

FY2021

Trends in Fisheries

FY2022

Fisheries Policy

Summary

This document is a report on fisheries trends and the policy implemented during FY2021 in accordance with the provisions of Article 10, paragraph (1) of the Fisheries Basic Act (Act No. 89 of 2001) as well as the fisheries policy to be implemented in FY2022 in accordance with the provisions of paragraph (2) of said Article.

SUSTAINABLE DEVELOPMENT GOALS



In order to indicate the relationship between fisheries and SDGs, the icon of the goal that has an especially deep connection with fisheries is attached. (Not all related goals.)

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FY2022 Fisheries Policy

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Special Issue 1: New Basic Plan for Fisheries



(1) Previous Basic Plans for Fisheries

- The Basic Plan for Fisheries provides medium-term guidelines for comprehensively and systematically promoting the fisheries policy based on the “Fisheries Basic Act.”
- Since the formulation of the first Basic Plan for Fisheries in 2002, the Plan has been revised every five years, considering changes in situations surrounding fisheries and evaluation of the effectiveness of the policy.

Previous Basic Plans for Fisheries

Formulated in 2002	Situation	200-nautical-miles, decrease in fisheries production, decline in self-sufficiency rate, etc.
	Policy	Promotion of resource recovery plans, introduction of HACCP, merger of fisheries cooperatives, etc.
Formulated in 2007	Situation	Weakening of fisheries production structure, decreased interest in fish consumption, loss in unintentional seafood auction, multifunctional roles, etc.
	Policy	Measures for structural reform of fisheries by fishing vessels, new business management stabilization measures, measures to promote the fulfillment of multifaceted functions, etc.
Formulated in 2012	Situation	Great East Japan Earthquake, balance between promotion of resource management and ensuring stable business management, etc.
	Policy	Reconstruction from the Great East Japan Earthquake, resource management and fishery income compensation measures, sixth sector industrialization, etc.
Formulated in 2017	Situation	Weakening of fish and fishery product production system, decreased interest in fish consumption, etc.
	Policy	Transformation of fisheries into a growth industry, Seashore Revitalization Plan, advancement of resource management, etc.

(2) New Basic Plan for Fisheries

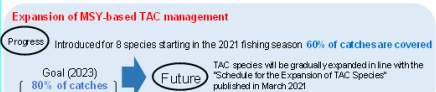
- While promoting fisheries policy reform, the new Basic Plan for Fisheries was formulated in March 2022, considering changes in situations such as changes in marine environments and growing interest in a sustainable society.
- The policy is to be developed by focusing on three pillars: 1) steadily implementing fisheries resource management, taking into account changes in marine environment; 2) realizing the transformation of fisheries into a growth industry, taking into account increasing risks; and 3) promoting activation of fishing communities that support their respective regions.

Outline of New Basic Plan for Fisheries

Steady implementation of fishery resource management, taking into account changes in marine environments

- **Enhancement of research into resources and stock assessment**
 - Enhancement of data collection, etc. through promoting digitization

- **Consistent promotion of new resource management**
 - To establish a new resource management system, formulate a resource management roadmap and consistently promote the included processes



- **Adaptation to changes in marine environments**
 - steady understanding of the risk of changes in marine environments
 - Development of fishery management bodies that can adapt to stock dynamics
 - Promotion of shift of composite fisheries to a new form of operation
 - Development of international negotiations to protect the seas, fishery resources, and fisheries of Japan

- **Enhancing fisheries enforcement and surveillance capability/poaching monitoring system**

Realization of transformation of fisheries into a growth industry, taking into account increasing risks

- **Structural reform of fisheries, etc.**
 - For coastal fisheries, further promotion of efficient utilization of fishing grounds, mainly by the working generation
 - Promotion to add value through effective utilization of unused fish, etc.
 - For offshore fisheries, a stepwise shift to composite fisheries and review of the types of vessels and fishing methods
 - For distant-water fishery, consideration of new forms of operation and ensuring the diversity of markets including overseas markets, etc.

- **Transformation of aquaculture into a growth industry**
 - Promotion of market-in type aquaculture
 - Promotion of large-scale offshore aquaculture and introduction of notification system in land-based culture, etc.

- **Export expansion**
 - Based on the export strategies, expansion of the export value of fish and fishery products to 1.2 trillion yen by 2030 (priority export items: yellowtail, bream, scallops, and pearls), etc.

- **Human resource development**
 - [Development and recruitment of new fishery workers, etc.]
 - Development and recruitment of new fishery workers, etc., including acquisition of ICT, etc.
 - [Recruitment and development of ship officers]
 - Promotion of the initiatives for quick acquisition of ship officer's certifications
 - [Acceptance and recruitment of human resources from abroad]
 - Development of the environment for accepting human resources from abroad, etc.
- **Measures to stabilize business management**
 - Consideration of ideal measures to stabilize fishery revenue, etc. while fully taking into account the impact of COVID-19 infection and management status of fishers, such as catch trends

Promotion of activation of fishing communities that support the region

- **Fishing Communities revitalization/activation**
 - Activation of fishing communities through activation of fisheries
 - Reorganization and consolidation of facilities in major fishing ports, and further functional enhancement
 - Activation of fishing communities through incorporating industries other than fisheries, etc.
 - Promotion of UMIGYO, etc. by utilizing fishing port facilities and environmental development of fishing ports and fishing communities
 - Promotion of the interaction program and the initiative to secure human resources in the “Seashore Revitalization Plan” to boost incomes of fishers

- **Development of measures for processing, distribution, and consumption**

- [Processing]
 - Stable supply of domestic raw materials for processing
 - Promotion of initiatives to equalize the supply of domestic raw materials for processing, etc.
 - Development of core fishery processors and utilization of human resources from abroad
- [Distribution]
 - To combat IUU fishing, proper implementation of measures based on international commitments, etc.
 - Under Act on Ensuring the Proper Domestic Distribution and Importation of Specified Aquatic Animals and Plants, periodical check of numeric values to verify whether status of each fish species meets the criteria for the designation of species
 - Review of the designation of species as well as the criteria for the designation every two years or so
- [Consumption]
 - Expansion of consumption of domestic fish and fishery products
 - Promotion of the use of marine eco-labels, etc.

- **Measures for disaster prevention/mitigation and building national resilience**
 - Countermeasures for increasingly severe disasters due to climate change, etc.

Measures to be promoted in a cross-sectoral manner for sustainable development of fisheries, etc.

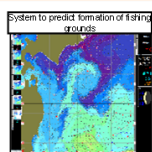
- **Strategy for Sustainable Food Systems: MeaDRI and fisheries policy**

- **Utilization of smart fishery technologies**

- **Response to carbon neutrality**
 - Preservation/creation of seaweed beds (blue carbon)

- **Measures against COVID-19 infection**

- **Reconstruction from the Great East Japan Earthquake**



Reduction in fuel use through efficient operations



Preservation/creation of seaweed beds (blue carbon)

Goals for the Self-Sufficiency Rate of Fish and Fishery Products

- Based on the resource management roadmap (4.44 million tons), Comprehensive Strategy for the Transformation of Aquaculture into a Growth Industry, and the export goal (1.2 trillion yen), the goals for the self-sufficiency rate are set to 94% for fish and fishery products for human consumption, 76% for overall fish and fishery products, and 72% for marine algae

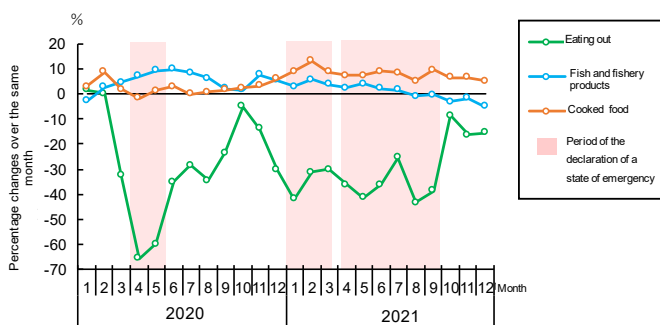
	FY2019	FY2020 (Estimate)	FY2032 (Goal)
Fish and fishery products for human consumption	55	57	94
Overall fish and fishery products	53	55	76
Marine algae	65	70	72

(Unit: %)

(1) Impact on the Demand for Fish and Fishery Products, and New Trends

- Due to the impact of the spread of COVID-19 infections, lifestyles that avoid going out and crowding have become more common, and the demand for food has shifted from eating out to eating in.
- Opportunities for eating and cooking at home have increased, and the household consumption expenditure for eating out has significantly decreased since March 2020. Subsequently, it increased or decreased significantly depending on the status of the declaration of a state of emergency.
- With an increase in stay-at-home demand, the demand for household frozen food that can be stocked and is easy and convenient to cook has increased.
- While sales in the food service industry have declined significantly, sales of fish and fishery products in supermarkets has increased. In addition, food consumption through sales via the Internet has also increased.

Percentage Changes in Monthly Expenditure per Household for Eating Out, Cooked Food, and Fish and Fishery Products Over Same Month of 2019

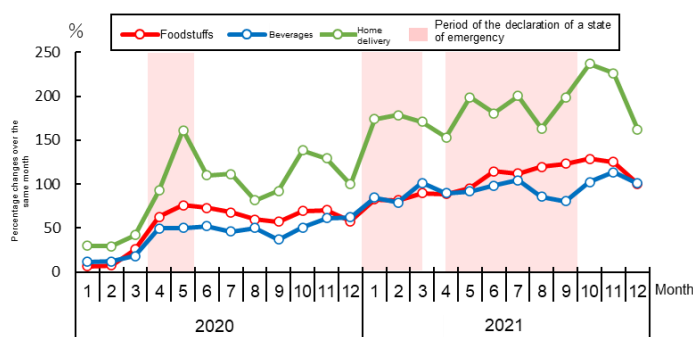


Source: Prepared by the Fisheries Agency, based on the Family Income and Expenditure Survey and the Consumer Price Index (the Ministry of Internal Affairs and Communications)

Notes: 1) Households with two or more people (Family Income and Expenditure Survey).

2) For the percentage changes for 2021, the effects of price changes are removed using the Consumer Price Index (2020-based).

Percentage Changes in Food Expenditure Through Sales via the Internet Over the Same Month in 2019

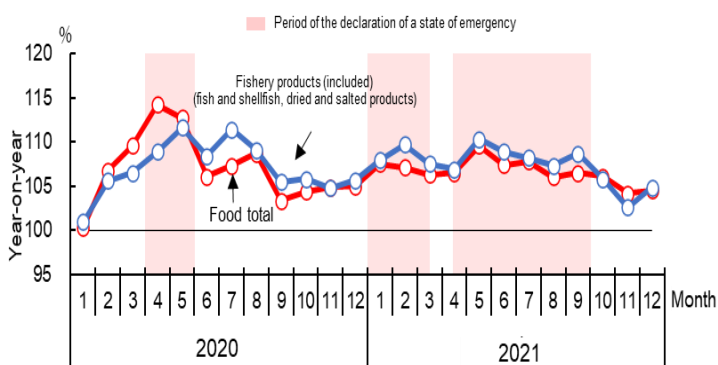


Source: Prepared by the Fisheries Agency, based on the Survey of Household Economy (Monthly) and the Consumer Price Index (the Ministry of Internal Affairs and Communications)

Notes: 1) Households with two or more people (Survey of Household Economy).

2) The effects of price changes are removed using the Consumer Price Index (2020-based).

Comparison of Supermarket Sales (Food, Fish and Fishery Products) Over the Same Month in 2019



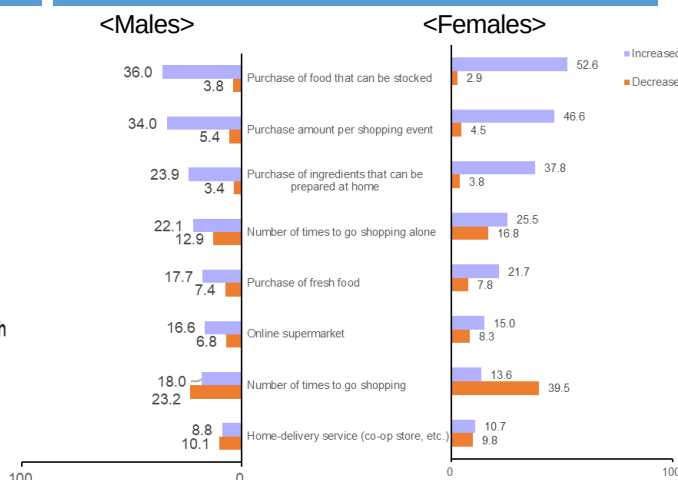
Source: Prepared by the Fisheries Agency, based on the Current Survey of Supermarket Sales (survey of 270 supermarkets dealing mainly in food products) (the National Supermarket Association of Japan, the Japan Supermarket Association, and the All Japan Supermarket Association)

Notes: 1) The figures for January and February 2021 are calculated by dividing the sales in the relevant month in 2021 by the sales in the relevant month in 2019.

2) The figures for March 2021 onwards are preliminary.

3) All sales stores in the same month of each year are compared to all stores in the relevant month.

Changes in Food Purchasing Methods and Content



Source: Prepared by the Fisheries Agency, based on the Survey of Frozen Food Usage (questionnaire survey using the Internet, 1,250 males and females (625 each) aged 25 or older using frozen food "at least once a month," conducted on 20-22 February, 2021) (the Japan Frozen Food Association)

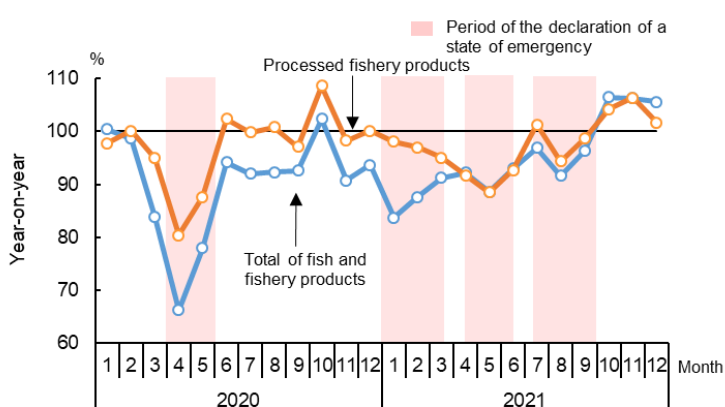
Note: The percentage of "increased" is the sum of the percentages of "increased greatly" and "increased somewhat," and the percentage of "decreased" is the sum of the percentages of "decreased very much" and "decreased somewhat."

(2) Impact on the Supply of Fish and Fishery Products, and New Trends

i. Impact on Market Prices and Markets and Developments Toward Maintaining/Expanding Markets

- While supermarket sales were strong with stay-at-home consumption, demand from hotels and restaurants decreased with reduced inbound demand and refraining from going out. As a result, the transaction amount of fish and fishery products distributed in markets dropped, mainly for high-grade fish. It has been on a recovery trend since October 2021.
- Increased trend in the sales of fish and fishery products via the Internet.
- With changes in demand for eating out in export destination countries and regions, etc., export of fish and fishery products decreased in 2020 and increased in 2021.

