

## (2) Utilization of Fisheries Schools and Helping New Entrants Stay in Fisheries through Matching Up

- The government continues to promote the initiatives of fisheries schools located nationwide to develop new entrants into fisheries.
- It is also important to help new entrants stay in the job by matching up employers and job seekers to enable them to communicate with each other. The national government also supports such initiatives.

## (3) Development of Human Resources in the Distribution and Processing Field

- Graduates of fisheries universities most often take a job in the processing and distribution field, but they have little opportunity to learn skills related to fisheries business. Therefore, it is necessary to increase opportunities for them to participate in internships in coordination with relevant companies and receive education in practical fields, and thereby develop human resources that will be useful at work sites.

## (4) Empowerment and Active Participation of Women in the Fisheries Industry

- Women play an important role in the work ashore after landing and in the fishery processing industry. The national government supports the development of facilities for helping women's activities, consisting of waiting rooms for children, test kitchens, etc. It also sets up the Ocean Treasure! Suisan-joshi Genki Project in November 2018 to back up the reform of fisheries work sites into a women-friendly environment and to increase the appeal of fishery jobs.



First meeting of the Ocean Treasure! Suisan-joshi Genki Project Promotion Council

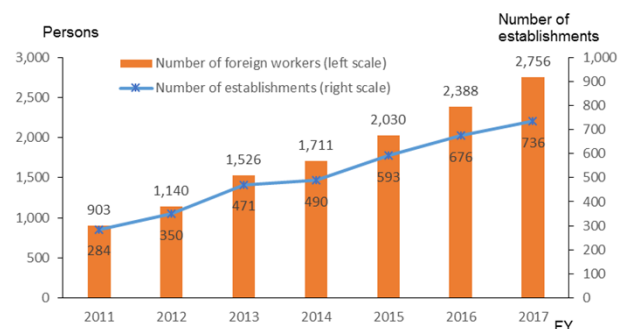
## (5) Revitalization of the Fisheries Industry through Active Information Gathering and Exchanges with Other Industries

- By actively gathering information that is useful for the fisheries industry, it is possible to achieve revitalization of the fisheries industry with originality and ingenuity. Also, active exchanges with other industries contribute to revitalizing the fisheries industry and the community as a whole. It is important to develop human resources that have such broad vision in the future.

## (6) Foreign Worker Trends

- In December 2018, the Act Partially Amending the Immigration Control and Refugee Recognition Act and the Act for Establishment of the Ministry of Justice was enacted, which newly enables the acceptance of work-ready foreign nationals who possess certain expertise and skills. Foreign nationals that satisfy certain criteria started to be accepted also in the fisheries field and the fishery processing industry from April 2019. The national government provides necessary support.
- The Technical Intern Training Program for Foreign Nationals aims to promote international cooperation by transferring technologies, etc. to developing areas through human resources development. In relation to the fisheries industry, technical intern training is provided for nine types of fisheries/aquaculture work and eight types of fishery processing work. The national government established the Fisheries Technical Intern Training Program Council, and strives to make technical intern training in fisheries/aquaculture appropriate, for example, by determining the treatment of technical intern trainees and setting up a system to protect them.

### Trends in the Employment Status of Foreign Nationals, Mainly Technical Intern Trainees in the Fisheries/Aquaculture Field



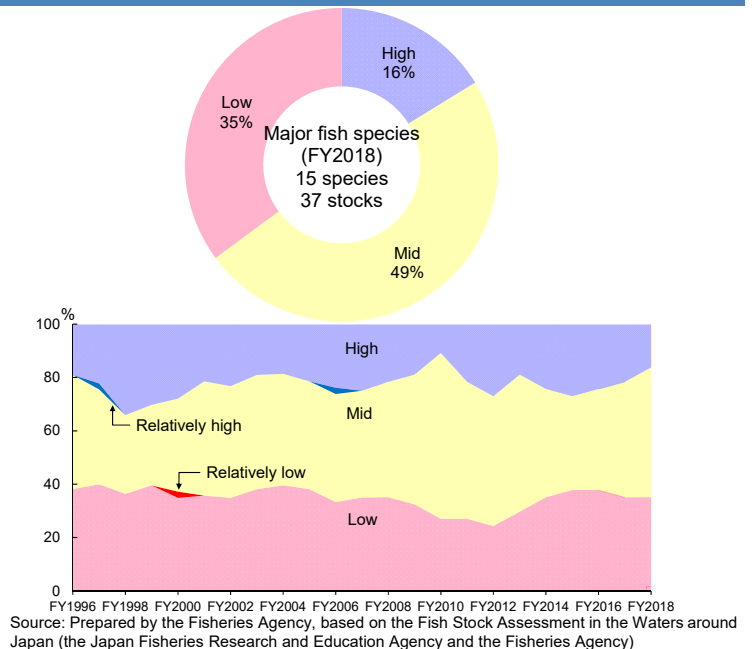
Source: Notification Status of Employment of Foreign Nationals (as of the end of October each year) (the Ministry of Education, Culture, Sports, Science and Technology)

## Chapter III Trends in Japan's Fisheries Since FY2017

### Section 1 Trends in Fisheries Resources and the Fishing Ground Environment (1) Fisheries Resources in the Waters around Japan

- In the management of fisheries resources, it is indispensable to estimate the resource abundance, levels, and trends through stock assessment, and, based on the results of such assessment, to take appropriate management measures.
- The new Fishery Act provides that efforts be made to conduct stock assessment of all useful fisheries resources by carrying out resources study for collecting necessary information.
- The results of the FY2018 stock assessment in the waters around Japan (for 84 stocks of 50 species) show that resource levels are high in 14 stocks, moderate in 29 stocks and low in 41 stocks.
- As for major 37 stocks of 15 species closely linked to the lives of people, resource levels are high in 6 stocks, moderate in 18 stocks and low in 13 stocks.

#### Status and Trends in Resource Levels in the Waters around Japan (Major Species)

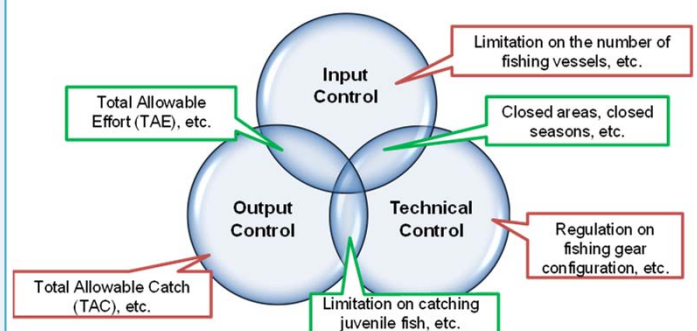


### (2) Japan's Fisheries Resource Management

#### a. Japan's Fisheries Resource Management System

- Techniques for resource management are primarily classified into 1) input control, 2) technical control, and 3) output control. A variety of methods are combined in Japan to properly manage resources, taking into account the characteristics of fisheries, the number of fishers, the status of targeted stocks, etc.
- The new Fishery Act provides that resources are basically to be managed on the basis of total allowable catch (TAC).
- The resource management in shellfish/seaweed collection, in set net fishing, and in aquaculture is conducted based on a fishing rights system whereas the resource management in offshore/distant water fisheries based on a fishing permit system.
- The TAC system has so far covered eight fish species.
- In the future, the TAC system will be implemented based on the new Fishery Act. The TAC is set in accordance with resource management targets such as the values of target resource levels to be maintained or restored for realizing the maximum sustainable yield.
- Under the new Fishery Act, fishing resource management based on the IQ method is to be conducted for fisheries or sea areas which are ready to introduce the IQ method, and the management of catch quantities in management categories that are not ready to introduce the IQ method is to be conducted on the basis of the total catch quantities in that category.

