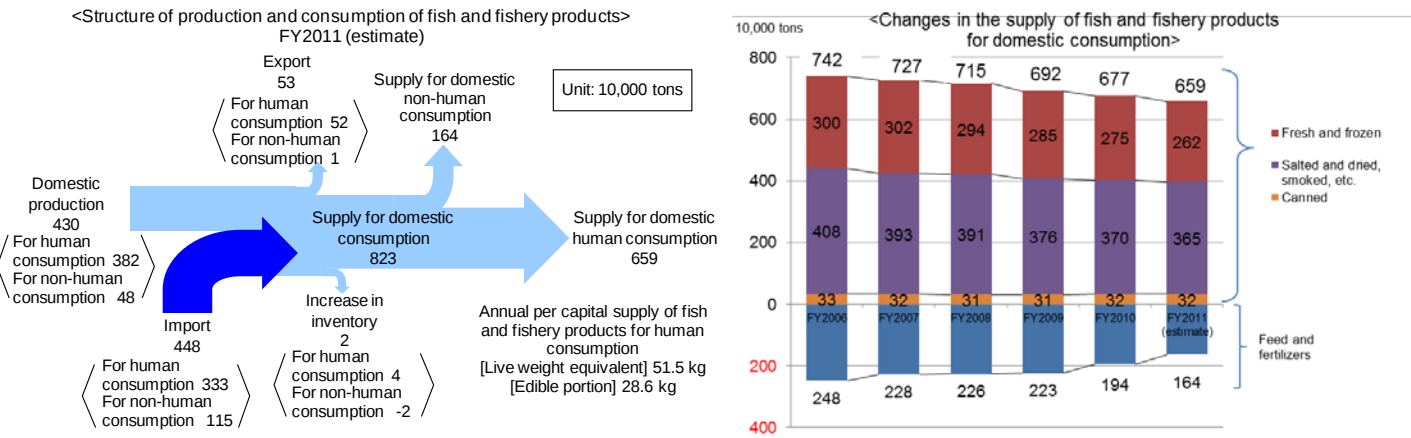


Section 1 : Trends in the supply and demand of fish and fishery products

(1) Trends in the supply and demand of fish and fishery products

- The supply of fish and fishery products for domestic human consumption in FY2011 fell 11% compared to FY2006.

Structure of production and consumption of fish and fishery products in Japan and changes in the supply of fish and fishery products for domestic consumption

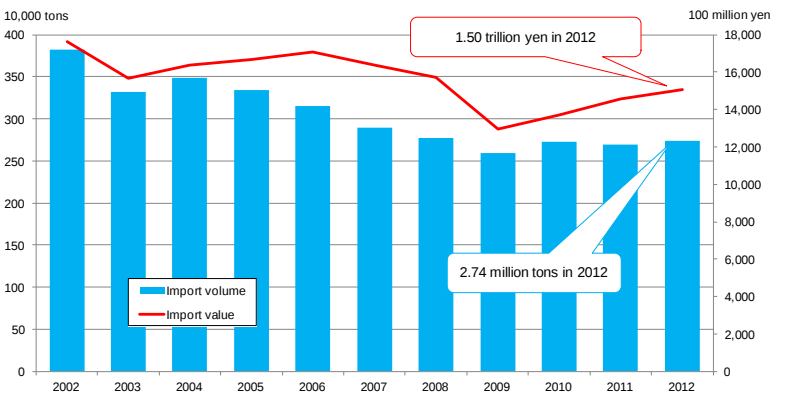


Source: MAFF, Food Supply and Demand.

(2) Trends in Japan's fish and fishery product imports and exports
(Trends in Japan's fish and fishery product imports)

- Japan's imports of fish and fishery products in 2012 rose in volume by 1.6% over the previous year at 2.74 million tons, and rose in value by 3.4% over the previous year at 1.50 trillion yen.

Changes in Japan's fish and fishery product import volume and value

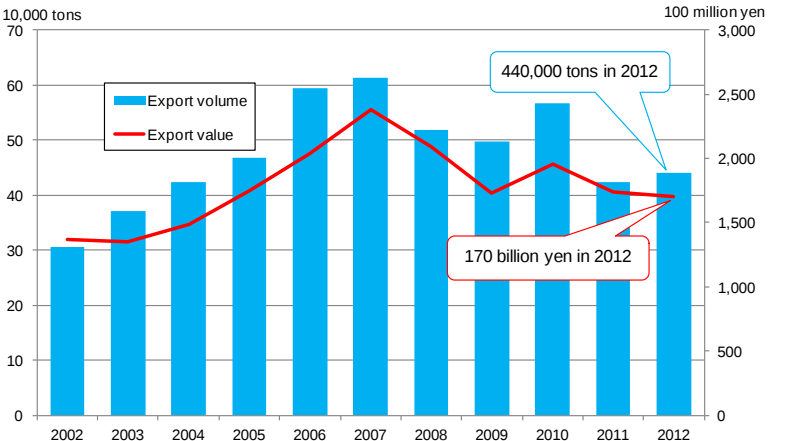


Source: Ministry of Finance, Trade Statistics.

(Trends in Japan's fish and fishery product exports)

- Japan's exports of fish and fishery products in 2012 stood at 440,000 tons in volume, rising by 3.6% over the previous year when exports were substantially affected by the import restrictions imposed by many countries due to the nuclear power plant accident. The export value decreased by 2.4% from the previous year to 170.0 billion yen.

Changes in Japan's fish and fishery product export volume and value



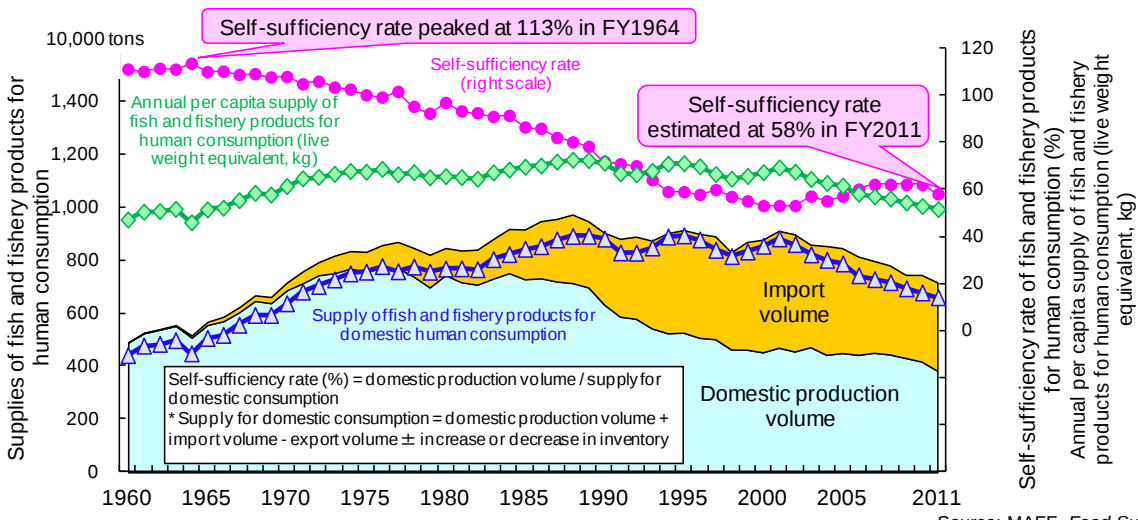
Source: Ministry of Finance, Trade Statistics.

(3) Japan's self-sufficiency rate of fish and fishery products for human consumption

(Self-sufficiency rate of fish and fishery products for human consumption remaining flat in recent years)

- While the self-sufficiency rate of fish and fishery products for human consumption has shown a slight increase or remained flat in recent years, in FY2011, the rate declined by 4 points from the previous year to 58% due to a drop in domestic production resulting from the Great East Japan Earthquake.

Changes in the self-sufficiency rate, etc. of fish and fishery products for human consumption



Source: MAFF, Food Supply and Demand.

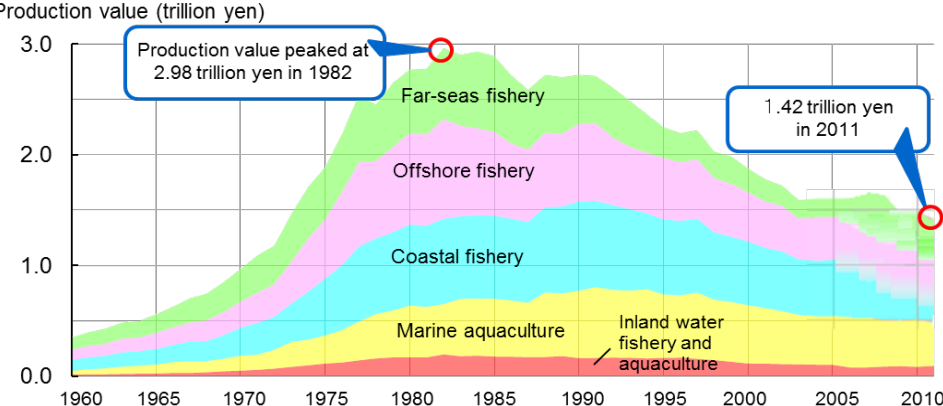
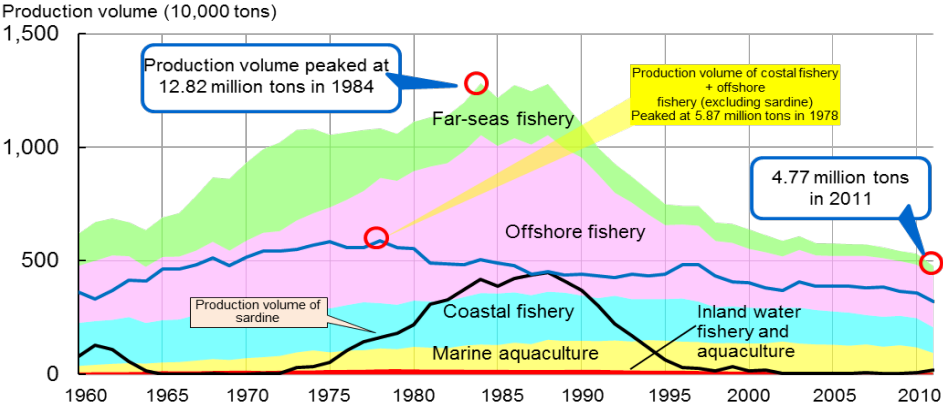
Section 2 : Trends in Japan's fisheries

(1) Trends in fisheries and aquaculture

(Domestic fishery and aquaculture production)

- Japan's fishery and aquaculture production volume in 2011 stood at 4.77 million tons, falling by 10% from the previous year due to a significant decline in areas affected by the Great East Japan Earthquake. The production value came at 1.42 trillion yen, decreasing by 4% from the previous year.