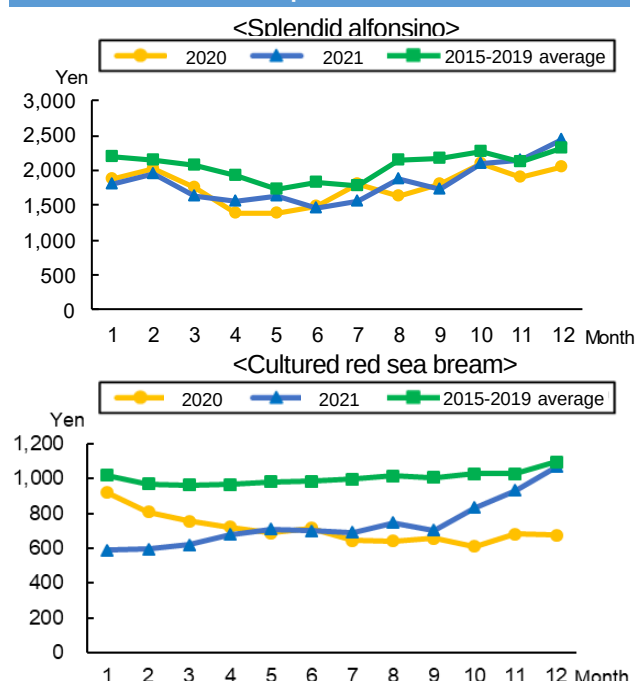
Comparison of Transaction Amount of Fish and Fishery Products in Toyosu Market Over the Same Month in 2019



Source: Prepared by the Fisheries Agency, based on Market Statistics (the Tokyo Metropolitan Central Wholesale Market)

Note: The period of the declaration of a state of emergency is the period during which the declaration of a state of emergency that included Tokyo as an area where emergency measures should be implemented was issued.

Trends in Average Sales Amount at Wholesale Markets (In Consuming Areas) By Fisheries Species

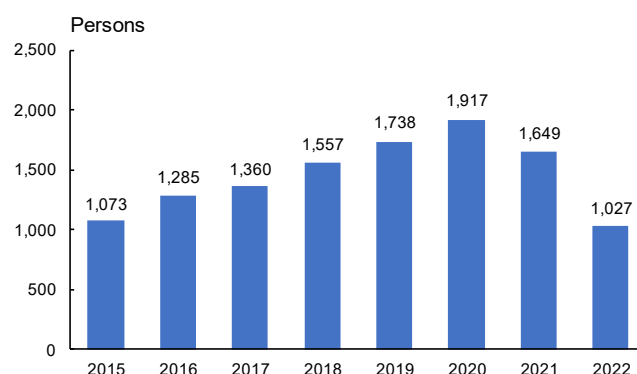


Source: Prepared by the Fisheries Agency, based on Market Statistics (the Tokyo Metropolitan Central Wholesale Market)

ii. Impact of Entry Restrictions

- The entry restrictions on visitors from abroad associated with the spread of COVID-19 infections significantly affected management bodies that were expecting to make use of foreign people with the “Specified Skilled Worker” status of residence or planning to accept technical intern trainees.
- On the other hand, technical intern trainees who were planning to return their home countries after completing technical training had difficulty returning home. Those who had changed their status of residence to “Specified Skilled Worker” to work in fishing vessel fisheries, aquaculture, and fishery processing industry increased in Japan.

Number of Technical Intern Trainees (i) Residing in Japan (Fishing Vessel Fisheries) (As of March 1 of each year)



Source: Prepared by the Fisheries Agency

(3) Response in the Fisheries Industry

i. Implementation of Emergency Economic Measures and Measures to Prevent the Spread of Infection

- To promote sales of fish and fishery products for which inventory backlogs and price falls were occurring, the government supported expenses for the provision for school lunch, shipping costs for Internet sales, and public relations activities, etc.
- To maintain and promote exports, the initiatives to develop overseas markets were supported.
- To address the labor shortage in management bodies engaged in fisheries and fishery processing due to the impact of entry restrictions, support was provided for securing human resources from other industries and continued employment of foreign crews. In addition, support was also provided for additional expenses when employing domestic human resources such as those with work experience.
- Support was provided for the initiatives for fishing ground conservation activities and research on fisheries resources conducted by fishers who were forced to suspend their business.
- Support was provided for the initiatives to install machinery/equipment for recovering/developing markets or continuing/converting business made by fishers while taking measures to prevent the spread of infection. In addition, financing support and compensation for fisheries revenue loss through fisheries insurance were provided. Furthermore, the initiatives in which fisher organizations purchased, froze, stored, and released/sold fish and fishery products with inventory backlogs were supported.
- Preparation of industry-specific business continuity guidelines by fisher organizations is supported.

ii. Response in Anticipation of Future Impact

- The Fisheries Agency held a “meeting on the expansion of consumption of fish and fishery products in response to new lifestyles” to summarize the directions of measures toward the expansion of fish and fishery products, taking into account consumption trends in recent years and development of new lifestyles in the era of coexistence with COVID-19.
- The directions to address the negative characteristics of fish and fishery products, such as time and effort required for cooking, include: 1) “elimination of a sense of burden on cooks/purchasers,” such as development of time-saving, easy, and delicious recipes; 2) “development of new convenient and delicious products,” such as meal kits; and 3) “development of new ways to provide products to accelerate consumption,” such as enhancement of fish menus at online supermarkets.
- The directions to enhance opportunities to consume fish and fishery products include: 1) initiatives to “change consumption behavior,” such as original sales promotions using corporate ingenuity, provision of bargain menus, and establishment of event days; and 2) the initiatives to “reach young people through education and experience,” such as communicating positive aspects e.g. health improvement and good taste, and conducting fish-eating promotion activities with an experience element.

Case Example 1

Online Cooking Class for Local Fish Dishes (Hyogo Prefecture federation of fisheries cooperatives (SEAT-CLUB))

SEAT-CLUB, which belongs to the JF Hyogo Prefecture federation of fisheries cooperatives, started an online cooking class in October 2020 because they were unable to hold conventional cooking classes due to the impact of the spread of COVID-19 infections.

The participants purchased a set of cooking ingredients, including local fish, through the website, and on the day of the class, they accessed the online meeting system on tablets, etc. to receive instructions from the instructor and cooked at home. Many participated from outside the prefecture, helping to promote local fish of Hyogo Prefecture to people outside the prefecture.



Case Example 2

Seafood Mix Using Domestic Fish and Fishery Products (The nationwide federation of fisheries cooperatives, ABC Cooking Studio, Ito-Yokado)

The nationwide federation of fisheries cooperatives, ABC Cooking Studio, and Ito-Yokado launched the “Council for Promotion of Seafood Mixes of Domestic Fish” to expand the consumption of domestic fish and fishery products. To enable people to enjoy fish dishes easily and conveniently at home and thereby expand the consumption of domestic fish and fishery products, “Gorotto Domestic Seafood Mix,” a seafood mix using only domestic fish and shellfish, was developed and went on sale in November 2021.

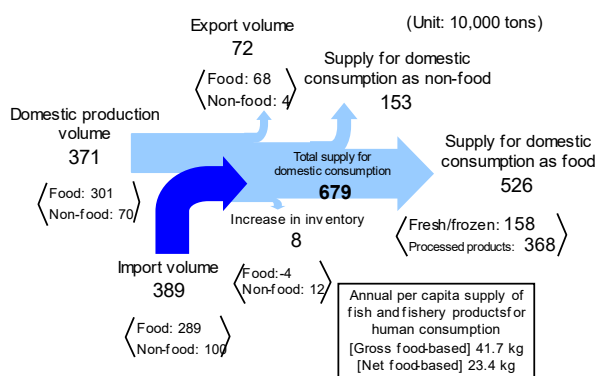
Cooking videos using this product are distributed on the YouTube channel of Sakana-kun, and cooking methods, including use of the product in cooking classes at ABC Cooking Studio are also distributed.



(1) Supply-and-Demand Situation in Fish and Fishery Products

- The supply of domestic consumption of fish and fishery products was estimated at 6.79 million tons for FY2020 (converted on a fresh-fish basis, estimates), of which 5.26 million tons (77%) were for human consumption (food) and 1.53 million tons (23%) for feed and fertilizer (non-food).
- The self-sufficiency rate of fish and fishery products for FY2020 was 57% (estimate).

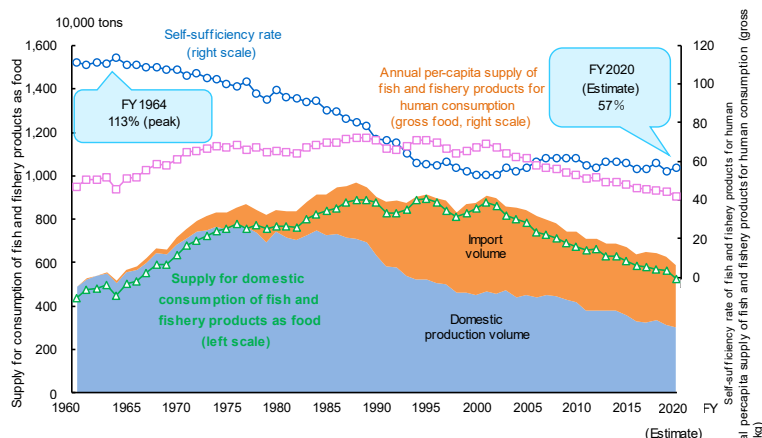
Japan's Production and Consumption Structure of Fish and Fishery Products



<FY2020 (estimates)>

Source: Food Balance Sheet (the Ministry of Agriculture, Forestry and Fisheries)

Trends in the Self-Sufficiency Rate of Fish and Shellfish



Source: Food Balance Sheet (the Ministry of Agriculture, Forestry and Fisheries)

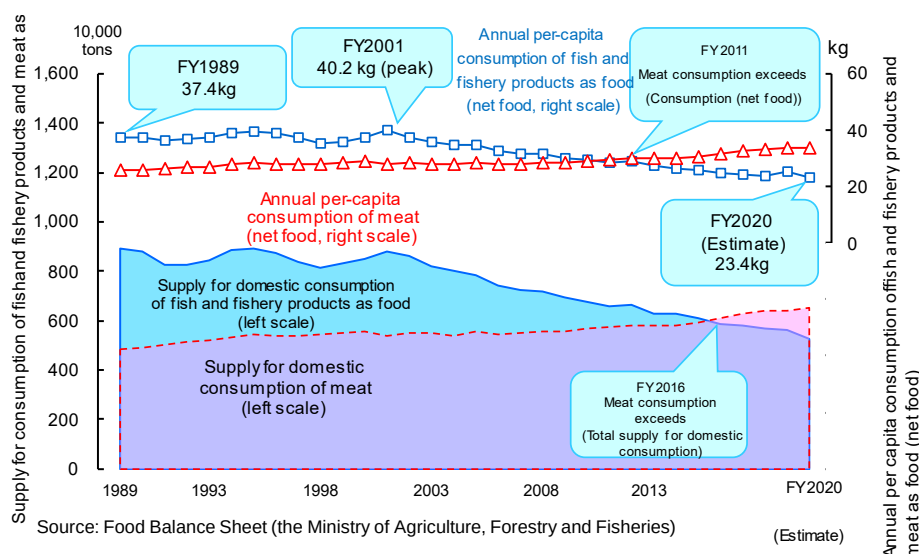
Note: Self-sufficiency rate (%) = (Domestic production volume / Total supply for domestic consumption) × 100
Total supply for domestic consumption = Domestic production volume + Import volume - Export volume ± Increase/decrease in inventory

(2) Status of the Consumption of Fish and Fishery Products

i. Trends in the Consumption of Fish and Fishery Products

- Annual per-capita consumption of fish and fishery products (net food base) has been on a decreasing trend from the peak of 40.2 kg in FY2001 and lower than meat consumption since FY2011. It was 23.4 kg (estimate) in FY2020.
- The factors that keep consumers away from purchasing many fish and fishery products include high prices and time and effort required for cooking. While the economic orientation remains flat, consumers' orientation is changing with growing orientation toward simplification and convenience.

Changes in Supply for Domestic Consumption and Annual per Capita Consumption of Fish and Fishery Products as Food



Source: Food Balance Sheet (the Ministry of Agriculture, Forestry and Fisheries)

(Estimate)

Annual per capita consumption of fish and fishery products and meat as food (net food)

ii. Health Benefits of Fish and Fishery Products

- Docosahexaenoic acid (DHA) and icosapentaenoic acid (IPA), which are omega-3 polyunsaturated fatty acids, contained abundantly in fish fat, have effects such as promoting brain development, maintaining brain functions, and reducing LDL cholesterol and neutral fats, etc.
- Fish protein is not only a high-quality protein containing a good balance of nine essential amino acids, which are essential for human life, but it is also easily digested and taken in the body compared to soy protein and milk protein.

Case Example 1

First Whale Meat With Function Claims (Kyodo Senpaku Co., Ltd.)

In September 2021, Kyodo Senpaku gave notice of two products, namely “freezing-temperature aging red whale meat” and “whale skin,” as the first whale meat with function claims.

Imidazole dipeptide (balenine, carnosine, and anserine) contained in whale meat is reported to have a function of temporarily reducing fatigue and stress in daily life. In addition, DHA contained in whale skin is reported to have a function that helps maintain memory (ability to remember and recall language, shapes, etc.), which is a cognitive function that declines with age.

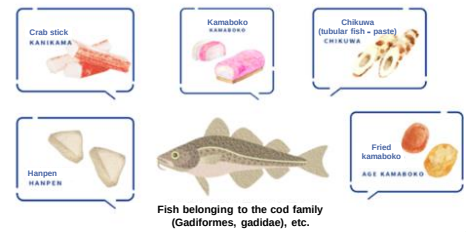


Case Example 2

The 24th of Every Month is “Fish Protein Day” (Japan Kamaboko Association)

Japan Kamaboko Association has set the 24th of every month as “fish protein day” since August 24, 2021, and has been promoting the sales of fish paste products such as kamaboko and chikuwa. The health function and effectiveness of fish paste products has been promoted with the keyword of “fish protein characterized by high-quality protein and low fat.” The products that meet the criteria for fish protein content in products set by the Association are labeled with the “fish protein mark” and sold at mass retailers.

Fish protein in various kamaboko (fish paste) products

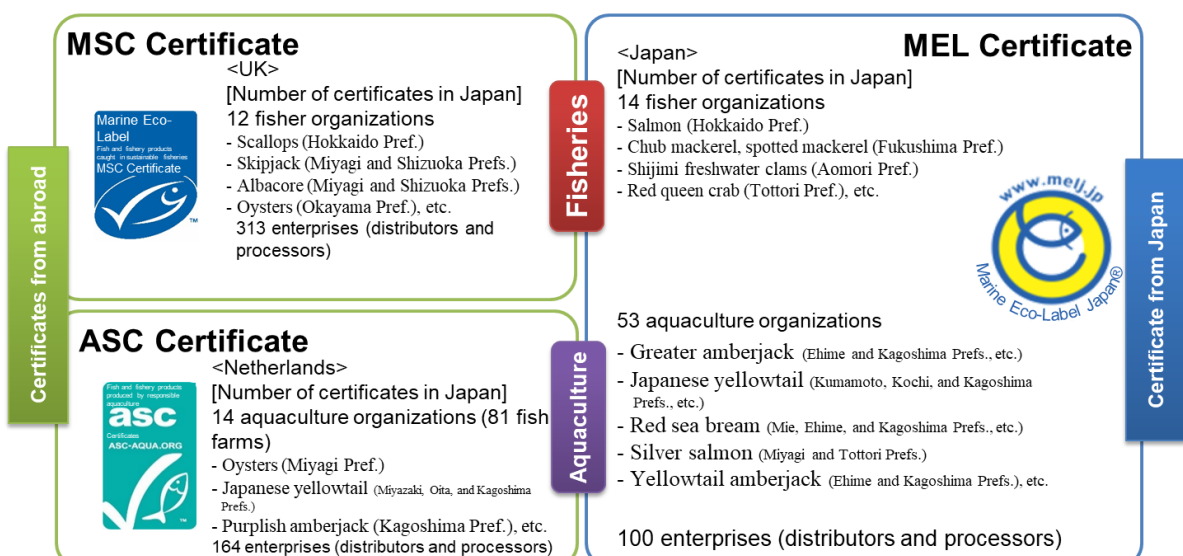


(3) Approaches to Ensuring Information Provision to Consumers and to Protecting Intellectual Property



- There are various marine eco-labels around the world that certifies resource management and environmental efforts. In Japan, MSC, ASC, and MEL are mainly used, and their use has been promoted.
- Other systems of providing information to consumers and protecting intellectual property include the obligation to label the place of origin under the Food Labeling Act, food with a function claims system, and geographical indication (GI) protection system.