#### Correlation Between Resource Management Methods



## Illustration of Stereoscopic and Overlapping Use of the Sea Surface in Relation to Fisheries with Fishery Rights

Illustration of Fishing Operations (June)

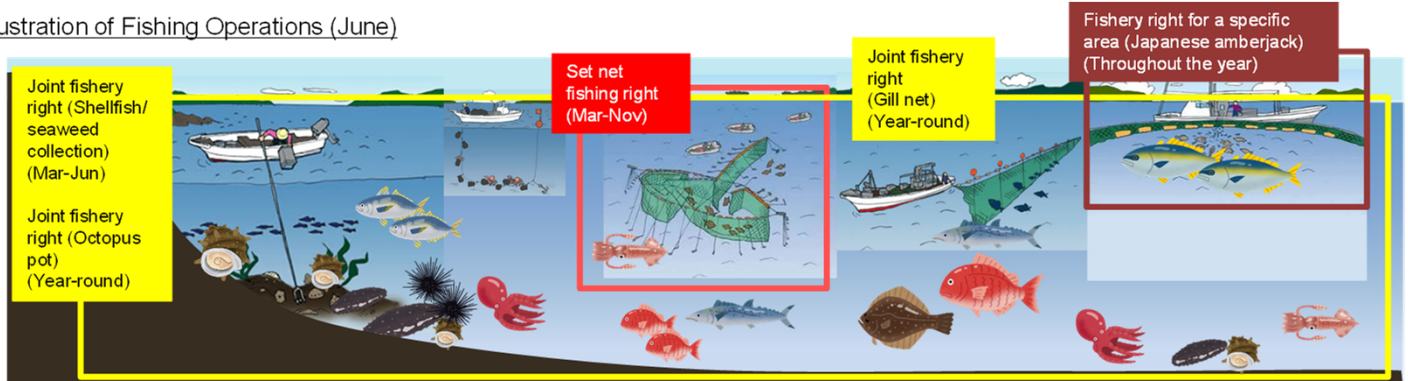
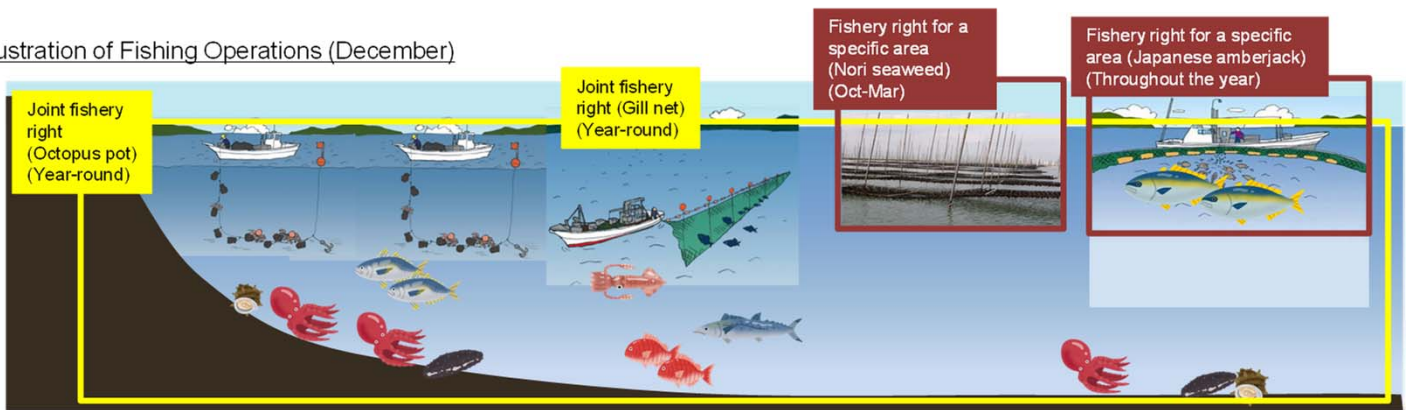


Illustration of Fishing Operations (December)



### b. Joint Management Based on a Resource Management Plan

- In Japan, not only statutory regulations but also fishers' voluntary resource management, which imposes limits on fishing periods, fish lengths, operating periods, fishing areas, etc., plays a key role in fisheries resource management.
- The national and prefectural governments set the "Resource Management Guidelines" from FY2011, based on which the groups of fishers develop and implement their own resource management plans. The "Resource Management and Income Stability Measure" is implemented for fishers who are systematically engaged in resource management.

### Outline of the Resource Management and Income Stabilization Measures

#### Resource management efforts

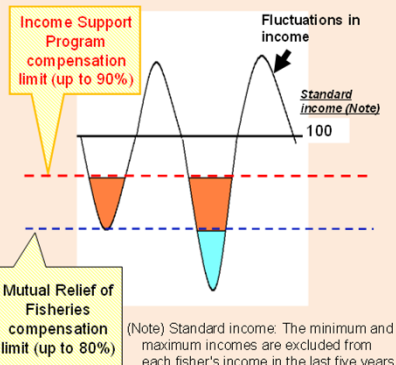
- In line with the Resource Management Guidelines prepared by the national and prefectural governments, fishers (organizations) shall develop and implement resource management plans that present voluntary resource management measures such as restrictions on catches and fishing gear.
- Fish farmers shall comply with the farming capacity specified in the aquaculture area improvement plan prepared by a fishery cooperative, etc., to improve and conserve fishing grounds based on the Sustainable Aquaculture Production Assurance Act.

#### Measures for stabilizing income in fisheries

Resource management efforts are supported by the Mutual Relief of Fisheries and the Income Support Program.

- ✓ In the case of income loss by a given value from the standard income<sup>(Note)</sup>, the loss is compensated with the Mutual Relief of Fisheries (up to 80%) or with the Income Support Program (up to 90%).
- ✓ Part of the premium of the Mutual Relief of Fisheries is supported by the government.

\* The government pays back to fishers the part of the deposits (made by fishers 1: government 3) of the Income Support Program and subsidizes 30% (average) of the mutual relief premium.