Changes in the fishery and aquaculture production volume and value



Source: MAFF, Annual Statistics on Fishery and Aquaculture Production.

Note: From 2007 to 2010, figures for the fishery and aquaculture production categories of "Far-seas fishery," "Offshore fishery," and "Coastal fishery" are estimates.

		2011 (1,000 tons)
Production volume	Total	4,765
	Marine	4,692
	Fishery	3,823
	Far-seas fishery	431
	Offshore fishery	2,263
	Coastal fishery	1,129
	Aquaculture	869
	Inland water	73
Production value	Fishery	34
	Aquaculture	39

		2011 (10 million yen)
Production value	Total	14,210
	Marine	13,291
	Fishery	9,394
	Far-seas fishery	...
	Offshore fishery	...
	Coastal fishery	...
	Aquaculture	3,897
	Inland water	918
Production value	Fishery	202
	Aquaculture	716

Column: Various styles for tuna and skipjack fishery

- Tunas and skipjacks, which are highly migratory fish species, are distributed widely in oceans around the world. The tunas and skipjacks can be caught not only in waters surrounding Japan, but in waters around the world. Thus, Japanese fishing vessels are operating in various sea areas.
- Bluefin tuna that migrate to waters surrounding Japan are caught by trolling or by purse seine.
- Tunas and skipjacks are mainly caught by far-seas fishery, which was used for catching 60% of all tunas and 70% of skipjacks harvested in 2011.
- Far-seas tuna and skipjack fisheries can roughly be divided into long-line fishery and purse seine fishery. Long-line fishery is carried out by fishing vessels equipped with ultra-low-temperature refrigerators which sail out to western central Pacific, Indian Ocean, Atlantic Ocean, etc. in pursuit of tuna for sashimi.
- Purse seine fishery, also referred to as far-seas purse seine fishery, catches skipjack to be frozen to be made into dried skipjack mainly in western central Pacific.

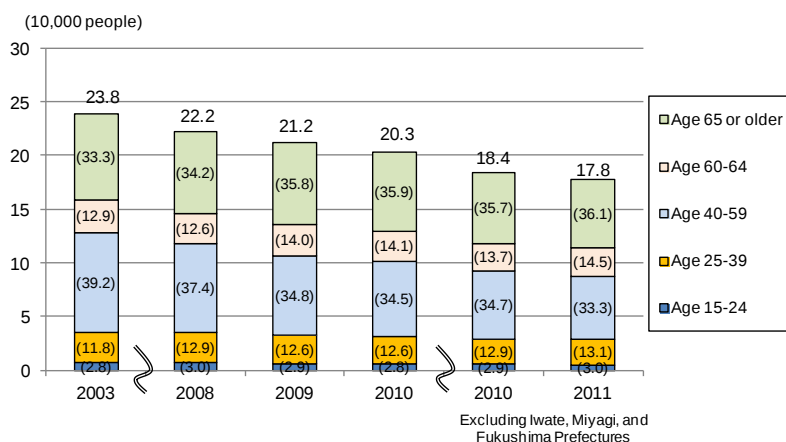


Far-seas purse seine fishery supplying 60% (about 200,000 tons) of skipjack to be used for dried skipjack products in Japan

(Trends in the number of fishery workers and securing of new recruits)

- In 2011, fishery workers (excluding Iwate, Miyagi, and Fukushima Prefectures) comprised 178,000 people (3.4% fall from the previous year), 36.1% of whom were aged 65 or older (0.4% increase from the previous year).
- Licensed mariners, who are needed for ensuring safe fishery operations in Japan, are becoming older, and it is an important challenge to secure such people in fishery business management.
- The number of new recruits nationwide was 1,776 in 2011. In order to secure new recruits and successors in the fishery and aquaculture industries, the government supports efforts including the holding of fishery employment consultation events and long-term on-site training.
- In FY2013, the government launched a project to provide funds to young people who are studying at fishery schools with the aim of becoming fishery workers.

Changes in the number of fishery workers



Source: MAFF, *Census of Fisheries and Report on the Survey of Fishing Industry Employment Trends*.

Note: Figures in parentheses are percentages of the total number of fishery workers.

Column: Fisheries high schools contributing to developing human resources for the fishing industry

- Fishery courses are available at 46 high schools in 36 prefectures. The number of students was 9,612 in FY2012. Among those who graduated in March 2011, 40% became fishery or maritime-related workers, excluding those pursuing further education.
- Fisheries high schools offer a broad range of fishery and maritime-related curriculums, including courses for acquiring qualifications to become a navigation officer or an engineer who serves as executive crew on fishing vessels, courses for studying maritime environment, aquatic organisms, and fish farming, and courses for learning about fishery processing.
- Many graduates have also been hired by companies in the food industry and other non-fishery industries. Recently, there has been an increase in the percentage of female students.

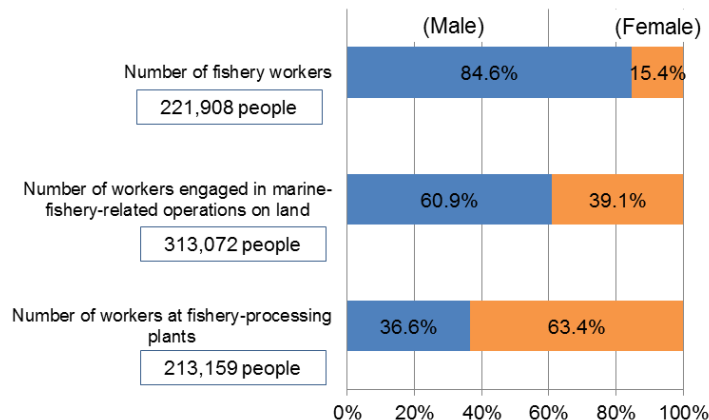


Catching billfish in on-board training of long-line fishery (a fisheries high school in Shimane Prefecture)

(Women supporting the fishing industry and contributing to revitalizing the community)

- Women in fishing communities play particularly important roles in fishery-related operations on land and fishery-processing plants. Also, women from fishery households contribute to revitalizing fisheries and fishing communities through wide-ranging activities, such as increasing the added values of fish and fishery products.

Percentage of women in fishery workers in the fishing industry and the fishery-processing industry



Source: MAFF, Census of Fisheries (2008).

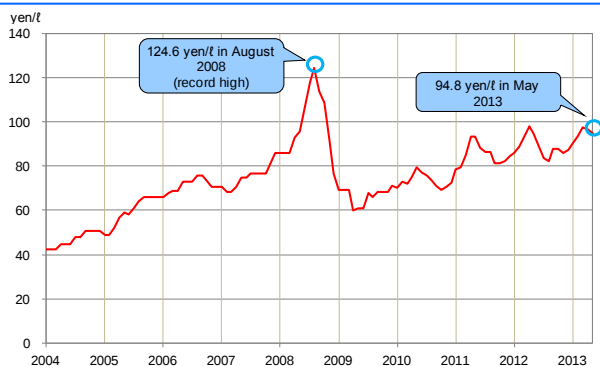


Women group of the Shikai Fishery Cooperative cooking a traditional dish of sweetly stewed sole

(2) Condition related to business management of fisheries and aquaculture (Comprehensive initiative combining income stability measures and cost-reduction measures)

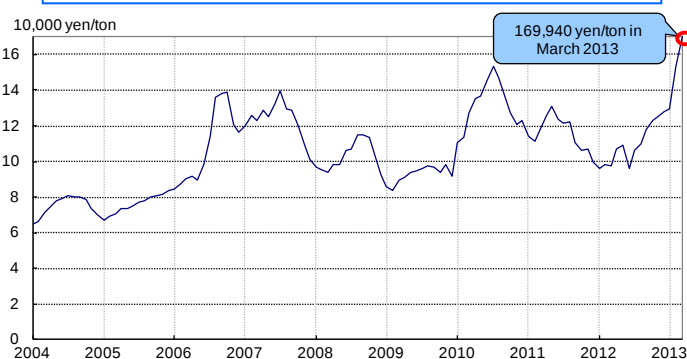
- As an initiative for ensuring both appropriate management of fishery resources and stable fishery business management, the government has implemented resource-management/fishery-business-management stability measures as a comprehensive business-management-stability initiative, combining resource-management/income-stability measures (measures to support fishers who systematically engage in resource management by utilizing the system of fishery mutual aid) and cost-reduction measures (measures to mitigate the rising prices of fuel and formula feed).
- Given that crude oil prices are on the rise, the requirements for receiving compensation under the cost-reduction measures were revised in FY2012 so as to ease the impact on fishers in the event that the fuel and compound feed price hikes were prolonged.

