

An underwater photograph of a large school of fish swimming in clear blue water. Sunlight filters through the surface, creating a shimmering effect. A large, white, stylized graphic element, resembling a speech bubble or a bracket, is overlaid on the upper left and center of the image. The fish are silhouetted against the bright light from above.

Nissui Group TNFD Report 2023

nissui

Contents

1. The Nissui Group's Relationship with Nature

- 1.1 Nissui Group's Sustainability ————— 2
- 1.2 Approach toward Natural Capital ————— 3
- 1.3 Information Disclosure Approach ————— 4

2. Governance

- 2.1 Board of Directors ————— 5
- 2.2 Sustainability Committee ————— 5
- 2.3 Respect Human Rights and Relationship with the Local Communities ————— 6

3. Strategy

- 3.1 Diagnosis of "Dependencies and Impacts" and Evaluation of "Risks and Opportunities" in Line With the LEAP Approach ————— 7
 - 3.1.1 Scope of Evaluation ————— 7
 - 3.1.2 Locate: Find the Group's Points of Contact with Nature ————— 7
 - 3.1.3 Evaluate: Diagnose Dependence and Impact — 9
 - 3.1.4 Assess: Evaluate risks and opportunities — 12

4. Risk & Impact Management

- 4.1 Risk Management System ————— 14
- 4.2 Nissui Group's Priority Risks ————— 15

5. Metrics and targets

- 5.1 TNFD Core Global Disclosure Indicators and Metrics ————— 16
- 5.2 Nissui Group's Mid- to Long-Term Targets ————— 17
- 5.3 Main Countermeasures to Nature-Related Risks ————— 17

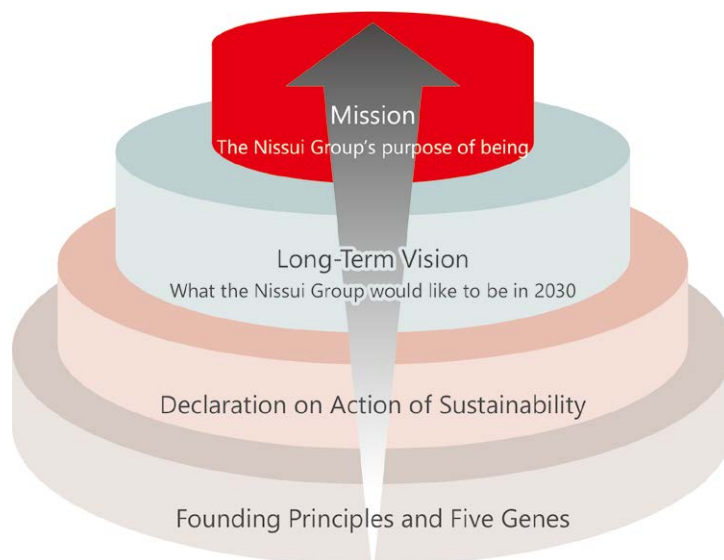
6. Specific Measures

- 6.1 Survey of Procured Marine Resources Sustainability ————— 18
 - 6.1.1 Assessment Results of the State of Resources Management ————— 18
 - 6.1.2 Third-party Programs to Promote Sustainable Marine Products Use ————— 19
 - 6.1.3 Endangered Species ————— 19
- 6.2 Initiatives in the Fisheries ————— 20
 - 6.2.1 Preventing Seabird and Marine Mammal Bycatch ————— 20
- 6.3 Initiatives in the Aquaculture ————— 22
 - 6.3.1 Reducing the Impact of Fish Feed and Feeding on the Marine Environment ————— 22
 - 6.3.2 Shift to Off-Shore Farming ————— 22
 - 6.3.3 Initiatives of Land-Based Aquaculture ————— 23
 - 6.3.4 Full-Life Cycle Aquaculture ————— 23
 - 6.3.5 Reduction of Antimicrobial Usage ————— 24
- 6.4 Biodiversity Conservation Activities — 25
- 6.5 Collaboration Between Science and Business ————— 26
- 6.6 Participation in External Initiatives — 28

1. The Nissui Group's Relationship with Nature

1.1 Nissui Group's Sustainability

Since its establishment, the Nissui Group has after monitoring on been involved in a business that utilizes a wide variety of natural resources. The sustainable business activities stated in our founding principle and mission embody our mission as a business. Based on nissui's five genes (Value the customer, Hands-on approach, Global, Innovation, Mission) and Declaration on Action of Sustainability, we plan to work on the key issues in cooperation with our stakeholders and resolve social issues through our business activities.



■ Mission (Purpose of Being)

Thoughts behind the mission

- Shift toward a "food solutions" company
- Pioneering spirit natured, developed and honed by the Ocean
- The commitment to move towards a sustainable future in sight

Mission

With the wellbeing of the ocean and people as our compass, we are driven to offer the world better food choices.

We are determined to harness the power of our pioneering spirit and industry expertise to create a healthier, more sustainable future through innovative food solutions.

■ Long-Term Vision "Good Foods 2030"

A leading company that delivers friendly foods for people and the earth

Declaration on Action of Sustainability

Declaration on Action of Sustainability
▶ <https://nissui.disclosure.site/en/themes/126>

The Nissui Group will appreciate the earth and the sea, and create diverse values from Five Genes (Mission, Innovation, Hands-on approach, Global, Value the customer) inherited since its foundation and try to solve social issues through business activities.

For the Customers

For the Employees

For the Business Partners

For the Environment

For the Shareholder and Investors

For Society

Founding Principles and Five Genes

A tap water supply system is exactly what marine products should be like in their production and distribution.

We seek marine resources from everywhere in the world, ensure that products are always as fresh as possible, set up their worldwide marketing network, just like the tap water pipeline, and distribute them, adjusting their marketing prices in response to demand. Excess costs related to the distribution of marine products also need to be eliminated to realize the distribution costs lowest possible. Earnings through speculation should not be sought in the course of this supply.



Founder
Ichiro Tamura



A person of merit
Kosuke Kunishi



1.2 Approach toward Natural Capital

Recognizing the importance of preserving biodiversity, which forms the foundation of the natural environment, the Nissui Group revised its Environment Code in 2014. This revision emphasized the promotion of “biodiversity conservation” within our Policies in the Environment Code, leading us to implement a series of initiatives in line with these policies.

Environmental Code

Environmental Philosophy

The basic corporate stance of Nissui, whose business relies on the bounty of nature, is to respect natural resources and interact with the earth and sea with gratitude.

We shall engage in global business activities which enable us to live in harmony with the global environment, and make continuous efforts to build a sustainable society.

Policies

1. We will promote activities mindful of the preservation of the natural environment and biodiversity, and the sustainable use of resources.
2. We will continuously endeavor to build a recycling-oriented society by practicing energy conservation, resource saving, waste reduction, reducing volume of packaging & containers, environmentally friendly procurement, and other activities which alleviate environmental impact.
3. We will build and effectively operate an environmental management system. We will also conduct environmental audits and strictly enforce compliance with environment-related laws, regulations, etc.
4. We will raise the environmental awareness of each and every one of our employees by offering environmental education.
5. With respect to society, we will carry out environmental communication activities, and strongly emphasize environmentally friendly coexistence with the local community.
6. We will share this Environmental Code with companies affiliated with the Nissui Group.

The Nissui Group's strength lies in our ability to procure materials, including marine products, from around the world, which serves as a source of value creation. However, our business activities are significantly dependent on and impact natural capital and ecosystem services. In the global context, achieving "nature positive" outcomes is a priority that requires efforts from both nations and companies. Mindful of the blessings received from the earth and sea, the Nissui Group acknowledges our dependence on and impact on natural capital throughout our value chain. We are committed to avoiding and mitigating any negative impacts of our operations, while focusing on restoration and regeneration.

We support the principles of the Task Force on Nature-related Financial Disclosures (TNFD)* and are active participants in the TNFD Forum, a network that supports the establishment of its framework.



*Task Force on Nature-related Financial Disclosures (TNFD): 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. Formally launched in June 2021 by the UNEP Finance Initiative (UNEP FI), United Nations Development Programme (UNDP), World Wildlife Fund (WWF), and Global Canopy, a UK-based NGO.

1.3 Information Disclosure Approach

The TNFD is an international task force dedicated to creating a framework that enables proper evaluation and disclosure of risks and opportunities associated with natural capital and biodiversity in business activities. The TNFD recommends an integrated assessment process for nature-related risks and opportunities, known as LEAP (Locate, Evaluate, Assess, Prepare), to assist businesses in incorporating considerations for nature into their portfolio risk management processes. The Nissui Group, referencing the TNFD's beta version (v0.4), has experimentally adopted the LEAP approach to better understand our dependence on and impact upon nature, and to evaluate associated risks and opportunities. Following the release of the TNFD's final recommendations (v1.0) in September 2023, we are committed to disclosing information in accordance with the recommended disclosure items, aligned with the four pillars of "Governance," "Strategy," "Risk and Impact Management," and "Metrics and Targets."

2. Governance

A: Board's oversight

B: Management's role

C: Human rights policies and engagement activities with stakeholders (Indigenous Peoples, Local Communities and other stakeholders)

2.1 Board of Directors

The Board of Directors of the Nissui Group views its role as making important executive decisions and providing appropriate oversight along with defining the Group's overarching direction, including the mission, vision, and medium- to long-term management strategies, to foster sustainable growth and enhance medium- to long-term corporate value while addressing social issues. Additionally, the Board is responsible for making resolutions on critical matters related to sustainability management, such as materiality and setting medium- to long-term sustainability goals.

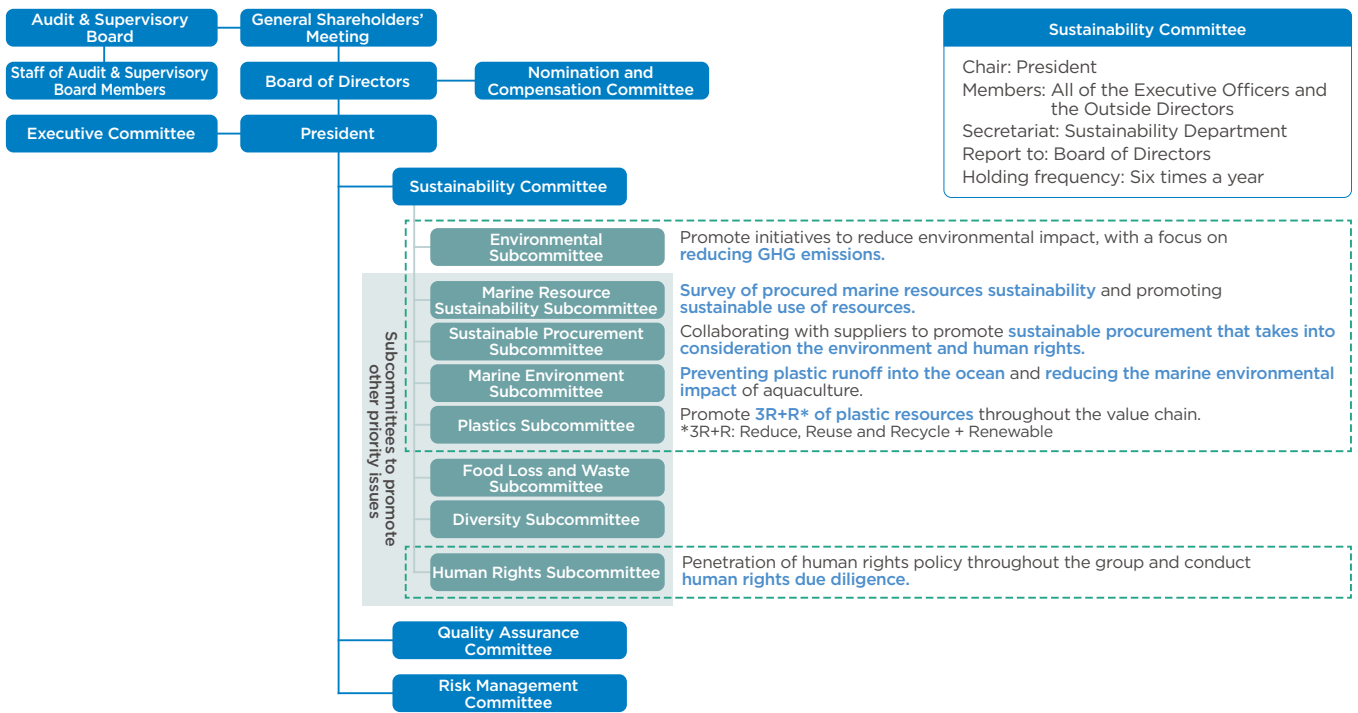
The Board regularly receives reports on the details of the Sustainability Committee's deliberations and oversees the responses to sustainability issues, particularly climate change and biodiversity, and progress toward goals. For investment projects, analysis of risks (including countermeasures) and opportunities related to climate change and biodiversity is mandatory, with deliberations taking into account both financial and non-financial perspectives.