Main Marine Eco-Label Certificates Used in Japan



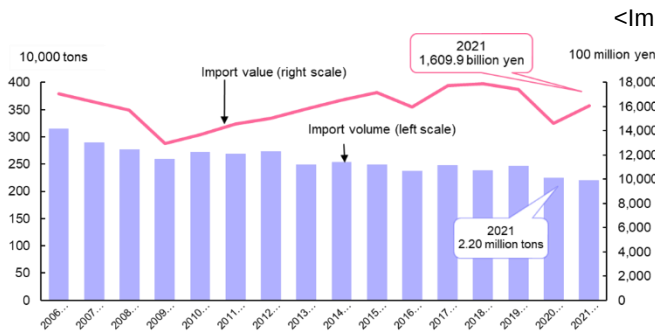
* The number of certificates is that as of March 31, 2022 (according to the Fisheries Agency).

(4) Trends in the Trade of Fish and Fishery Products

i. Trends in Importation of Fish and Fishery Products

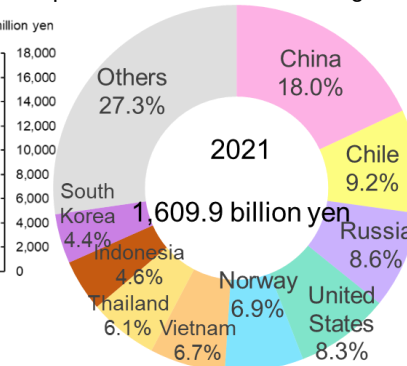
- The import volume of fish and fishery products (on a product weight basis) decreased by 2.3% from the previous year to 2.20 million tons in 2021. The import value increased by 10.0% from the previous year to 1,609.9 billion yen.
- Major import items in terms of import value are salmon and trout, skipjack and tuna, and shrimp, etc.

Trends in Import Volume and Import Value of Fish and Fishery Products

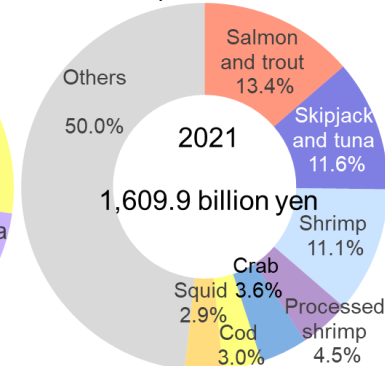


Source: Prepared by the Fisheries Agency, based on the Foreign Trade Statistics (the Ministry of Finance)

<Import source countries and regions>



<Import items>

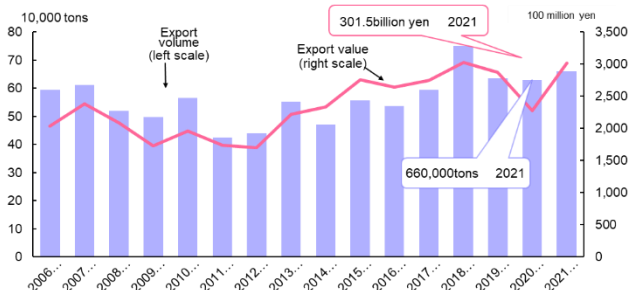


Share in the total import volume of agricultural, forestry and fishery products and food: 15.8%

ii. Trends in Export of Fish and Fishery Products

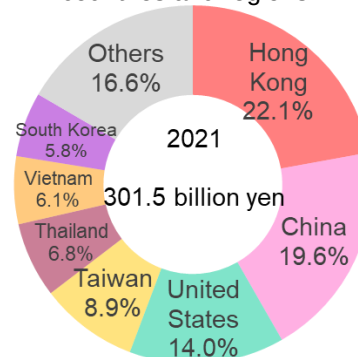
- The export volume of fish and fishery products (on a product weight basis) increased by 4.7% from the previous year to 0.66 million tons in 2021. The export value increased by 32.5% from the previous year to 301.5 billion yen.
- Major export destinations are Hong Kong, China, and the United States, accounting for over 50% of total exports.
- Major export items are scallop and yellowtail in terms of export value.
- A target for export of agricultural, forestry and fishery products and foodstuff to reach 5 trillion yen (including fishery products of 1.2 trillion yen) by 2030 was established in March 2020. Priority items of fish and fishery products are yellowtail, sea bream, scallops, and pearls.

Trends in the Export Volume and Export Value of Fish and Fishery Products

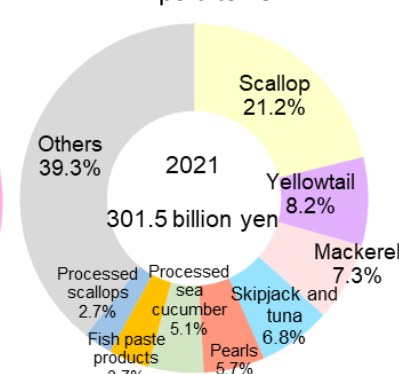


Source: Prepared by the Fisheries Agency, based on the Foreign Trade Statistics (the Ministry of Finance)

<Export destination countries and regions>



<Export items>

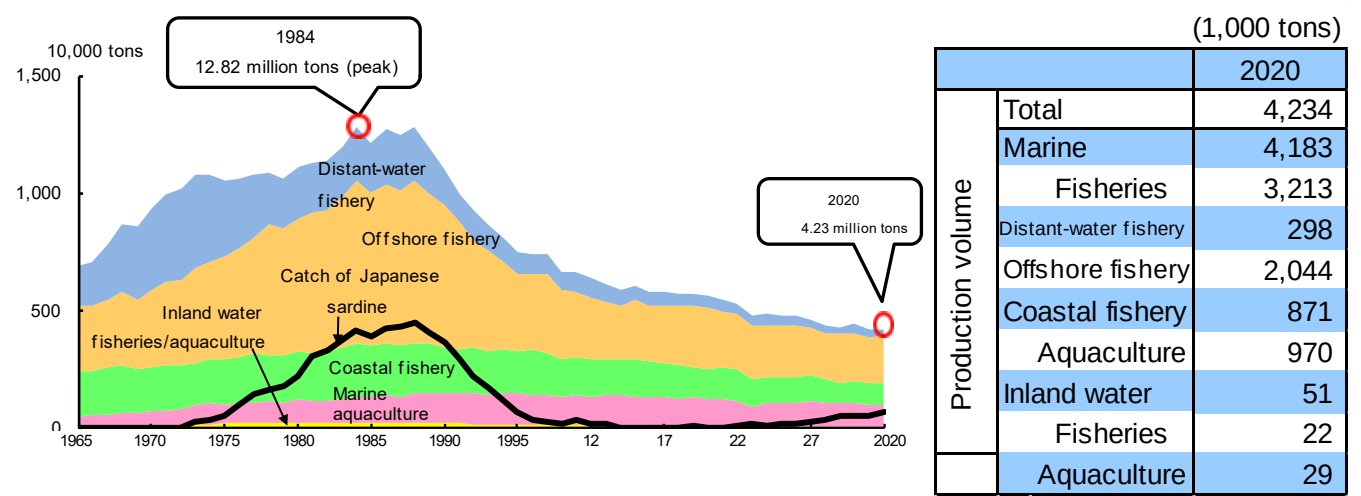


Share in the total export volume of agricultural, forestry and fishery products and food: 24.3%

(1) Trends in Domestic Fisheries and Aquaculture Production

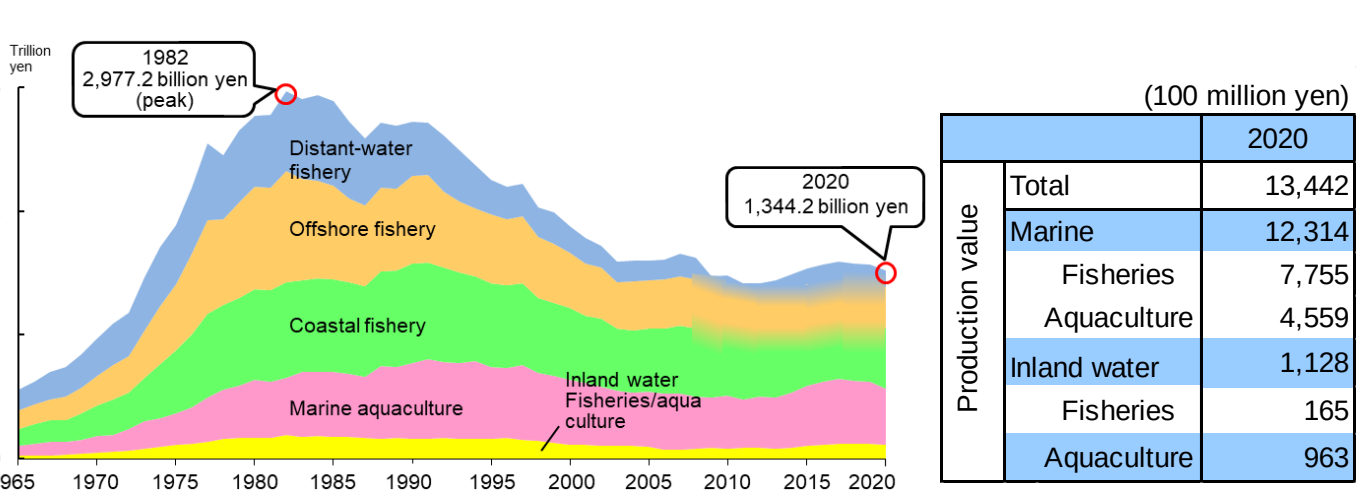
- The volume of domestic fisheries and aquaculture production increased by 40,000 tons from the previous year to 4.23 million tons in 2020, of which that of marine fisheries decreased by 20,000 tons to 3.21 million tons. The volume increased for Japanese sardine and albacore and decreased for mackerel and skipjack. The volume of marine aquaculture increased by 50,000 tons to 0.97 million tons. The volume of inland water fisheries and aquaculture decreased by 2,000 tons to 51,000 tons.
- The production value of domestic fisheries and aquaculture decreased by 147.7 billion yen from the previous year to 1,344.2 billion yen in 2020, of which that of marine fisheries decreased by 93.7 billion yen to 775.5 billion yen. The production value of marine aquaculture decreased by 44.7 billion yen to 455.9 billion yen. The production value of inland water fisheries and aquaculture decreased by 9.3 billion yen to 112.8 billion yen.

Trends in the Production Volume of Fisheries and Aquaculture



Source: Fisheries and Aquaculture Production Statistics (the Ministry of Agriculture, Forestry and Fisheries)
Note: For the production volumes of "distant-water fishery," "offshore fishery," and "coastal fishery," which are breakdowns of the production volume of fisheries and aquaculture, surveys of catch by tonnage group of fishing vessels were discontinued in 2007. Therefore, the figures for 2007 to 2010 are estimates. For surveys in 2011 and beyond, catches of each type of fisheries that belongs to "distant water fishery," "offshore fishery," and "coastal fishery" are added up.

Trends in the Production Value of Fisheries and Aquaculture



Source: Prepared by the Fisheries Agency, based on the Gross Fisheries Output (the Ministry of Agriculture, Forestry and Fisheries)
Notes: 1) The fishery production value was obtained by adding the juveniles production value to the fishery output (a value estimated by multiplying the production volume of fisheries and aquaculture by the wholesale prices in the landing area, etc.).
2) Compilation of the production value by sector of marine fisheries was discontinued in 2007.

(2) Trends in Fishery Management

i. Trends in Management of Fisheries by Fishing Vessels/Aquaculture



- The average fishing income of private management bodies engaged in coastal fisheries using vessels decreased by 57,000 yen from the previous year to 1.12 million yen in 2020. The business income including non-fishing income was 1.35 million yen.
- Corporate management bodies engaged in fishing vessel fisheries have been experiencing deficits in fishery income. Operating losses, including non-fishery losses on income from fishery processing, posted were 9.58 million yen in FY2020.
- The fishing income of private management bodies engaged in marine aquaculture decreased by 0.36 million yen from the previous year to 5.27 million yen in 2020.
- The production volume of fisheries and aquaculture per fisher in Japan was 31 tons, the production value 9.91 million yen, and the fishery income produced 4.73 million yen.
- Fuel oil prices have sharply increased since December 2020. To mitigate the impact of the price rise, a compensation money was provided to fishers from funds reserved in advance by the fishers and the national government.

Trends in Management of Private Management Bodies

<Coastal fishery by fishing vessels>

(Unit: 1,000 yen)

	2019	2020
Business income	1,875	1,347
Fishing income	1,689	1,124
Fishing revenue	5,664	5,121
Fishing expenditure	3,975 (100.0)	3,997 (100.0)
Employee wages	532 (13.4)	499 (12.5)
Fishing vessel and fishing gear expenses	311 (7.8)	345 (8.6)
Repair costs	326 (8.2)	355 (8.9)
Oil costs	693 (17.4)	575 (14.4)
Feed costs	382 (9.6)	365 (9.1)
Depreciation	570 (14.3)	645 (16.1)
Others	1,161 (29.2)	1,213 (30.3)
Non-fishing income	186	223

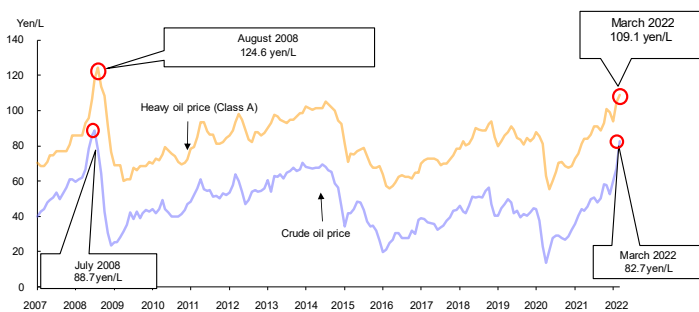
<Marine aquaculture>

	2019	2020
Business income	5,225	5,469
Fishing income	4,907	5,269
Fishing revenue	30,336	30,891
Fishing expenditure	25,429 (100.0)	25,622 (100.0)
Employee wages	3,615 (14.2)	3,741 (14.6)
Fishing vessel and fishing gear expenses	1,032 (4.1)	1,055 (4.1)
Oil costs	1,278 (5.0)	1,253 (4.9)
Repair costs	1,396 (5.5)	1,620 (6.3)
Feed costs	5,823 (22.9)	5,448 (21.3)
Juveniles costs	1,286 (5.1)	1,237 (4.8)
Selling charges	987 (3.9)	1,079 (4.2)
Depreciation	3,324 (13.1)	3,395 (13.3)
Others	6,688 (26.3)	6,795 (26.5)
Non-fishing income	318	200

For source and notes, refer to (*) on the lower right.

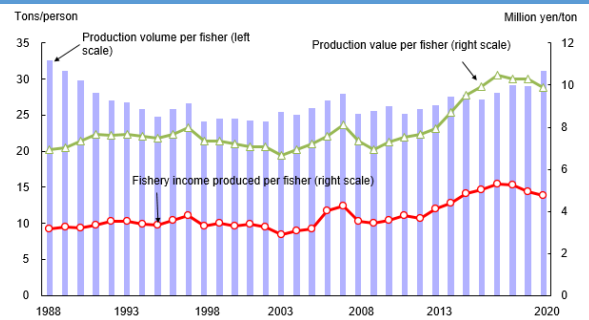
The figures in parentheses indicate the percentage of fishing expenditure (%).