Changes in the price of fuel oil for fishing



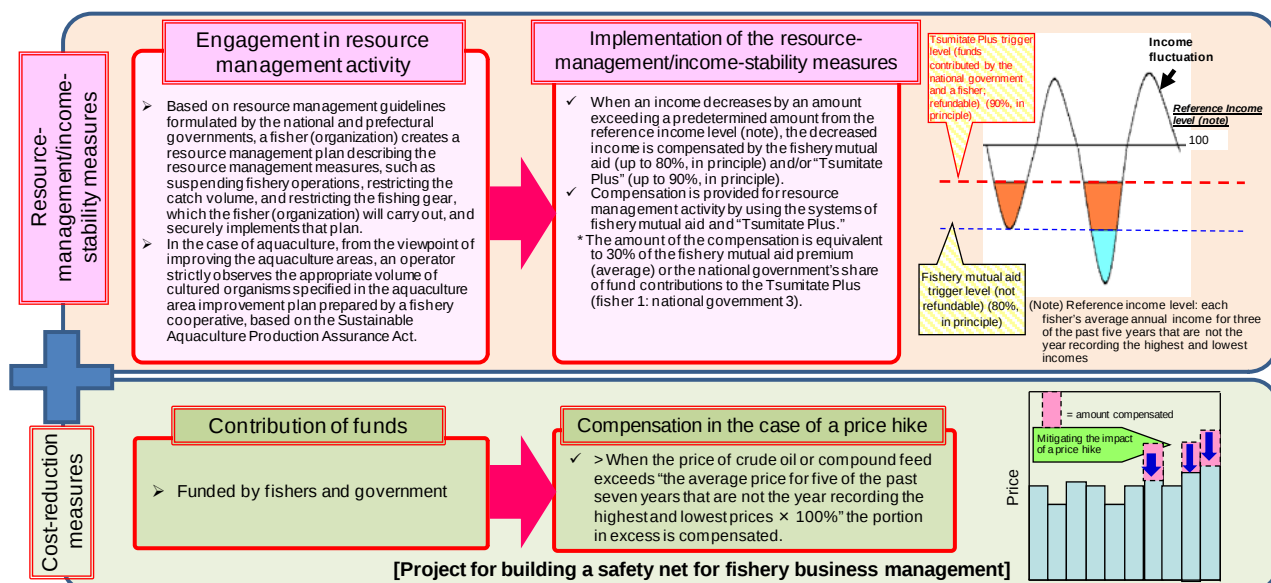
Source: Fisheries Agency survey.

Changes in the import unit value of fish meal



Source: Compiled by Fisheries Agency based on Ministry of Finance, Trade Statistics.

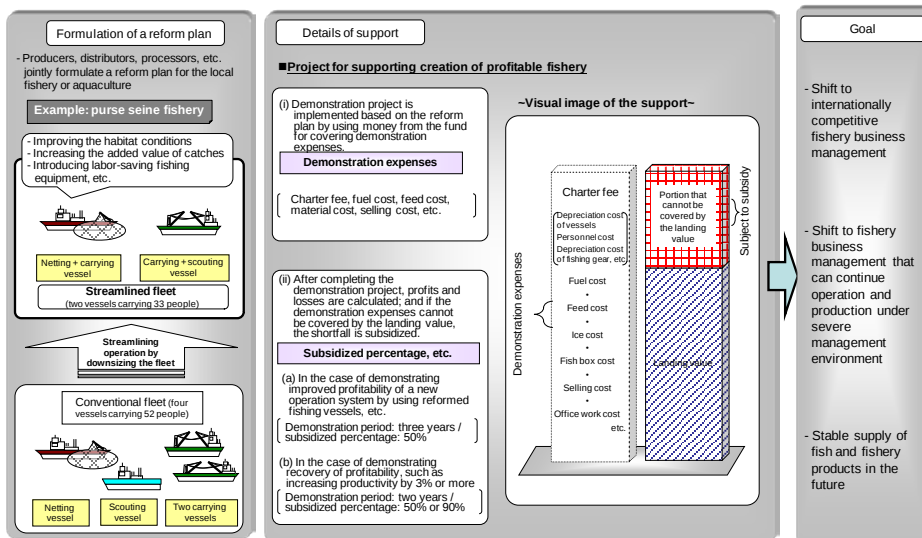
Outline of the resource-management/fishery-business-management stability measures



(For changing the operation system of fisheries using fishing vessels)

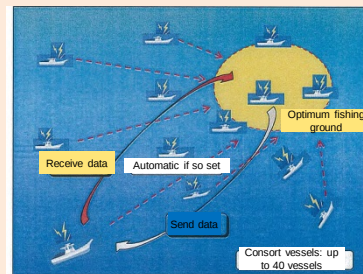
- Japanese fishing vessels are decreasing and aging. This is because fishers/fishing companies cannot afford to build new fishing vessels due to the stagnation of fishery income.
- In order to shift the operation and production systems of fisheries using fishing vessels to more profitable ones, the government has implemented a project of comprehensive measures for fisheries structural reform, and has created model cases for increased profitability.

Outline of project of comprehensive measures for fisheries structural reform



Column: Efficient fishery using latest technology

- Fishery-related technology has continued to advance, and the latest technology has been applied in various types of fisheries to increase efficiency in operations.
- For example, in saury stick-held dip net fishery, efforts have been made to catch fish more efficiently by introducing the latest fish finder (capable of guessing the fish species constituting the fish shoal) and fish pump, to increase efficiency and save power by making information on oceanic conditions visible with the use of a personal computer, and to save energy by using LED fish lamps.



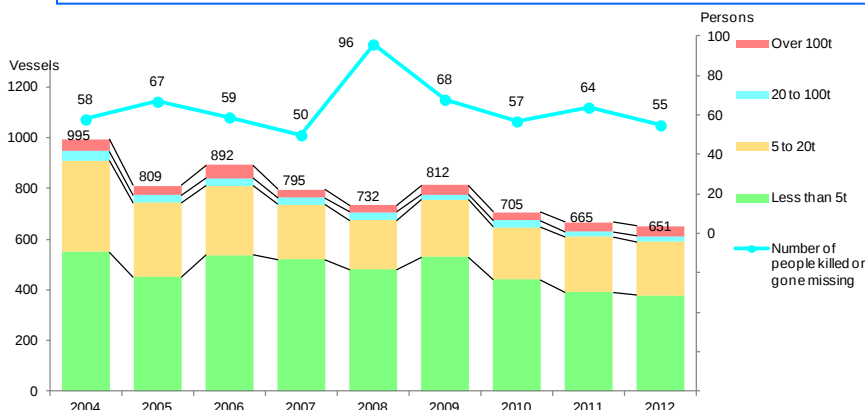
By mounting a fishing plotter, a vessel can automatically receive data (location, water temperature, tidal current, etc.) from consort vessels, and display the data on the plotter screen. It substantially enhances the vessel's ability to find fishing grounds.

(3) Ensuring the safety of fishing operations

(Status of fishing vessel accidents at sea)

- 651 fishing vessels met with marine accidents in 2012. The total number of people who were killed or went missing in such accidents was 55. In addition, 62 people were killed or went missing by falling overboard in instances that were not marine accidents in 2012.

Number of fishing vessels involved in marine accidents and number of people killed or gone missing

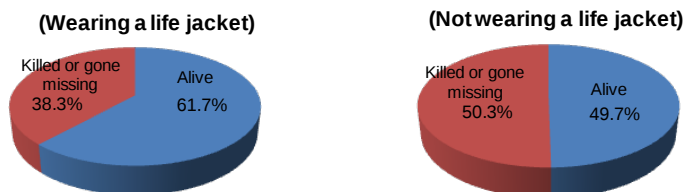


Source: Japan Coast Guard
Note: Excluding marine accidents due to heavy snowfall in the Sanin region (two vessels in 2010; 215 vessels in 2011).

(Safety measures in fisheries)

- In an effort to enhance safety in fishing operation, the government is promoting research toward preventing fishing vessels from capsizing and the development of technology for remodeling fishing vessels (safety-improvement measures) by private organizations. Support is also being provided to promote the usage of life jackets (effective for increasing the survival rates of people who fall overboard).

Survival rate of people who fall overboard from fishing vessels (2012)



Source: Japan Coast Guard

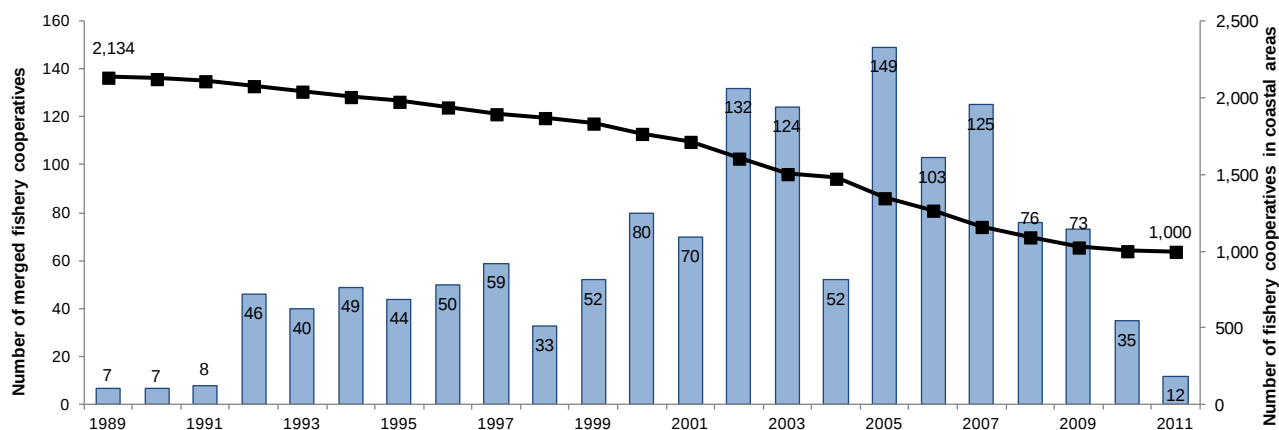
The latest lifejackets: lightweight and mobile



(4) Trends in fishery cooperatives

- In order for fishery cooperatives to continue to respond to the various needs of fishers and to function as core organizations in the fishing industry and fishing communities, it is important to strengthen their organization and foundations, including expanding their management scale through a merger. It is also essential that fishery cooperatives reform their management and business, such as by strengthening their marketing business and increasing the soundness and efficiency of their credit business. Also, an ailing fishery cooperative should implement a restructuring plan.
- The challenge is to take measures to train officers and employees who will manage the organization and business of fishery cooperatives and measures to ensure compliance.
- Some fishery cooperatives have held study sessions aimed at enhancing the skills of their marketing staff.