Furthermore, to fulfill our vision targeted in 2030 and the business plan, we revised our executive compensation system in FY2022. This revision included incorporating the attainment of non-financial (sustainability) targets, such as the sustainability of marine resources and reduction of CO₂ emissions at the Nissui Group's business locations, into the evaluation criteria for the variable compensation component of our Executive Directors.

2.2 Sustainability Committee

The Nissui Group is promoting sustainability management aimed at realizing sustainable growth and higher corporate value. As an organization serving as its driving force, Nissui established the Sustainability Committee, which consists of all Executive Officers and Outside Board Members and is chaired by the President & CEO. In each of the eight subcommittees set up on a theme-by-theme basis under the Sustainability Committee, the subcommittee's chairperson (i.e., Executive Officer) designated by the Committee's chairperson and members appointed by the subcommittee's chairperson address each sustainability-related issue in a cross-departmental manner. Efforts related to biodiversity in the Nissui Group are primarily handled by six subcommittees: the Marine Resource Sustainability Subcommittee, the Sustainable Procurement Subcommittee, the Marine Environment Subcommittee, the Plastics Subcommittee, the Environmental Subcommittee, and the Human Rights Subcommittee. Each subcommittee develops and implements policies and strategies, and reports to the Sustainability Committee.

At the meeting of the Sustainability Committee, which is convened six times a year, specific targets, policies and measures for sustainability-related issues are examined based on reports and proposals made by each subcommittee, and the Board of Directors' opinions and advice are reflected in its initiatives through periodic reports made to the Board of Directors.



2.3 Respect Human Rights and Relationship with the Local Communities

In September 2020, the Nissui Group formulated the “Nissui Group Human Rights Policy” in compliance with the United Nations Guiding Principles on Business and Human Rights in order to further clarify its approach to respecting human rights in all value chains associated with its businesses.

Furthermore, to identify potential human rights risks within our value chain, we conducted a detailed risk assessment for each process, categorizing and organizing risks according to stakeholders*. This included acknowledging human rights risks to local residents (including indigenous peoples), such as disruption to indigenous lifestyles and environmental pollution, and ensuring that our business activities are always conducted with a focus on coexisting with local communities.

*Human Rights Risk Assessment

▶ <https://nissui.disclosure.site/en/themes/204#326>

■ Topics

Community Coexistence in Aquaculture Operations (Chile: Salmones Antártica S.A.)

Salmones Antártica S.A., a Nissui Group salmon aquaculture company in Chile, views its coexistence with local communities, including indigenous peoples, as a crucial element of its business operations. The company is dedicated to maintaining strong ties with these communities, respecting their culture, customs, and rights, and contributing to the stability and improvement of their livelihoods over the long term.

More details on these activities are available on our website.

▶ <https://nissui.disclosure.site/en/themes/186#269>

Additionally, Salmones Antártica S.A. shares daily updates about community engagement on its Instagram account.

▶ <https://www.instagram.com/salmonesantarticasocial/>



From the left, first and second photos: “Support for pier installation on neighboring island,” third photo: “Interaction with indigenous communities,” fourth photo: “Community gathering with local residents.”

3. Strategy

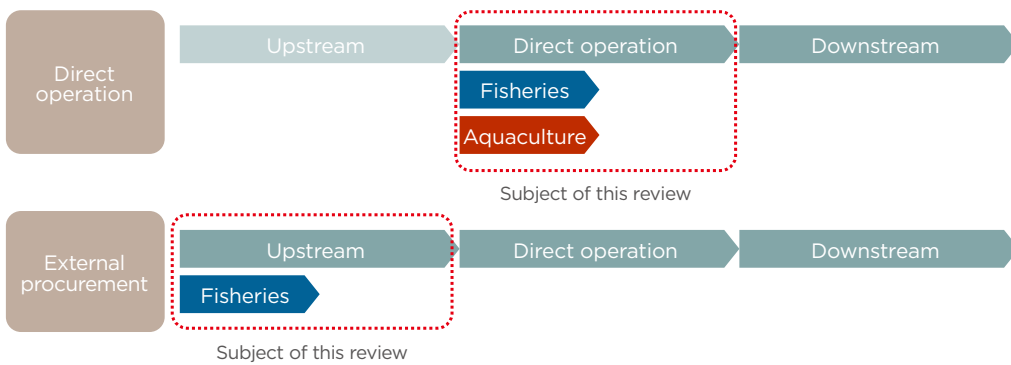
- A: Explanation of nature-related dependencies, impacts, risks and opportunities identified over the short, medium and long term
- C: Explanation of the resilience of the strategy
- D: Priority locations

3.1 Diagnosis of “Dependencies and Impacts” and Evaluation of “Risks and Opportunities” in Line with the LEAP Approach

3.1.1 Scope of Evaluation

In determining the scope and categories for our assessment, the Nissui Group consulted the High Impact Commodity List published by the Science Based Targets Network (SBTN). “Wild capture seafood (saltwater)” and “Farmed seafood/Aquaculture” which form the core of our value chain, were identified as High Impact Commodities. SBTN’s literature review identifies key impacts including “marine ecosystem use,” “Marine ecosystem change,” “other resource use,” “climate change,” and “marine pollution.” Our assessment thus prioritized “fisheries” and “aquaculture,” where our value chain first intersects with nature.

In the Nissui Group’s activities within both “fisheries” and “aquaculture,” operations are conducted directly and supplemented by external sourcing. The primary focus of this evaluation was on our direct operations. However, in the case of “fisheries,” we have also undertaken an extensive review that includes aspects of our external procurement.



3.1.2 Locate: Find the Group’s Points of Contact with Nature

Fisheries...Natural marine resources (direct operation and procurement from outside the Group)

The Nissui Group procures a variety of marine products from different areas within the FAO* Major Fishing Areas. The size of the circles in the diagram below represents the volume of procurement from each area. (FY2019 results)

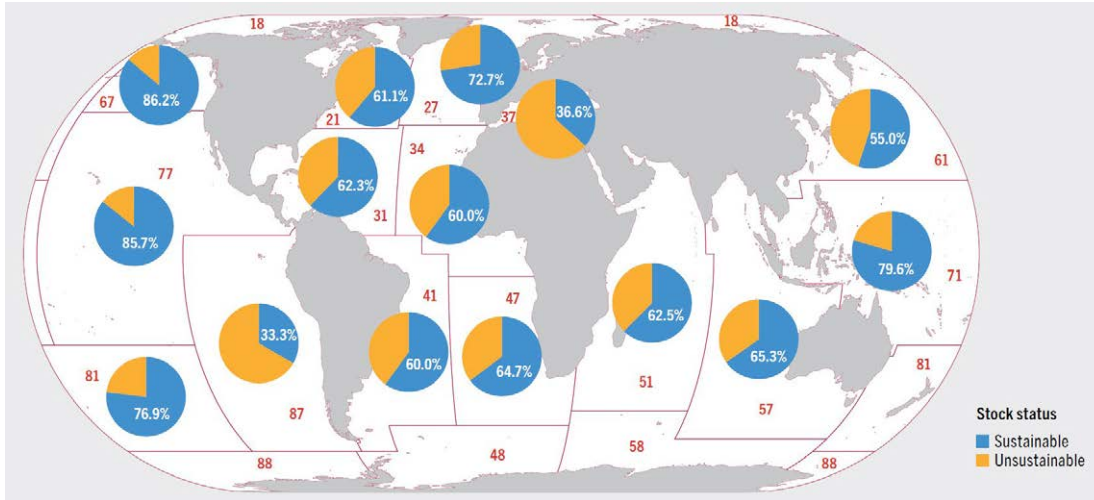


*FAO: Food and Agriculture Organization of the United Nations

[Reference]

Stock status by major fishing area

(PERCENTAGES OF BIOLOGICALLY SUSTAINABLE AND UNSUSTAINABLE FISHERY STOCKS BY FAO MAJOR FISHING AREA, 2019)



FAO 「The State of World Fisheries and Aquaculture 2022」 P.48 FIGURE 24

▶ <https://www.fao.org/3/cc0461en/cc0461en.pdf>

Fish, as creatures that often migrate in search of specific environmental conditions, present a challenge to resource assessment, as their status cannot be fully understood by location alone. The Nissui Group evaluates the condition of the marine resources it procures, considering various factors like fish species, catch areas, country of origin, fishing methods, and equipment used. This assessment is detailed in section 6.1, “Survey of Procured Marine Resources Sustainability.”

Aquaculture...Direct operation

Map of the Nissui Group’s aquaculture-related business locations and aquaculture sites



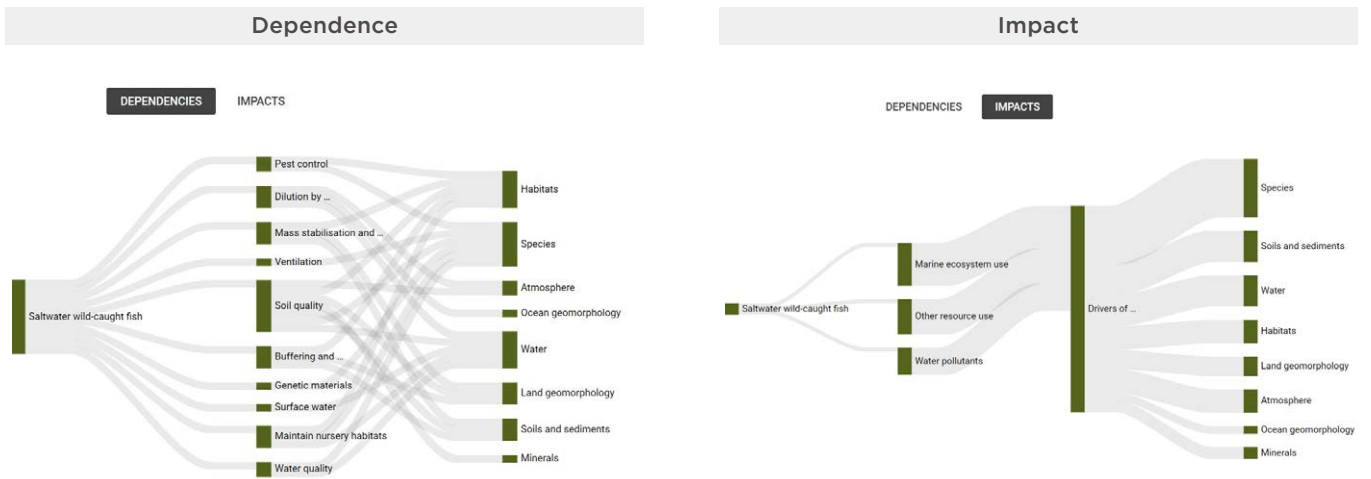
3.1.3 Evaluate: Diagnose Dependence and Impact

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 primary evaluation by using an external tool, ENCORE*.

