FY2012
Trends in Fisheries

FY2013
Fishery Policy

White Paper on Fisheries:
Summary

This document is a report on fishery trends and the policy implemented during FY2012 in accordance with the provisions of Article 10, paragraph (1) of the Fisheries Basic Act (Act No. 89 of 2001) as well as the policy to be implemented in FY2013 in accordance with the provisions of paragraph (2) of said Article.

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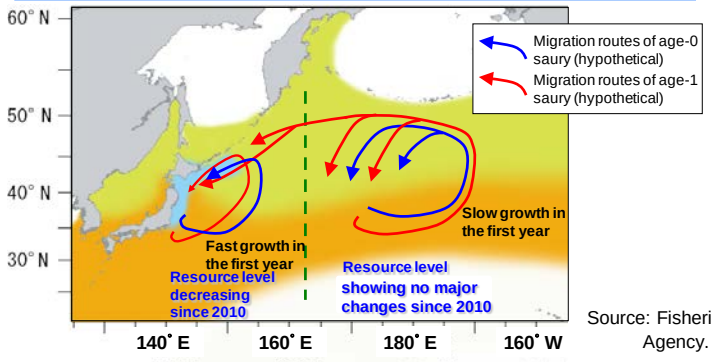
Topics: Fisheries in FY2012

Topic 1 : Poor catch of commercially important fish species (chum salmon, saury, and Japanese eel) and countermeasures

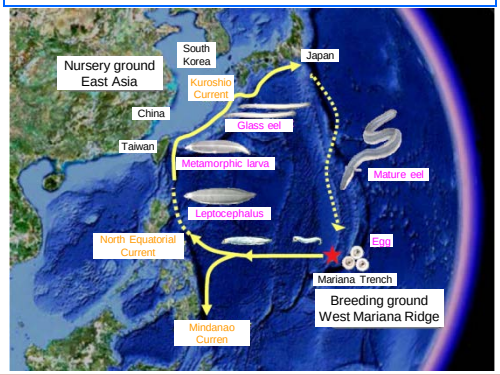
- FY2012 saw poor catches of commercially important fish species, such as chum salmon, saury, and Japanese eel. Various causes have been suggested, including a rise in the seawater temperature and changes in habitat conditions. It is important to further investigate the causes and, at the same time, take appropriate countermeasures against them.
  (1) Chum salmon: The chum salmon populations coming back to Japan's Pacific coast decreased, and its size became smaller nationwide. In FY2013, the Fisheries Agency will start measures that include research on the behavior of salmon juveniles in coastal areas after they are released in rivers for migration to the sea.
  (2) Saury: The landed value of saury was low, because aggregation of saury was not enough for forming fishing ground at the start of the fishing season and there was a decrease in large-sized saury. As the number of foreign fishing vessels catching saury in the high seas is also increasing, it is important to promote international resource management under the Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean (currently under ratification procedures in related countries).
  (3) Japanese Eel: The catch of juvenile eels (glass eels) has been poor for three consecutive years in Japan, China, Taiwan, and other East Asian countries/regions. The price of the glass eels for aquaculture seeds has skyrocketed, and the prices of broiled eels and other eel products soared. Since June 2012, the Fisheries Agency has implemented the following emergency measures for eel in collaboration with related countries/entitties and organizations: (i) business recovery measures for aquaculture operators, (ii) resource stocking efforts and improvement of habitat environment in rivers, (iii) domestic and international resource management, and (iv) reinforcement of research and study.

Migration routes of saury



Source: Fisheries Research Agency.

Migration routes of Japanese eel



Topic 2 : Reinforcement of resource management of Pacific bluefin tuna —For achieving sustainable use of resources—