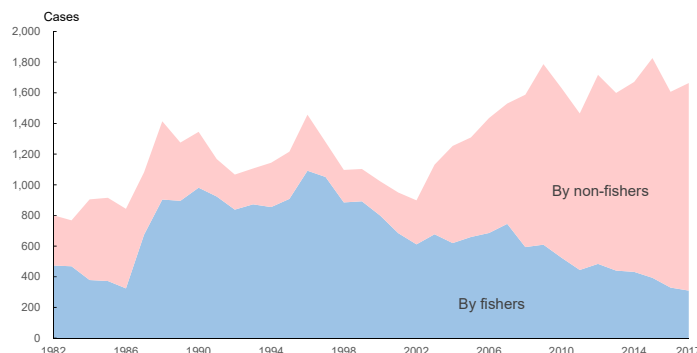


### (3) Approaches to Practical, Effective Resource Management

- Authorized fisheries supervisors are engaged in regulatory activities in cooperation with the coast guard and police officers while fishers belonging to fisheries cooperatives patrol fishing grounds, report illegal fishing, and implement measures to prevent poached catches from being distributed.
- The number of arrests for violation of fisheries laws and regulations stood at 1,834 in 2017 (1,731 in coastal waters and 103 in inland waters). The number of poachings conducted by non-fishers has increased. In particular, the poaching of reef resources, which is systematically conducted by antisocial forces, has become rampant.
- Under the new Fishery Act, the penal provisions were considerably strengthened, such as introducing penal provisions against persons who gather or catch specified aquatic animals and plants, in order to effectively cause disadvantage to offenders and prevent poaching.

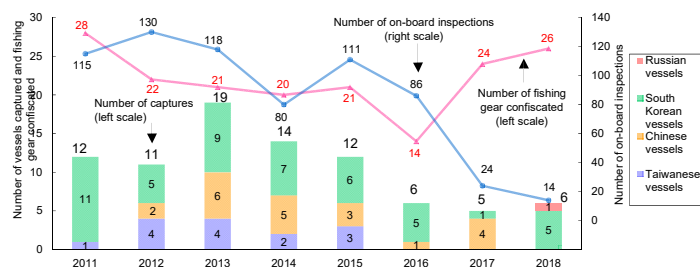
- In 2018, the Fisheries Agency conducted 14 on-board inspections and captured six foreign fishing vessels; and the number of confiscations of illegal fishing gear totaled 26.
- In waters surrounding Yamato Ridge of the Sea of Japan, illegal operations conducted by fishing vessels belonging to North Korea, etc. have been on the increase. In response, vessels for fishery inspection are deployed on a priority basis to remove illegal vessels by taking rigorous actions such as the use of water cannon.
- As a result, in 2018, the number of cases in which an expulsion warning, etc. was issued to foreign fishing vessels stood at 5,315.
- In order to deal with illegal operations conducted by foreign fishing vessels in the waters around Japan, the Fisheries Agency's "Fisheries Enforcement Headquarters" was established in January 2018, headed by the Director-General of the Fisheries Agency. The number of vessels for inspection (currently seven vessels) has started to be increased from FY2017, and is expected to become nine vessels in FY2021.
- Illegal operations will be strictly dealt with, for example, by conducting intensive surveillance in sea areas in which, and at times during which, illegal operations occur frequently.

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



Source: Prepared by the Fisheries Agency

#### Trends in the Number of Foreign Fishing Vessels Captured or Inspected



Source: Prepared by the Fisheries Agency



Japanese vessel for fishery inspection using a water cannon against a North Korean fishery vessel



Authorized fisheries supervisors entering a large Russian refrigerator trawler

## (4) Measures to Actively Enhance Fisheries Resources

- In each area, a seedling release program is in place to raise juvenile fish to certain sizes for release in order to actively increase resources.
- Such programs as the "Resource-creating Farming Fisheries," in which part of adult fish are conserved for the next generation reproduction, are promoted.
- The government has implemented the "Frontier Fishing Ground Enhancement and Development Project" that is to enhance offshore fisheries resources by constructing mound reefs, etc. These activities have been working well in the conservation and propagation of fisheries resources.
- Inland water fisheries cooperatives, meanwhile, are working on programs to release sweetfish/eel seedlings and set up spawning beds.
- With the amendment of the Fishery Cooperative Act, the qualifications for individual regular members of inland water fisheries cooperatives were unified between cooperatives for rivers and those for lakes, and "persons who reproduce aquatic animals and plants" were newly added to the qualification.

## (5) Trends in Fishing Ground Environment

- It is important to raise the level of productivity in the entire ecosystem through the conservation of seaweed beds and tidal flats and the recovery of their functions. Broad-based conservation measures have been promoted by combining local governments' development of seaweed beds/tidal flats with fishers' conservation of seaweed beds/tidal flats.
- In fish farms, fisheries cooperatives, etc. formulate "Fishing Grounds Area Improvement Plans". Improvement of the fish farm environment has been promoted with support based on the "Resource Management and Income Stability Measure".
- Since it has been pointed out that the decline, etc. of nutritive salts including nitrogen and phosphorus is potentially reducing the primary productivity of sea areas such as the Seto Inland Sea, surveys and research are promoted to find out the impact of nutritive salts on fisheries resources.
- A system was introduced in the new Fishery Act whereby, when a fisheries cooperative, etc. conducts conservation activities such as red tide monitoring, the prefectural government may designate the fisheries cooperative, etc. upon application, and have the fisheries cooperative, etc. conduct activities to manage coastal fishing grounds under newly set rules.
- As far as inland water fisheries are concerned, in accordance with the "Guidelines on Promotion of Inland Water Fisheries," the relevant ministries and agencies, local governments, and fisheries cooperatives have been cooperative with one another in setting forward their efforts for the recovery of the fishing ground environment.
- It is necessary to monitor climate change by conducting observations using satellites, etc. In addition, it is important to have measures for both mitigation of the situation by, for example, controlling the emission of greenhouse gases, and adaptation to an unavoidable impact. With regard to adaptation, the development of aquaculture species that can tolerate high water temperature has been promoted.
- Ocean pollution problems due to plastic wastes have attracted the public attention. Plastic wastes have an impact on the environment and ecosystems as well as on fisheries through being mixed into fishery catches. The Act on Promoting the Treatment of Marine Debris was amended in June 2018, and The 4th Fundamental Plan for Establishing a Sound Material-Cycle Society, adopted by the Cabinet in the same month, sets forth that the government will formulate a Japan's Resource Circulation Strategy for Plastics. The Fisheries Agency has discussed measures to reduce the amount of plastic use in fisheries and aquaculture and a shift to environmentally friendly materials, and has investigated ecological data of aquatic organisms that have eaten microplastics in the water.
- For sustainable fishery activities, it is important to maintain the marine environment and ecosystem in a sound condition. Since the Marine protected areas (MPAs) have been designated in an accelerated manner around the world in these years. MPAs have a potential to contribute to increasing fisheries resources, and appropriate management of such areas should be promoted.

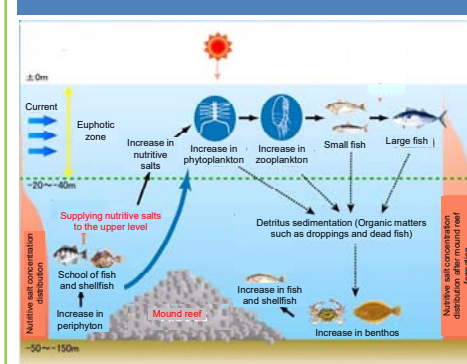
### Column The 38th National Convention for the Development of an Abundantly Productive Sea

The "38th National Convention for the Development of an Abundantly Productive Sea—Kochike Convention—Commemorating Meiji 150" was held in Kochi Prefecture in 2018 as an event commemorating Meiji 150, as 2018 is the 150th year from the first year of the Meiji era (1868), based on the theme of "Forests, Rivers, and the Sea: Water Traveling to a Bright Future." The Emperor Emeritus and the Empress Emerita had been attending the convention since the 1st National Convention, when they were still Crown Prince and Crown Princess.