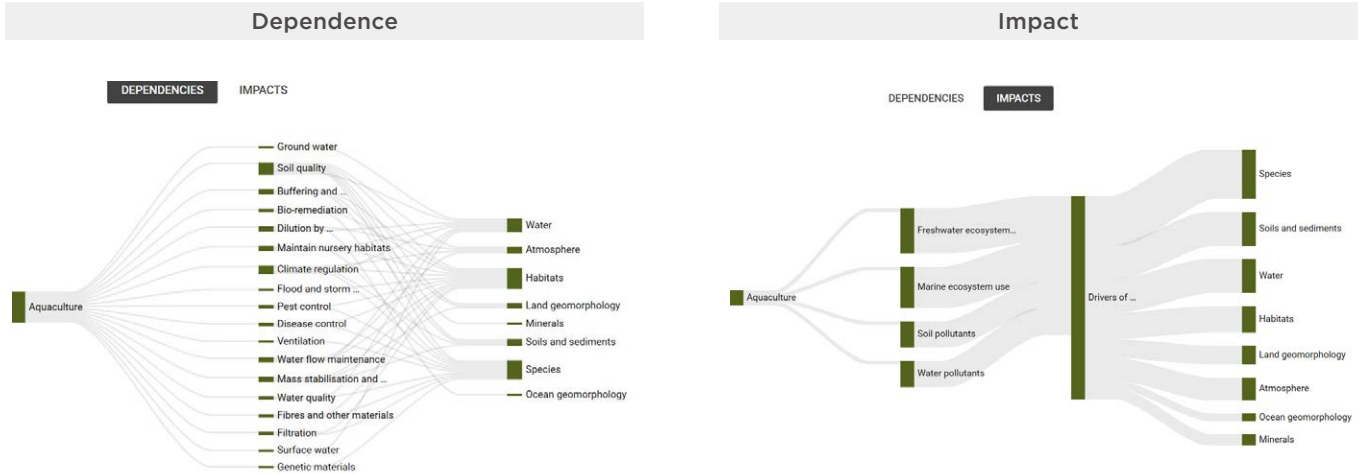
*ENCORE: Exploring Natural Capital Opportunities, Risk and Exposure. A tool for evaluating dependence and impact on natural capital for each business sector and production process. Developed under the leadership of the Natural Capital Finance Alliance, in collaboration with UNEP-WCMC (United Nations Environment Programme World Conservation Monitoring Centre).

Flow chart of dependence and impact by ENCORE

[Fisheries]



[Aquaculture]



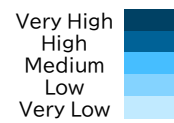
Valuation of importance (heatmap)

[Dependence]

	Direct Physical Input					Enables Production Process					Mitigates Direct Impacts			Protection from Disruption							
	Animal-based energy	Fibres and other materials	Genetic materials	Ground water	Surface water	Maintain nursery habitats	Pollination	Soil quality	Ventilation	Water flow maintenance	Water quality	Bio-remediation	Dilution by atmosphere and ecosystems	Filtration	Mediation of sensory impacts	Buffering and attenuation of mass flows	Climate regulation	Disease control	Flood and storm protection	Mass stabilisation and erosion control	Pest control
Ecosystem services																					
Fisheries			Medium		High	High		Low	Low		High		Low			Medium				Low	Low
Aquaculture	High	Low	Low	Low	Medium	Medium		Medium	High	High	High	High	Medium	Low		Medium	High	High	High	High	High

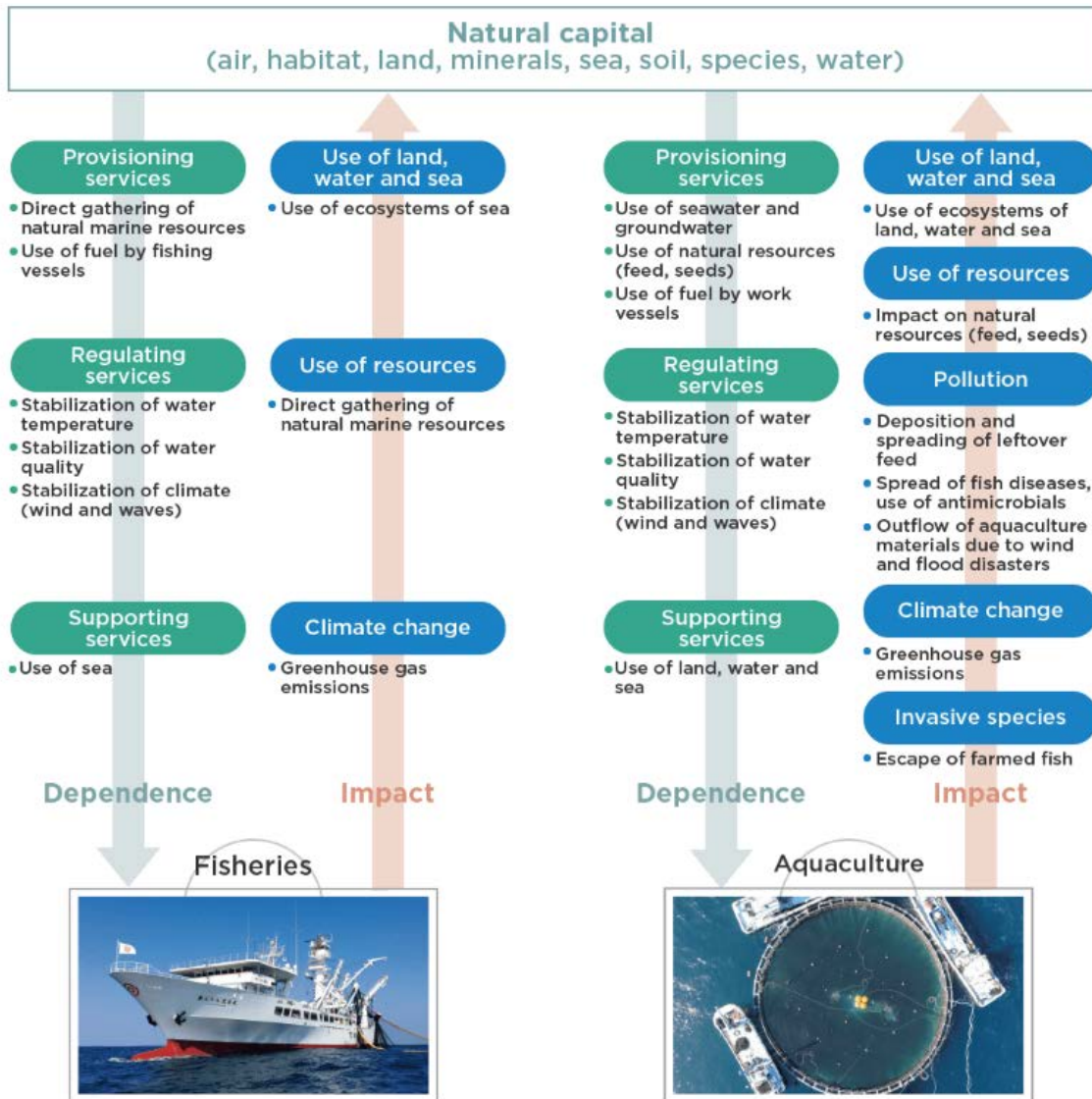
[Impact]

Impact drivers	Input from businesses				Output from businesses						
	Water use	Terrestrial ecosystem use	Freshwater ecosystem use	Marine ecosystem use	Other resource use	GHG emissions	Non-GHG air pollutants	Water pollutants	Soil pollutants	Solid waste	Disturbances
Fisheries				High	High			Low			
Aquaculture			High	High			High	High			



The evaluation using “ENCORE” was considered insufficient due to its generalized nature and inability to fully capture the unique aspects of our business. Therefore, we conducted a secondary (qualitative) evaluation, more aligned with the realities of the Nissui Group’s operations and upstream value chain, leading to a detailed understanding of our dependencies and impacts as shown below.

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.



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, which play a crucial role. At the same time, impact on nature was found in the form of water pollution around farming sites particularly through water quality deterioration due to feeding and the emergence of fish diseases.

Future Direction

While this assessment was conducted comprehensively without specifying priority regions and from a global perspective, moving forward, the Nissui Group will identify priority areas within its value chain that are crucial for nature-related dependencies, impacts, risks, and opportunities (“material locations”), and areas important for biodiversity (“sensitive locations”). These identified areas will then be subject to focused evaluations.

3.1.4 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 exhaustively deduced the nature-related risks and opportunities to which it needed to respond.

[Fisheries]

Risks to Nature

The primary risks that fishing activities pose to nature include the depletion of marine resources and the potential extinction of species due to overfishing, bycatch of unintended species, the outflow of fishing gear into the ocean, damage to marine ecosystems, and greenhouse gas emissions originating from fishing vessel fuel.

Main risks and opportunities for Nissui Group

	Risks/opportunities	Classification	Main risks and opportunities expected	Impact on business	Main responses
Fisheries	Physical risks	Chronic risks	Depletion of marine resources	<ul style="list-style-type: none"> Reduced procurement volumes (Destabilization of supply chain) Increased procurement costs 	<ul style="list-style-type: none"> Further strengthening of access to resources Construction of procurement networks
		Acute/Chronic risks	Changes in resource status/fishing grounds/species due to changes in ocean temperature	<ul style="list-style-type: none"> Reduced procurement volumes (Destabilization of supply chain) Increased procurement costs 	<ul style="list-style-type: none"> Strengthening of aquaculture business Development of substitutes for marine resources
	Transition risks	Policy risk	Strengthening of fishing regulations	<ul style="list-style-type: none"> Reduced procurement volumes (Destabilization of supply chain) 	<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
		Policy risk	Enhancement of greenhouse gas emission regulations	<ul style="list-style-type: none"> Incurred response costs 	<ul style="list-style-type: none"> Efficiency in exploring fishing grounds (e.g. use of drones)
		Market risk	Changing consumer purchasing behavior	<ul style="list-style-type: none"> Loss of sales opportunities due to delayed responses Incurred response costs (e.g. certification costs) 	<ul style="list-style-type: none"> Obtaining of certifications such as MSC/MEL
		Market risk	Increased demands from retailers/foodservice operators (traceability/certification, etc.)	<ul style="list-style-type: none"> Loss of sales opportunities due to delayed responses Incurred response costs (e.g. certification costs) 	<ul style="list-style-type: none"> Continuation of resource status surveys and information dissemination
		Reputational risk	Deterioration of reputation due to procurement of endangered species	<ul style="list-style-type: none"> Loss of sales, damage to brand value 	<ul style="list-style-type: none"> Procurement based on endangered species procurement policy Dialogue with stakeholders
		Reputational risk	Deterioration of reputation due to incidental capture of seabirds and mammals	<ul style="list-style-type: none"> Loss of sales, damage to brand value 	<ul style="list-style-type: none"> Continuation of bycatch prevention measures in each fishing company Dialogue with stakeholders
		Reputational risk	Deterioration of reputation due to negative impact on marine resources and the environment	<ul style="list-style-type: none"> Loss of sales, damage to brand value 	<ul style="list-style-type: none"> Reduction of marine environmental load and monitoring Coexistence with local communities
		Reputational risk	Deterioration of reputation among investors/financial institutions due to inadequate sustainability response	<ul style="list-style-type: none"> Withdrawal of investment financial assets 	<ul style="list-style-type: none"> Various sustainable initiatives and active information dissemination and dialog
		Technology risk	Delay in reducing greenhouse gas emissions from fishing vessels	<ul style="list-style-type: none"> Decrease in business competitiveness Incurred response costs 	<ul style="list-style-type: none"> Active information gathering for decarbonization of fishing vessels
		Opportunities	Products and services/sustainable use of natural resources	Stabilization of supply chains through sustainable procurement	<ul style="list-style-type: none"> Stabilization of revenues, expansion of sales channels
	Reputation/ecosystem protection, restoration and regeneration		Avoidance of bad publicity by preventing incidental capture of seabirds and mammals, conservation of ecosystems	<ul style="list-style-type: none"> Avoidance of reputation risk Ecosystem conservation in fishing grounds → Ensuring continuity of fisheries 	<ul style="list-style-type: none"> Continuation of incidental catch prevention measures in each fishing company
	Capital flow and financing		Reputation improvement among investors/financial institutions, diversification of funding sources	<ul style="list-style-type: none"> Reduction in capital costs 	<ul style="list-style-type: none"> Sustainable procurement of marine resources and information dissemination
Reputational capital	Changes in consumer purchasing behavior (increased demand for products that take sustainability into account)		<ul style="list-style-type: none"> Expansion of sales 		