Trends in Fuel Oil Prices



Source: Prepared by the Fisheries Agency

Productivity Per Fisher



Source: Prepared by the Fisheries Agency, based on the Census of Fisheries (number of fishery workers for 1988, 1993, 1998, 2003, 2008, 2013, and 2018), the Survey on Movement of Fishery Structure (number of fishery workers for 2019 and beyond), the Survey of Persons Engaged in Fishery (number of fishery workers for other years), the Statistics on Fishery and Aquaculture Production (production volume), and the Fisheries Output (production value and fishery income produced) (the Ministry of Agriculture, Forestry and Fisheries)

Note: The figures for 2011 and 2012 exclude Iwate, Miyagi, and Fukushima Prefectures (the production value of inland water fisheries and aquaculture was estimated from the nationwide average price by fisheries species).

(*) Source: Prepared by the Fisheries Agency, based on the Statistical Survey Report on Fishery Management and the Census of Fisheries (the Ministry of Agriculture, Forestry and Fisheries)

- Notes:
- 1) The figures for coastal fishery by fishing vessels are weighted-averaged using the number of private management bodies using fishing vessels of less than 10 tons in the "Census of Fisheries," based on the results of fishery by fishing vessels of the survey on private management bodies in the "Statistical Survey Report on Fishery Management."
 - 2) The figures for coastal fishery by fishing vessels are the results excluding management bodies in Fukushima Prefecture, as they were unable to carry out fisheries due to the Great East Japan Earthquake.
 - 3) The figures for marine aquaculture are weighted-averaged using the number of private management bodies by fisheries species in the "Census of Fisheries," based on the results of the survey on private management bodies in the "Statistical Survey Report on Fishery Management."
 - 4) Revenue of fishing households includes, in addition to the business income, non-business income such as non-business employment income and pensions of fishery household members.
 - 5) Fishing revenue does not include the amounts received from subsidies.

ii. Seashore Revitalization Plan to boost incomes

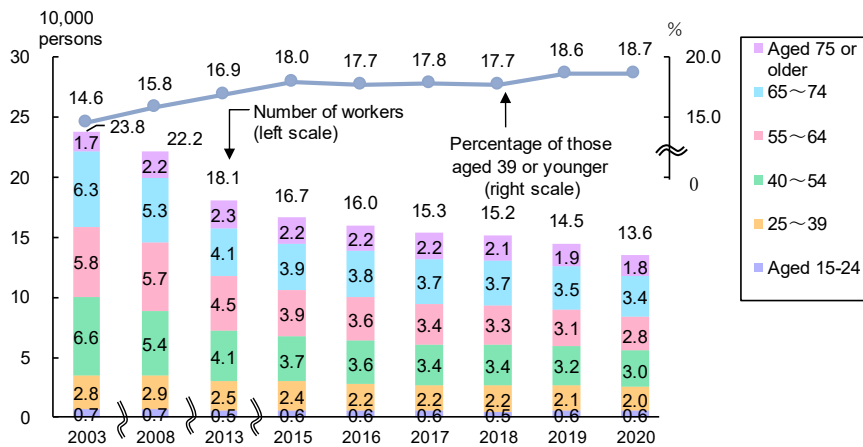
- Under the "Seashore Revitalization Plan," each district considers and implements measures to increase fishery income by at least 10% in five years. As of the end of FY2021, it is implemented in 585 districts.
- As of the end of FY2021, the "Wide-Area Seashore Revitalization Plan" in which efforts are made to enhance wide-ranging competitiveness, is implemented in 150 districts.



(3) Trends in Fishers

- The number of fishery workers has been consistently declining, reaching 135,660 in 2020.
- The number of new fishery workers was 1,707 in 2020. The government, etc. provides support for the initiatives to secure new fishery workers, such as employment counseling, internship, and training.

Trends in the Number of Fishery Workers



Source: Survey on Movement of Fishery Structure (2019 and beyond), Census of Fisheries (2003, 2008, 2013, and 2018), and Survey of Persons Engaged in Fishery (other years) (the Ministry of Agriculture, Forestry and Fisheries)

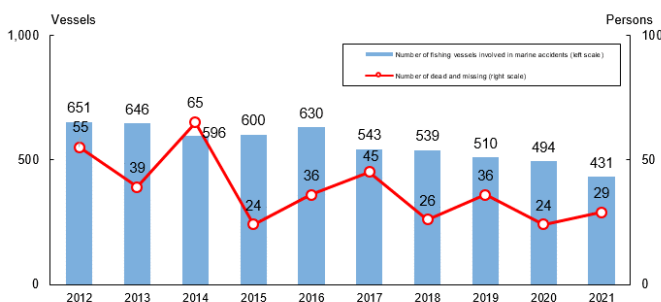
Notes: 1) A "fishery worker" refers to a person aged 15 or older who has been engaged in offshore fishery operations for at least 30 days in the past year.

2) For 2008 and beyond, the survey was conducted on the fishery management body (employer) side and included those residing in coastal municipalities who were previously not included. Therefore, those surveys are not in line with the 2003 survey.

(4) Trends in Fishery Working Environments

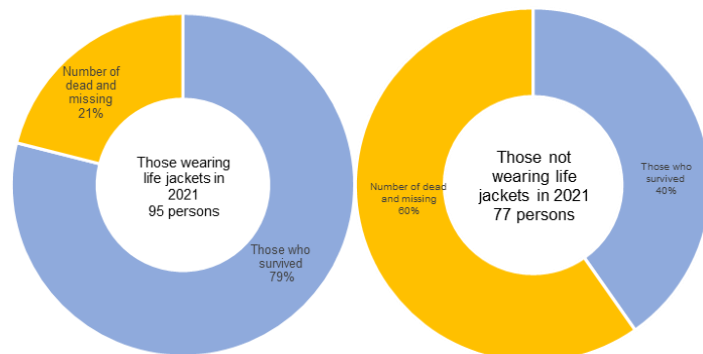
- In 2021, the number of fishing vessels involved in marine accidents was 431, and the number of dead and missing reported in those accidents was 29.
- Excluding those related to marine accidents, 65 fishers fell overboard in 2021, 38 of whom were dead or missing.
- Life jackets are vital to saving the lives of those who fall overboard (approximately doubling the survival rate). All persons on board, in principle, outside the cabin are required to wear life jackets. Starting in February 2022, captains are given violation points for violating the requirements to wear life jackets.

Trends in the Number of Fishing Vessel Involved in Marine Accidents and the Number of Dead and Missing Associated with Marine Accidents



Source: Prepared by the Japan Coast Guard

Survival Rates of Those Who Fell Overboard with and without Life Jackets



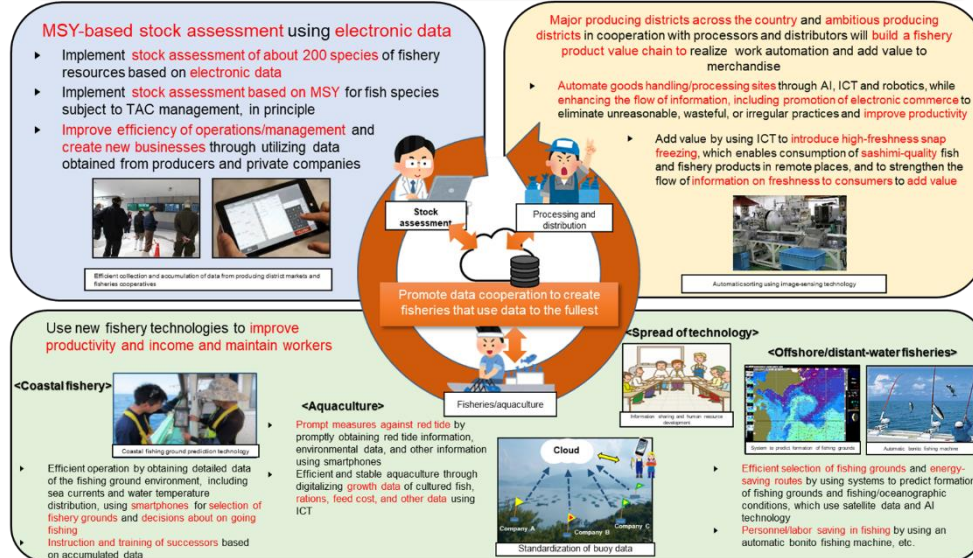
Source: Prepared by the Japan Coast Guard

(5) Development and Utilization of Technologies for Promoting Smart Fisheries

- Development, introduction, and advancement of technologies related to efficient initiatives utilizing ICT, IoT, AI, and drones in each of the stock assessment, fisheries/aquaculture and processing/distribution sectors are promoted.
- To promote the utilization of data, “Guidelines for Data Utilization in the Fisheries Sector” was formulated in March 2022.

Vision of Smart Fisheries in 2027

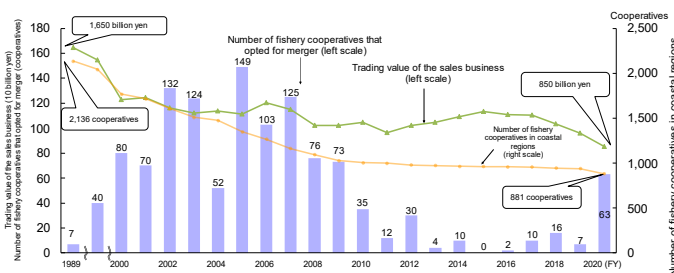
Aims to realize the next-generation fisheries achieving both sustainable use of fisheries resources and transformation of fisheries into a growth industry by 2027 through smart fisheries



(6) Trends in Fisheries Cooperatives

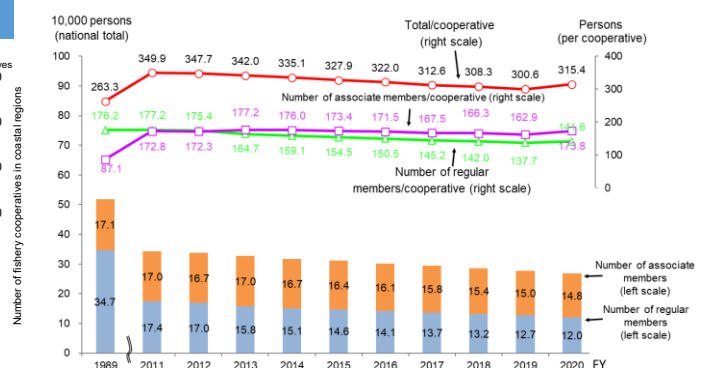
- A fisheries cooperative contributes to stabilization and development of fishery business management by implementing sales business. It is also an organization that plays a core role in supporting regional economies and social activities in a fishing community, such as by using and managing fisheries resources appropriately.
- The number of fisheries cooperatives (in coastal areas) as of the end of March 2021 was 881.
- The number of fisheries cooperative members has been decreasing in line with a decline in the number of fishers. There is a need to strengthen the cooperatives' business and management foundation through mergers and to further reinforce their sales business.

Trends in the Number of Fisheries Cooperatives in Coastal Areas, Number of Fisheries Cooperatives That Opted for Mergers, and Trading Value of the Sales Business



Source: Annual Report of Fisheries Cooperatives (number of fisheries cooperatives in coastal regions) and Statistical Table of Fisheries Cooperatives (trading value of the sales business) (the Fisheries Agency), and prepared by the nationwide federation of fisheries cooperatives (number of fisheries cooperatives that opted for mergers).

Trends in the Number of Fisheries Cooperative Members



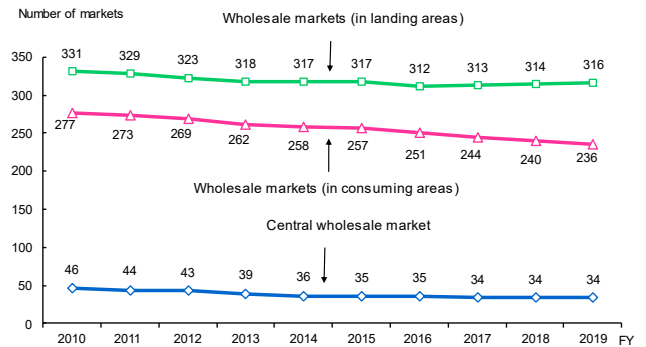
Source: Statistical Table of Fisheries Cooperatives (the Fisheries Agency)

(7) Trends in the Distribution and Processing of Fish and Fishery Products

i. Trends in the Distribution of Fish and Fishery Products

- The number of wholesale fishery markets in landing areas had been flat in recent years, and that of wholesale markets in consuming areas decreased.
- The percentage of fish and fishery product distribution through wholesale markets has been on a decreasing trend, and non-market distribution has been increasing.
- Wholesale markets play a critical role in effectively distributing fish and fishery products. It is necessary to strengthen quality and sanitary control systems in anticipation of export and to maintain/strengthen market functions.

Trends in the Number of Wholesale Fishery Markets



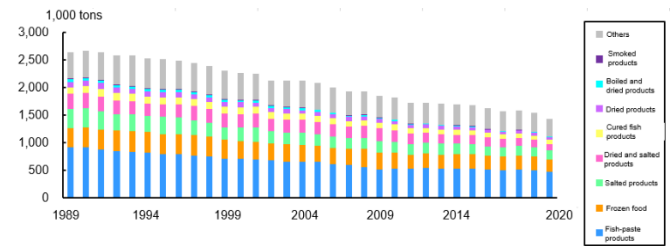
Source: Wholesale Market Database (the Ministry of Agriculture, Forestry and Fisheries)

Note: Data for central wholesale markets are the data at the end of every fiscal year, whereas data for local wholesale markets are the data at the beginning of each fiscal year (up to FY2011) and at the end of each fiscal year (FY2012 or later).

ii. Trends in Fishery Processing

- 70% of the total supply of fish and fishery products for domestic human consumption in Japan is supplied as processed products.
- Among processed fishery products, the production volume of processed products for human consumption has been on a decreasing trend, but the production volume of fish paste products and frozen food had been flat.
- It is necessary to develop products that meet diversifying consumer needs and build a production system that enables change of raw materials in the midst of a shortage of raw materials for processing.

Trends in Production Volume of Processed Fishery Products for Human Consumption



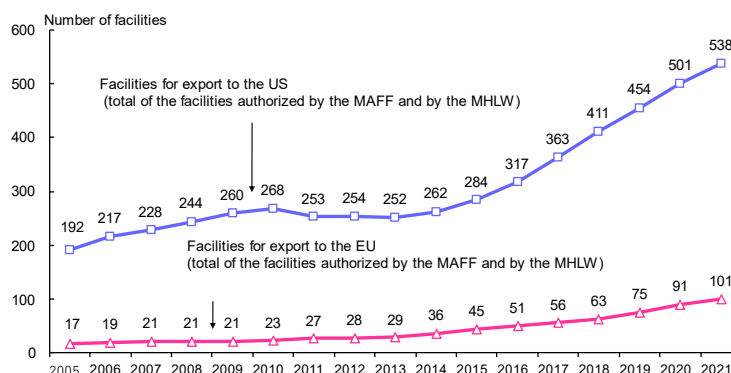
Source: Annual Report on Fish and Fishery Product Distribution Statistics (2009 and before), Census of Fisheries (2013 and 2018), and Fishery Processing Statistics Survey. (other years) (the Ministry of Agriculture, Forestry and Fisheries)

Note: Excluding toasted/flavored seaweed, canned or bottled products, agar, and oils and fats.

iii. HACCP Compliance

- All food business operators including fishery processors, in principle, are required to carry out HACCP-based sanitary control starting in June 2021.
- Fishery processing facilities need to implement the HACCP (Hazard Analysis Critical Control Point) system and to conform to related facilities criteria, as required by the export destination countries and regions, when exporting fish and fishery products to the EU, the United States. The government supports the renovation of facilities to obtain the facility authorization required for export to the EU and the United States.
- As of the end of March 2022, in the fishery processing industry, etc., the number of facilities authorized to export to the EU is 101, and the number of facilities authorized to export to the United States is 538.

