Strengthening of fishing regulations		
	Opportunities	Stabilization of supply chains through sustainable procurement	<ul style="list-style-type: none"> Stabilization of revenues, expansion of sales channels 	<ul style="list-style-type: none"> Confirmation of status of resources when procuring Acquisition of fisheries certification and increased handling of certified products
Aquaculture	Physical risk	Suspension of business and increasing management costs from increasing severity of wind and flood disasters	<ul style="list-style-type: none"> Losses from damage of aquaculture facilities 	<ul style="list-style-type: none"> Introduction of submersible fish cages and reinforcement of facilities Strengthening capabilities in land-based aquaculture
		Spread of fish diseases	<ul style="list-style-type: none"> Loss of assets from mortality of fish stocks 	<ul style="list-style-type: none"> Preventive management using N-AHMS, an original farmed-fish health management system
	Transitional risk	Strengthening of environmental regulations on aquaculture	<ul style="list-style-type: none"> Reduction of scale of business and closure of fish farms Financial impact from fines and taxes 	<ul style="list-style-type: none"> Environmental monitoring of fish farms Reduction of environmental impact from feed (EP feed, automatic feeding systems) Shift to off-shore farming
	Opportunities	Use of full-life cycle aquaculture technology to reduce dependence on natural resources	<ul style="list-style-type: none"> Strengthening resilience, establishing competitive superiority 	<ul style="list-style-type: none"> Establishment of technology and expansion of range of fish handled
		Reduction of impact on the marine environment using land-based aquaculture technology		
		Reduction of environmental impact through smart aquaculture	<ul style="list-style-type: none"> Reduction of aquaculture cost, improvement of aquaculture performance Improvement of the work environment 	<ul style="list-style-type: none"> Production management using AI and IoT Development of remote feeding systems
Common to both	Opportunities	Changing consumer purchasing behavior (Increase in demand for sustainability-oriented products)	<ul style="list-style-type: none"> Expansion of sales 	<ul style="list-style-type: none"> Improvement of business sustainability, increase in handling of certified products Diligent disclosure

Prepare: Prepare Responses to Nature-Related Risks and Opportunities and Issue Reports

The Nissui Group has made "preserve the bountiful sea and promote the sustainable utilization of marine resources and their procurement" its materiality. Accordingly, the Group is committed to securing the sustainability of marine resources and preserving the marine environment as vital management issues. Under the umbrella of the Sustainability Committee, the Group has established five subcommittees: the Marine Resource Sustainability Subcommittee, the Sustainable Procurement Subcommittee, the Marine Environment Subcommittee, the Plastics Subcommittee and the Environmental Subcommittee. These subcommittees work across organizational lines to grapple with sustainability issues.

The Nissui Group is proud to participate in SeaBOS, an international initiative to preserve the marine environment and marine resources and the sustainable use of resources. In cooperation with leading companies and scientists in seafood industries around the world, the Group is working diligently to find workable solutions.

Object	Metrics	Targets	Target fiscal year
Fisheries and aquaculture	Sustainable procurement rate	Procurement of sustainable marine resources: 100%	2030
	Procurement of endangered (marine) species	For marine resources in severe danger of extinction ^{*1} , the Group will suspend the procurement of those resources if tangible and scientific measures are not taken to recover them by 2030.	
	CO ₂ emissions	Reduced by 30% (Scopes 1,2. Base year: FY2018)	
Aquaculture	Degree of replacement of polystyrene foam floats in nylon covers	Replacement with floats that have a low risk of becoming plastics that outflow into the ocean: 100%	2024

^{*1} The Task Force on Nature-related Financial Disclosures (TNFD) is an international organization whose aim is to build a framework through which private enterprises and financial institutions can conduct appropriate evaluation and disclosure of risks and opportunities related to natural capital and biodiversity.

^{*2} The LEAP ("Locate, Evaluate, Assess, Prepare") approach is an analytical process developed by TNFD to serve as a guide on evaluating nature-related risks and opportunities.

^{*3} Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE) is a tool for evaluating dependence and impact on natural capital for each business sector and production process.

^{*4} These are Category I endangered species as defined by the International Union for Conservation of Nature (IUCN) (species listed as critically endangered (CR) or endangered (EN) on the IUCN Red List of Threatened Species).