[Aquaculture]

Risks to Nature

Primary risks to nature from aquaculture include seabed accumulation of leftover feed/feces, water quality deterioration from the use of pharmaceuticals, the spread of fish diseases, the escape of non-native species, the outflow of plastic fishing gear into the ocean, and greenhouse gas emissions from the fuel used by work vessels.

Main risks and opportunities for Nissui Group

	Risks/opportunities	Classification	Main risks and opportunities expected	Impact on business	Main responses
Aquaculture	Physical risks	Acute risks	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 Predict red tide and minimize damage Strengthening capabilities in land-based aquaculture
		Acute risks	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
		Acute/Chronic risks	Water quality deterioration around farming sites	<ul style="list-style-type: none"> Suspension of operations, fish disease outbreak, fish mortality 	<ul style="list-style-type: none"> Environmental monitoring of fish farms
		Acute/Chronic risks	Business suspension due to drought	<ul style="list-style-type: none"> Damage to aquaculture sites due to drought 	<ul style="list-style-type: none"> Identification of high-risk sites, relocation, facility enhancement, water source preservation
		Chronic risks	Risks in procurement of marine products due to changes in the marine environment	<ul style="list-style-type: none"> Impact on procurement volume and increase in procurement costs due to reduced catch of raw material fish for aquaculture feed 	<ul style="list-style-type: none"> Alternative feed development (low-fishmeal formula feed)
		Chronic risks	Ocean temperature rise due to climate change	<ul style="list-style-type: none"> Occurrence of red tides Changing suitable aquaculture sites 	<ul style="list-style-type: none"> Development of new aquaculture areas (shift to high-latitude regions)
	Transition risks	Policy 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
		Policy risk	Stricter regulations on greenhouse gas emissions	<ul style="list-style-type: none"> Incurred response costs 	<ul style="list-style-type: none"> Shift from boat feeding to remote feeding systems Participation in hydrogen fuel cell feeding boat development/demonstration projects
		Policy risk	Impact on feed due to strengthened natural marine resource management	<ul style="list-style-type: none"> Reduced procurement volumes Increased aquaculture costs due to feed price increases 	<ul style="list-style-type: none"> Alternative feed development (low-fishmeal formula feed)
		Market risk	Changing consumer purchasing behavior	<ul style="list-style-type: none"> Loss of sales opportunities due to delayed responses Incurred response costs (e.g. certification costs) 	<ul style="list-style-type: none"> Obtaining of certifications such as MSC/MEL
		Market risk	Increased demands from retailers/foodservice operators (traceability/certification, etc.)	<ul style="list-style-type: none"> Loss of sales opportunities due to delayed responses Incurred response costs 	<ul style="list-style-type: none"> Feed traceability assurance Obtaining of certifications such as MSC/MEL
		Reputational risk	Deterioration of reputation among stakeholders due to negative environmental impact	<ul style="list-style-type: none"> Brand value damage, protest actions, boycotts 	<ul style="list-style-type: none"> Reduction of marine environmental load and monitoring Coexistence with local communities
		Reputational risk	Deterioration of reputation among investors/financial institutions due to inadequate sustainability response	<ul style="list-style-type: none"> Withdrawal of investment financial assets 	<ul style="list-style-type: none"> Various sustainable initiatives and active information dissemination and dialog
		Technology risk	Delay in low environmental impact aquaculture technology development	<ul style="list-style-type: none"> Loss of competitive advantage, decline in business competitiveness 	<ul style="list-style-type: none"> Strengthening of response by concentrating management resources
	Opportunities	Products and services/Ecosystem protection, restoration and regeneration	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"> Expansion to other fish species beyond Japanese amberjack (100% artificial seeds)
		Products and services/Ecosystem protection, restoration and regeneration	Health management for farmed fish health promotion, prevention of disease spread to surrounding seas	<ul style="list-style-type: none"> Improvement in aquaculture performance, revenue stabilization Establishing competitive superiority 	<ul style="list-style-type: none"> Preventive management using N-AHMS, an original farmed-fish health management system
		Products and services/Ecosystem protection, restoration and regeneration	Reduction of marine environmental load through research and development of aquaculture methods not reliant on antimicrobials	<ul style="list-style-type: none"> Expansion of export opportunities Establishing competitive superiority 	<ul style="list-style-type: none"> Collaboration with stakeholders through SeaBOS
		Products and services/Ecosystem protection, restoration and regeneration	Reduction of impact on the marine environment using land-based aquaculture technology	<ul style="list-style-type: none"> Establishment of competitive advantage, expansion of sales channels Avoidance of reputation risk 	<ul style="list-style-type: none"> Deepening of current initiatives (shrimp, salmon, chub mackerel)
		Products and services	Ensuring climate change resilience through land-based aquaculture technology development	<ul style="list-style-type: none"> Business resilience enhancement by avoiding physical risks (e.g. wind/water damage, ocean temperature rise) 	
Products and services/Ecosystem protection, restoration and regeneration		Environmental load reduction and animal welfare improvement 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 	
Markets/ecosystem protection, restoration and regeneration		Environmental load reduction through decarbonization of work vessels	<ul style="list-style-type: none"> Avoidance of future carbon pricing impact Reputation improvement among stakeholders 	<ul style="list-style-type: none"> Participation in hydrogen fuel cell feeding boat development/demonstration projects 	
Capital flow and financing		Reputation improvement among investors/financial institutions, diversification of funding sources	<ul style="list-style-type: none"> Reduction in capital costs 	<ul style="list-style-type: none"> Building sustainable aquaculture business and information dissemination 	
Reputational capital		Changes in consumer purchasing behavior (increased demand for products that take sustainability into account)	<ul style="list-style-type: none"> Expansion of sales 		

4. Risk & Impact Management

A(i): Processes for identifying, assessing and prioritizing(direct operations)

A(ii): Processes for identifying, assessing and prioritizing(upstream and downstream value chain)

B: Processes for managing

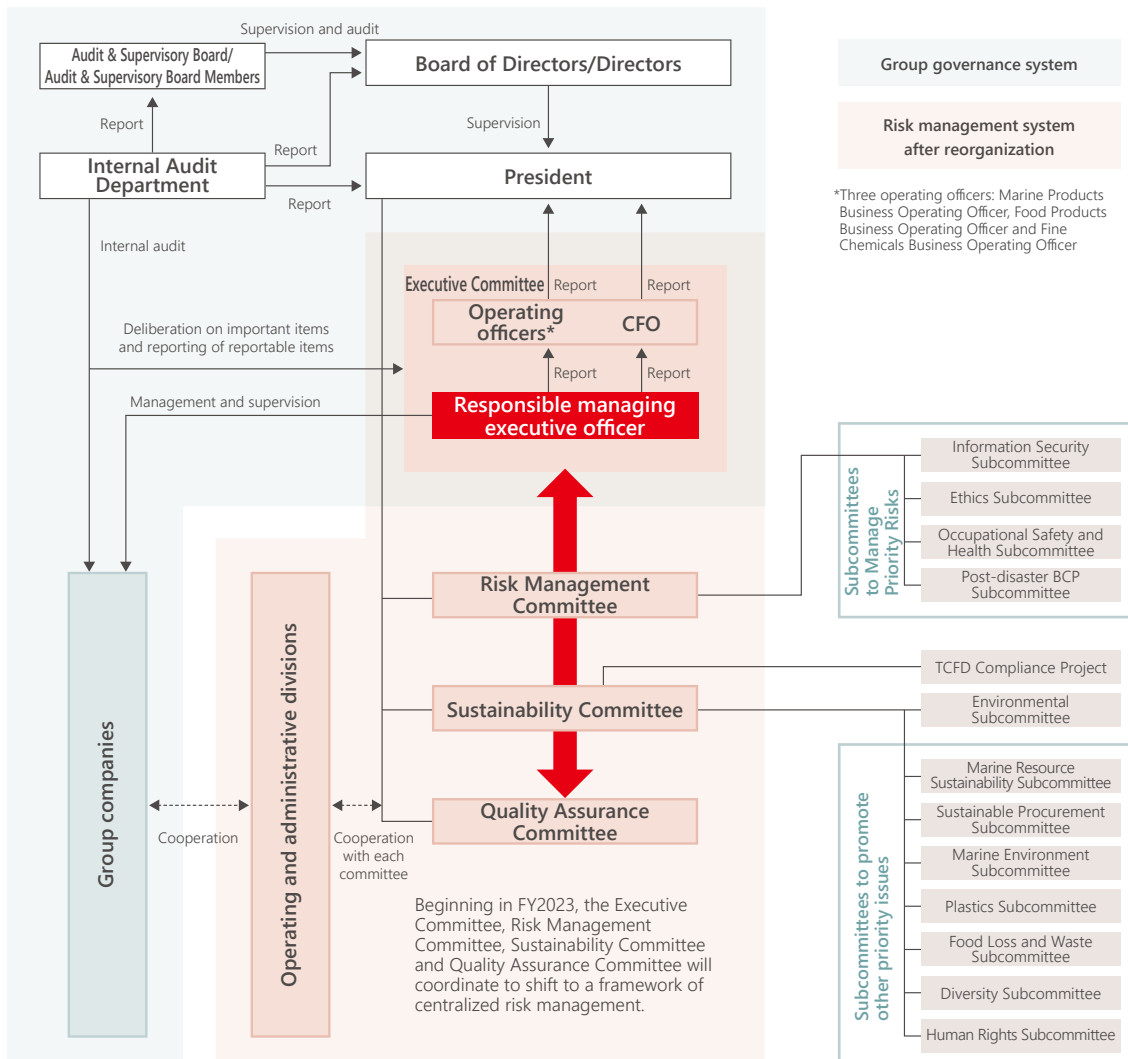
C: Integration into risk management processes

4.1 Risk Management System

The Nissui Group, whose mission is to produce various food products, pharmaceutical ingredients, etc. from resources including marine products and supply them to people around the world, is striving to continue stable production and sales in order to fulfill such duty. From this perspective, in order to prevent risks that could hinder business activities, minimize losses, and strive to conserve management resources and continue business operations, we have established the “risk management rules.” Based on these rules, the Risk Management Committee* develops and operates the risk management system and ensures regular reporting to the Board of Directors.

*Risk Management Committee: Consists of all executive officers and is chaired by the president.