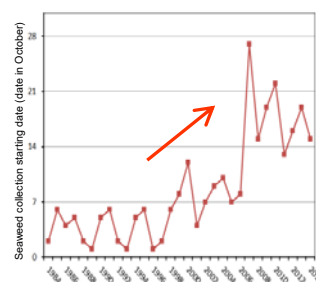


Their Majesties the Emperor Emeritus and the Empress Emerita handing over juvenile fish, etc. (Photo courtesy: Kochi Prefecture)

### Mound Reef Mechanism

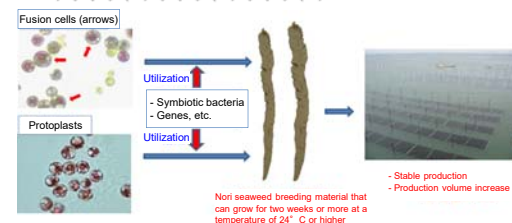


### Impact Assessment of Autumn High Water Temperature on Nori Seaweed Culture and Case Example of an Initiative Based on an Adaptation Plan



Chronological Changes in the Starting Date of Nori Seaweed Production

Delay in the starting date of nori seaweed production



Process of Development of a Material Adaptable to High Water Temperature by Using Breeding Techniques such as the Cell Fusion Technique and the Protoplast Screening Technique

Source: Japan Fisheries Research and Education Agency

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

- In recent years, reports have come out about damage to fisheries caused by wildlife such as Steller's sea lions and *Asciidiella aspersa*. Especially in the sea areas around Hokkaido, considerable damage to fishing gear and catches caused by Steller's sea lions have been occurring. For wildlife that range/migrate across prefectural borders, for which broad-based measures are expected to be effective for damage prevention/reduction, the national government supports investigations on the occurrence status, the provision of related information, the development of technologies to reduce damage, and control activities, etc.
- Inland water fisheries have been facing the problem of feeding damage to resources caused by largemouth bass, great cormorant, etc., and therefore control measures against them are promoted.

<Steller's Sea Lions>



Steller's Sea Lions' Feeding Damage to Catches



<Largemouth Bass>

Feeding Damage by Non-native Fish



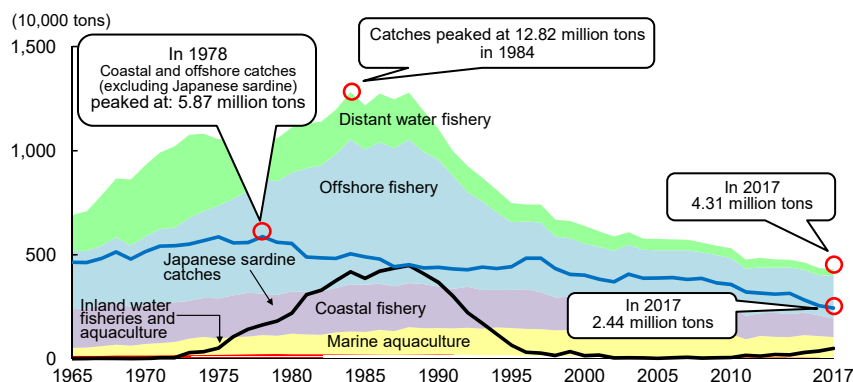
## Section 2 Trends in Japan's Fisheries

### (1) Trends in Fisheries and Aquaculture

- The volume of domestic fisheries and aquaculture production was 4.31 million tons in 2017, which is lower by 50,000 tons than in the previous year. Marine fisheries production was 3.26 million tons, which was same level as the previous year. Pacific saury, etc. decreased while Japanese sardine increased. Marine aquaculture decreased by 50,000 tons to 990,000 tons. Scallop, etc. decreased. Inland water fisheries and aquaculture production decreased by 1,000 tons to 62,000 tons.
- The value of domestic fisheries and aquaculture production, which turned to an increase in 2013, stood at 1,607.5 billion yen in 2017, an increase of 21.9 billion yen over the previous year. The production value of marine fisheries was 962.8 billion yen, which was at the same level as the previous year, that of marine aquaculture increased by 15.3 billion yen to 525.0 billion yen, and that of inland water fisheries and aquaculture increased by 5.9 billion yen to 119.7 billion yen.

### Trends in the Production Volume and Value of Japan's Fisheries and Aquaculture

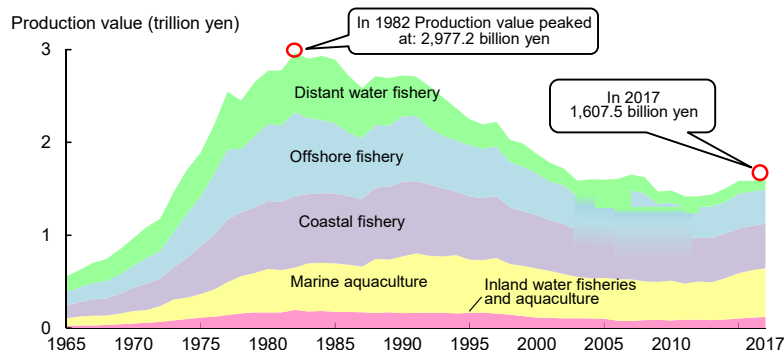
<Production volume>



Source: Fisheries and Aquaculture Production Statistics (the Ministry of Agriculture, Forestry and Fisheries)

		(1,000 tons)
Production volume	Total:	4,306
	Marine	4,244
	Fisheries	3,258
	Distant water fishery	314
	Offshore fishery	2,051
	Coastal fishery	893
	Aquaculture	986
Inland water	Fisheries	62
	Fisheries	25
	Aquaculture	37

<Production value>



Source: Prepared by the Fisheries Agency, based on Gross Fisheries Output (the Ministry of Agriculture, Forestry and Fisheries)

Note 1: The figures of distant water fishery, offshore fishery, and coastal fishery shown above (2007-2010) are all estimates.

Note 2: The fishery production value was obtained by adding the seedling 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.).

Note 3: Marine fisheries output by segment in terms of value has not been available since 2007.