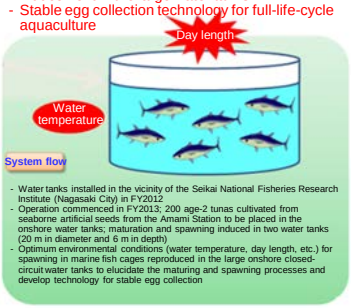
- Japan is the world's largest producer and consumer of Pacific bluefin tuna. Also, Pacific bluefin tuna's spawning ground is presumed to exist around west and south of Japan. Therefore, Japan is not only domestically, but also internationally responsible for the conservation and management of Pacific bluefin tuna resources.
- The Fisheries Agency announced "Actions toward effective conservation and management for Pacific bluefin tuna" in May 2010. It introduced measures for making clear the actual statuses of catches and use of the resources in offshore fishery, coastal fishery, and aquaculture and reducing the juvenile catch.
- Since the amount of catch of juveniles used as aquaculture seeds has been increasing in line with the growth of aquaculture production of bluefin tuna, the Minister of Agriculture, Forestry and Fisheries issued a directive under the Fisheries Act in October 2012 stating that the number of aquaculture sites should not be increased nor should the scale of fish cages for bluefin tuna be expanded from the present level.
- The Fisheries Research Agency has launched a research project to develop technology for producing fertilized eggs of bluefin tuna in a stable manner by using on-shore experimental facility, which is one of the challenges of maintaining a stable supply of artificial seeds (Construction of onshore facility was completed in Nagasaki Prefecture at the end of March 2013.).

Tuna Festival in Nagasaki

Development of technology for stable collection of fertilized eggs

Stable egg collection technology using large onshore water tanks

- Full control of the rearing environment (light and temperature)
- Timely maturation acceleration and spawning inducement in the large water tanks
- Stable egg collection technology for full-life-cycle aquaculture



- Water tanks installed in the vicinity of the Seikai National Fisheries Research Institute (Nagasaki City) in FY2012
- Operation commenced in FY2013; 200 age-2 tunas cultivated from seaborne artificial seeds from the Amami Station to be placed in the onshore water tanks; maturation and spawning induced in two water tanks (20 m in diameter and 6 m in depth)
- Optimum environmental conditions (water temperature, day length, etc.) for spawning in marine fish cages reproduced in the large onshore closed-circuit water tanks to elucidate the maturing and spawning processes and develop technology for stable egg collection

Onshore fish tank of 20 m in diameter to be used for bluefin-tuna-rearing experiments (under construction)

Source: Fisheries Research Agency.

Topic 3 : Launch of the “Delight of a Fish-Rich Country” project as a public-private collaboration effort to expand consumption

- The “Delight of a Fish-Rich Country” project, which includes the following activities, commenced in July 2012 as a public-private collaboration campaign to stimulate the overall fishing industry, aiming to expand consumption of fish and fishery products.
  (1) A program was launched in August 2012. Since then, various efforts to expand consumption of fish and fishery products, including events and cooking classes, have been registered as “Delight of a Fish-Rich Country” demonstration activities. These activities have been periodically publicized and advertised nationwide by the Fisheries Agency .
  (2) A system was established to seek handy and tasty processed fishery products and seasonings from the public, and select Fast Fish products from among them. Applications have been accepted since August 2012. (2,290 products from 296 companies have been selected as Fast Fish products as of the end of May 2013.)
  (3) In order to enable fishery-related entities to provide schools with fish-rich-diet educational programs, etc. that meet schools' needs, the Fisheries Agency, through its Website, has informed the public of the website of the Ministry of Education, Culture, Sports, Science and Technology (MEXT) since October 2012, with a view to match schools with fishery-related entities.
  (4) A program was started in November 2012. Since then, the Director-General of the Fisheries Agency has appointed persons who are engaged in spreading and passing on fish-rich dietary culture as *Osakana Kataribe* (fish storytellers) and endorsed their activities. (58 persons have been appointed as of the end of May 2013.)

Overall image of the “Delight of a Fish-Rich Country" project

“Delight of a Fish-Rich Country" project

“Delight of a Fish-Rich Country" promotion conference

(with representatives from producers, fishery-related organizations, processors/distributors, and consumers)

August-
“Delight of a Fish-Rich Country" demonstration activities
Periodically publicizing various activities that contribute to expanding consumption of fish and fishery products, such as fishery events
Activities of 102 entities have been registered.*

August-
Fast Fish
Selecting Fast Fish products based on criteria, such as convenience, handiness, and potential for demand growth
Through five selection sessions, 2,290 products from 296 companies have been selected.*

October –
Supporting promotion of fish-rich diet through school education
Collaborating with MEXT, etc. to enable schools and the local community, society, and industry to collaborate/cooperate with each other in providing educational activities

November-
***Osakana Kataribe* appointed by the Director-General**
The Director-General of the Fisheries Agency appointing fish storytellers to endorse them in spreading and passing on diverse fish-rich dietary culture in various fields
58 persons have been appointed.*

***Osakana Kataribe* Conference 2012 and 2013 have been held.**

Forum for exchanging opinions and interacting
Introducing and publicizing members' activities , etc.
Providing information on events, etc.
Proposing projects, inviting collaboration partners