In risk assessment (risk identification, analysis, and evaluation), we analyze opportunities and risks based on materiality and identify significant risks with a focus on our medium- to long-term management strategies. In FY2023, the Nissui Group is updating its risk management, transitioning from individual committee-based approaches to a broader, Group-wide perspective. This update, involving the Risk Management Committee, the Sustainability Committee, the Quality Assurance Committee, and the Executive Committee, includes identifying and prioritizing risks throughout the Group and adopting a PDCA cycle for comprehensive risk management. In addition, significant risks are reviewed annually as part of the risk assessment process.



4.2 Nissui Group's Priority Risks (related to climate change and biodiversity)

Nissui Group's priority risks (related to climate change and biodiversity)

Priority risks	Risk management organization		
1. Impact of climate change (temperature rise worldwide) Extreme weather and natural disasters caused by global warming may seriously impact the Group's various business activities, including raw material procurement, production, logistics, and sales.	TCFD Compliance Project Environmental Subcommittee		
2. Risks concerning procurement of raw materials and others In addition to the soaring raw material prices due to reduced yields caused by climate change, overfishing and illegal operations of marine resources, overdevelopment, environmental destruction in agriculture, and tightening regulations on animal welfare in livestock products may lead to procurement risks for the Group.	Marine Resource Sustainability Subcommittee Sustainable Procurement Subcommittee Human Rights Subcommittee	→	Sustainability Committee
3. Risks of human-induced marine pollution Marine pollution caused by plastic waste may lead to the destruction of marine ecosystems and the reduction of marine life and that it is an important issue that affects the procurement of raw materials and food safety.	Marine Environment Subcommittee Plastics Subcommittee		

*The above risks are currently under review under the new risk management system.

The "TCFD Compliance Project," a cross-functional initiative led by a Managing Executive Officer (CFO), works with the Environmental Subcommittee to analyze and address risks and opportunities related to climate change. The analysis and countermeasures for risks and opportunities related to biodiversity along the value chain are being examined by the Marine Resource Sustainability Subcommittee, the Sustainable Procurement Subcommittee, the Human Rights Subcommittee, the Marine Environment Subcommittee, and the Plastics Subcommittee. The results of the discussions in each subcommittee and project are reported to the Board of Directors after deliberation in the Sustainability Committee, and the Board's opinions and advice are incorporated into our policies.

Future Direction

We will advance the importance assessment and prioritization of the nature-related risks and opportunities identified in the "Assess" phase of the LEAP approach.

5. Metrics and targets

A: Metrics for assessment and management

B: Metrics for measuring dependencies and impacts

C: Targets and performance

5.1 TNFD Core Global Disclosure Indicators and Metrics

(include three placeholder indicators, which the TNFD encourages organizations to consider and report against where possible)

Indicators and metrics for nature-related dependencies and impacts

Metric no.	Driver of nature change	Indicator	Nissui Group's disclosure*
—	Climate change	GHG emissions	CO2 emissions(Scope 1,2,3), HCFC (HFC) leakage level
C1.0	Land/freshwater/ocean-use change	Total spatial footprint	Not disclosed
C1.1		Extent of land/freshwater/ocean-use change	Survey of procured marine resources sustainability
C2.0	Pollution/pollution removal	Pollutants released to soil split by type	Not disclosed
C2.1		Wastewater discharged	Water discharge
C2.2		Waste generation and disposal	Waste generated, recycled waste
C2.3		Plastic pollution	Plastic waste at the production phase, weight of plastics for products
C2.4		Non-GHG air pollutants	Emissions of nox, sox, soot and dust
C3.0	Resource use/replenishment	Water withdrawal and consumption from areas of water scarcity	Water use (by region), evaluation of water risk
C3.1		Quantity of high-risk natural commodities sourced from land/ocean/freshwater	Survey of procured marine resources sustainability
C4.0	Invasive alien species and other	Measures against unintentional introduction of invasive alien species	Initiatives on fish escape prevention, number of escaped fish
C5.0	State of nature	Ecosystem condition	Survey of procured marine resources sustainability
		Species extinction risk	Survey of procured marine resources sustainability

*Location of disclosure:

Website: <https://nissui.disclosure.site/en>

Sustainability Report: <https://nissui.disclosure.site/en/themes/121>

Indicators and metrics for nature-related risks and opportunities

Metric no.	Category	Metrics	Nissui Group's disclosure
C7.0	Risks	Value of assets, liabilities, revenue and expenses that are assessed as vulnerable to nature-related transition risks (total and proportion of total).	Not addressed
C7.1		Value of assets, liabilities, revenue and expenses that are assessed as vulnerable to nature-related physical risks (total and proportion of total).	
C7.2		Description and value of significant fines/penalties received/litigation action in the year due to negative nature-related impacts.	
C7.3	Opportunities	Amount of capital expenditure, financing or investment deployed towards nature-related opportunities, by type of opportunity, with reference to a government or regulator green investment taxonomy or third-party industry or NGO taxonomy, where relevant.	
C7.4		Increase and proportion of revenue from products and services producing demonstrable positive impacts on nature (with a description of impacts)	

Among the above, items that have not yet progressed in terms of quantitative management are currently categorized as “Not Addressed.” Moving forward, we are committed to expanding the range of items we address and will sequentially disclose those that become manageable.

5.2 Nissui Group's Mid- to Long-Term Targets

The following metrics and targets are used to manage nature-related dependencies/impacts and risks/opportunities*1.

Scope	Metrics	Targets	Method of measurement
Fisheries, aquaculture	Procurement of sustainable marine resources	FY2030: Procurement of sustainable marine resources 100%	Using the ODP*2 evaluation method (based on FishSource scores 1-5), a score of 8 or higher for all Well Managed and 6 or higher for Managed is considered sustainable.
Fisheries, aquaculture	Procurement of endangered species (marine resources)	For marine resources at high risk of depletion, procurement will be suspended if scientific and practical measures are not taken to recover the resources by 2030	Scientific and practical measures for resource recovery 1. Fishery products certified by the Marine Stewardship Council (MSC) or other certification bodies (equivalent to GSSI*3 certification), or Fishery Improvement Project (FIP) products. 2. Scientific fishery management by international resource management organizations such as Regional Fisheries Management Organizations (RFMO*4). 3. Rated "Managed" or above based on criteria established by the ODP*2. 4. Any other specific measures being taken to achieve 1-3 above.
Fisheries, aquaculture	CO2 emissions	FY2030: CO2 emissions Reduced by 30%	CO2 emissions (Scope 1, 2 Compared to FY2018)
Aquaculture	Switching over to floats that have a low risk of outflowing into the ocean	FY2024: 100%	Switching over to floats that have a low risk of outflowing into the ocean
Aquaculture	Escaped fish	Reduce the escape of fish to zero	Result of escaped fish (If any fish has escaped, all such fish will be identified, recorded in books and tallied regardless of the scale of the escape)

*1 Only items related to fisheries and aquaculture operations are listed.

*2 ODP: Ocean Disclosure Project. Online reporting platform for voluntary disclosure of seafood sourcing established by the SFP in 2015.

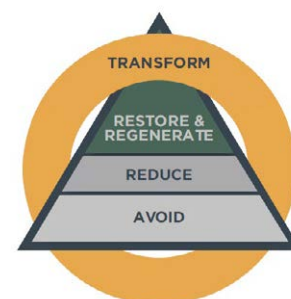
*3 GSSI: Global Sustainable Seafood Initiative. An international partnership that verifies programs assessing the sustainability of marine products.

*4 RFMO: Regional fisheries management organizations. International organizations established under individual conventions to achieve the conservation and sustainable use of marine resources.

5.3 Main Countermeasures to Nature-Related Risks

(Classified according to SBTN's AR3T framework* as recommended by TNFD)

Avoid	<ul style="list-style-type: none"> Aim for 100% procurement of sustainable marine resources by 2030. For marine resources at high risk of depletion, procurement will be suspended if scientific and practical measures are not taken to recover the resources by 2030.
Reduce	<ul style="list-style-type: none"> For procurement of marine products with sustainability challenges, we aim to switch to species and places of production with healthy resource status. Additionally, we will increase the handling of certified products such as those accredited by the MSC.
Restore - Regenerate	<ul style="list-style-type: none"> Contribute to improving the sustainability of fisheries and the resolution of environmental issues through support of the FIP (Fishery Improvement Project). <ul style="list-style-type: none"> Indirectly support FIPs in Southeast Asia and West Africa through participation in the Global Roundtable on Marine Ingredients, and contribute to solving environmental and societal issues in the fishing industry in these areas.
Transform	<ul style="list-style-type: none"> By participating in SeaBOS, collaborate with global seafood companies and scientists toward sustainable seafood production and healthy oceans, leading a science-based global transformation along with SeaBOS members. Work toward reducing the impact on the marine environment and improving animal welfare by developing smart aquaculture technologies that utilize IoT and AI.



SBTN's Action Framework: AR3T

Adapted from SBTN Initial Guidance

*The AR3T framework (Avoid, Reduce, Restore & Regenerate, Transform) is a SBTN (Science Based Targets Network)'s action framework.

6. Specific Measures

6.1 Survey of Procured Marine Resources Sustainability

The Nissui Group undertakes periodic assessments of the status of marine resources every three years with the aim of understanding the status of procured marine resources and identifying issues to be addressed. To ensure third-party objectivity, individual resource evaluations and analyses were outsourced to an external organization (SFP*1).

FishSource*2, an international resource assessment database managed by the same organization (see note below), assigns a score out of 10 for each of the following five score categories, which include the state of the resource and the fishery management system, and based on these scores, the state of resource management was evaluated on a four-stage scale according to the method specified by the Ocean Disclosure Project (ODP*3). The previous assessment was conducted on items procured in 2019. Currently, we are undertaking a survey of the items procured in 2022, and we intend to disclose the findings as soon as they become available.

*1 SFP: Sustainable Fisheries Partnership. USA-registered NGO that promotes the sustainable production of seafood throughout the supply chain.

*2 FishSource: An international resource assessment database developed based on fishery resource information from administrative agencies in various countries.

*3 ODP: Ocean Disclosure Project. Online reporting platform for voluntary disclosure of seafood sourcing established by the SFP in 2015.

6.1.1 Assessment Results of the State of Resources Management

FishSource Scores

Score 1: Management Strategy

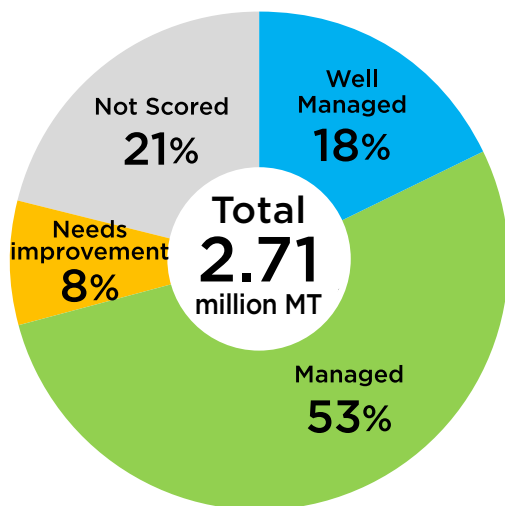
Score 2: Managers' Compliance

Score 3: Fishers' Compliance

Score 4: Current Health of Resources

Score 5: Future Health of Resources

State of resources management of the procured items in 2019



ODP Analysis method (by FishSource score 1-5)

Well Managed:

all FishSource scores ≥ 8

Managed:

all FishSource scores ≥ 6

Needs improvement:

at least one FishSource score < 6

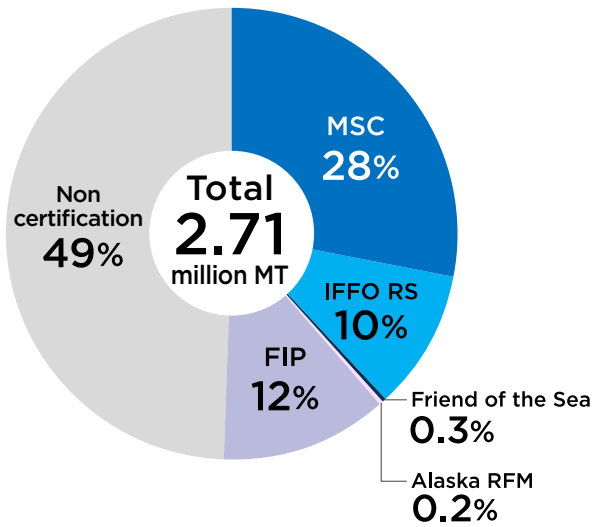
Not Scored:

has one or more deficiencies in the FishSource score

In the previous survey targeting items procured in 2019, the marine products traded in 2019 amounted to approximately 2.71 million tons in terms of raw fish equivalent. The SFP analysis showed that about 71% of the procured items were in a state of being “well managed” or “managed”. Conversely, 8% of resources were shown to be in need of improvement, and 21% could not be scored and therefore not assessed.