Changes in the number of fishery cooperatives in coastal areas and merged fishery cooperatives



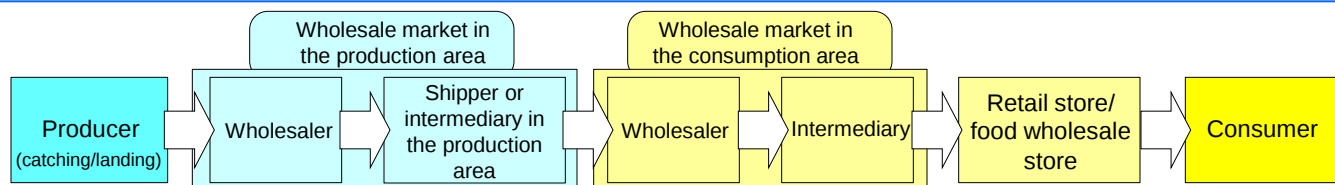
Source: Fisheries Agency, Annual Report on Fishery Cooperatives

(5) Trends in fish and fishery product distribution and processing

(Status of fish and fishery product distribution)

- Most fishery products are sorted and loaded in wholesale fishery markets in production areas adjacent to the ports where they were landed, after which they are shipped to wholesale markets in consumption areas. Products typically reach consumers after passing through two wholesale markets.
- Most wholesale fishery markets in production areas are established and operated by fishery cooperatives, and they have small trade volumes and poor pricing power. Therefore, in order to increase the income of fishers, it is crucial to merge markets, concentrate facilities, and promote the entry of new purchasers.

General distribution channel for fish and fishery products



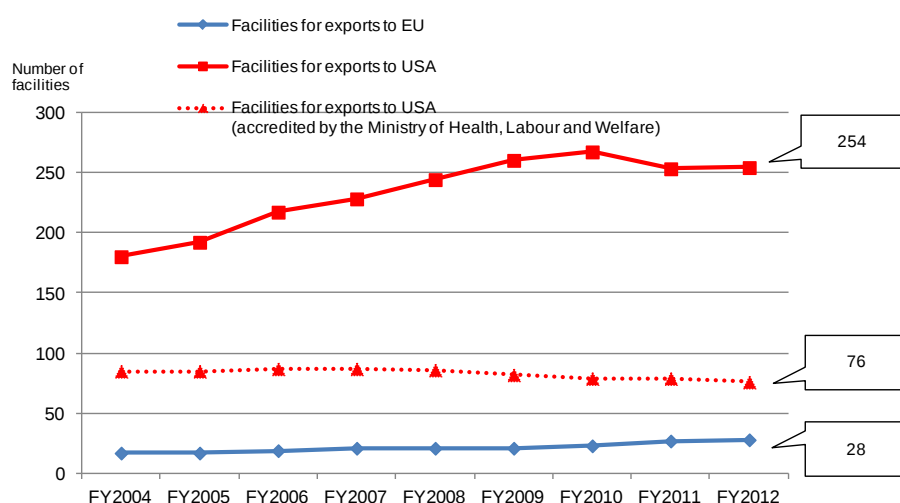
(Current status of the fishery-processing industry)

- The value of shipments in the fishery-processing industry in 2010 was 3.12 trillion yen. This accounts for 13% of the total value of shipments in the food-manufacturing industry.
- Of fish and fishery products for domestic human consumption, 60% is shipped to processors. The fishery-processing industry holds an important position in the domestic fish and fishery product supply chain.
- As many as 90% of fishery-processing plants are located in coastal areas. The fishery-processing industry is a core industry for fishing communities.

(Introduction of the HACCP system in the fishery-processing industry)

- In order to provide safe fish and fishery products to consumers, it is vital to promote the introduction of the Hazard Analysis and Critical Control Point (HACCP) system in the fishery-processing industry, which is the largest domestic user of fish and fishery products.
- When exporting fish and fishery products to the United States and the EU, fishery-processing facilities need to have introduced hygiene control under the HACCP system and satisfy the relevant HACCP requirements.
- As for HACCP accreditation for facilities used for exports to the EU, efforts are being made to resolve problems hindering early accreditation, such as establishing a meeting between the Fisheries Agency, the Ministry of Health, Labour and Welfare, local governments (fisheries department, food-hygiene department), and related industries, and creating a manual on the facility conditions required for the accreditation.

Changes in the number of facilities introducing the HACCP system in the fishery-processing industry



Source: Fisheries Agency survey.

Requirements for HACCP accreditation concerning exports of fish and fishery products (comparison between USA and EU)

<Exports for USA>

Domestic accrediting organizations	Ministry of Health, Labour and Welfare Third-party institutions (Japan Fisheries Association, etc.)
Scope of HACCP accreditation	Processing facilities

<Exports for EU>

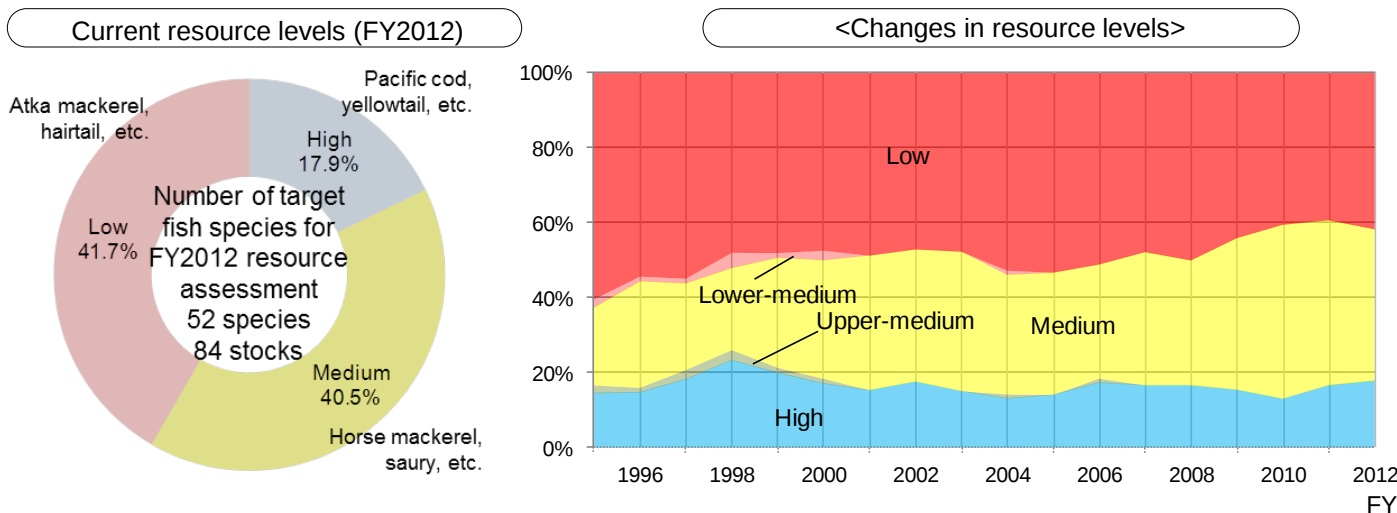
Domestic accrediting organizations	Ministry of Health, Labour and Welfare (accreditation, registration)	Fisheries Agency (registration)
Scope of HACCP accreditation	Processing facilities, storage facilities, markets	Fishing vessels, aquaculture farms

Section 3 : Trends in Japan's fishery resources and fishing grounds environments

(1) Fishery resources in waters surrounding Japan

- According to the FY2011 assessment of the state of major fishery resources in waters surrounding Japan, of the assessment targets (52 species, 84 stocks), the resource level was high for 15 stocks (17.9%), medium for 34 stocks (40.5%), and low for 35 stocks (41.7%).
- In recent years, the percentage of low-level stocks has fallen, while that for medium-level stocks has risen.

Current resource levels of major fishery resources in waters surrounding Japan and changes in the resource levels



Source: Fisheries Agency and Fisheries Research Agency, *Assessment of Fishery Resources in Japan's Surrounding Waters*, and others.

(2) Appropriate management of fishery resources

(Combination of public regulations and voluntary resource management)

- Around Japan, fisheries are diverse, being operated from Japan's coastal areas to offshore locations and the far seas, with different target fish species and fishery types.
- In Japan, public regulations (fishery rights, fishing permits, etc.) and fishers' voluntary resource management are combined based on the characteristics of each species and fishery type in order to coordinate the uses of fishing grounds by various fishers and to effectively manage fishery resources.

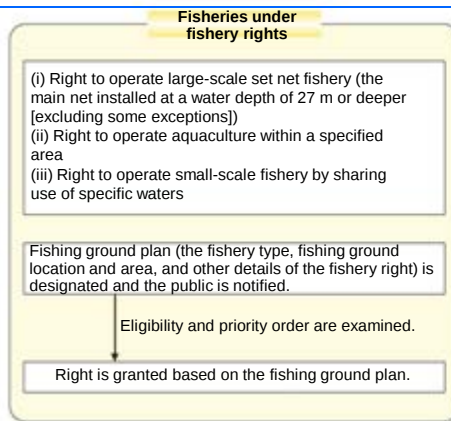
Column: Characteristics of the TAC system in Japan

- Fishery resource management based on the total allowable catch (TAC) system has the following advantages: (i) the catch volume can be directly managed for each fish species; and (ii) flexible management is possible since a new TAC is set every year. On the other hand, it has the following drawbacks: (i) it requires a substantial amount of scientific knowledge; and (ii) a monitoring framework is indispensable for identifying and managing the catch volume, which requires an enormous administration cost.
- Also, if only an upper limit to the TAC were set without further regulations, it would lead to *Olympic*-fisheries, causing fishers to rush for the fish, and would likely deteriorate fishery business management through excessive investment in fisheries.
- The TAC system in Japan adopts a process whereby TAC is first distributed under a specific rule, and the distributed TAC is managed under an agreement concluded among fishers. This method allows for detailed management of TAC and provides stable operation opportunities to fishers.

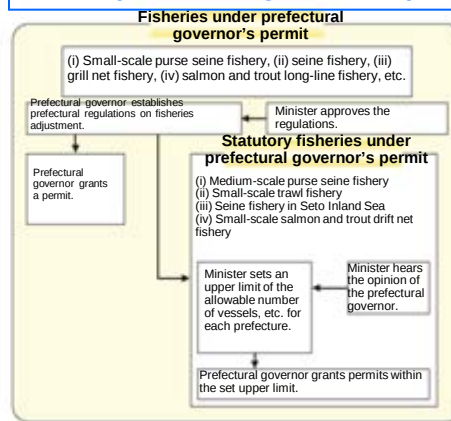
(Resource management based on public regulations)

- For fisheries targeting sedentary resources in coastal areas, the prefectural governor grants common fishery rights to fishery cooperatives. The rights are granted by specifying the fishing ground area, the target fish species, and fishing methods. Also, resource-management measures, such as restriction of fishing gear, fishing methods, and operation period, are implemented under the rules on exercise of fishery rights.
- For offshore and far-seas fisheries, which require coordination between areas and between fishery types and have a large influence on resources, the Minister of Agriculture, Forestry and Fisheries or the prefectural governor issues fishing permits. The number and gross tonnage of fishing vessels, operation period and area, and fishing methods are regulated under this permit system.
- The TAC system, which sets the upper limit of annual allowable catch volume, is implemented for seven species (saury, Alaska pollack, horse mackerel, sardine, mackerels, Japanese common squid, and snow crab).