		(100 million yen)
Production value	Total:	16,075
	Marine	14,878
	Fisheries	9,628
	Aquaculture	5,250
	Inland water	1,197
	Fisheries	198
	Aquaculture	998

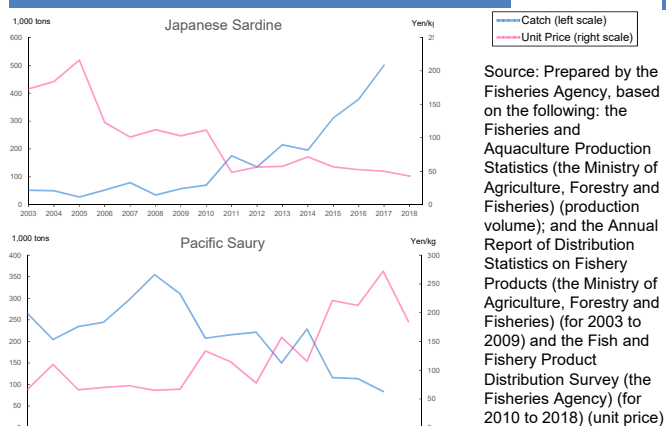


## (2) Trends in Fishery Management

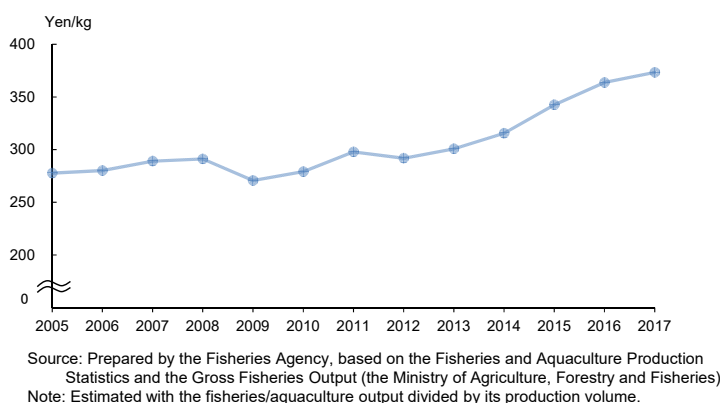
### a. Trends in the Local Prices of Fish and Fishery Products

- The prices of fish and fishery products vary depending on multiple factors including the fishery condition of each species, the status of overseas fishery production, and domestic and overseas demand for species.
- In recent years, the average local price in fisheries and aquaculture is on an upward trend. The price increased by 8 yen/kg to 366 yen/kg in 2017, compared with the previous year.

#### Trends in Catches and Prices



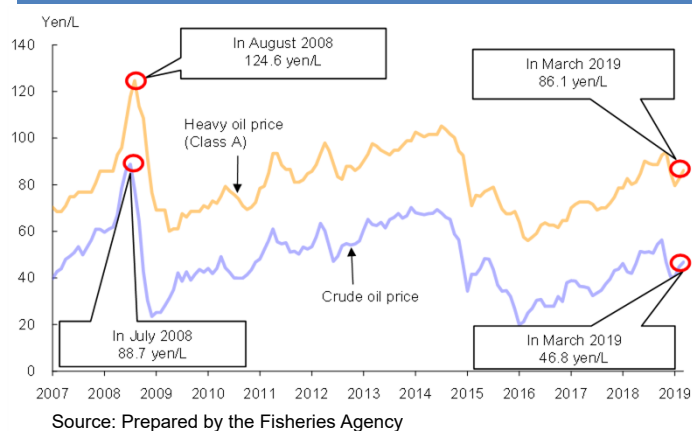
#### Average Local Price in Fisheries and Aquaculture



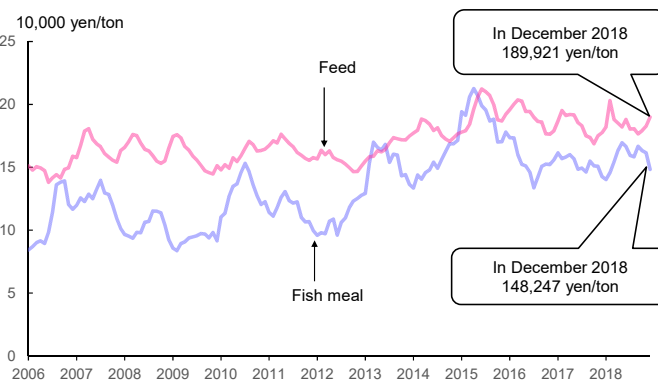
### b. Trends in Management of Fisheries by Fishing Vessels/Aquaculture

- The average fishing income of coastal fishing households decreased by 160,000 yen to 2.19 million yen in 2017, as compared to the previous year, or 2.39 million yen including non-fishing income.
- Businesses engaged in fisheries by fishing vessels reported that, in FY2017, the fishing income continued to be in deficit, but the operating profit including the non-fishing profits (from fish processing, etc.) was 18.15 million yen.
- Fishing vessels used for fisheries in Japan have further aged, with 57% of all the licensed fishing vessels for designated fisheries being aged 20 years or older as of FY2018.
- Fuel oil prices have fluctuated significantly over the past decade. In recent years, the prices have generally been rising.
- The fishing income of marine aquaculture households in 2017 increased by 1.62 million yen to 11.66 million yen as compared to the previous year.
- Imported fish meal prices in April 2015 increased to nearly 2.6 times the average price in 2005, which may be due to growing consumption by aquaculture (primarily in China) and due to a decrease in fish meal production caused by declining anchovy resources in Peru. Subsequently, the prices have slightly leveled off.
- When the price of fuel oil or compound feeds rise, a subsidy is provided to the fisher from funds contributed in advance by the national government and the fisher, in order to mitigate the impact of the price rise.

#### Trends in Fuel Oil Prices



#### Trends in Feed Prices and Imported Fish Meal Prices



### c. "Seashore Revitalization Plan" to Boost Incomes

- The "Seashore Revitalization Plan" aims to boost fishing incomes by at least 10% in five years with voluntary efforts to come up with measures and implement them. 672 cases entered an implementation stage by the end of March 2019.
- In FY2015, the "Wide-Area Seashore Revitalization Plan" also started, in which efforts are made to enhance wide-range competitiveness. By the end of March 2019, 152 cases were established and carried out.

#### Case Example "Seashore Revitalization Plan" Suits for Each Region's Circumstances

##### 1) Taiki Town Regional Fisheries Revitalization Committee in Mie Prefecture

The committee expanded production of "Ise Madai" (Japanese sea bream) cultured using feeds that contain Mie Prefecture's specialty seaweeds and citrus fruits, and started producing a new brand, "Ise Buri" (Ise Japanese amberjack).



Ise Madai  
(Photo courtesy: Mie Prefecture)

##### 2) Itoshima City Regional Fisheries Revitalization Committee in Fukuoka Prefecture

The committee has greatly contributed to expanding the consumption of local fish and fishery products through efforts to raise the price of Japanese Spanish mackerel through processing that maintains high freshness, and attracting customers through oyster hut business.

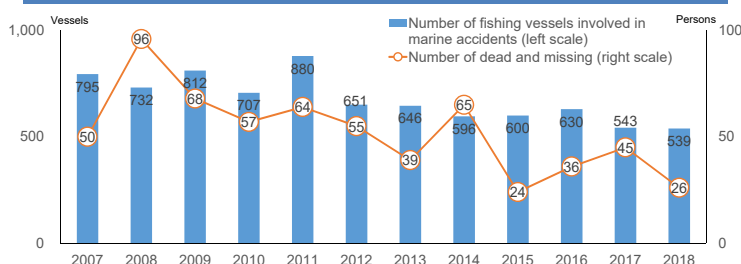


Oyster Hut

### (3) Trends in Fisheries Working Environment

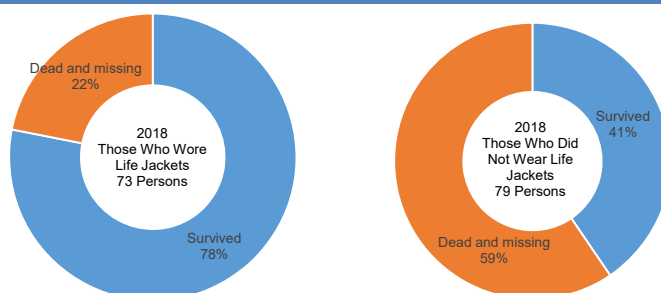
- In 2018, the number of fishing vessels involved in marine accidents was 539, and the number of dead and missing reported in those accidents was 26.
- Excluding those related to marine accidents, 73 fishers fell overboard in 2018, of which 47 persons were dead or missing.
- Life jackets are vital to saving the lives of those who fall overboard. The government expanded the scope of obligation to wear life jackets to small water crafts. In 2018 and ahead, all persons on board, in principle, any ship or vessel and outside the cabin are required to wear life jackets.
- With regard to diffusion of broadband connection at sea, the Fisheries Agency has coordinated with relevant ministries and agencies to exchange opinions with communication carriers so as to provide services that match the needs of fishers and to provide information to fisheries-related organizations.