6.1.2 Third-party Programs to Promote Sustainable Marine Products Use

Ratio to total procurement



MSC:

Fisheries ecolabel certification system operated by MSC (Marine Stewardship Council) headquartered in the UK. As of the end of March 2023, 550 fisheries have obtained certification. The number of businesses that have obtained CoC (Chain of Custody) certification is 5,903.

Alaska RFM:

Alaska's Responsible Fisheries Management (RFM) Program.

Friend of the Sea:

Fisheries ecolabel certification system operated by an environmental NGO headquartered in Italy.

IFFO RS:

A factory certification standard that guarantees responsible manufacturing and raw material procurement. Marine trust certification.

FIP:

Fishery improvement project in which stakeholders work together to improve the sustainability of the fishery.

In addition, procurement derived from third-party programs that promote the sustainable use of seafood, such as eco-labels, accounted for about 51% of the total catch. Of the approximately 770,000 MT of MSC-certified products, Alaska Pollock accounted for more than 90%, or 720,000 MT.

6.1.3 Endangered Species

As a result of the survey, we found out that some of the marine products we handle contain fish species that fall under the category of Critically Endangered Species I (CR and EN in the IUCN Red List) as defined by the IUCN (International Union for Conservation of Nature).

Endangered species based on 2022 classification and Nissui Group response measures
(The IUCN Red List Categories and Criteria are subject to change)

	Species	Science name	Volume (MT)	Current Nissui Group response measures
CR 51.8 MT	Spiny dogfish	Squalus suckleyi	51	MSC-certified products account for 50% of procured stock and we aim to increase this percentage in the future.
	European eel	Anguilla anguilla	0.8	Sales channel expansion has been halted.
EN 307 MT	Southern bluefin tuna	Thunnus maccoyii	157	As the Regional Fisheries Management Organization (RFMO) is managing the species appropriately, it was determined that procurement within the managed quota will continue to be possible.
	Winter skate	Leucoraja ocellata	116	Sales channel expansion has been halted.
	Sea cucumber	Apostichopus japonicus Isurus	22	With the new Act on Ensuring the Proper Domestic Distribution and Importation of Specified Aquatic Animals and Plants (Japan), it is determined that procurement will continue to be possible in accordance with the management rules.
	Atlantic halibut	Hippoglossus hippoglossus	6	Two of the three Nissui Group companies that previously handled the resource have stopped handling it. The single remaining company has also reduced its handled volume.
	Japanese eel	Anguilla japonica	6	Currently handled by only one company in the Nissui Group. Eel fry will be included in the target species of the Act on Ensuring the Proper Domestic Distribution and Importation of Specified Aquatic Animals and Plants in the future, and measures will be considered in light of this development.

Measures to Handle Endangered Species

In 2022, we formulated the “Nissui Group Endangered (Marine) Species Procurement Policy” and, in line with this policy, decided on measures to deal with fish species that are particularly vulnerable to extinction. Views were exchanged with third parties (NGOs, universities and other research institutions) involved in the conservation of fishery resources to confirm the appropriateness of our response.

Nissui Group Endangered (Marine) Species Procurement Policy

The Nissui Group is committed to complying with treaties and laws related to biodiversity and to contributing to the realization of a society that is in harmony with nature. For marine resources at high risk of depletion, procurement will be suspended if scientific and practical measures are not taken to recover the resources by 2030.

Scientific and practical measures for resource recovery

1. Fishery products certified by the Marine Stewardship Council (MSC) or other certification bodies (equivalent to Global Sustainable Seafood Initiative (GSSI) certification), or Fishery Improvement Project (FIP*¹) products.
2. Scientific fishery management by international resource management organizations such as Regional Fisheries Management Organizations (RFMOs*²).
3. Rated “Managed” or above based on criteria established by the ODP*³.
4. Any other specific measures being taken to achieve 1-3 above.

*1 FIP: Fishery improvement project, in which fishermen, companies, distributors, NGOs, and other stakeholders work together to improve the sustainability of fisheries.

*2 RFMO: Regional fisheries management organizations. International organizations established under individual conventions to achieve the conservation and sustainable use of marine resources.

*3 ODP: Ocean Disclosure Project. Online reporting platform for voluntary disclosure of seafood sourcing established by the Sustainable Fisheries Partnership (SFP) in 2015.

6.2 Initiatives in the Fisheries

6.2.1 Preventing Seabird and Marine Mammal Bycatch

In the fishing industry, the incidental catch of seabirds and marine mammals—that is, non-targeted species—is considered to be a major concern. The Nissui Group understands the risks of bycatch associated with various fishing methods and is committed to promoting initiatives for bycatch prevention.

Additionally, in our pursuit to reduce seabird bycatch, we engage in dialogue with BirdLife International*, incorporating the information and advice they provide into our efforts.

*Founded in the UK in 1922, BirdLife International is among the world’s oldest international environmental NGOs. Headquartered in Cambridge, UK, it works with its 2.8 million members and partner organizations in more than 120 countries and territories. The organization drives various environmental conservation efforts based on academic data, influencing governments, businesses, and citizens globally. It also serves as the official assessment body for the avian category in the IUCN Red List of Threatened Species.

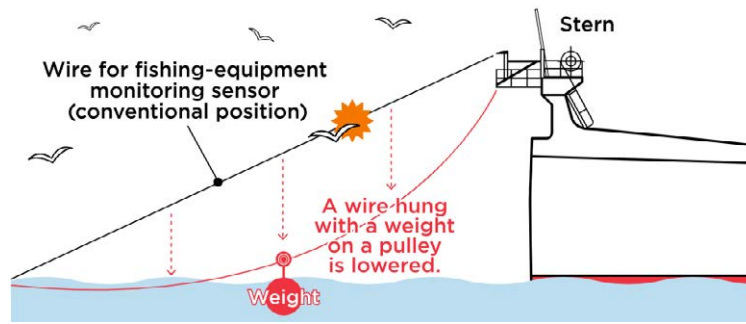
●Nissui Group Companies’ Initiatives

Fishing companies in the Nissui Group have introduced “tori lines*”, which are widely used to prevent the bycatch of seabirds, as well as a variety of other innovations adapted to their specific fishing methods. When there are national or fishery area bycatch prevention programs in place, Nissui conducts business in line with these accordingly.

*Tori line: A device that prevents birds from approaching the bait by towing a rope to which streamers and tapes are attached from the tip of a long pole fixed at the stern of the fishing boat; also called tori pole.

[Initiatives at EMDEPES (Chile)]

Chilean trawler company EMDEPES has devised a way to prevent seabirds from striking towing wires that extend from the stern into the sea by suspending a weight with a pulley and submerging these wires close to the stern of the vessel. This approach has reduced the number of wire collisions involving seabirds in flight by about 80% compared to conventional methods. This initiative was submitted to the Chilean Ministry of Fisheries, and received a favorable evaluation. EMDEPES fishing vessels are also fitted with devices to prevent bycatch of marine mammals (fur seals, seals, etc.); the company has seen a zero bycatch of these animals since installation of these devices.



Wire and weight for fishing-equipment monitoring sensor

[Initiatives at Sealord (New Zealand)]

Sealord, engaged in trawling in the waters around New Zealand and Australia, is a founding member of the Southern Seabird Solutions Trust*, which sponsors the Seabird Smart Awards, a program that recognizes fishing companies for their efforts in preventing seabird bycatch. In 2010, Sealord itself received the Seabird Safe Awards 2010 for its vessel, the FV Thomas Harrison. A variety of measures are in place to prevent seabird bycatch, including the following:

- Using bafflers (like a metal scarecrow) and tori lines (streamers) to scare birds away from lines and trawl nets
- Trawling at night when fewer birds are around
- Managing offal onboard to avoid attracting birds to the vessel
- Having a bycatch reduction management plan for every vessel

*Southern Seabird Solutions Trust: An innovative alliance between the WWF, fishers, and government. Supports and encourages fishers in Southern Ocean fleets to adopt responsible fishing practices and to reduce harm to seabirds around New Zealand caused by fishing by supporting and encouraging the adoption of responsible fishing practices and providing projects that contribute to reducing the impact of fishing on seabirds in Southern Hemisphere fisheries.



Seabird



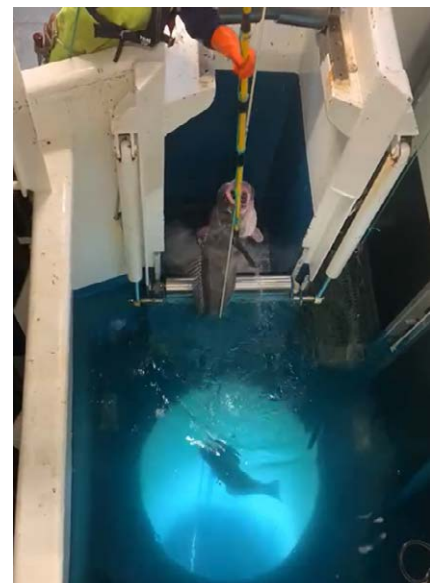
Bafflers



Tori lines

[Initiatives at Australian Longline (Australia)]

Australian Longline, a bottom longline company that operates around Australia, has installed a device called a moonpool on board its vessels. A moonpool is a circular hole in the bottom of a vessel. On longline vessels, reeling in line from these holes reduces the risk of entangling wild birds when compared to working with lines on the deck. This method also has the added benefit of ensuring the safety of seafarers on board.



Moon pool

6.3 Initiatives in the Aquaculture

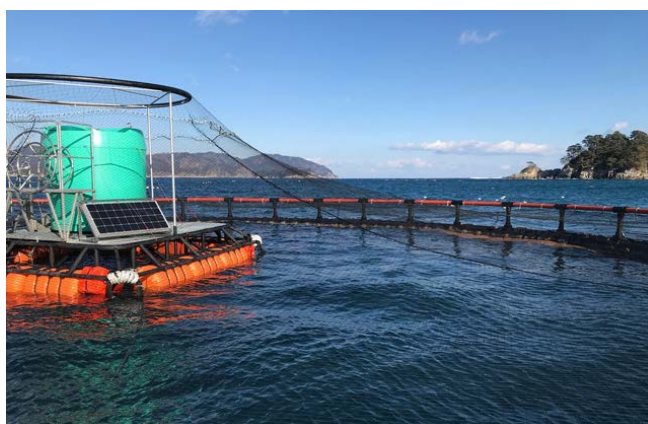
6.3.1 Reducing the Impact of Fish Feed and Feeding on the Marine Environment

With typical aquaculture feeding methods, there is a risk that leftover feed will degrade the water quality in and around the farming sites. In contrast, for the cultivation of Japanese amberjack and salmon, we utilize a specialized solid formula feed, “EP feed,” which is designed to be less dispersible in water and highly digestible. Solid formula feed is notable for its exceptionally high consumption rate compared to other feed types. The increased consumption rate substantially minimizes the accumulation of leftover feed on the seabed, thereby significantly reducing one of the primary sources of pollution in the aquatic farming environment.