Trends in the Number of Facilities Authorized to Export to the EU/US in the Fishery Processing Industry, etc.

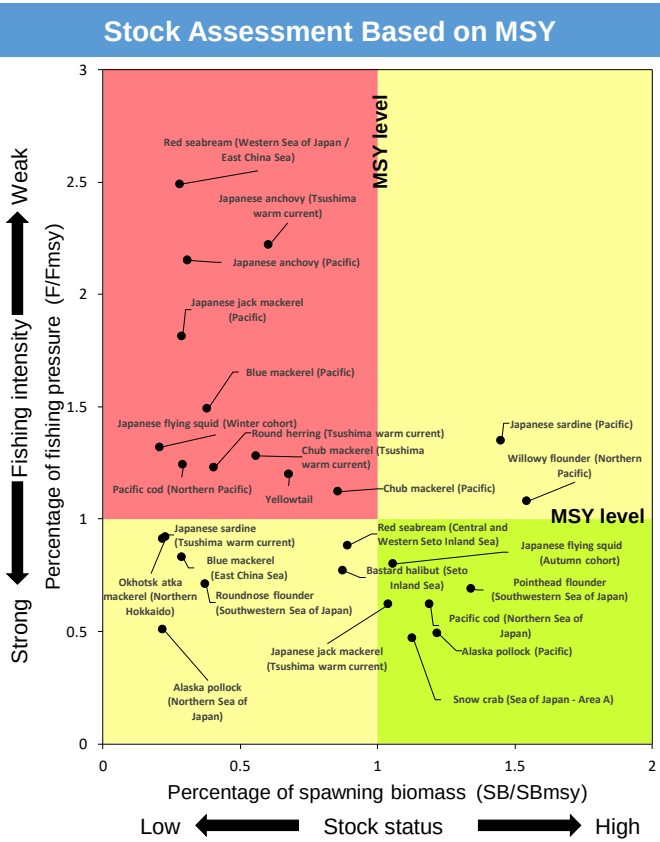
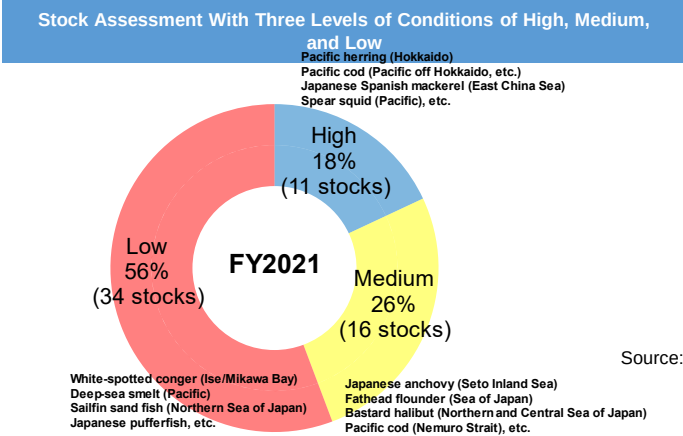


Source: Prepared by the Ministry of Agriculture, Forestry and Fisheries



(1) Fisheries Resources in the Waters Around Japan

- To manage fisheries resources, it is important to take appropriate measures on both sides of stock status and fishing intensity based on its stock assessment.
- In FY2021, the number of fisheries species subject to stock assessment was expanded from 119 to 192.
- Among this, stock assessment based on MSY (Maximum Sustainable Yield) was expanded from 14 stocks of 8 fisheries species to 26 stocks of 17 fisheries species. For 61 stocks of 42 fisheries species, stock assessments were conducted with three levels of stock conditions of high, medium, and low.



Source: Prepared by the Fisheries Agency, based on Marine Fisheries Assessment and Evaluation for Japanese Water (the Fisheries Agency and Japan Fisheries Research and Education Agency)

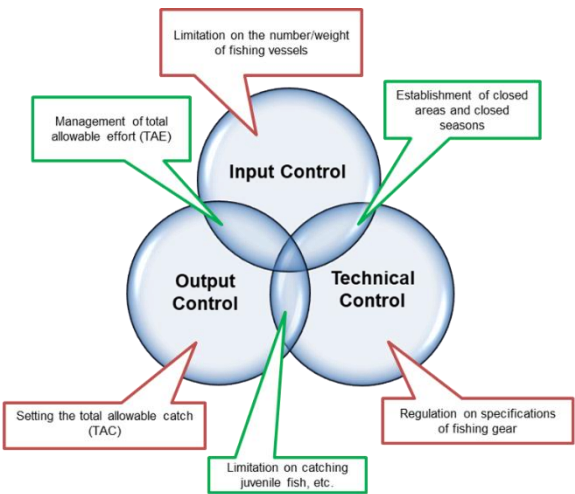
(2) Japan's Fisheries Resource Management

i. Japan's Fisheries Resource Management System



- Techniques for resource management are primarily classified into 1) input control, 2) technical control, and 3) output control. These methods are appropriately used and combined in Japan to properly manage resources, taking into account the characteristics of fisheries, the number of fishers, the status of stocks, etc.
- Shellfish and algae harvesting, set-net fishing, aquaculture, and inland water fisheries are managed under the fishery rights system. Offshore and distant fisheries are managed on the basis of a fishing permit system.
- Under the new Fishery Act enforced in December 2020, fisheries resources are to be managed with a goal to achieve the MSY basically through TAC (Total Allowable Catch) management.
- To transform the fisheries industry into a growth industry, it is important to maintain, recover, and appropriately manage the fisheries resources. Internationally standard scientific and effective resource assessment and management are introduced.

Correlation Between Resource Management Methods



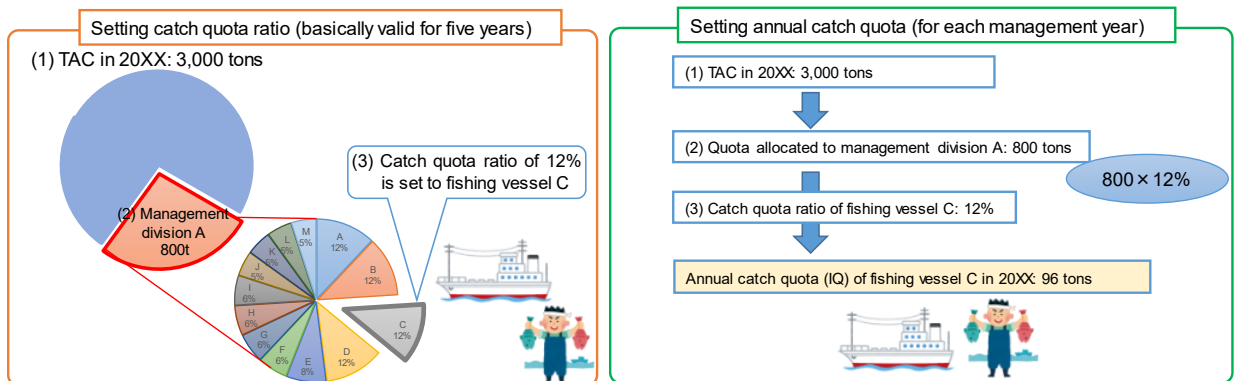
ii. Roadmap for Promoting the New Resource Management

- To establish a new resource management system, the “Roadmap for Promoting the New Resource Management” was developed and published in September 2020. At present, the “processes” are being steadily implemented with the understanding and cooperation of fishers and other related parties.
- The roadmap aims to recover fisheries production to 4.44 million tons by FY2030 through the following measures: By the end of FY2023, 1) expanding the fisheries species subject to stock assessment to about 200 species; 2) putting 80% of fisheries production under TAC management; 3) introducing management based on IQs (individual quotas) to Minister-licensed fisheries, whose main targets are TAC species, in principle, and; 4) shifting the current voluntary resources management by fishers (Resource Management Plans) to “Resource Management Agreements” based on the new Fishery Act.

iii. Promotion of Management Based on TAC, IQs, and Resource Management Agreements

- To expand TAC-managed species, new TAC-managed candidate species are considered for those that meet the following two conditions: 1) fisheries species with high production (mainly the top 35 species with the highest production); and 2) fisheries species for which stock assessment based on MSY is expected to be conducted in the near future.
- IQs are introduced for, in addition to distant-water long-line fishery of southern bluefin tuna and Atlantic bluefin tuna, medium- to large-scale purse seine fishery of mackerels starting in the 2021 management year and Japanese sardine and bluefin tuna (large fish) starting in the 2022 management year, and also, middle-scale long-line fishery of bluefin tuna (large fish) starting in the 2022 management year.
- With regard to Resource Management Agreements, for the resource management plans for Minister-licensed fisheries targeting current TAC species, preparations were made in FY2021 to start the initiatives based on Resource Management Agreements in FY2022. The plans for coastal fishery will also be gradually shifted to Resource Management Agreements certificated by the prefectural governors.

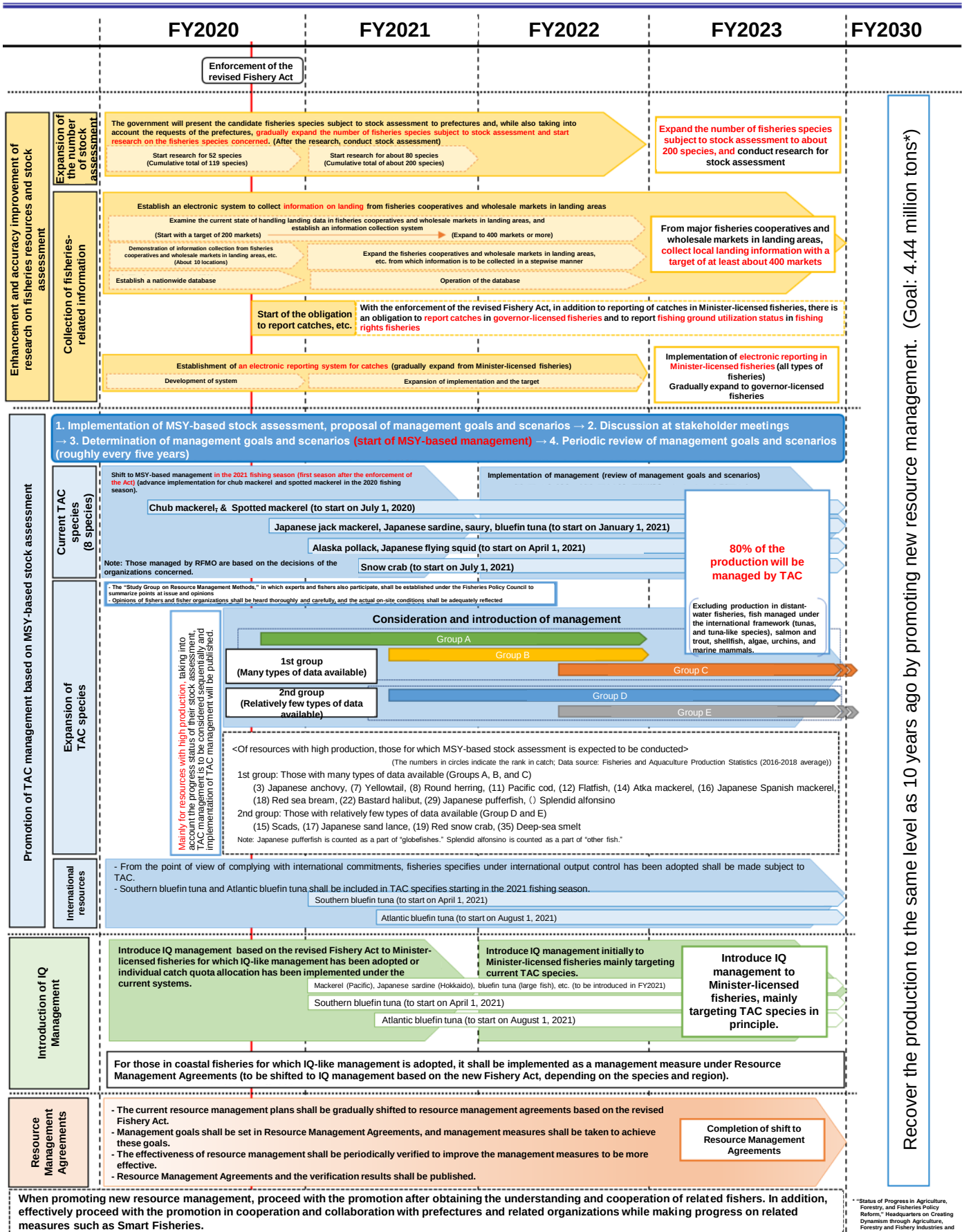
Image of Introducing IQ Management



iv. Pacific Bluefin Tuna Resource Management

- For Pacific bluefin tuna, with agreement of the Western and Central Pacific Fisheries Commission (WCPFC), the catch limit was set for large fish (30 kg or more) and small fish (less than 30 kg) and the TAC was distributed among divisions controlled by the Minister and prefectures.
- Regarding recreational fishing, for the period from June 1, 2021 to May 31, 2022, gathering and catching of small fish is prohibited and when large fish are gathered or caught, fishers are obligated to report the number and weight of fish and the fishing area where they are caught to the Fisheries Agency.
- In recreational fishing, a risk has arisen that the reported number of larger fish caught may exceed the level initially expected and resource management, including fishers, may be obstructed. Therefore, gathering or catching large fish is also prohibited for the period from August 21, 2021 to May 31, 2022.

Roadmap for Promoting the New Resource Management



Recover the production to the same level as 10 years ago by promoting new resource management. (Goal: 4.44 million tons*)

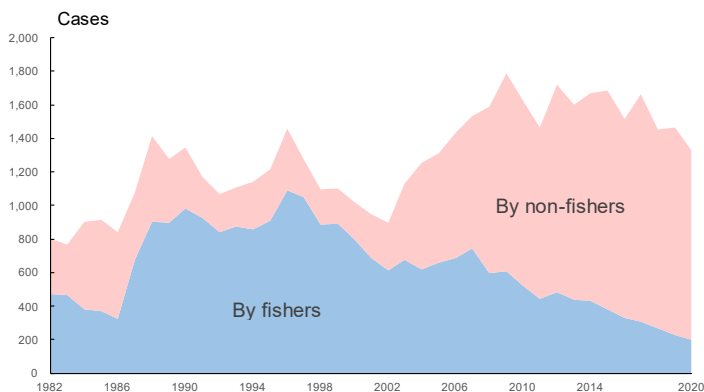
*Status of Progress in Agriculture, Forestry, and Fisheries Policy Reform, Headquarters on Creating Dynamism through Agriculture, Forestry and Fishery Industries and Local Communities (28th)

(3) Approaches to Practical, Effective Resource Management

i. Prevention of Poaching and Fishery Control in Coastal Areas of Japan

- The number of arrests for violation of fisheries laws and regulations was 1,426 in 2020 (of which 1,368 in coastal waters and 58 in inland waters). The number of poachings conducted by non-fishers has increased and become more aggressive and sophisticated.
- Based on the new Fishery Act, abalones, sea cucumbers, etc. are designated as “Specified Aquatic Animals and Plants,” and the gathering or catching of them is prohibited in principle, except for gathering or catching based on a fishery right or permission. A person who violates the prohibition is punished by imprisonment with work for not more than three years or a fine of not more than thirty million yen. The same penal provision applies also to a person who transports, retains, or acquires specified aquatic animals and plants knowing that they have been illegally gathered or caught.