Participants' activities

Participants' activities

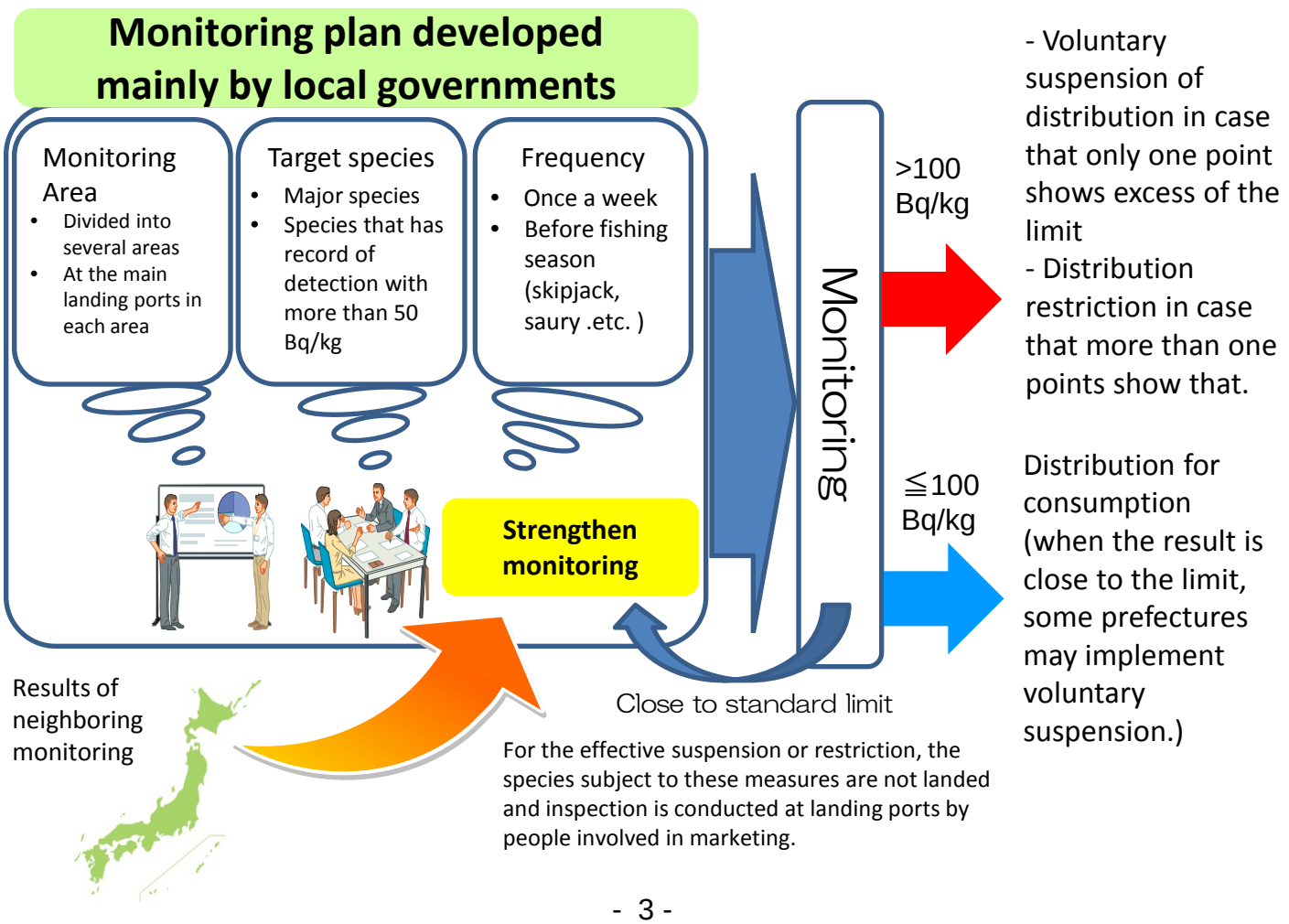
Participants' activities

* As of the end of May 2013

Topic 4 : Enhancement of food safety measures for fishery products based on the results of radioactive materials monitoring