In addition, Nissui Group is promoting the development of aquaculture technologies that alleviate the impact on the marine environment and minimize the effect on marine ecosystems such as automatic feeding control system “Aqualingual®” which provides the appropriate amount of feed according to the appetite of the fish.



EP feed



Aqualingual® feeding system in Otsuchi town, Iwate Prefecture

6.3.2 Shift to Off-Shore Farming

To foster a healthier growth environment for fish and reduce the impact on the marine environment, we are progressing toward the development of off-shore fish farms. Off-shore locations, characterized by rapid tidal changes, deeper waters, and a larger volume of seawater, are less prone to the accumulation of leftover feed and feces, offering a potential reduction in environmental impact compared to coastal farming. The shift to off-shore farming, however, presents a trade-off with challenging environmental conditions like typhoons. We are overcoming these challenges by advancing technological innovations, such as the introduction of large submergible fish cages and automated feeding systems.



Off-shore fish farming using large-scale floating cages for Japanese amberjack at Kushima city, Miyazaki Prefecture
Kurose Suisan Co., Ltd.



Platform-type automatic feeding system for large-scale off-shore fish farming (salmon) at Sakaiminato city, Tottori Prefecture
Yumigahama Suisan Kaisha, Ltd.

6.3.3 Initiatives of Land-Based Aquaculture

To reduce the impact on the marine environment and to ensure future seafood procurement methods, we are working on land-based circulatory aquaculture. 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.

Species	Area/country	Initiatives
Vannamei (whiteleg shrimp)	Japan (Kagoshima Prefecture)	Research (i.e., feasibility study) is conducted on land-based aquaculture based on the “biofloc-based recirculating aquaculture system.” This reduces the amount of water used to the bare minimum required for raising shrimp and uses aggregates of microorganisms (i.e., bioflocs) in the rearing tank for water treatment.
Chub mackerel	Japan (Tottori Prefecture)	The Nissui Group and Hitachi Zosen Corporation are engaged in the joint development of land-based circulatory aquaculture technology for chub mackerel. The environment is optimally controlled in terms of water temperature and water quality with the use of underground seawater and a recirculating water treatment system. As it does not use seawater sourced from the open sea, it reduces the risks of parasites such as anisakis.
Atlantic salmon	Denmark	In April 2020, Nissui (Europe) B.V., together with Marubeni Corporation, acquired a capital stake in Danish Salmon A/S, a company engaged in the business of farming salmon using recirculating aquaculture systems (“RAS”) in Denmark. The expansion work completed in 2023. It plans to increase its production scale from the current harvest volume of 1,000 MT to 2,750 MT.



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



Land-based aquaculture facility of whiteleg shrimp (white roofs on the lower part)



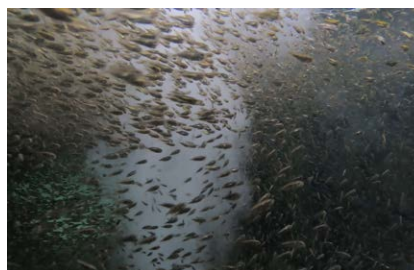
Whiteleg shrimp swimming in a shipping tank at the facility

6.3.4 Full-Life Cycle Aquaculture

While aquaculture generally employs wild-caught seeds, Kurose Suisan Co., Ltd., a Nissui Group company, achieved a milestone in FY2022 by realizing Japan's first full-life cycle aquaculture of “Kurose Buri” (Japanese amberjack) using exclusively artificial seeds. Relying on wild-caught seeds leads to supply fluctuations based on the quantity of fish caught. In contrast, “Kurose Buri” is cultivated entirely from artificially harvested eggs, with the aim of reducing the impact on natural resources and ensuring a stable supply to the market. This approach guarantees a consistent supply of Japanese amberjack, unaffected by the fluctuations in natural resources. The Nissui Group plans to extend this method of full-life cycle aquaculture, independent of natural resources, to other fish species in the future.



Just before hatching



30 days after hatching



60 days after hatching

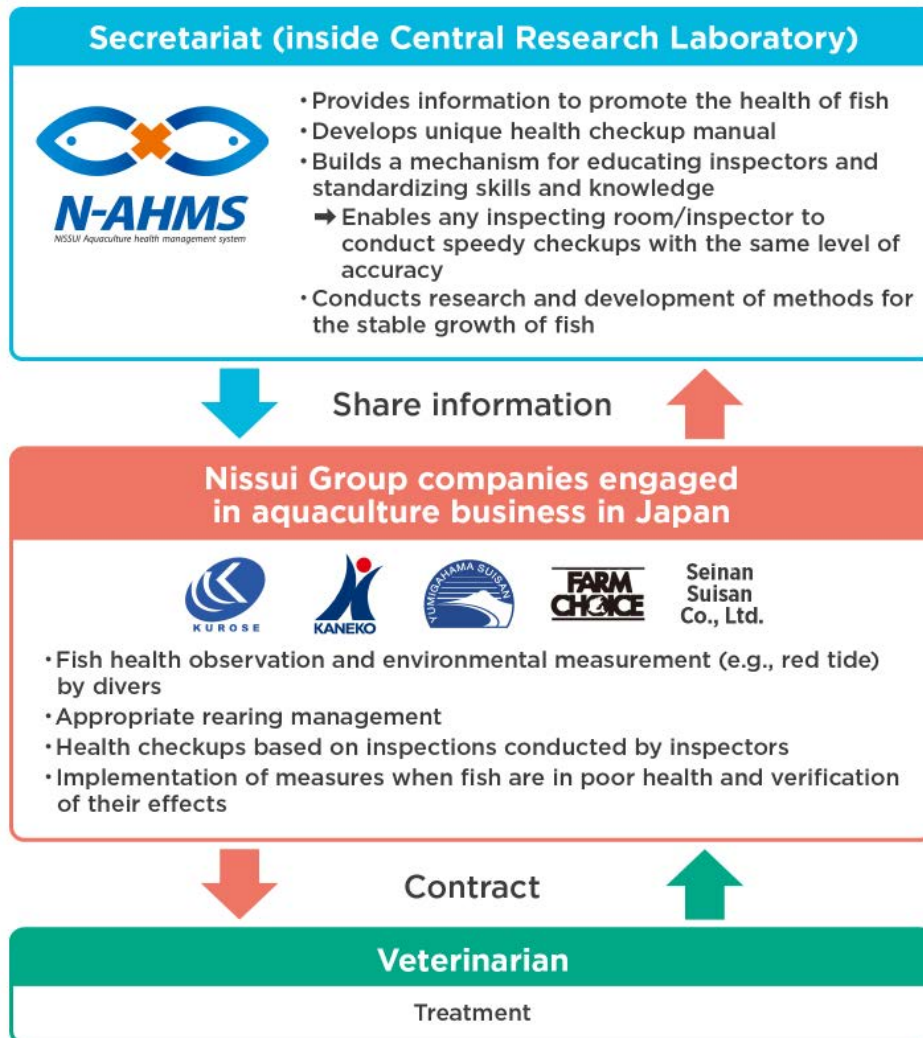
6.3.5 Reduction of Antimicrobial Usage

As a participant in the SeaBOS* Task Force, which is dedicated to reducing the use of antimicrobials, Nissui collaborates with other member companies and scientists on initiatives targeting the reduction of antimicrobials.

Furthermore, at the Oita Marine Biological Technology Center, an aquaculture-focused research facility, Nissui works alongside the Group’s aquaculture-related companies to develop the N-AHMS® (Nissui Aquaculture Health Management System). This system standardizes fish disease diagnostic skills within the Group, enabling the Oita Marine Biological Technology Center’s research staff to educate and support personnel from affiliated companies for swift and reliable fish disease diagnosis. By facilitating early detection of fish diseases, the system plays a crucial role in controlling the quantity of antimicrobials needed for treatment, thereby contributing to the overall reduction in the use of antimicrobials.

*SeaBOS: Seafood Business for Ocean Stewardship. An initiative that seeks to create a sustainable seafood industry.

Fish Health Management N-AHMS®



6.4 Biodiversity Conservation Activities

●Participation in “Tottori Kyosei-No-Mori (Tottori Co-Existence Forest)”

The Forest that Protects Spring Water Nurturing Fish and the Sea

In Tottori Prefecture, Nissui Group subsidiaries Kyowa Fishery Co., Ltd. (Sakaiminato City, Fisheries business) and Yumigahama Suisan Kaisha, Ltd. (also in Sakaiminato City, Aquaculture business), are engaged in businesses that take advantage of the natural bounty of the area. In particular, Yumigahama Suisan focuses on raising juvenile coho salmon in fresh water fish farms using spring water from Mt. Daisen and raising farmed fish in Miho Bay, which is enriched by this same spring water. The farming-related facility of Yumigahama Suisan is located at the foot of Mt. Senjozan which is in Daisen-Oki National Park of Kotoura Town, Tottori Prefecture and trees in certain parts of the surrounding broad-leaved forest have died and required maintenance.

On October 30, 2018, Tottori Prefecture, Kotoura Town and Nissui entered into a forest preservation and management agreement in order to preserve the surrounding 5.933 hectares of forest as the “The forest that protects spring water nurturing fish and the sea.” In

an effort to preserve the water sources deeply connected to our business activities, Nissui employees, including those from our Group companies, along with their families, engage in regular forest conservation activities such as tree planting and underbrush clearing. This initiative is grounded in the philosophy that considers forests, rivers, and seas as an interconnected ecosystem, with the conservation of forests being essential for the health of the oceans. Consequently, this approach is instrumental in safeguarding the sources of spring water and the marine environment, which are vital to the Group’s business operations.



Relationship between conservation area and business activity areas

Preservation Activities

Continual preservation work is essential to protecting forests.

At the Nissui Group, ever since we entered into the Agreement, we have been conducting employee participation-based preservation activities on a yearly basis. For the participants, these activities become a valuable formative experience in which they get a real sense of the interrelatedness of the “forest, river, and sea,” and their relationships to them. Moreover, through interactions with the people of Tottori Prefecture involved, it is an opportunity for participants to gain familiarity with the local culture and are able to cultivate relations among members of Group companies.

No. of participants to date

FY	2018	2019	2020	2021	2022	2023
Participants	86	104	31	27 (Green Scouts*+ Supervisors/ Prefectural staff, etc.)	37	73

*Green Scouts are an organization sponsored by the Tottori Prefecture Planting Trees Promotion Committee. Its purpose is to get the children who will eventually lead the next generation of society to familiarize themselves with greenery, develop an affection for it, and protect and nurture it, and in doing so cultivate an attachment to their home communities and grow into people with well-rounded minds and the capacity to love their fellow human beings.

No. of trees planted to date (Selected from local tree species)

FY	Japanese horse chestnut	Painted maple	Yamazakura cherry
2018	110	105	110
2019	10	10	10

Since FY2021, we have been collaborating with Tottori University to conduct a forest survey with the aim of making our conservation activities more scientific. The results of the study showed that about 80% of the seedlings planted in our activities in FY2018-2019 were active and growing well as of 2021. We will undertake another survey of the vegetation inside and around the “Forest that Protects Spring Water Nurturing the Fish and the Sea,” and plan to make further use of local species of trees in our tree-planting activities in FY2022 and beyond. We hope to further improve our activities so that we can establish a forest that is closer to one that would naturally occur and that we can preserve the forest in a practical manner.