Outside Directors Roundtable Discussion, Message from the Newly Appointed Outside Director

Aiming for Nissui Group's Sustainable Growth and Enhancement of Corporate Value



Mikito Nagai
Outside Director
Chair of Nomination and
Compensation Committee

Tokio Matsuo
Outside Director
Member of Nomination and
Compensation Committee

Supporting the Group's Growth from a Long-Term, Company-Wide Perspective

Nagai: In my role as an Outside Director, the goal is to understand the current management team's vision for achieving our long-term vision and to provide support from three different perspectives: a long-term view, a global view, and a view that comes from outside the traditional norms of the industry and the Company. Our focus is to support growth rather than to constrain it. The effectiveness of the Board of Directors is assessed annually through surveys of all members, and the Board of Directors meets in a form that allows for free and open discussion among all members. We have seen improvements in the effectiveness of our decision-making processes, and this has received positive feedback. As a result, my role at this time leans more towards pressing the accelerator pedal than applying the brakes.

Matsuo: Based on my own experiences and insights, I see my role as providing constructive perspectives from an angle that is not often present in the Company. For example, during the effectiveness review, it was noted that discussions from a mid- to long-term perspective were insufficient. While I don't see this as a major concern when it comes to big-picture suggestions, when it comes to relatively detailed input related to specific business divisions, internal directors of the Board tend to remain confined within the boundaries and

responsibilities of their own division. Effecting a change in mindset and actions to support the Group's growth from a long-term, Company-wide perspective is no easy task, even for me. However, it is the role of the Board of Directors to deliberate from a Group-wide perspective, and I believe that by constantly keeping this in mind, perspectives will naturally broaden.

Nagai: I believe we should also focus on developing talent for management succession beyond the current directors. For example, it is imperative to provide opportunities for individuals to gain experience in cross-functional roles from a young age, and to expose them to departments that require a holistic understanding of the entire Company. This is an area that President Hamada is already aware of, and I expect progress to continue in the future. I want to point out this is an important aspect. Furthermore, as I mentioned last year, although our long-term vision, "what the Nissui Group would like to be in 2030" is ambitious, the transition from this vision to a backcasting Mid-Term Business Plan still seems to have a "cumulative" approach, and we haven't fully moved beyond long-term business planning.

Matsuo: In my view, what matters is whether executives and employees can understand the backcasting approach from our long-term vision and adapt their thinking and behavior based on this long-term vision. I'm looking forward to seeing how we can change the "cumulative" way of thinking and acting that we've had so far, and I'll be keenly watching very closely.

Strengths and Challenges of the Nissui Group from an Outside Director's Perspective

Nagai: I'd like to highlight four strengths. First, we have global access to marine resources that will increase in value over the long term. Second, our advanced breeding and DX efforts have increased the sophistication of our technological capabilities in aquaculture. Third, we have the ability to expand our business globally. And, fourth, our R&D capabilities. The Group's operation outside Japan include acquiring prominent local companies and leveraging their brands, making our global expansion unique among Japanese food companies. In terms of R&D, for example, we've become a global leading supplier with our proprietary technology for extracting and refining high purity EPA from fish oil. I hope that by synergizing these strengths, we can further enhance our competitive advantage.

Matsuo: To offer a different perspective from Mr. Nagai, I believe our strength undoubtedly lies in our people. Everyone in the Group is extremely hardworking, dedicated to achieving our goals, and committed to successfully completing the tasks assigned to them, and therein lies our biggest strength. Their strong commitment to compliance and their proactive approach to risk management contribute significantly to our corporate culture. While we certainly value individuals who can lead transformative initiatives and promote diversity, I consider our exceptionally skilled workforce to be our greatest asset.

Nagai: In order for us to realize "what the Nissui Group would like to be in 2030," it is essential that we develop a sound human capital strategy and a human capital portfolio that will support it. While this topic has been discussed several times at our Board meetings, I believe there's still much more to be done. We need to step up our efforts, particularly with regard to the strategic attraction and development of global talent, including foreign nationals. It is imperative that we accelerate our planning and execution in this area. To further leverage our strengths and foster synergies within our businesses, we should also be more deliberate about internal transfers across divisions.