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

### (4) Development and Utilization of Technologies for Promoting Smart Fisheries

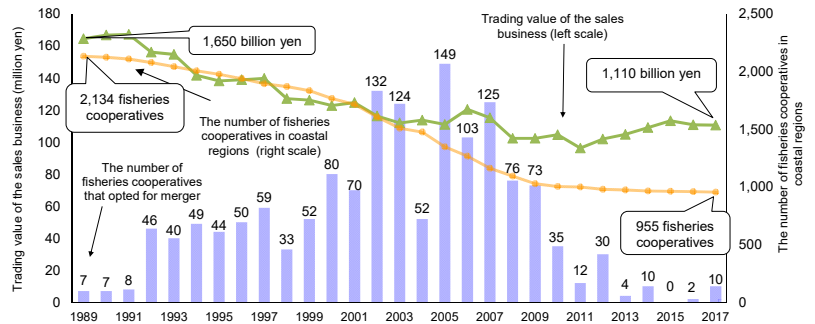
- It is important to utilize ICT technologies and drone/robot technologies, and to introduce and diffuse them in fisheries and aquaculture sites.
- The government will build "the fishery data collaboration platform (tentative name)" that enables linkage, sharing, and utilization of data obtained in various scenes from production to distribution, which is expected to promote a shift to efficient and advanced smart fisheries through full utilization of data.



## (5) Trends in Fisheries Cooperatives

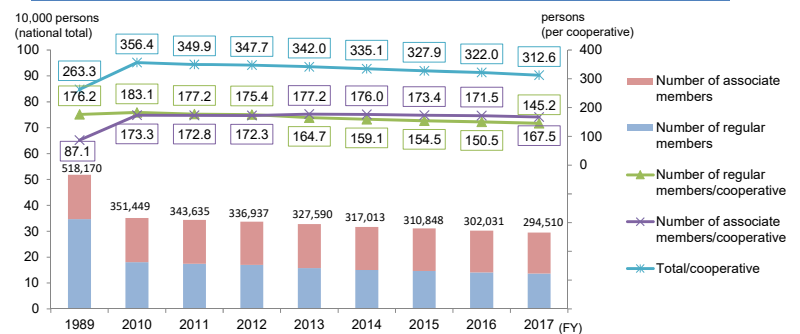
- A fisheries cooperative is an organization that plays a core role in improving fishery management, appropriately using and managing fisheries resources, and supporting regional economies and social activities in a fishing community.
- The number of fisheries cooperatives as of the end of March 2018 was 955.
- The number of fisheries cooperative members has been decreasing in line with a decline in the number of fishers, and most cooperatives remain small in size.
- There is a need to strengthen the cooperatives' business and management foundation through merger, etc. and to further reinforce their sales business.
- With the amendment of the Fishery Cooperative Act, the improvement of fishers' income was stipulated as a role of fishery cooperatives, and it was provided that persons having specialized sales skills should be appointed as directors of cooperatives. Meanwhile, audits by certified public accountants were introduced to federations of fisheries credit cooperatives and fisheries cooperatives exceeding a certain size, in order to ensure sound credit business of the fisheries cooperative system.

### Trends in the Number of Fisheries Cooperatives in Coastal Regions, the Number of Fisheries Cooperatives that Opted for Mergers, and the Trading Value of the Sales Business



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

### Trends in the Number of Fisheries Cooperative Members



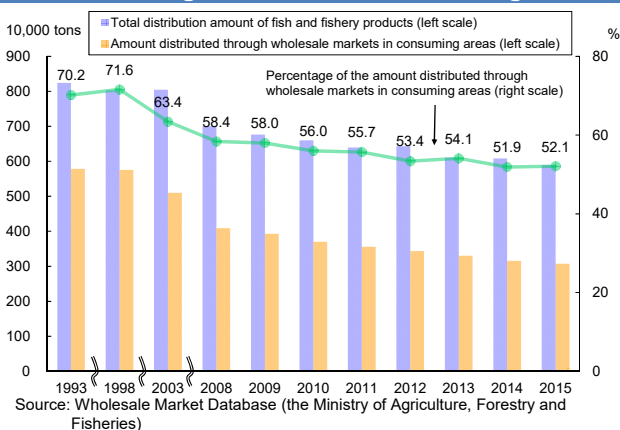
Source: Statistics Table of Fisheries Cooperatives (the Fisheries Agency)

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

### a. Trends in the Distribution of Fish and Fishery Products

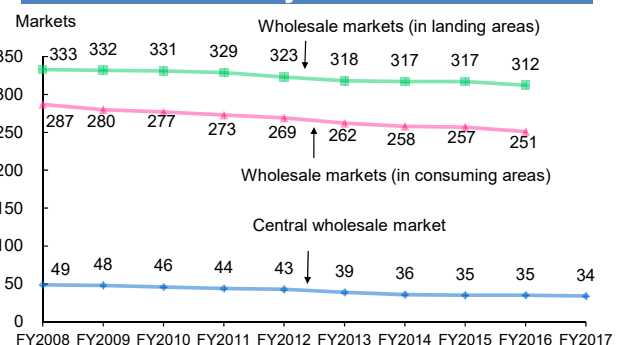
- In 2015, the percentage of the amount of fish and fishery products distributed through wholesale markets in consuming areas was 52% of the total.
- Both the number of wholesale markets in landing areas and that of wholesale markets in consuming areas decreased.
- Wholesale markets play a critical role in effectively distributing fish and fishery products. However, a challenge that wholesale markets in landing areas face is that such markets are in a weak position in terms of price formation. It is necessary to maintain and strengthen them through market abolition and consolidation, etc. For food distribution as well as wholesale markets in consuming areas, it is important to respond precisely to the diverse needs of consumptive interests, etc.