Conceptual diagram of fisheries under fishery rights



Conceptual diagram of fisheries under prefectural governor's permit



Conceptual diagram of fisheries under minister's permit



Target species of the TAC system

Species that satisfy any of the following requirements and for which sufficient scientific knowledge has been accumulated for deciding the TAC are designated:

- (i) Living marine resources that are caught and consumed in large volumes and are important for the livelihood of Japanese people and for Japan's fisheries
- (ii) Living marine resources with a poor resource level that require urgent preservation and management based on TAC
- (iii) Living marine resources that are harvested by foreign fishing vessels in waters surrounding Japan

Seven species have been designated.

- Sauri
- Alaska pollack
- Horse mackerel
- Sardine
- Common mackerel and spotted mackerel
- Japanese common squid
- Snow crab

Satisfying requirements (i) and (iii)

Satisfying requirements (ii) and (iii)

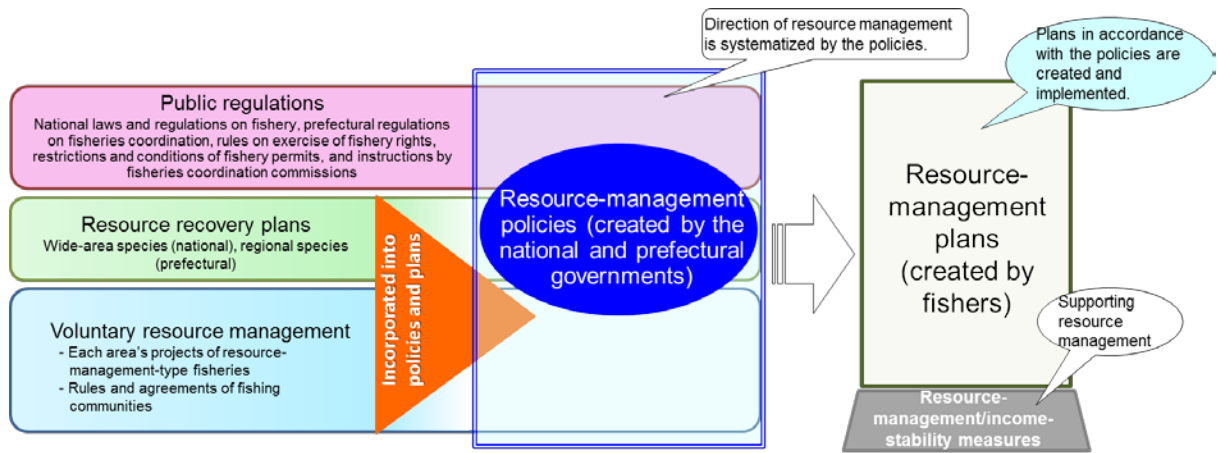
(Voluntary resource management by fishers)

- In addition to public regulations, fishers have made voluntary resource-management efforts such as suspension of fishing operations, restriction on body length, and restriction of the operation period and area.
- Through a number of projects, the government has supported resource-management efforts made under a voluntary agreement by related fishers.
- Since 2002, resource recovery plans had been implemented whereby related entities jointly work toward reducing the fishing effort and cultivating resources for those resources that need to be recovered promptly.

(Implementation of systematic resource management nationwide)

- A new resource-management system was launched in FY2011. Under this system, the national and prefectural governments formulate resource-management policies, and based on those policies, fishers' organizations create resource-management plans and implement them.
- This new system targets coastal, offshore, and far-seas fisheries nationwide, and promotes systematic resource management jointly conducted by administration, research institutes, and fishers.
- As of the end of March 2013, 1,705 resource-management plans had been formulated.

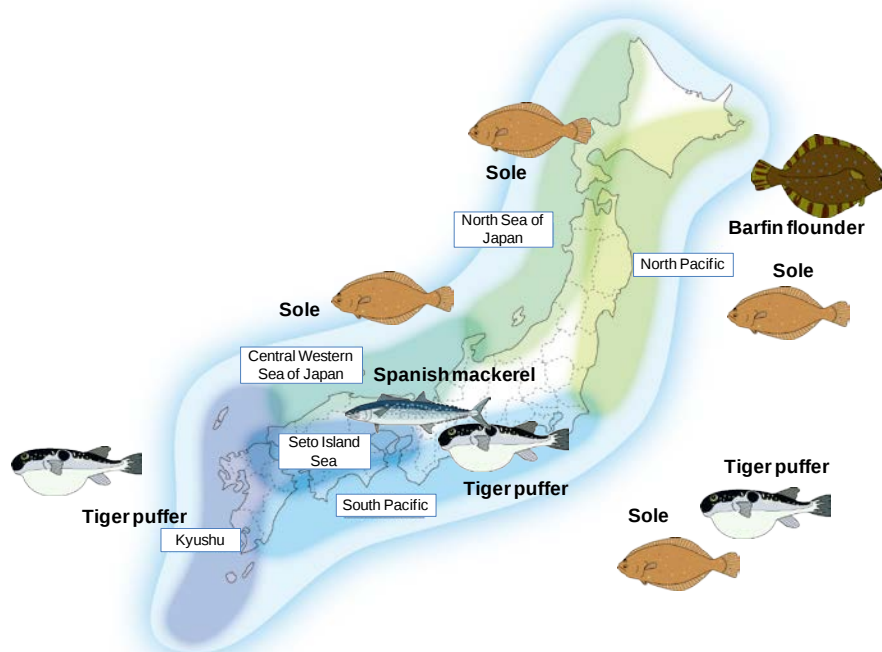
New resource-management system based on resource-management policies and resource-management plans



(Promoting the development of resources through seedling release)

- Fish farming, which actively increases fishery resources through producing and releasing seedlings of fish and shellfish and managing their growth, contributes to the recovery of fishery resources and the stability of business management of fishers engaged in coastal fishery.
- Regional Sea-Farming Promotion Committees were established in FY2011 for six sea areas nationwide, and they promote cooperation between related prefectures in seedling production and release activities.

Major target species of Regional Sea-Farming Promotion Committees



Column: To deliver eco-labeled fishery products to consumers

- Fishery eco-labels are marks attached to fishery products to indicate that they have been caught by a method that gives consideration to the sustainability of ecosystems and resources.
- In May 2012, products attaching the mark of Marine Eco-Label Japan (MEL Japan), a Japanese fisheries organization, started to be sold full-fledged by two large retail chains. In May 2013, the Marine Stewardship Council (MSC), headquartered in the United Kingdom, granted a certification to scallop fishery conducted by the Hokkaido Federation of Fisheries Cooperative Associations.
- Although products attaching a fishery eco-label began to reach consumers more frequently, it is necessary to further enhance consumer recognition of the marks in order to further disseminate the marks in the future.



(3) Fishery enforcement that supports the effectiveness of resource management

- Living resources on shore reef such as abalone and sea cucumbers are subject to common fishery rights granted to fishery cooperatives; and fishers themselves conserve and manage the resources. However, these resources include many that are valuable, and are comparatively easy to harvest using simple diving equipment. Thus, there have been many incidents of recreational visitors harvesting such resources as well as criminal organizations carrying out fish poaching.
- In addition, violations of regulations on operation period and area or fishing gear by fishers themselves prejudice the effectiveness of their own fishery resource-management measures, so it is necessary to prevent and control such violations.
- To enforce the above issues, Japan Coast Guard officers and police officers, as well as authorized fisheries enforcement officers from the Fisheries Agency and prefectural governments are carrying out activities in coordination with each other. In addition, fishers themselves are taking charge of patrolling their fishing grounds.

(4) Aquatic environment that nurtures fishery resources

(Shrinking seagrass beds and tidal flats that nurture fishery resources)

- Seagrass beds serve as important nursing grounds for juvenile fish and spawning grounds for aquatic animals. However, seagrass beds are shrinking due to the development of coastal areas and *sea desertification*.
- Tidal flats are important not only as places where various kinds of organisms can grow, but also as buffer zones that purify sea water and suppress sudden changes in the concentration of nutrient salts that flow in from land areas. However, tidal flats are shrinking due to land reclamations. Also, the production capacity of existing tidal flats has been lowering in various locations.
- In many enclosed sea areas, including Seto Inland Sea and the Sea of Ariake, oxygen-depleted water masses have caused the deaths of fish and shellfish and color loss of cultured laver. To control the damage, the water-purifying effect and the material-circulation function of the silt area in shallow seas are drawing attention.

Deepening the understanding of the fishing industry through seagrass bed conservation activities

- The Hagi City Seagrass Bed Conservation Council , composed of fishers in Hagi City, Yamagata Prefecture, created seagrass beds in cooperation with Koshigahama Elementary School in Hagi City, in order to help local residents and their children understand the importance of seagrass beds.
- In this activity, fishers first gave a lecture on the role of fisheries and the importance of conserving seagrass beds at the elementary school. Then, school students and fishers planted *arame* seaweed together. Children have deepened their understanding of the fishing industry through such practical activities.



Elementary school students learning how to plant *arame* seaweed from a fisher

(5) Damage to fisheries by wildlife and harmful organisms

- With regard to fisheries operations in the waters surrounding Japan, there has been feeding damage to fish catches, delay of work, damage to fishing equipment caused by wildlife and harmful organisms such as Steller sea lions, earless seals, longheaded eagle rays, sea squirts, and large jellyfish.
- According to a survey by Hokkaido, damage worth about 1.5 billion yen was caused by Steller sea lions and about 300 million yen by seals during FY2011.
- The national and prefectural governments are implementing comprehensive measures for preventing damage, such as (i) identifying the ecology of organisms that cause fishery damage, (ii) provision of information on appearance or predicted appearance of such organisms to fishery-related entities, (iii) promoting the introduction of improved fishing gear, etc., and (iv) supporting demonstration tests for methods to exterminate or chase away harmful organisms.