Matsuo: It's not just human capital; it's also about DX. It's important to maintain a clear Company-wide mindset and direction, because without a roadmap, there's a concern that individual tweaks could lead to a misalignment of our direction.

Nagai: For example, when it comes to our human capital strategy and portfolio, I realize that while HR plays a central role in its development, it's essential to align it with our future business portfolio. This requires the active involvement not only of HR, but also of our business units and planning departments to jointly shape the Company's perspective. President Hamada shares this awareness, and I urge that we accelerate the process

of refining the Company-wide mindset. Discussions on human capital occupied a significant portion of our agenda during the past fiscal year, and we intend to continue to make this a major topic of discussion at upcoming Board of Directors meetings. It remains a critical issue to address as we look to the future.

Business Portfolio and ROIC Considerations

Matsuo: Improving ROIC is one of the basic strategies in our Mid-Term Business Plan. We have made progress in evaluating our businesses based on ROIC in order to optimize our business portfolio. While there are still differences among our businesses, we have finally reached a point where we can discuss concrete measures to improve ROIC.

Nagai: That said, we're just getting started. In the past, many companies emphasized ROE as an indicator of capital efficiency, but we have introduced ROIC as an indicator of capital efficiency. In addition, from the perspective of market valuation and shareholder returns, we believe that PBR should also be given greater importance.

Following the introduction of ROIC, discussions on capital cost-conscious investment decisions, business selection and focus have gained momentum. The implementation of CCC has also helped to raise awareness of cash flow generation at the operational level. However, we have yet to delve into discussions regarding the numerical targets for our long-term vision – specifically, what kind of business structure and scale are required for achievement of those targets, and how our balance sheet should look at that time. It seems that this will take a little more time.

Given our history of selecting businesses with capital efficiency in mind, I would rather maintain a vigilant stance, avoiding an over-emphasis on ROIC and the potential trap of narrowing our perspective. A low ROIC doesn't automatically mean we should exit a business;



Outside Directors Roundtable Discussion, Message from the Newly Appointed Outside Director



the key is how we strategically combine and enhance our various businesses. In my view, the essence of effective management lies in our ability to integrate the synergies inherent in our diverse portfolio of businesses into the ROIC framework and to account for future environmental costs. These considerations occupy a critical place in the current landscape of the Company. As a result, I am actively monitoring these discussions while keeping my foot on the accelerator. To bridge the gap between our current situation and “what the Nissui Group would like to be” envisioned in our long-term vision, I believe it is imperative to make further investments in our focus areas and to intensify our consideration of potential M&A opportunities.

Challenges for Achieving Our Mission in the Mid-to Long-Term

Matsuo: Tackling climate change and promoting decarbonization is undoubtedly essential. However, I believe that what society really wants from the Group is to ensure the sustainability of marine resources. It is imperative to balance the resolution of societal issues with the expansion of our business and to effectively demonstrate this balance to stakeholders, including investors. While we have already undertaken various initiatives, I feel that there may still be a gap in external disclosure and explanation.

We are currently in the process of reviewing materiality. To ensure that materiality isn't just a superficial concept, it's crucial that we define concrete measures, including KPIs, and provide comprehensive explanations and disclosures.

Nagai: I completely agree. In addition, in terms of exploring the markets of innovative food solutions, I have two particular expectations. The first is the expansion of our overseas seafood business in a horizontal manner. In Europe and the United States, we have been successful in acquiring prominent companies and leveraging their locally established brands. It's worth

considering whether we can replicate this success in Asia or explore business expansions based on the knowledge we've gained in Europe and the United States. Second, I am excited about new developments in the food business here in Japan. There are ongoing challenges related to food for the elderly, nutritional meals, individualized dining options, convenience, and meeting the needs of those who find it difficult to shop. I want to see creative, cross-functional approaches to addressing these societal issues through innovative food solutions. I have high hopes for Ms. Eguchi, our new Outside Director, especially in areas such as strengthening marketing efforts to meet consumer needs.

Matsuo: As our Group is primarily engaged in B-to-C business, I believe that increasing consumer awareness of our various initiatives and value creation efforts will contribute to enhancing our brand strength. My hope is that the Group will demonstrate leadership as a globally renowned marine foods company and further communicate what we aim to be in the future to external stakeholders.