### Volume Distributed Through Wholesale Markets in Consuming Areas and Its Percentage in Total



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

### Trends in the Number of Wholesale Fishery Markets

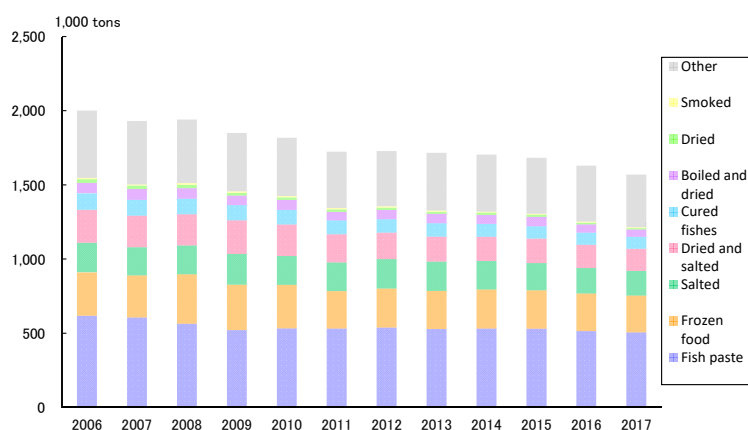


Source: Wholesale Market Database (the Ministry of Agriculture, Forestry and Fisheries)  
Note: Data for central wholesale markets are the data at the end of every fiscal year but data for local wholesale markets are the data at the beginning of each fiscal year (up to FY2011) and at the end of each fiscal year (FY2012 or later).

## b. Trends in the Fishery Processing Industry

- The production volume of processed fishery products for human consumption decreased by 60,000 tons from the previous year to 1.57 million tons in 2017.
- Due to the growing trend of simplification and externalization of diet among consumers in recent years, the importance of processing has increased in the consumption of fishery products. It is necessary to develop products that meet the diversifying consumer needs.
- An important challenge in the fishery processing industry is to secure processing ingredients and employees.

### Trends in the Production Volume of Processed Fishery Products



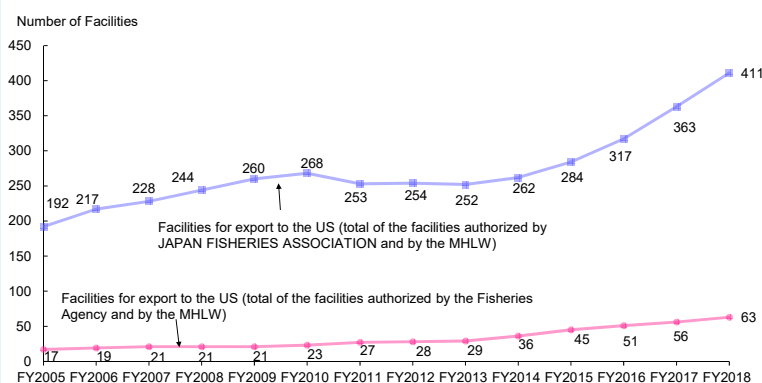
Source: Annual Report of Distribution Statistics on Fishery Products (for 2009 onward), Census of Fisheries (for 2013), and Statistical Survey on Processed Fishery Products (for other years) (the Ministry of Agriculture, Forestry and Fisheries)

Note: Processed fishery products for human consumption are products manufactured using aquatic animals or plants as their main ingredient (constituting 50% or more of all ingredients). Figures exclude baked or seasoned and baked nori seaweed, canned or bottled products, dried pieces of agar jelly, and oils and fats.

## c. HACCP

- Fishery processing facilities, etc. need to implement the HACCP (Hazard Analysis Critical Control Point) system and to conform to related facilities criteria, as required by the United States and the EU, when exporting fish and fishery products to the United States, the EU, etc.
- Accordingly, the government supports the holding of seminars, etc. about general sanitary control and HACCP-based sanitary control, and also supports the renovation, etc. of fishery processing and distribution facilities for acquiring the authorization that demonstrates facilities' fulfillment of such additional requirements as sanitary control and facility criteria based on HACCP, and that is required for export to the EU and the United States.
- In order to accelerate the authorization process for facilities to export to the EU, the Fisheries Agency became an authorization body in October 2014, in addition to the Ministry of Health, Labour and Welfare. As of the end of March 2019, in the fishery processing industry, etc., the number of facilities authorized to export to the EU is 63, and the number of facilities authorized to export to the United States is 411.
- Food business operators including fishery processors are going to be required to carry out HACCP-based sanitary control etc. due to partial amendment of the Food Sanitation Act, etc. in June 2018.

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



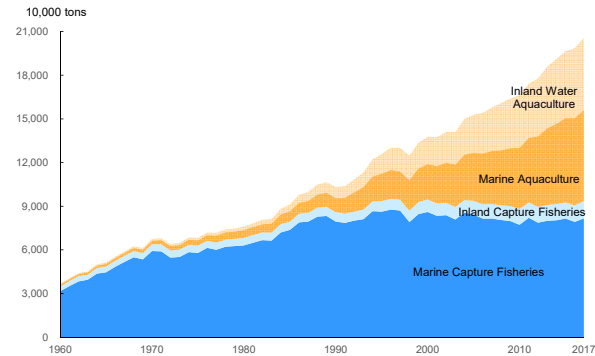
Source: Prepared by the Fisheries Agency

## Section 3 International Situation Surrounding the Fisheries Industry

### (1) Production of World Fisheries and Aquaculture

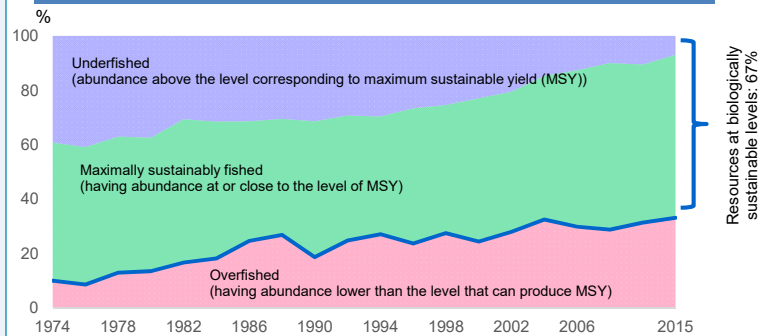
- The production volume of world fisheries and aquaculture increased by 3% from the previous year to 205.59 million tons in 2017. The breakdown of this volume shows that the capture fisheries production volume stayed flat and there was a drastic increase in the aquaculture production volume.
- For example, in the EU, the United States, and Japan, the capture fisheries production volumes have remained almost flat or have been on a declining trend. In contrast, the capture fisheries production volumes in China, Indonesia, Vietnam, etc. have increased.
- The aquaculture production volume has significantly increased in both marine and inland-water aquaculture production. In marine aquaculture, the production of red algae and brown algae has particularly increased, and in inland-water aquaculture, the production of carp and crucian carp has increased. China is dominant in world aquaculture production, both marine and inland water.
- The ratio of world fisheries resources being exploited within biologically sustainable levels is on a gradually decreasing trend. In 2015, 67% of world fisheries resources were at biologically sustainable levels (world fisheries resources with enough room for production expansion were 7%), and 33% of the resources were at overfished levels.