Locations of occurrence of fishery damage and damage details

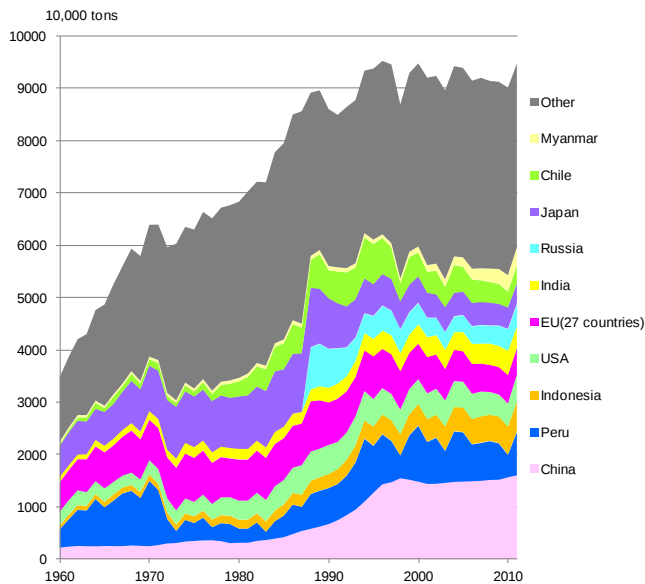
Name of wildlife/harmful organism	Area of occurrence	Damage details
Large jellyfish	Sea of Japan side, Sanriku coast, etc.	Started appearing in vast quantities in 2002, causing damage, including broken fish nets such as trawls and set nets and degradation of catches, thereby increasing working hours. Have not appeared in large quantities since FY2010.
Longheaded eagle ray	Sea of Ariake and Seto Inland Sea	Feeding on clams, such as Japanese littleneck clam and fan-mussels, and causing damage such as broken fish nets (e.g. gill nets)
Steller sea lion	Hokkaido and Aomori Prefectures	Damage such as broken fish nets, including gill nets and set nets, and diminishing catches through feeding
Earless seals	Hokkaido	Damage such as broken fish nets, including gill nets and set nets, and diminishing catches through feeding
Sea squirt (<i>Ascidella aspersa</i>)	Hokkaido and Aomori Prefectures	Adhere in large quantities to aquaculture facilities, causing damage that includes inhibiting growth of scallop by eating massive amounts of feed (phytoplankton), and increasing working hours by making the aquaculture facilities heavier.

Section 4 : International affairs surrounding the fisheries

(1) State of world fisheries and aquaculture production

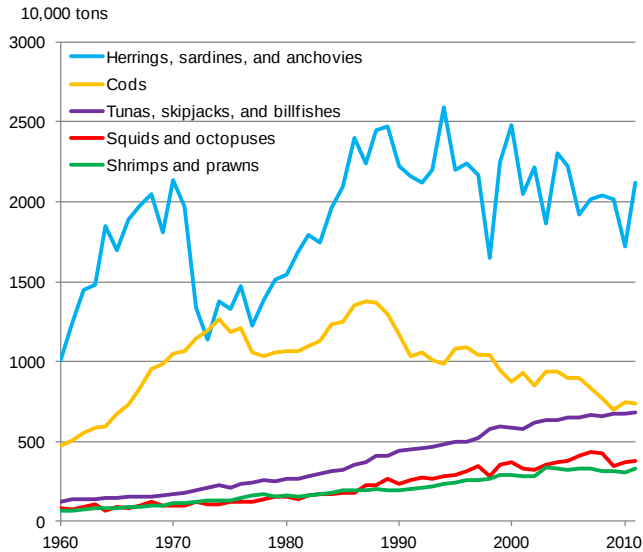
- The global fishery production volume peaked after the second half of the 1980s. In 2011, the production volume was 94.6 million tons. By country, China has the highest volume, accounting for 17.0% of the world's production volume. By fish species, production volume of herrings, sardines, and anchovies is the largest, accounting for 22.4% of the overall volume.
- Global aquaculture production continues to increase, especially in China. In 2011, the production volume was 83.73 million tons. By country, China has the highest volume, accounting for 59.9% of the world's production volume. By fish species, carps represent the highest volume, making up 30.0% of the total.

Changes in in global fishery production (by country)

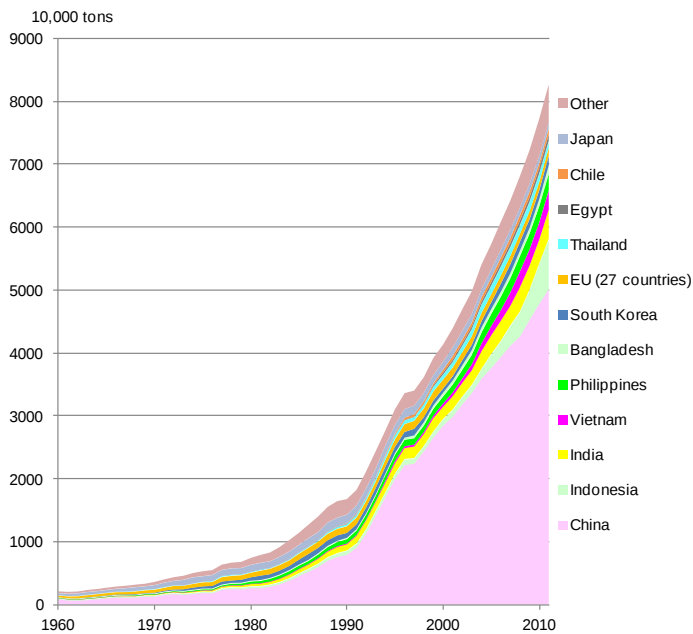


Source: FAO, *Fishstat (Capture Production)* (data for countries except Japan) and MAFF, *Annual Statistics on Fishery and Aquaculture Production* (data for Japan).

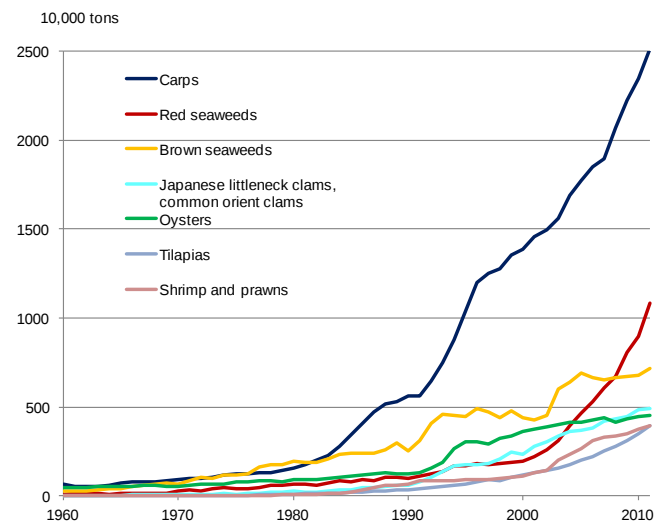
Changes in global fishery production (by fish species)



Changes in global aquaculture production (by country)



Changes in global aquaculture production (by fish species)



Source: FAO, *Fishstat (Aquaculture Production)* (data for countries except Japan) and MAFF, *Annual Statistics on Fishery and Aquaculture Production* (data for Japan)

Number of fishing vessels of major countries and regions

(vessels)

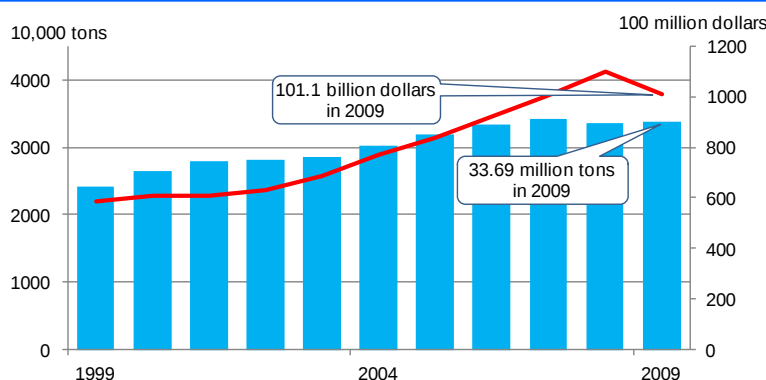
		2003	2004	2005	2006	2007	2008	2009	2010
Japan	Powered fishing vessels of 10 t or more (those that are actually in operation)	13,115 (10,547)	12,916	12,729	12,447	12,277	12,099 (9,742)	11,782	11,634
China	Powered fishing vessels of 12 m or more	—	—	—	—	—	132,462	136,137	136,863
South Korea	Powered fishing vessels of 12 m or more	9,111	8,890	8,806	8,412	8,252	7,667	7,137	7,135
Taiwan	Powered fishing vessels of 10 t or more	5,871	5,886	5,918	5,859	5,784	5,674	5,585	5,664
Norway	Powered fishing vessels of 12 m or more	1,766	1,655	1,533	1,478	1,459	1,332	1,309	1,287
Spain	Powered fishing vessels of 12 m or more	3,721	3,675	3,612	3,523	3,408	3,290	3,142	2,992
New Zealand	Powered fishing vessels of 12 m or more	706	687	660	618	568	555	543	543

Source: Fisheries Agency, *Statistic Tables of Fishing Vessels* (data for Japan [registered fishing vessels]), MAFF, *Census of Fisheries* (data for Japan [vessels actually in operation]), Bureau of Fisheries, Ministry of Agriculture of the People's Republic of China, *China Fisheries Yearbook* (data for China), Fisheries Administration, Council of Agriculture, Executive Yuan, Republic of China, *Fisheries Statistical Yearbook* (data for Taiwan), and OECD, *OECD Review of Fisheries: Country Statistics 2012* (data for countries and areas other than Japan, China, and Taiwan).

(2) Status of international fish and fishery product trade

- As global demand continues to expand, the global trade of fish and fishery products has been increasing both in terms of volume and value. The global import trade volume of fish and fishery products in 2009 reached 33.69 million tons.

Changes in import trade volume and value of fish and fishery products worldwide



Source: FAO, *Fishstat (Commodities Production and Trade)*.