I also expect the Group to face various challenges in the future. As we mentioned at the beginning of our discussion regarding management succession, I believe it's essential to prepare for multiple scenarios in order to adapt to changing environmental conditions. Leadership should also be diversified, and I believe that categorizing leadership into different types and pooling human capital according to these definitions is a necessary step.

Nagai: In terms of leadership, I also believe that the top of the Group should have the ability to convey its own message to various global companies. For example, when President Hamada was formulating the long-term vision and Mid-Term Business Plan, he wanted to encourage extensive internal discussion about the future direction of the Group. I was deeply impressed by President Hamada's dedication and leadership as he actively sought diverse opinions from within the Company and created numerous opportunities for dialogue, which he then put into practice.

In addition, the department heads who oversee each site should be individuals with flexible thinking and the ability to take action in exploring innovative food solutions. In essence, they should be leaders who can appropriately recognize and encourage the free and flexible ideas of each individual in the workplace to foster the development of innovative food solutions.

Matsuo: In the context of promoting the active participation of diverse talent, fostering the participation of women is also an important priority. President Hamada is actively implementing measures within the Company to promote the advancement of women, and is working to establish a system that will enable women to play an active role at all levels in the future.

In addition, accelerating our M&A efforts is critical to achieving our 2030 growth strategy, and I'm also concerned about progress on this front. M&As involve many aspects that are beyond our direct control, so it is

important to consider what we can do to ensure that this area proceeds as closely as possible according to plan.

Nagai: Indeed, we could use more proactivity, such as actively seeking out M&A opportunities and promising technologies on our own. It may be necessary for the business, R&D, and corporate divisions to work together to strengthen these capabilities. I would like to reiterate the importance of developing talent that can take a holistic view of the business. Every employee should have a broad perspective and contribute to business

growth by exploring innovative food solutions. If we cultivate that atmosphere throughout the organization, it will enhance employee engagement, and I am very hopeful in this regard.

Message from the Newly Appointed Outside Director

Throughout my career, I have been deeply involved in creating and communicating new value, primarily within the R&D, Public Relations, Communications and CSR departments of two prominent food companies. My contributions significantly enhanced the brand value of these companies. I am eager to use this wealth of experience to play a key role in realizing our long-term vision of "Good Foods 2030."

The image of the Company has traditionally been that of a Japanese seafood company. However, I now sense a resolute commitment to exploring innovative food solutions, a mission we embraced when we adopted the name "Nissui." From the perspective of sustainability management, I firmly believe that the Group has immense potential to lead the world in promoting the sustainability of marine resources and the preservation of the marine environment. There is a strong demand from society as a whole for us to do more to address critical issues such as climate change and biodiversity.

In terms of business growth, I am focusing on research and development that drives innovation, drawing from my past experience in R&D. I have high expectations for the evolution and commercialization of core technologies, including functional lipids like EPA, fast-twitch skeletal muscle protein, and aquaculture technologies, including selective breeding. I am looking forward to these core technologies advancing. In addition, I am confident that capturing latent needs and challenges and communicating these values to society and consumers more effectively than ever before will contribute to enhancing the "Nissui" brand's value and gaining trust from our customers. The R&D departments are not solely focused on technological innovation; it's also crucial that they engage in two-way communication with our customers to identify unmet needs and address pain points and collaborate with the marketing departments to drive the creation of the next wave of value. By offering unique ingredients and products from the customer's perspective, we can bring innovative food solutions to countries around the world. While research and technology development is time-

consuming and often fraught with setbacks, I encourage proactive alliances to address any shortcomings, be unwavering in facing challenges, and lead the Company to success at an accelerated pace.

In addition, during my many years in the corporate world, I have been steadfast in my commitment to promoting the advancement of women. Diversity and communication are important keywords in management. To truly emerge as a global leading company, we must become an organization where all individuals can work equally and comfortably, regardless of race, nationality, gender, or any other factor. Therefore, open communication across departments, within our organization, and with society at large is essential. We strive to be an organization that encourages open and honest discussion, effectively communicates valuable information both internally and externally, and promotes meaningful dialogue.

As I embark on this new chapter in the management of our business, I will not forget my core principles. I will respond in a timely manner to changes in society and leverage our strengths to make a significant contribution to the growth of the Group.



Atsumi Eguchi

Outside Director, Member of Nomination and Compensation Committee