Trends in the Number of Arrests for Violation of Fisheries Laws and Regulations in Japan's Marine Regions



Source: Prepared by the Fisheries Agency

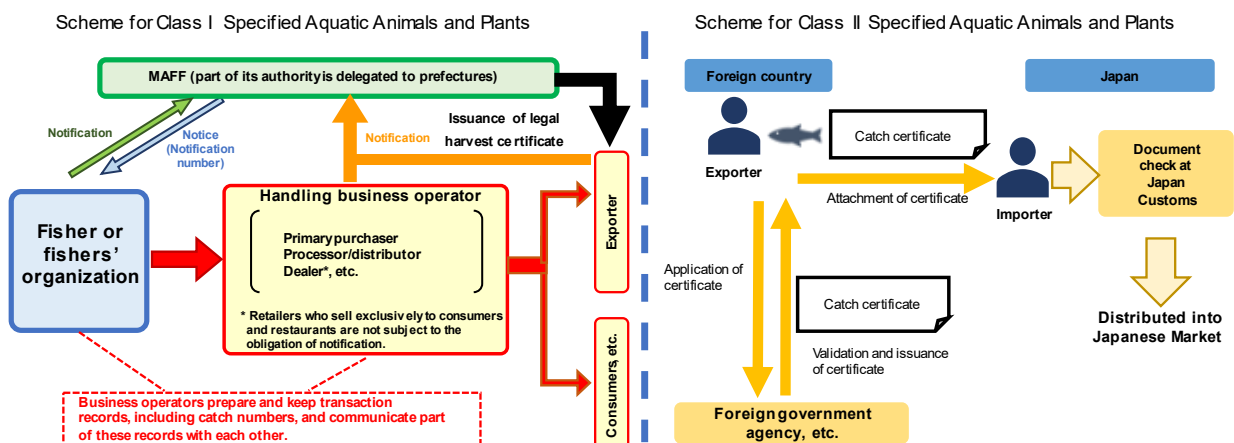
Outline of Strengthened Punishment Based on the New Fishery Act

	Violation of prohibition on gathering or catching Acceptance of poached products	Fishing without a license	Infringement of a fishery right
Before the revision		Imprisonment with work for not more than three years A fine of not more than two million yen	A fine of not more than 200,000 yen
After the revision	Imprisonment with work for not more than three years A fine of not more than 30 million yen	Imprisonment with work for not more than three years A fine of not more than three million yen	A fine of not more than one million yen

ii. Introduction of the Scheme for Proper Distribution of Fishery Products against IUU Fishing

- In 2020, Act on Ensuring the Proper Domestic Distribution and Importation of Specified Aquatic Animals and Plants was established, with the aim of preventing laundering of illegally gathered or caught fish and fishery products into the distribution channel. The Act shall require notification by fishers, etc. who handle specified aquatic animals and plants to the relevant administrative organization, communication of catch numbers, and preparation and keeping of transaction records.
- The Act is scheduled to enter into force in December 2022. Towards smooth implementation of the scheme, information about the scheme is being widely disseminated and promoted through utilization of briefing sessions, posters, and leaflets, etc.

Outline of the System for Proper Distribution of Fisheries Products

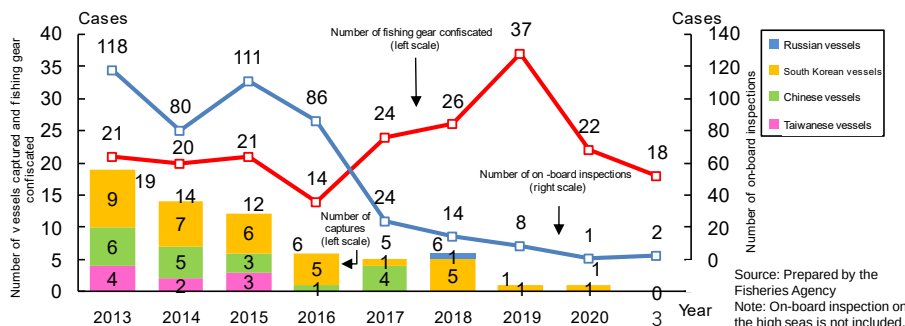


Note: There are penalties against violation of the obligations of notification, communication, transaction record, attachment of certificate for import/export, and others.

iii. Monitoring and Inspection of Foreign Fishing Vessels

- In 2021, the Fisheries Agency conducted two on-board inspections and the number of confiscations of illegal fishing gear totaled 18.
- Cross-border fishing by Chinese and North Korean fishing vessels around the Yamato bank of the Sea of Japan, is not only illegal, but also obstructs safe operation by Japanese fisheries, and is therefore quite problematic. The Fisheries Agency conducts enforcement activities by fisheries inspection vessels with a focus on that area, and responds in cooperation with the Japan Coast Guard. In 2021, the Fisheries Agency issued expulsion orders to 582 Chinese fishing vessels in total.

Trends in the Number of Foreign Fishing Vessels Captured or Inspected, etc.



Fisheries inspection vessel of the Fisheries Agency forcing a Chinese fishing vessel to exit from Japan's EEZ

(4) Measures to Actively Enhance Fisheries Resources



- The government decided to implement juveniles release, etc. as part of resource management and prioritize it by: 1) conducting stock assessment for releases on which it has been done in the past, and no longer does it on those that have achieved the objectives of resource creation/development or for which the effectiveness is not recognized; and 2) for the highly effective resource creation/development methods and the fisheries species covered, properly sharing the roles with prefectures and for widely migratory fisheries species such as bastard halibut and Japanese pufferfish, promoting the initiatives in which multiple prefectures jointly release juveniles.
- Stocks of salmon (chum salmon) have declined in recent years due to the low return rate of released juvenile fish. It is also pointed out that changes in marine environments due to climate change also affect the survival of juvenile fish after reaching the sea. The government is therefore providing support for the initiatives to improve the release methods to respond to the environmental changes.

(5) Trends in Fishing Ground Environments



i. Promotion of Preservation and Recovery of Seaweed Beds and Tidal Flats and Improvement of Fishing Ground Environments

- It is important to raise the productivity of the entire ecosystem by preserving seaweed beds and tidal flats and recovery of their functions. The national government promotes wide-area measures that combine the creation of seaweed beds and tidal flats by local governments and the conservation activities of fishers and others.
- Growth of marine algae and multiplication of zooplankton and phytoplankton that are food for fish and bivalves, etc. require nutrient salts such as nitrogen and phosphorus supplied from the land and the bottom of the sea, etc. Nutrient salts are decreasing in some sea areas, and in the Seto Inland Sea, the nutrient salt management system that enables supply and management of nutrient salts was introduced by the "Act on Special Measures Concerning Conservation of the Environment of the Seto Inland Sea," revised in June 2021.
- To rejuvenate the Ariake Sea and Yatsushiro Sea, etc., measures such as conservation/improvement of environment and rejuvenation of fisheries resources are taken based on the Act on Special Measures Concerning Rejuvenation of Ariake Sea and Yatsushiro Sea, etc.

Column**Damage to Fisheries along the Hokkaido Pacific Coast**

Red tide started appearing along the Hokkaido Pacific coast around mid-September 2021 and the damage to the fisheries of sea urchin and salmon, etc. happened. The government, in cooperation with Hokkaido prefecture and research institutions, has been supporting the development of wide-area monitoring technologies, the development of a method to predict the occurrence of red tide by elucidating its mechanism, the research on the toxicity of the plankton causing red tide to aquatic organisms, and the initiatives to restore fishing grounds, etc.



A large number of sea urchins that died at the bottom of the sea



Salmon with white gills that is presumed to have died from a lack of oxygen

(Photo provided by Hokkaido)

ii. Impact of Climate Change and Countermeasures

- Climate change affects fisheries resources and fisheries/aquaculture through rising sea water temperatures due to global warming. It has caused bountiful catches of Yellowtail in Hokkaido prefecture, and a northward shift of the distribution area of Japanese Spanish mackerel and spawning beds of chub mackerel.
- As mitigation measures for climate change, initiatives toward carbon neutrality are also promoted in the fisheries sector, including electrification of fishing vessels, conversion to hydrogen fuel cells, and exploring the potential of blue carbon (carbon stored in marine ecosystems) as a carbon sink.
- As an adaptive measure, development of the method of releasing juvenile salmon that can adapt to changes in marine environments and aquaculture species with tolerance to high temperature are promoted.

iii. Plastic Litter in the Ocean

- Marine plastic litter affects not only the environment and ecosystems, but also fisheries operations, such as by intermixing with fish catches.
- There are several measures taken by the Fisheries Agency, such as: 1) formulating guidelines to promote well-planned disposal of used fishing gear; 2) considering development of fishing gear that uses environmentally friendly materials and promoting recycling; 3) promoting the bringing back of marine litter by fishers; and 4) researching the impact of microplastics on marine organisms, etc.



Prototype and demonstration of floats using marine biodegradable plastics
(Photo provided by the Clean Sea and Beach Foundation)

(6) Damage to Fisheries Caused by Wildlife and Mitigation Measures

- Reports have come out about damage to fisheries caused by wildlife such as Steller sea lions and *Asciidiella aspersa*. The government provides support investigate and collect information on the status of the wildlife, development of technologies to reduce damage, and capturing measures.
- The cost of damage to fisheries caused by Steller sea lions was reduced from about 2 billion yen in FY2013 to about 0.55 billion yen in FY2020.
- The government is promoting measures to address feeding damage by great cormorants and largemouth bass in inland waters.

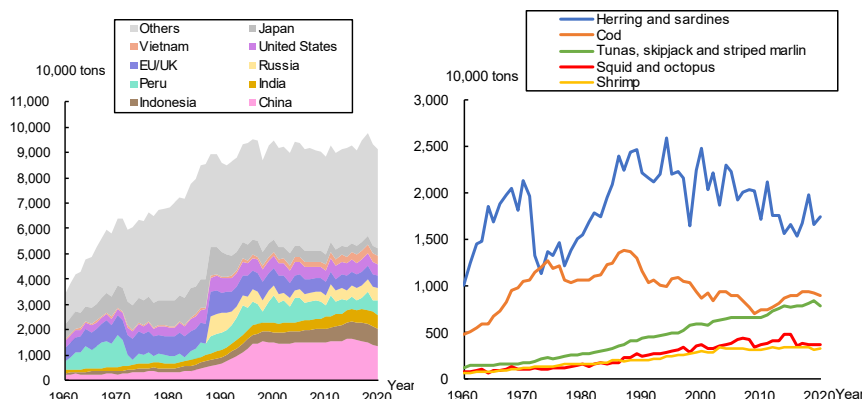


Feeding damage to catches by Steller sea lions

(1) Production of World Fisheries and Aquaculture

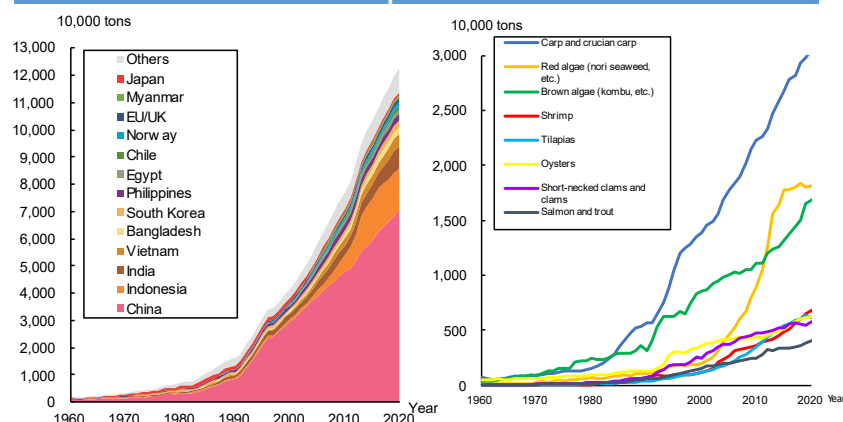
- In developed countries and regions including the EU/UK, the United States, and Japan fishery catches have remained almost flat or seen a declining trend. In contrast, it has increased in developing countries, including Indonesia and Vietnam.
- By fisheries species, herring and sardine account for the largest portion, at 19%. Tuna, skipjack, striped marlin, and shrimp are on an increasing trend over the long term.
- The ratio of world fisheries resources being caught within sustainable levels is on a gradually decreasing trend, and was 66% in 2017. 34% were therefore overfished.
- The aquaculture yield has been significantly increasing in China and Indonesia.
- By fisheries species, carp/crucian carp, and algae have the largest share, and their increases have been significant in recent years.

Trends in World Fisheries Catch by Country and by Fisheries Species



Source: Prepared by the Fisheries Agency, based on the Fishstat (Global capture production) (FAO) (other than Japan) and the Fisheries and Aquaculture Production Statistics (the Ministry of Agriculture, Forestry and Fisheries) (Japan)

Trends in World Aquaculture Catch by Country and by Fisheries Species

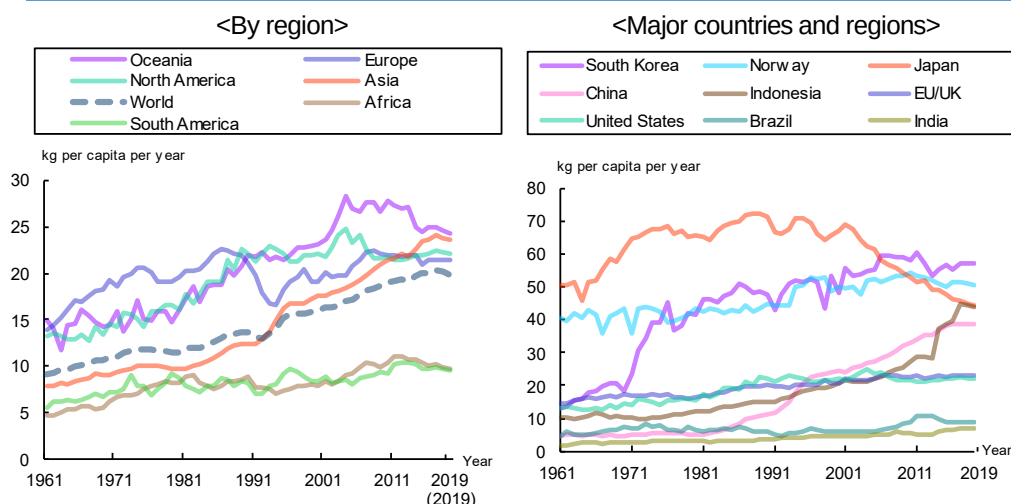


Source: Prepared by the Fisheries Agency, based on the Fishstat (Global aquaculture production) (FAO) (other than Japan) and the Fisheries and Aquaculture Production Statistics (the Ministry of Agriculture, Forestry and Fisheries) (Japan)

(2) World Consumption of Fish and Fishery Products

- The world's annual per-capita consumption of fish and fishery products as food nearly doubled in 50 years, whereas Japan's annual per-capita consumption of them has fallen to the level of about 50 years ago.