(3) Japan's relations in international fisheries

(Bilateral and multilateral fishery relations)

- Japan has concluded bilateral fishery agreements with South Korea, China, and Russia, gaining mutual permission to fish within each other's waters under certain conditions. Under these agreements, the coastal state permits and regulates the operations of fishing vessels of the counterparty state.
- Under the Japan-South Korea fishery agreement, *provisional waters* are established in a part of the Sea of Japan and waters off the southern part of Jeju Island, where the coastal state does not take such regulatory measures. In the provisional waters in the Sea of Japan, South Korean fishing vessels have installed many grill nets and baskets, raising concerns about their adverse impact on fishery resources. Also, there are concerns that Chinese fishing vessels operating in the *Japan-China provisional waters* and *common waters* established in the East China Sea, etc. under the Japan-China fishery agreement would have adverse effects on mackerel and horse mackerel resources.
- In April 2013, Interchange Association, Japan (IAJ) and the East Asia Relations Commission of Taiwan agreed on a Japan-Taiwan private sector fisheries arrangement for constructing a fisheries order between Japan and Taiwan.
- In addition, Japan has also secured operations for Japanese fishing vessels based on private contracts and intergovernmental agreements concluded or maintained with various Pacific island countries as well as African countries.
- Japan is promoting appropriate resource management in waters surrounding Japan through bilateral negotiations with South Korea, China, and Russia. Also, Japan advances international fishery resource management by making contributions in both scientific and administrative fields in regional fisheries management organizations.

(Cooperation in overseas fisheries)

- As part of official development assistance (ODA) efforts, Japan (i) provides grant aid for fisheries (developing fishery-related facilities, providing fishery-related materials and equipment, etc.) so as to contribute to promotion of the fishing industry and to resource management in developing countries, and (ii) provides technical assistance (accepting trainees, transferring or disseminating fishery technology, etc.) to coastal countries where Japanese fishing vessels conduct fishing operations.

(Technical Intern Training Program in the fishing industry)

- In order to meet the needs of developing countries for human resource development, Japan offers a Technical Intern Training Program (a program for youth and adult workers from other countries, to provide technical intern training for them in Japanese industry for a maximum of three years).
- In the fishery sector, the program covers 17 selective works in fishing, aquaculture, and fishery processing industries.
- Technical interns are subject to laws and regulations concerning foreign nationals, such as the Immigration Control and Refugee Recognition Act. Also, they are protected under labor-related laws and regulations, such as the Labor Standards Act.

Column: Aiming for sustainable utilization of whale resources

- In 1982, the International Whaling Commission (IWC) adopted a temporary suspension (moratorium) of commercial whaling because of insufficient scientific data on whale resources.
- Thus, in order to collect scientific data oriented toward the resumption of commercial whaling, Japan has been carrying out research on whale resources employing lethal methods since 1987 under Article 8 of the International Convention for the Regulation of Whaling.
- In recent years, harassment by an anti-whaling organization in relation to the research in the Antarctic Ocean has become an issue. During the 2012/2013 research cruise, the organization obstructed the research team when it was hauling a captured whale onto the mother ship and when fueling at sea.
- Japan is working on related countries through diplomatic routes, and relevant ministries and agencies are cooperating with each other to take necessary measures.
- Japan has been calling for the resumption of commercial whaling for stocks that can be used in a sustainable manner, such as minke whales, from the viewpoint of (i) maintaining the principle of sustainable use of living marine resources based on scientific grounds, (ii) taking a long-term measure for food security issues, and (iii) respecting the inherent culture of each country. Since the global food shortage is expected to worsen in the near future, many countries support Japan's call. It is important to continue promoting the understanding of other countries toward resuming commercial whaling.



On "School Meal—Whale Exchange Day," deep-fried whale was provided for school meals in Shimonoseki City and Nagato City, Yamaguchi Prefecture.

(Regulation of foreign fishing vessels)

- Illegal fishing operations by foreign fishing vessels in Japan's exclusive economic zone (EEZ) hinder the effective use of fishing grounds by Japanese fishers as well as their efforts toward fishery resource management in waters surrounding Japan.
- The Fisheries Agency is strengthening monitoring and enforcement in collaboration with relevant agencies, such as the Japan Coast Guard. Efforts are being made to ensure that Japanese fishers can engage in fishing operations without anxiety, such as by intensively allocating fishery patrol vessels in waters surrounding Senkaku Islands and Sakishima Islands in Okinawa Prefecture.
- In 2012, the Fisheries Agency seized 11 foreign fishing vessels (10 violations of the Act on the Exercise of the Sovereign Right for Fishery, etc. in the Exclusive Economic Zone and one violation of the Fishery Act), conducted 130 on-board inspections, and confiscated 22 pieces of fishing equipment that were installed illegally.

Column: Many Chinese fishing vessels operating in East China Sea

- According to official statistics by the Chinese government, there were about 293,000 vessels in China in 2010. Of these, the number of fishing vessels that are 12 m or longer and that engage in offshore or far seas fishery is about 137,000, more than ten times the number in Japan. Most of these fishing vessels are considered to be operating in the Yellow Sea or the East China Sea, which are close to China.
- In the East China Sea, Japanese and Chinese fishing vessels carry out fishing operations in each other's waters under the Japan-China fishery agreement. Japanese fishery patrol vessels have confirmed that vessels that appear to be Chinese trawlers are crowding specific sea areas and conducting fishing operations. In addition, some Chinese fishing vessels have been confirmed to have introduced a new fishing method called *tiger net* for efficiently harvesting horse mackerel and mackerel. Therefore, there is some concern about their adverse impact on fishery resources in the East China Sea.



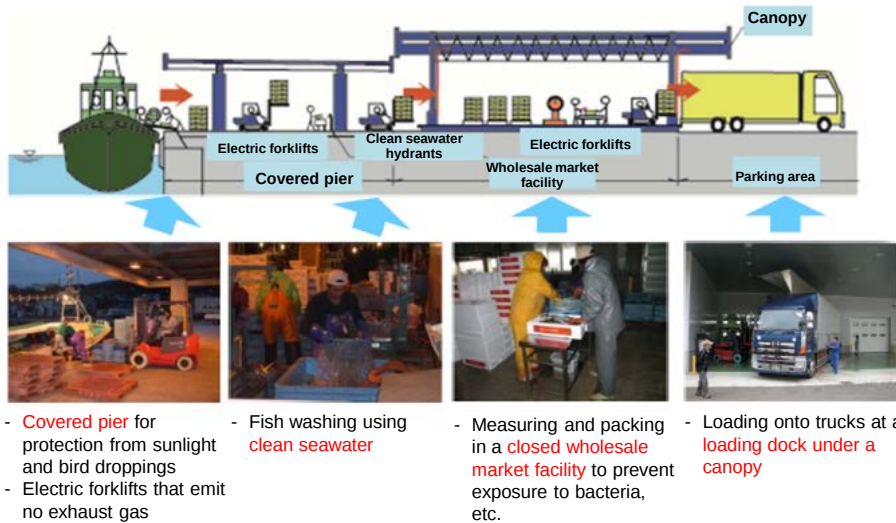
Chinese tiger net fishing vessel (in front) operating without a permit within Japan's EEZ. Captured by one of the Fisheries Agency's fishery patrol vessels in February 2013.

Section 5 : Development of safe and vigorous fishing communities

(1) Upgrading of the roles and functions of fishing ports

- There are 2,912 fishing ports in Japan. About three-quarters of them are type 1 fishing ports, which are mainly used by local fishers. On average, there is a fishing port about every 12 km along Japan's coastline.
- Fishing ports share roles according to the type of local fishing industry and the extent of use of the port, and cooperate with each other in providing a stable supply of fish and fishery products for the whole region.
- The national and local governments are promoting efforts toward upgrading the functions of fishing ports.

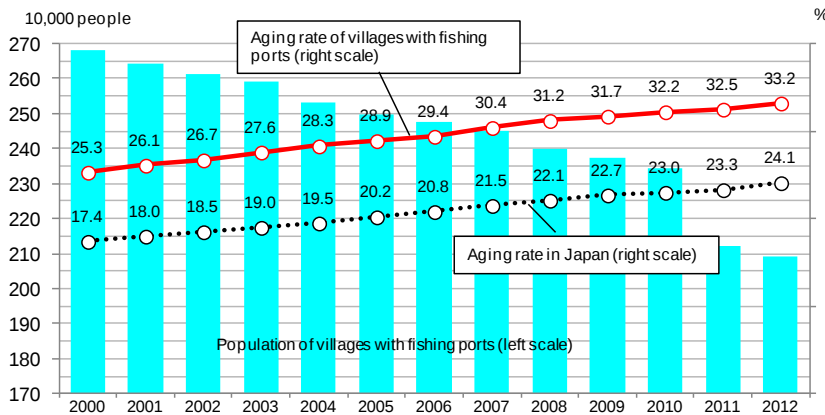
Efforts for upgrading the distribution function of fishing ports (development of fish wholesale market facilities under advanced hygiene control, etc.)



(2) Current state of fishing communities

- There are 6,298 fishing communities in Japan. On average, there is a fishing community about every 5.6 km along Japan's coastline, and they are located all over the coastal regions in Japan, including geographically disadvantaged areas such as the outlands, isolated islands, and peninsulas.
- Of the fishing communities, 90% are communities where houses are densely located or houses gather at a specific area and which form a cohesive fishing village community.
- Many fishing communities are faced with disadvantages in terms of daily life and the location of many industries other than fishery, and population aging and decline are also progressing.

Changes in the population and aging rate of villages with fishing ports



Source: for changes in the population and aging rate of villages with fishing ports, Fisheries Agency survey; for the aging rate in Japan, Ministry of Internal Affairs and Communications, *Population Census* (data for 2000, 2005, and 2010) and *Population Estimates* (data for other years).

Notes:

- 1) The aging rate is the percentage of people aged 65 or older in the total population for each category.
- 2) Population and the aging rate of villages with fishing ports for 2011 and 2012 are figures for prefectures excluding Iwate, Miyagi, and Fukushima Prefectures, taking into consideration the effect of the Great East Japan Earthquake.