6.5 Collaboration Between Science and Business

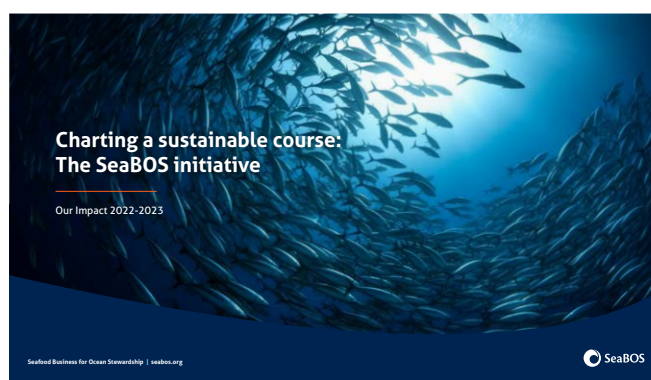
Support for SeaBOS

SeaBOS, which stands for Seafood Business for Ocean Stewardship, is an initiative for promoting the preservation of the marine environment and marine resources and the sustainable use of resources advocated at the “Keystone Dialogue,” a conference hosted by the Stockholm Resilience Centre at Stockholm University (Sweden) in November 2016. SeaBOS is distinctive for its activities based on collaboration among nine of the largest seafood companies in the world (eight companies at the time of its establishment) while receiving support in scientific aspects as well. In December 2016, Nissui became a signatory to and joined SeaBOS, and at the Tokyo Sustainable Seafood Symposium held in 2017, Nissui expressed its support for the thinking behind SeaBOS and declared its commitment to promoting initiatives for SeaBOS as part of its promoting activities of sustainability.

Efforts are being made to resolve issues in pursuit of a sustainable marine business, together with leading companies in the seafood industry and scientists worldwide.



Keystone Dialogue in Oct, 2023 (Busan, Korea)



Released in Oct, 2023 “Impact Report 2022-2023”
 ▶ <https://seabos.org/impact-report2023/>

One of the major features of SeaBOS is the collaboration by scientists and the major companies of the seafood industry to work toward sustainability with a scientific basis.

All parties involved acknowledge that the challenges confronting the oceans cannot be addressed solely by individual companies, that is, by companies in specific sectors or regions. It is widely recognized that achieving transformative change necessitates cooperative efforts grounded in scientific principles. Presently, five task forces have been established to collaborate on resolving marine issues, uniting the efforts of both businesses and scientists in these endeavors.

Companies and Scientific Partners

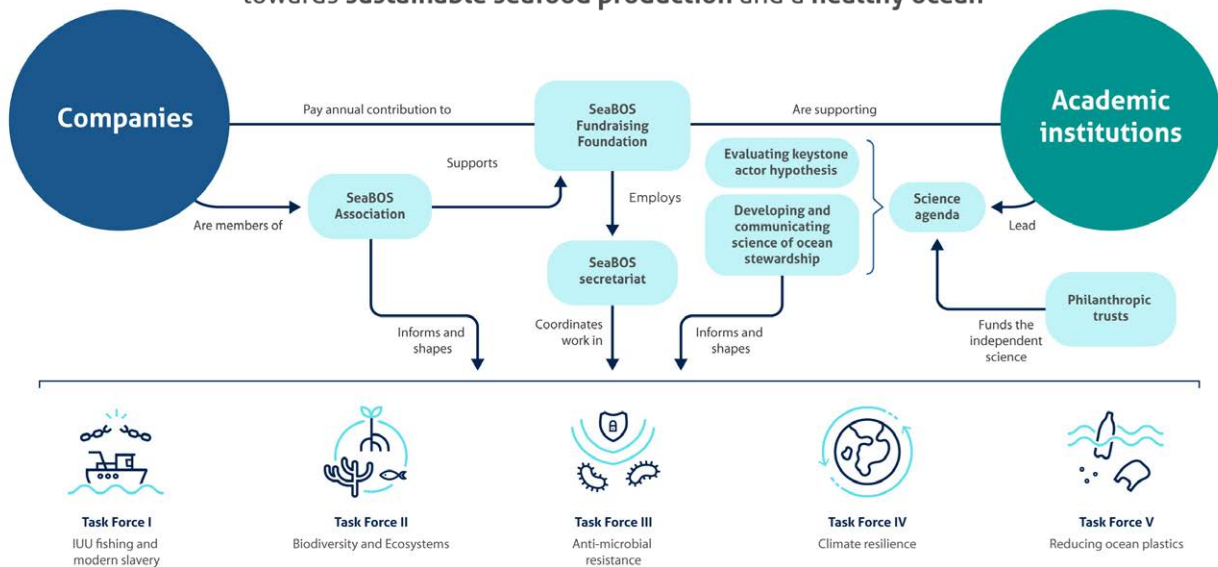
COMPANIES



SCIENTIFIC PARTNERS



Science-Industry collaboration for a global transformation towards sustainable seafood production and a healthy ocean



The Task Forces of SeaBOS



TASK FORCE I IUU FISHING & MODERN SLAVERY

Contributing to the elimination of IUU fishing and forced labour in seafood production.



TASK FORCE II BIODIVERSITY & ECOSYSTEMS

Healthy ocean ecosystems and rich biodiversity are vital components of ocean stewardship. This Task Force focuses on developing practices that minimize impacts of seafood production on endangered species, and to develop solutions that enhance marine ecosystems.



TASK FORCE III ANTI-MICROBIAL RESISTANCE

To work with governments towards sustainable seafood production, as well as mechanisms to reduce antibiotics in aquaculture.



TASK FORCE IV CLIMATE RESILIENCE

To identify global solutions to the impacts of climate change on sustainable seafood production, as well as the ability of seafood production for humanity, along with a healthy ocean, to play a role in the mitigation of, and adaptation to, climate change impacts.

























TASK FORCE V REDUCING OCEAN PLASTICS

To identify ways to improve ocean health through removal and prevention of plastics into the marine environment as well as re-use, recycling and alternative materials.

6.6 Participation in External Initiatives

The Nissui Group participates in and endorses various domestic and international initiatives to contribute to the realization of a sustainable society.

Name	Details	
<p>Task Force on Climate-related Financial Disclosures (TCFD)</p>	<p>In November 2021, Nissui declared its support for the TCFD recommendations and have been disclosing information based on the TCFD recommendations.</p> <p>Nissui has also joined the TCFD Consortium, established for the purpose of facilitating discussions on effective corporate disclosure and efforts to link the disclosed information to appropriate investment decisions by financial institutions and the like.</p> <p>TCFD </p> <p>TCFD Consortium </p>	
<p>Task Force on Nature-related Financial Disclosures (TNFD)</p>	<p>In September 2023, Nissui joined the TNFD Forum, 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.</p> <p>TNFD </p>	
<p>Seafood Business for Ocean Stewardship (SeaBOS)</p>	<p>In December 2016, Nissui became a signatory to and joined Seafood Business for Ocean Stewardship (SeaBOS), an initiative for promoting the preservation of the marine environment and marine resources and the sustainable use of resources.</p> <p>Furthermore, Nissui has joined Global Ghost Gear Initiative (GGGI), an international body working to prevent fishing gear from flowing out into the ocean, through SeaBOS.</p> <p>SeaBOS </p> <p>GGGI </p>	
<p>Global Roundtable on Marine Ingredients</p>	<p>In July 2022, Nissui joined Global Roundtable on Marine Ingredients, a roundtable committed to promoting the use of sustainable marine ingredients.</p> <p>Global Roundtable on Marine Ingredients </p>	
<p>Global Sustainable Seafood Initiative (GSSI)</p>	<p>In April 2017, Nissui joined the Global Sustainable Seafood Initiative (GSSI), an international partnership that verifies programs assessing the sustainability of marine products, as a funding partner.</p> <p>GSSI </p>	
<p>Roundtable on Sustainable Palm Oil (RSPO)</p>	<p>In January 2021, Nissui Group joined the Roundtable on Sustainable Palm Oil (RSPO), a non-profit organization whose purpose is to promote the production and use of sustainable palm oil.</p> <p>RSPO </p>	
<p>The Consumer Goods Forum (CGF)</p>	<p>In 2009, Nissui became a member of The Consumer Goods Forum (CGF), an international association of major retailers, consumer product manufacturers and food producers.</p> <p>CGF </p>	

Name	Details	
Japan Clean Ocean Material Alliance (CLOMA)	<p>In January 2019, Nissui joined the Clean Ocean Material Alliance (CLOMA), an alliance designed to strengthen cooperation among relevant stakeholders to solve the problem of marine plastic litter.</p> <p>CLOMA </p>	
Plastic Circular Challenge 2025	<p>In February 2022, Nissui joined Plastic Circular Challenge 2025, a framework led by World Wide Fund for Nature Japan (WWF Japan), participating companies will aim to solve various issues related to plastics by committing to a milestone set for 2025.</p> <p>Plastic Circular Challenge 2025 (in Japanese) </p>	
Keidanren Initiative for Biodiversity Conservation	<p>In February 2020, Nissui endorsed the Initiative based on the Declaration of Biodiversity by Keidanren, which involves the participation of companies and organizations that are engaged in addressing multiple items of the seven that comprise Keidanren's "Declaration of Biodiversity by Keidanren (Revised Edition)" or support the overall intent of the initiative.</p> <p>Keidanren Initiative for Biodiversity Conservation </p>	
30by30 Alliance for Biodiversity	<p>In September 2023, Nissui participated in the "30by30 Alliance for Biodiversity", an alliance that aims to achieve the goal to effectively conserve at least 30% of the land and sea as healthy ecosystems by 2030, with the aim of halting biodiversity loss and restoring biodiversity by 2030 (nature positive) through expanding Japan's current protected areas (approximately 20% of terrestrial areas and 13% of marine areas) and by promoting efforts to certify areas that have been conserved by the private sector and others as OECMs.</p> <p>30by30 </p>	
Afu no Wa 2030	<p>In July 2020, Nissui participated in the "Sustainability Consortium for Agriculture, Forestry, Fisheries and Food" (Afu no Wa 2030), a project launched by the Ministry of Agriculture, Forestry and Fisheries to promote sustainable production and consumption of food, agriculture, forestry, and fisheries products.</p> <p>Afu no Wa 2030 (in Japanese) </p>	
Japan Business Initiative for Biodiversity (JBIB)	<p>In June 2009, Nissui joined Japan Business Initiative for Biodiversity (JBIB), a group of companies that are actively working to conserve biodiversity, as an associate member.</p> <p>JBIB </p>	
Japan Project of 10x20x30 Food Loss and Waste Initiative	<p>In conjunction with the participation of AEON Co., Ltd. in the 10x20x30 Food Loss and Waste Initiative advocated by the World Resources Institute (WRI), Nissui joined the "Japan project" led by AEON as one of the partner corporations in December 2019.</p> <p>10x20x30 </p>	
Japan Center for Engagement and Remedy on Business and Human Rights (JaCER)	<p>In April 2023, Nissui joined the Japan Center for Engagement and Remedy on Business and Human Rights (JaCER), an organization that aims to provide a non-judicial "Engagement and Remedy Platform" for redress of grievances and to act in a professional capacity to support and promote redress of grievances by member companies based on the United Nations Guiding Principles on Business and Human Rights, as a regular member.</p> <p>JaCER </p>	