Trends in the World's Annual Per-Capita Consumption of Fish and Fishery Products as Food (gross food based)

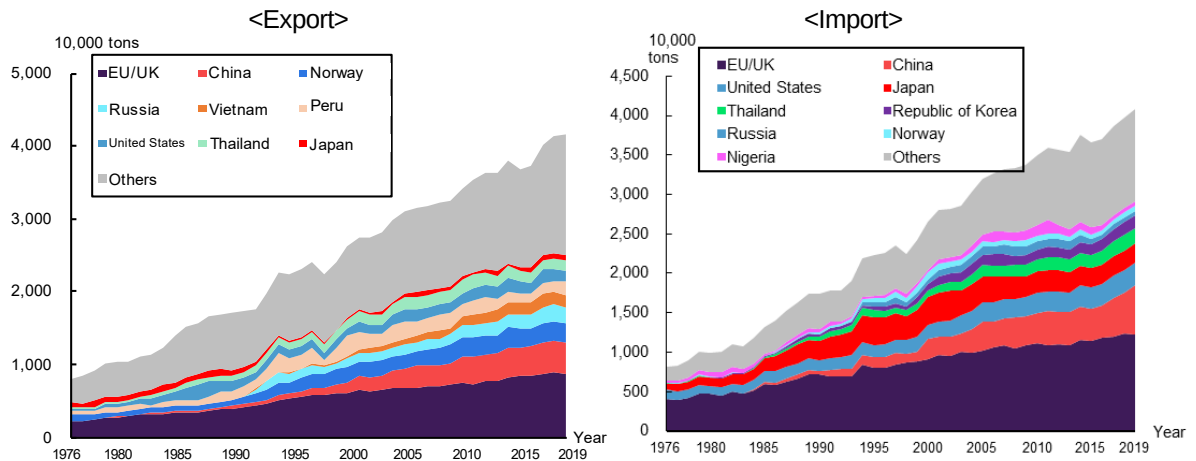


Sources: FAOSTAT (Food Balance Sheets) (FAO) (other than Japan) and Food Balance Sheet (The Ministry of Agriculture, Forestry and Fisheries) (Japan)
Note: "Gross food" refers to the quantity of fish and fishery products for human consumption, including disposal volume.

(3) International Situation Surrounding the World Trade of Fish and Fishery Products

- Global trade volume of fish and fishery products has increased with the growing demand for them. At least 30% of the world's fisheries and aquaculture production is for export.
- Establishment of disciplines on fisheries subsidies has been discussed in the WTO rule negotiations. Japan's position is that prohibited fisheries subsidies should be limited to subsidies that truly cause overcapacity and overfishing.
- The RCEP, in which Japan, ASEAN member countries, Australia, China, Republic of Korea, and New Zealand participate, has come into effect.

Trends in the Trade Volumes of Fish and Fishery Products



Source: Prepared by the Fisheries Agency, based on the Fishstat (Global fish trade) (FAO)

Note: The volume of EU imports and exports includes the volume of trade within the EU.

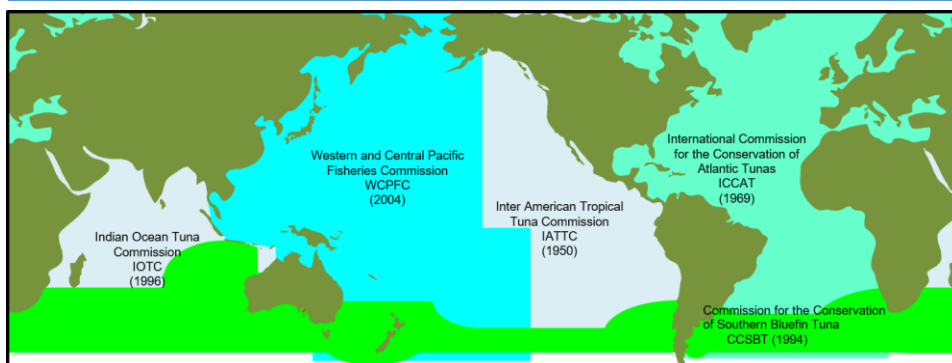
(4) International Resource Management

i. Trends in Tuna Regional Fisheries Management Organizations



- The global tuna and tuna-like species resources are managed by five regional fisheries management organizations (RFMOs), and Japan is a member of all of them.
- The 2021 annual meeting of the Western and Central Pacific Fisheries Commission (WCPFC) agreed on the following for Pacific bluefin tuna: 1) increase the catch limit of big fish to 15%, 2) extend the measure to increase the upper limit of the carry-over ratio of underused catch limit from 5% of the catch limit to 17% for three years, 3) create a measure to allow the transfer of catch limits of smaller fish to that of larger fish to be a continuing measure and allow the transfer by converting the catch limit of larger fish to 1.47 times that of smaller fish, with the upper limit set to 10% of the catch limit of smaller fish for the next three years.

Tuna Regional Fisheries Management Organizations (tRFMOs) and Waters Covered

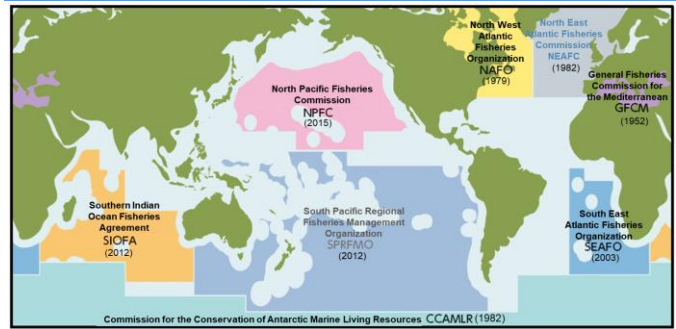


Note: The years in parentheses are the years in which the relevant treaties take effect.

ii. Trends in Regional Fisheries Management Organizations for Pacific Saury, Chub Mackerel, etc.

- The North Pacific Fisheries Commission (NPFC) manages fishery resources on the high seas of the North Pacific, such as Pacific saury, chub mackerel, and North Pacific armorhead.
- The 2021 annual meeting agreed to set a TAC of saury on the high seas at 198,000 tons for 2021 and 2022 (40% reduction from 2020) and that member countries shall reduce their TAC on the high seas by 40% from the catch in 2018.

Major Regional Fisheries Management Organizations Managing Other Resources than Tuna and Skipjack, and Waters Covered



- Notes: 1) Currently, Japan is neither a member of the SPRFMO nor of the NEAFC. Japan withdrew from the GFCM in 2020.
2) The years in parentheses are the years in which the relevant treaties take effect.

iii. Developments Toward Eliminating IUU Fishing

- Regional fishery management organizations have been promoting initiatives toward preventing, deterring, and eliminating IUU fishing* internationally and have established a list of fishing vessels and carriers that have engaged in IUU fishing and the use of the catch documentation scheme.
- Consultations with relevant countries and regions have been held as attachment of certificates issued by a foreign government agency, etc. shall be required when fish and fishery products under high risk of IUU fishing are imported, based on the Act on Ensuring the Proper Domestic Distribution and Importation of Specified Aquatic Animals and Plants established in December 2020.

(*) IUU fishing: Illegal, Unreported, and Unregulated fishing

iv. Bilateral Relations in Fisheries

- Due to the relationship between the Japanese and Russian governments, fishing vessels of both the countries are operating under conditions decided through negotiations.
- The Japanese and Korean governments have not reached agreement about operation conditions for mutual fishing access, and therefore mutual consultations are still underway.
- The Japanese and Chinese governments have not reached agreement about operation conditions for mutual fishing access, and therefore mutual consultations are still underway. To prevent illegal cross-border fishing by Chinese and other fishing vessels around the Yamato bank in the Sea of Japan, the Fisheries Agency deploys fisheries inspection vessels with a focus on that area, and responds in cooperation with the Japan Coast Guard.
- Japan and Taiwan continue the operation rule of the previous year (2020).
- In the EEZs of the Pacific Island countries, the severity of fishing conditions continues to increase due to fishing fee hikes, establishment of marine protection areas, and the like. Efforts are being made to secure stable overseas fishing grounds through overseas fishery cooperation, etc.



(5) Developments Concerning Whaling

- Japan withdrew from the International Convention for the Regulation of Whaling (ICRW) at the end of June 2019, and resumed commercial whaling of large whales in July of the same year.
- Necessary measures are being taken based on the “Basic Policy of Measures for Ensuring the Sustainable Use of Whales” formulated in October 2020.
- Scientific research on whales will continue to take place, including cooperation with international organizations such as the International Whaling Commission (IWC), to contribute to the management of whale stocks based on scientific knowledge.

Species Subject to Whaling, Catch Quota, and Number Caught (2021)

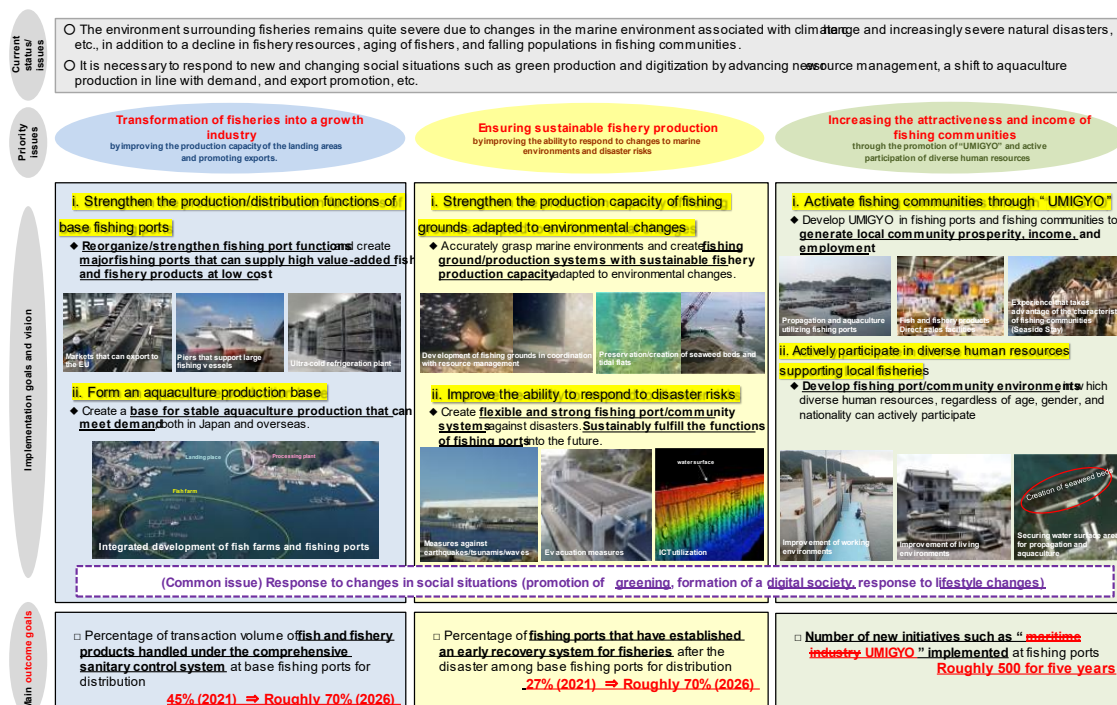
	Mother-ship whaling		Shore-based whaling	
	Bryde's whale	Sei whale	Minke whale	Baird's beaked whale
Catch quota	187	25	120	76
Number of whales caught	187	25	91	33
Reserved by the Fisheries Agency	0	0	14	0

(1) New Long-term Plan for the Development of Fishing Ports and Fishing Grounds



- A new Long-term Plan for the Development of Fishing Ports and Fishing Grounds is a five-year plan to be established based on the “Act on Development of Fishing Ports and Grounds” in order to promote the development of fishing ports and fishing grounds in a comprehensive and planned manner.
- The priority issues of the new Long-term Plan for the Development of Fishing Ports and Fishing Grounds decided by the Cabinet in March 2022 include: 1) transforming fisheries into a growth industry by improving the production capacity of the landing areas and promoting export; 2) ensuring sustainable fisheries production by improving the ability to respond to changes to marine environment and disaster risks; and 3) increasing the attractiveness and income of fishing communities through the promotion of “UMIGYO” and active participation of diverse human resources.

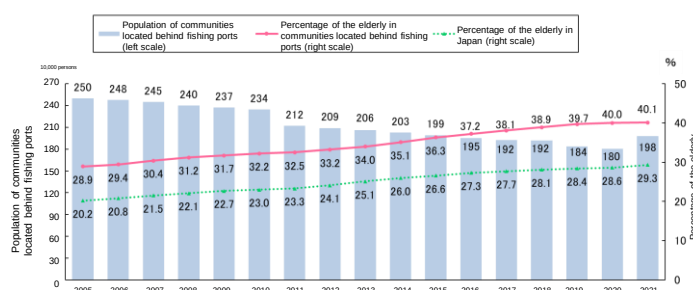
Key Points of the New Long-term Plan for the Development of New Fishing Ports and Fishing Grounds



(2) Current Status and Role of Fishing Communities

- Many fishing communities are situated in advantageous locations for fishery production but are vulnerable to natural disasters. The population is rapidly aging and decreasing, with the percentage of the elderly at 40%.
- The fisheries industry and fishing communities fulfill multifaceted functions such as: 1) conserving the natural environment; 2) safeguarding the lives and property of the public; 3) providing exchange opportunities; and 4) developing and maintaining local communities.
- The government supports conservation of seaweed beds and tidal flats, maintenance, conservation, and improvement of inland water ecosystems, and efforts by fishers and others to contribute to the fulfillment of multifaceted functions such as marine rescue, and border and water monitoring.

Population and Percentage of the Elderly in Communities Located Inland from Fishing Ports



Source: Prepared by the Fisheries Agency (population and percentage of the elderly in communities located behind fishing ports), and “Population Estimates” (percentage of the elderly in Japan); the figures for the years in which a census was taken are based on census population (the Ministry of Internal Affairs and Communications)

Note: The population of communities located behind fishing ports and their percentages of the elderly for 2011-2020 do not include data on three prefectures (Iwate, Miyagi, and Fukushima).

(3) Development of Safe Fishing Communities Where People Can Live in Peace



- To prepare for the great damage caused by large-scale earthquakes/tsunamis and increasingly severe and frequent natural disasters, it is necessary to promote advance disaster prevention/mitigation measures in fishing ports and fishing communities. Multiple protective measures for fishing communities using breakwaters and seawalls, the construction of tsunami-resistant breakwaters and seawalls, the preparation of evacuation routes have been promoted.
- Infrastructure such as fishing port facilities is aging. The government promotes measures to address aging infrastructure based on plans that incorporate measures for preventive maintenance.

Column

Floating and Drifting of Pumice Stones due to the Eruption of the Fukutoku-Okanoba Submarine Volcano

In August 2021, submarine eruption of Fukutoku-Okanoba (a marine volcano in the Ogasawara Islands, located approximately 50 km south of Iwo Island) was confirmed. The ejecta from the eruption formed a new island 1 km in diameter, and large amounts of floating substances such as pumice stones were observed on the sea surface around the volcano.

These large amounts of pumice stones headed eastward with the ocean current, and from early October, started arriving at the islands of Okinawa and Amami one after another, drifting to the fishing ports and causing engine problems in fishing vessels. This affected fisheries because many fishers in Okinawa and Kagoshima Prefectures had to refrain from operations due to the pumice stones floating offshore. Furthermore, some expressed concern about the impact on the fishing ground environment in the future.

From late November, floating/drifting pumice stones were also observed in the Izu Islands. In the areas on the Pacific side of Honshu, including Kanto, many fishing port managers installed/prepared oil fences to prevent pumice stones from entering fishing ports.

The pumice stones that floated and drifted to Okinawa and Kagoshima Prefectures seriously obstructed navigation and mooring of vessels by drifting into navigation channels and anchorages in fishing ports. Therefore, fishing port managers made use of the disaster recovery program, etc. to collect, transport, and dispose of this debris. In addition, pumice stones also washed up on beaches, and not only fishing port managers, but also those concerned with fisheries and volunteers in local areas participated in the unified efforts of the region to collect them.