#### Trends in the Production Volume of World Fisheries and Aquaculture



Source: Prepared by the Fisheries Agency, based on the State of World Fisheries and Aquaculture (FAO)

#### Status of World Fish Stocks

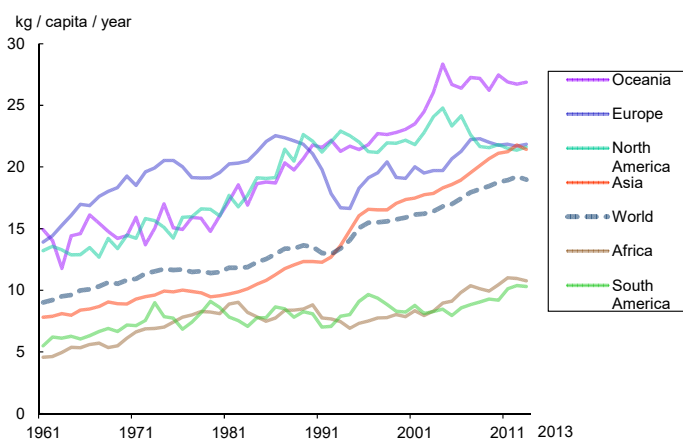


Source: Prepared by the Fisheries Agency, based on the State of World Fisheries and Aquaculture 2018 (FAO)

### (2) World Consumption of Fish and Fishery Products

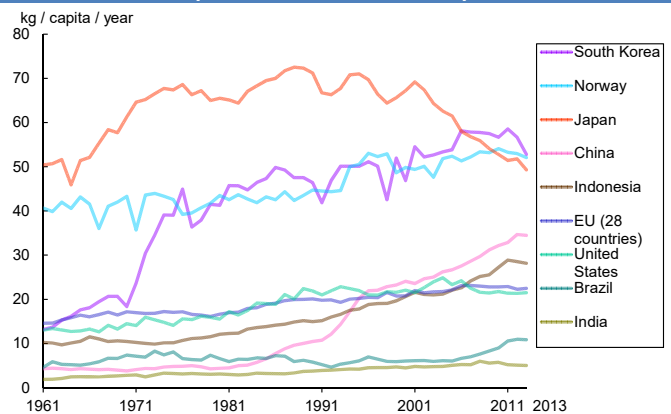
- The world's per capita consumption of fish and fish products has nearly doubled in the past half century, as a result of food distribution internationalization, a shift to high-protein dietary habits, and so on. The consumption shows significantly increasing trends, especially in emerging countries such as China.
- Although Japan's consumption is still in a high level, it has declined to the same level as the level 50 years ago.

#### Trends in the World's Annual Per Capita Food Fish Consumption by Region (Gross Food Based)



Source: FAOSTAT (Food Balance Sheets) (FAO)

#### Trends in the Annual Per Capita Food Fish Consumption in Major Countries/Regions (Gross Food Based)



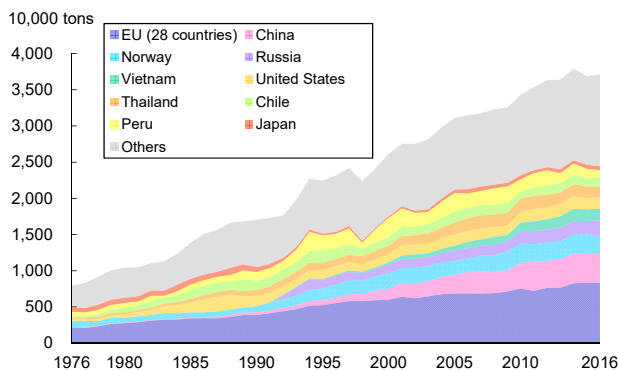
Source: FAOSTAT (Food Balance Sheets) (FAO) (for countries other than Japan) and the Food Balance Sheet (the Ministry of Agriculture, Forestry and Fisheries) (for Japan)



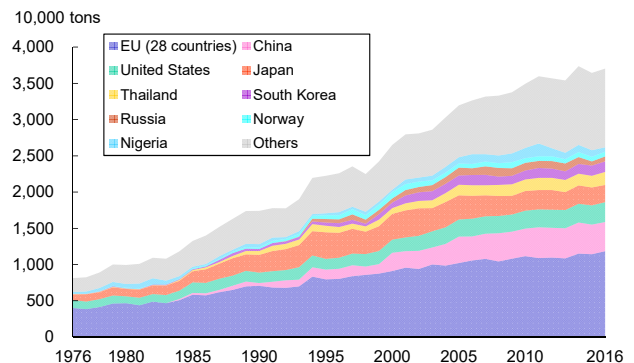
### (3) World Trade of Fish and Fishery Products

- The trade of fish and fishery products is on an upward trend as a whole, in terms of quantity and value (price). In terms of export volume, the EU, China, and Norway are ranked high. In terms of import volume, the EU, China, and the United States are ranked high.
- In terms of export and import value, China is the world's largest net exporter. The EU, the United States, and Japan are major net importers.

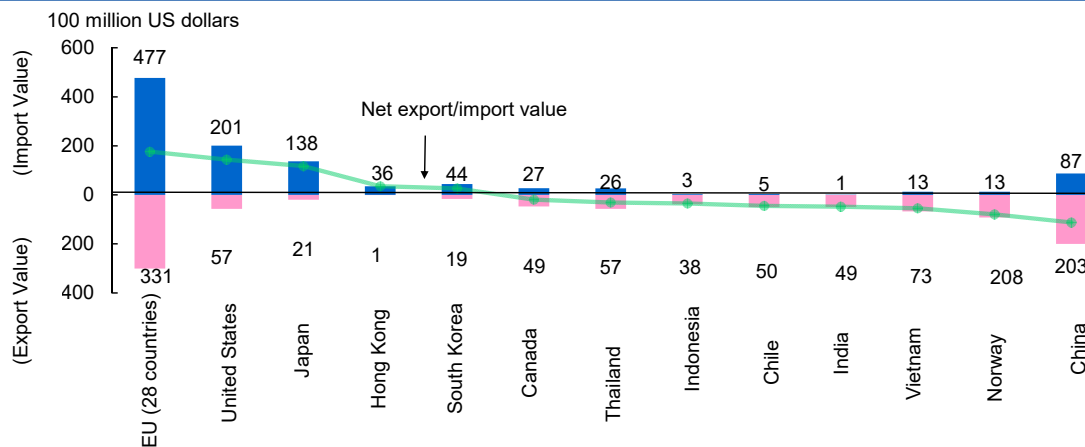
#### World's Export Volume



#### World's Import Volume



#### Major Countries' and Regions' Export and Import Values and Net Export/Import Values Concerning Fish and Fishery Products



### (4) International Situation Surrounding the Trade of Fish and Fishery Products

- In WTO rule negotiations, discussions have been continued about the establishment of disciplines on fisheries subsidies. Japan takes a stance of limiting prohibited subsidies to those which truly cause overcapacity and overfishing.
- In February 2016, the 12 participating countries signed the TPP agreement. Subsequent to the United States' announcement of its withdrawal from the TPP in January 2017, the 11 countries excluding the United States engaged in discussions concerning the early effectuation of the TPP, and reached a substantive agreement on the TPP-11 agreement in November of the same year. The agreement was signed in March 2018. The TPP-11 agreement was ratified by six countries by October 31 of the same year, and came into effect on December 30 of the same year.
- The Japan-EU Economic Partnership Agreement (EPA) covers not only the reduction/elimination of customs duties, but also the liberalization of trade in services and investments, and agreements in fields of intellectual property, etc. Japan and the EU agreed on the major framework of the EPA in July 2017, and signed it on July 17, 2018. After completing domestic procedures in both Japan and the EU, the Japan-EU EPA came into effect on February 1, 2019.