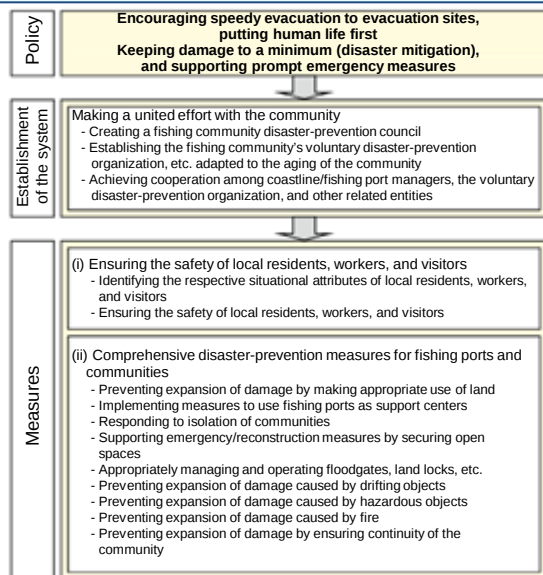
Area designation of the location of villages with fishing ports

Number of fishing port villages	Total			Depopulated area	Populated area
		Peninsula area	Remote island area		
	4212 (100.0%)	1452 (34.5%)	766 (18.2%)	2696 (64.0%)	1516 (36.0%)
Number of villages where 50% or more of the population are aged 65 or older	527 《14.1%》	231 《15.9%》	241 《31.5%》	538 《20.0%》	55 《3.6%》

Source: Fisheries Agency survey (as of the end of March 2012)
Note: Data excluding Iwate, Miyagi, and Fukushima Prefectures.

(3) Strengthening disaster prevention and promoting disaster mitigation in fishing communities

- In light of the fact that many fishing communities were seriously damaged from the earthquake and tsunami of the Great East Japan Earthquake, the government reviewed what kind of disaster-prevention measures would be appropriate for fishing ports and fishing communities. Based on the idea of *disaster mitigation*, which focuses on minimizing damage, the government further strengthened the disaster-prevention measures by promoting establishment of facilities (developing facilities required for disaster prevention) and efforts other than development of facilities in an integrated manner based on the characteristics of the communities.
- While the government had compiled the Guidelines on Disaster-resistant Fishing Communities, which indicate the approach to measures for preventing serious earthquake and tsunami damage in fishing communities, it revised the contents of the guidelines based on the results of investigations and inspections on the areas affected by the Great East Japan Earthquake and on the anticipated Tokai Earthquake and Tonankai-Nankai Earthquake, and published the revised guidelines in April 2012.



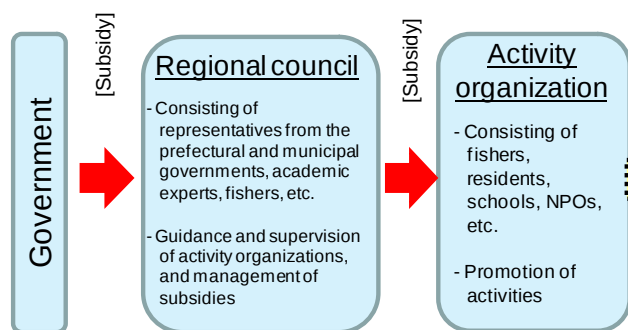
(4) Multiple functions of the fishing industry and fishing communities

- The fishing industry and fishing communities have multiple functions in addition to their primary function of supplying fish and fishery products to people. These functions include (i) conservation of the natural environment, (ii) formation/maintenance of local societies, (iii) ensuring security to the lives and properties of citizens, and (iv) providing a place for residence and cultural and rural exchange.
- The multiple functions of the fishing industry and fishing communities can only be demonstrated when people live in fishing communities and continue to operate fisheries or aquaculture. If fishing communities lose further vitality in the future, the demonstration of multiple functions may be hindered.
- Maintenance and reinforcement of the multiple functions of the fishing industry and fishing communities are a vital challenge for Japan, which is surrounded by the sea, and harvest from the sea constitutes a major element in people's welfare.
- In FY2013, a system was introduced whereby the government supports local activities that contribute to demonstrating multiple functions of the fishing industry and fishing communities.

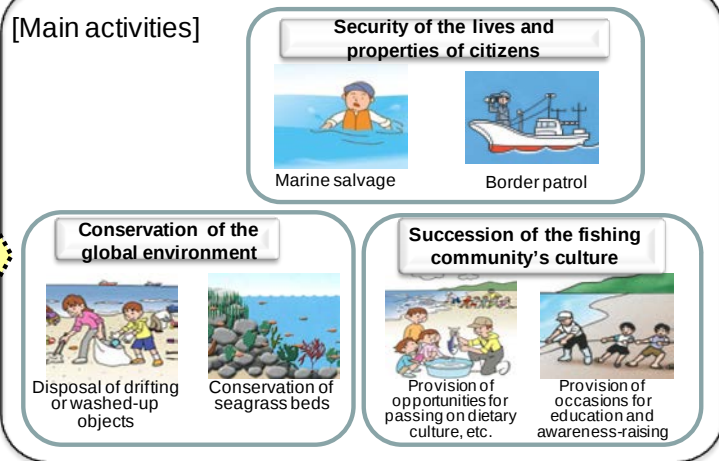
Multiple functions of the fishing industry and fishing communities



[Mechanism of project]



[Main activities]



Column: Formation of a giant monitoring network—Example of multiple functions of the fishery industry and fishing communities—

- In Japan, there are about 200,000 fishery workers, 185,000 fishing vessels, and 6,000 fishing communities. As a result of people living in fishing communities operating fishing on fishing vessels in the surrounding waters, a giant monitoring network has been formed around Japan, demonstrating the following functions.

(i) Border patrol function

Japan is totally surrounded by water, and it faces multiple neighboring countries across relatively narrow sea areas. It is extremely difficult to constantly monitor Japan's coastline, which totals 35,000 km in length. The day-to-day monitoring network, which was formed in coastal areas and based on the activities of fishing communities, contributes to inhibiting border violations and illegal entry to Japan.

(ii) Marine salvage function

When a marine accident occurs, fishers operating near the site stop their work and give first priority to search-and-rescue efforts.

(iii) Marine environment monitoring function

Since fishers are at sea on a daily basis, they quickly detect and report on any abnormal changes in the sea, such as red tide, oil spills, or illegal dumping.



Fishers carrying out marine salvage training (Kagawa Prefecture)

(5) Use of local resources in the fishing industry and fishing communities

(Revitalization of fishing communities that make use of local resources)

- Fishing communities have a variety of attractive aspects that cannot be found in urban areas, such as fresh fish and fishery products, outstanding natural environments, places for water-based recreation, and traditional cultures.
- To enable revitalization of fishing communities, it is important to discover or rediscover these draws, and implement various activities that characterize their community.
- It is essential to further promote the development of collaboration of primary, secondary, and tertiary industries ("sixth industry") that utilizes local resources and efforts to consume local products locally, so as to increase the vitality of fishing communities and secure fishers' income and employment. The government has strengthened its support to local efforts based on the Act on Promotion of the "Sixth Industry" to Create New Value Added Using Agricultural Products in Rural Areas. Also, related ministries and agencies have made joint efforts to reinforce inter-industry cooperation between the agricultural, forestry, and fishery sector and the commercial and industrial sector.

Local resources in fishing communities

Classification	Examples of local resources
Relating to fisheries	Fresh seafood, processed fishery products, fish markets, various types of fisheries and aquaculture, traditional fishing methods, fishery processing industry, etc.
Relating to nature and scenery	Fishing-village scenery, boat houses, temples and shrines, sea, seashores, beaches, tidal flats, marine organisms, etc.
Relating to marine recreation	Bathing beaches, marinas, fisherinas, fishing ponds, marine sports, recreational fishing, clam gathering, etc.
Relating to culture and tradition in fishing communities	Traditional events, festivals, morning markets and periodic markets, distinctive lifestyles, local cuisine, fishers' dishes, shipbuilding techniques, folk knowledge concerning the sea and weather, folk tales and anecdotes, associations for preserving local traditional culture, etc.
Relating to renewable energy	Wind, wave, solar light, biomass, seaweed and microalgae, etc.
Other	Warm bath facilities using seawater, warm bath using salt taken from burning seaweed, thalassotherapy, deep ocean water, etc.

(Use of marine renewable energy in the fishing industry and fishing communities)

- The new Basic Plan for Fisheries formulated in March 2012 clearly indicated that the government will promote efforts to introduce renewable energy, such as wind power generation and solar power generation, which would contribute to reducing energy costs in fishing ports and fishing communities and to cutting greenhouse gas emissions.
- At fishing ports, their ice-making and storage facilities, freezing and refrigeration facilities, processing facilities, and wholesale market facilities consume a large amount of energy. In April 2012, the Fisheries Agency published *Policy on More Eco-friendly Fishing Ports (Interim Report)* (describing methods to reduce CO₂ emissions at fishing ports and points to consider when using renewable energy at fishing ports) based on the results of discussions by the Technical Meeting for Promoting More Eco-friendly Fishing Ports .
- It is also essential to promote use of electricity in fishing facilities and landing facilities in order to reduce the use of fuel.
- When implementing a power-generation project using marine renewable energy, such as offshore wind-power generation, it is important to coordinate with fishers and other sea-area users. In one case, the project operator set up a council with local fishers to discuss introducing offshore wind-power generation facilities that harmonize with fisheries.

Emperor's Cup Award

Youth group of Tsushima Fisheries Co-operative of Pearl Farmers (Representative: Masaaki Hidaka)
(Tsushima City, Nagasaki Prefecture)

Volunteers among young pearl farmers made efforts to investigate the cause of and take control measures against *akoya* oyster disease, which causes mass mortalities among *akoya* oysters and seriously damages pearl aquaculture. They succeeded in preventing the spread of *akoya* oyster disease and inhibiting the onset of the disease. They also managed to shorten the aquaculture period, and contributed to improving the productivity of the whole pearl aquaculture industry.



Prime Minister's Award

Women group of Yusu Fisheries Cooperative (Representative: Mitsuko Yamauchi)
(Uwajima City, Ehime Prefecture)

Since 2008, the group has been selling processed products using local fish and fishery products. In 2010, they began activities to improve the public's perception of cultured fish and to advertise in the Yusu area by using a food truck to sell products.



Agriculture, Forestry, and Fisheries of Japan Promotion Association Chairperson's Award

KENKAMA, K.K. (Representative: Kenzo Ichikawa)
(Susaki City, Kochi Prefecture)

The company developed *chikuwa* fish sausage from dorado, which was landed in large quantities at local fishing ports but lacked marketability since they lost freshness quickly. The effective use of small dorado as an ingredient contributed to increasing the income of fishers and promoting regional development.