The Ports and Harbours Bureau of the Ministry of Land, Infrastructure, Transport and Tourism and the Fisheries Agency cooperated in compiling effective technologies for collecting drifting pumice stones, and the results were published and disseminated.

While progress has been made in work to collect pumice stones, disposal and utilization remain issues.



Fishing port of Hentona in Okinawa Prefecture: (Left) State of congestion due to floating/drifting of massive amounts of pumice stones (Middle) Port before pumice stone removal work (Right) Port after pumice stone removal work



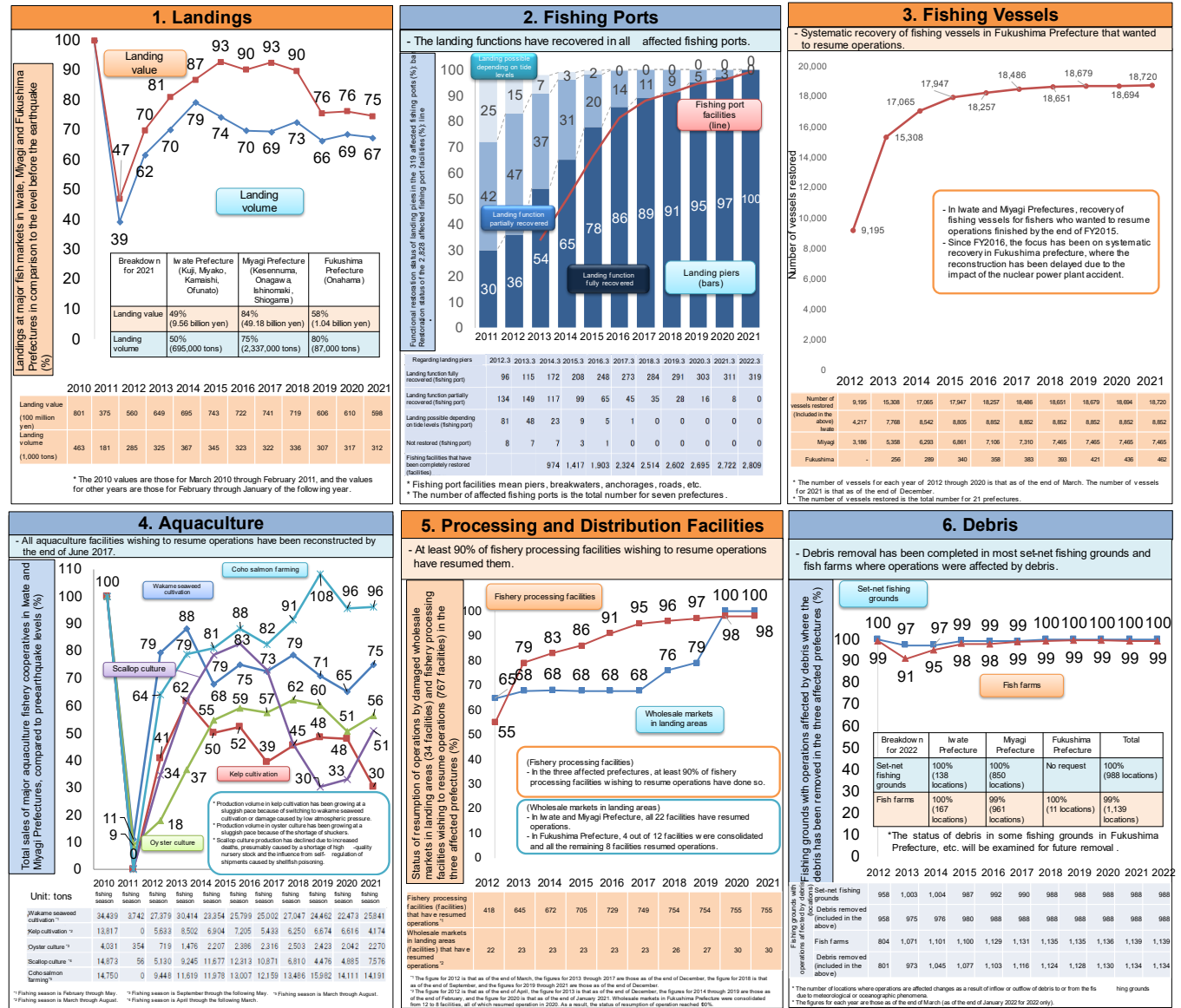
(4) Revitalization of Fishing Communities

- In order to revitalize fishing communities, it is important to fully understand and make the most of their local resources to increase the number of visitors and facilitate interaction.
- The government supports the activity of “Seaside Stay” which tourists can enjoy the traditional life experience and the interaction with people in the fishing communities.
- By the activities of Seashore Revitalization Plans and the Wide-Area Seashore Revitalization Plans, it is expected to be able to revitalize the fishing communities through the development of fisheries.
- Vacant water area and lands in fishing ports resulted from the functional reorganization and consolidation of fishing are utilized for aquaculture and factory-direct store selling fishery products, such as “UMIGYO”, and it will contribute to the revitalization of fishing communities.

(1) Conditions of the Restoration/Reconstruction from the Earthquake's Damage in the Fisheries Industry

- Since the Great East Japan Earthquake struck in March 2011, fishing port facilities, fishing vessels, aquaculture facilities, fishing grounds and other facilities had been restored in the affected areas. The government will continue work to restore and reconstruct the fisheries industry of the affected areas.
- Restoration of fishing port facilities and fishery processing-related infrastructure such as fishery processing facilities has mostly completed, but recovery of landing and sales in the fishery processing industry remains an issue.
- The government continues to support initiatives such as landing recovery by removing debris in fishing grounds, recovery/development of markets in the fishery processing industry, and switching of raw materials for processing.

Summary of Restoration/Reconstruction of the Fisheries Industry Following Great East Japan Earthquake (as of March 2022)

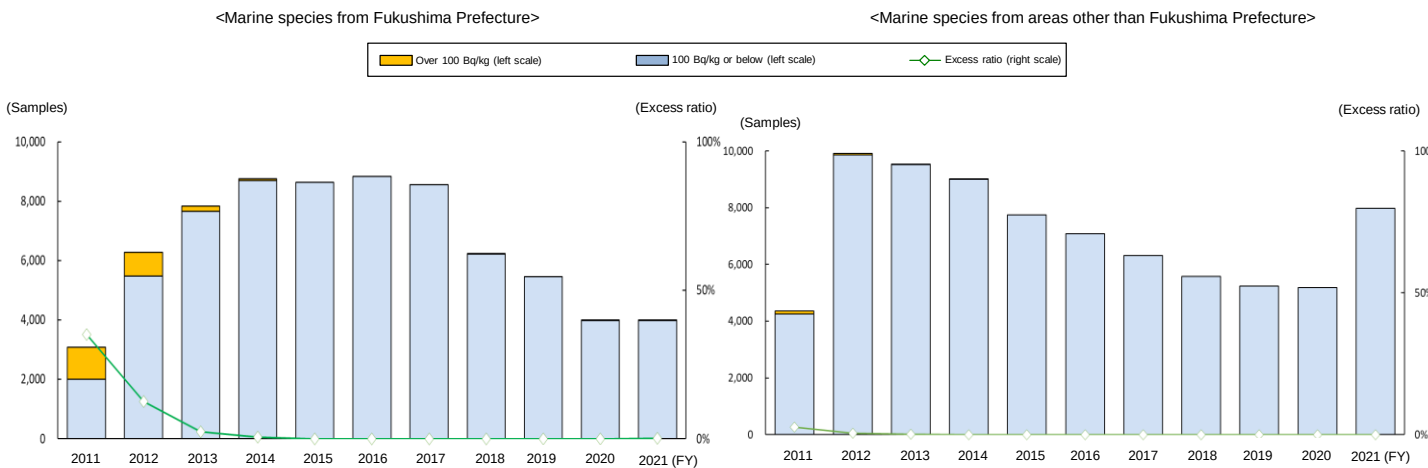


(2) Response to the Impact of the Accident at TEPCO's Fukushima Daiichi Nuclear Power Plant

i. Monitoring of Radioactive Materials in Fishery Products

- The national government, in cooperation with prefectural governments and fisheries cooperatives concerned, monitors radioactive materials in fishery products. The results are published.
- Distribution of fishery products whose radioactive material monitoring results exceed the Japanese maximum levels in food (JMLs) is prevented through the cooperation of the national government, related prefectural governments, and fisheries cooperatives. The number of samples exceeding the JMLs was two for marine species and two for freshwater species in Fukushima Prefecture in FY2021. Other than Fukushima Prefecture, there have been no marine species samples exceeding the JMLs since September 2014, and no freshwater species sample exceeded the JMLs in FY2021.

Monitoring Results of Radioactive Materials in Fishery Products (as of the End of March 2022)



ii. Handling of Advanced Liquid Processing System (ALPS)-Treated Water

- For the handling of water purified by ALPS (ALPS-treated water), the Basic Policy on handling of ALPS treated water at the TEPCO's Fukushima Daiichi Nuclear Power Station was decided in April 2021 by the government as a whole on the premise of ensuring safety and thorough implementation of measures against reputations. Subsequently, Report on the Interim Measures for the Handling of ALPS Treated Water at TEPCO's Fukushima Daiichi Nuclear Power Station in August, and an action plan was formulated in December.
- The government aims for full-scale reconstruction of fisheries in the affected areas and makes unified efforts to develop an environment in which fishers across the country can operate fisheries with a sense of security. This is done by conducting new monitoring inspections of fish and fishery products for tritium and making sure to take thorough measures at each stage of production, distribution, processing, and consumption.

iii. Mitigating Reputational Damage and Response to Import Restrictions in Foreign Countries and Regions

- The Fisheries Agency monitors radioactive materials in fishery products, and publishes the results to consumers in a timely manner. It also posts a Q&A on its website so that consumers can get correct information and easily understand it.
- The monitoring results are published in English, Chinese, and Korean, and are used to lobby governments for the elimination of import restrictions. As a result, 42 out of the 54 countries and regions that had continued to impose restrictions on fishery product imports had withdrawn their import restrictions by the end of March 2022.
- The government will take various opportunities to further encourage countries and regions that are continuing import restrictions to promptly lift them.

(Appendix) Main KPIs for Fisheries Policy

Sector	KPI	Status of progress (as of the end of 2021)	Plans in which KPIs are stated
Fisheries	Aims to recover the production to the same level as 2010 (4.44 million tons) by FY2030 (Reference: Production in 2018 was 3.31 million tons)	The production (excluding marine algae and marine mammals) in 2020 was 3.17 million tons, which was 71% of the goal.	Strategy for Sustainable Food Systems: MeaDRI (formulated in May 2021), Roadmap for Promoting the New Resource Management (decided in September 2020)
Aquaculture	Aims to achieve the artificial juveniles rate of 100% for aquaculture of Japanese eel and bluefin tuna, etc. and establish a sustainable aquaculture system without any burden on natural resources by switching all fish feed to formula feed by 2050.	The artificial nursery stock rate (eel, bluefin tuna, great amberjack, and yellowtail) in 2019 was 2.8%. The rate of formula feed in 2021 was 45%.	Strategy for Sustainable Food Systems: MeaDRI
Aquaculture	Aims to achieve the following production volume for strategic aquaculture items by 2030. - Yellowtail: 240,000 tons - Red sea bream: 110,000 tons - Bluefin tuna: 20,000 tons - Salmon and trout: 30-40,000 tons - New fisheries species (groupers, etc.): 10-20,000 tons - Scallop: 210,000 tons (- Pearls (2027 goal): 20 billion yen)	The production volume in 2020 was as follows (% indicates comparison with the goal). - Yellowtail: 138,000 tons (57%) - Red sea bream: 66,000 tons (60%) - Bluefin tuna: 19,000 tons (93%) - Salmon and trout (coho salmon only): 17,000 tons - Scallops: 149,000 tons (71%) (- Pearls (2019): 16.2 billion yen (81%))	Comprehensive Strategy for the Transformation of Aquaculture Into a Growth Industry (formulated in July 2020, revised in July 2021)
Export	Aims to increase the export value of fish and fishery products to 0.6 trillion yen by 2025 and 1.2 trillion yen by 2030. (Of which the export value of priority export items in 2030 would be: - Yellowtails: 160 billion yen - Red sea bream: 60 billion yen - Scallops: 115 billion yen - Pearls: 47.2 billion yen)	The export value of fish and fishery products in 2021 was 301.5 billion yen, which was 25% of the 2030 goal.	The figures included in the goals for the export value of agricultural, forestry, and fishery products and food in the Basic Plan for Food, Agriculture and Rural Areas (decided by the Cabinet in March 2020) and the Basic Policy on Economic and Fiscal Management and Reform 2020/Follow-up on the Growth Strategy (decided by the Cabinet in July 2020); Comprehensive Strategy for the Transformation of Aquaculture into a Growth Industry
Entire fisheries industry	FY2032 Goals for the self-sufficiency rate of fish and fishery products: - Fish and fishery products for human consumption: 94% - Overall fish and fishery products : 76% - Marine algae: 72%	The self-sufficiency rate of fish and fishery products in FY2020: - Fish and fishery products for human consumption: 57% - Overall fish and fishery products : 55% - Marine algae: 70%	Basic Plan for Fisheries (decided by the Cabinet in March 2022)
Entire fisheries industry	Aims to establish technologies for electrification of fishing vessels and conversion to fuel cells, etc. by 2040.	Demonstration of fishing vessels using hydrogen fuel cells is planned in order to establish this technology.	Strategy for Sustainable Food Systems: MeaDRI

Structure of "FY2022 Fisheries Policy"

Overview

Focus of measures, fiscal measures, tax measures, financial measures, and policy assessment

I. Steady implementation of fisheries resource management, taking into account changes in marine environments

- Enhancement of research on resources and stock assessment
- Steady promotion of new resource management
- Enhancing fisheries enforcement and surveillance capability /poaching monitoring system
- Adaptation to changes in marine environments

II. Realization of transformation of fisheries into a growth industry, taking increasing risks into account

- Structural reform of fisheries
- Transformation of aquaculture into a growth industry
- Business management stabilization measures
- Export expansion and development of fishing ports and fishing grounds to support transformation of fisheries into a growth industry
- Inland water fisheries/aquaculture
- Human resource development
- Work safety measures

III. Promotion of activation of fishing communities that support the region

- Fishing community revitalization/activation
- Restoration/strengthening of management foundation of fishery cooperative organizations
- Development of measures for processing, distribution, and consumption
- Fulfilment of multifaceted functions of fisheries and fishing communities
- Conservation of fishing ground environments and maintenance of ecosystems
- Measures for disaster prevention/mitigation and building national resilience

IV. Measures to be promoted in a cross-sectoral manner for sustainable development of fisheries

- Strategy for Sustainable Food Systems: MeaDRI and fisheries policy
- Utilization of smart fishery technologies
- Carbon neutrality
- Measures against COVID-19 infection

V. Restoration/reconstruction from the Great East Japan Earthquake and overcoming the impact of the nuclear power plant accident

- Steady restoration/reconstruction in the earthquake/tsunami affected areas
- Overcoming the impact of the nuclear power plant accident in nuclear disaster-affected areas

VI. Requirements for the Comprehensive and Systematic Promotion of the Fisheries Policy

- Efficiently promoting measures through collaboration among relevant ministries and agencies
- Management and assessment of the progress of measures
- Implementing measures from a public point of view, taking into account the needs of consumers and the public
- Compiling and enhancing the use of statistics in line with policy needs
- Helping business owners and producers become independent and demonstrate originality and ingenuity
- Taking fiscal measures in an efficient and focused manner