- Ever since the accident at the Fukushima Daiichi Nuclear Power Plant Station (F1NPS) of Tokyo Electric Power Company (TEPCO), the government, the relevant local governments, and relevant fishery industry/cooperatives have worked together to implement radioactive materials monitoring for fishery products. When radioactive cesium close to or exceeding the standard limit (100 becquerels per kilogram [Bq/kg]) have been detected in the products, fishers/distributors voluntarily suspend distribution/fishing operation and relevant local governments request fishers or distributors to voluntarily suspend distributing and/or fishery operations. Meanwhile, when the expansion of sea contamination is detected, for example, where radioactive cesium that exceeds the standard limit is detected in different locations off the coast of a certain prefecture, the Director-General of the Nuclear Emergency Response Headquarters (the Prime Minister) directs distribution restriction by area and species. Through such system, the government makes sure that fishery products containing radioactive cesium exceeding the standard limit are not distributed to markets.
- According to the monitoring results to date, excess ratio (No. of samples more than the standard limit / Total No. of samples) has been decreasing. It reached to 7.6% in Fukushima during the January–March term of 2013, and 0.6% in other Prefecture.
- (1) No results of monitoring of skipjacks/tunas, chum salmon, and saury have exceeded the standard limit to date. (2) No results of fish in the surface layer, such as juvenile anchovy (whitebait) and juvenile sand lances (except for one sample of halfbeak collected off the coast of Fukushima Prefecture) , have exceeded the standard limit since September 2011. (3) Also, no results of squids/octopuses, mollusks, crustacean, algae have exceeded the standard limit since August 2012. (4) Results of some species that live near the sea floor (demersal fish), such as flounders/soles and Pacific cod, still occasionally exceed the standard limit depending on the sea area, but the exceeding ratio has been gradually decreasing.
- The government has continued to ensure that fishery products that exceed the standard limit are not distributed to markets, by implementing radioactive materials monitoring for fishery products in cooperation with relevant local governments and fishing industry/cooperatives. It has also made efforts to allow consumers to purchase fishery products distributed to markets with greater confidence, by publicizing the monitoring results in a way that consumers find easy to understand,etc.

Framework of radioactive materials monitoring for fishery products



Chapter I : [Special Feature] Bringing gifts from the sea onto the dining table: toward revival of fish-rich diet and lifestyle

Section 1 : Situation of fish and fishery products for human consumption and the significance of achieving revival of fish-rich diet

(1) Japan: a major fishery resources holder
(Japan surrounded by the world's richest fishing grounds)

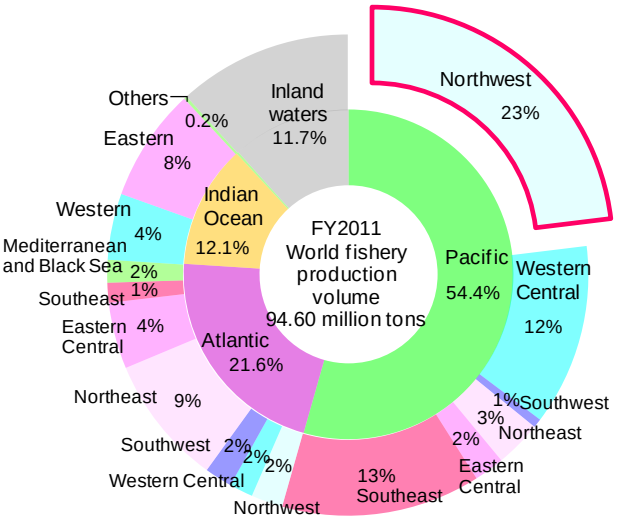
- Japan's exclusive economic zone (EEZ) boasts the sixth largest area in the world. The Northwest Pacific region, including the waters surrounding Japan, represents one of the richest fishing grounds, accounting for about 20% of the world's fishery production in volume.
- In particular, a wide variety of fishery resources can be caught in the waters surrounding Japan where cold currents and warm currents meet. Japan still boasts the sixth largest marine fishery production in volume in the world.

EEZ area, etc. by country

Ranking	Country	Territorial waters + EEZ area	Land area (including inland waters) ranking	Share in the world's marine fishery production volume (ranking) [2011]
1st	USA	7.62 million km^2	3rd	6.2% (4th)
2nd	Australia	7.01 million km^2	6th	0.2% (57th)
3rd	Indonesia	5.41 million km^2	15th	6.4% (3rd)
4th	New Zealand	4.83 million km^2	76th	0.5% (31st)
5th	Canada	4.70 million km^2	2nd	1.0% (21st)
6th	Japan	4.47 million km^2	62nd	4.6% (6th)

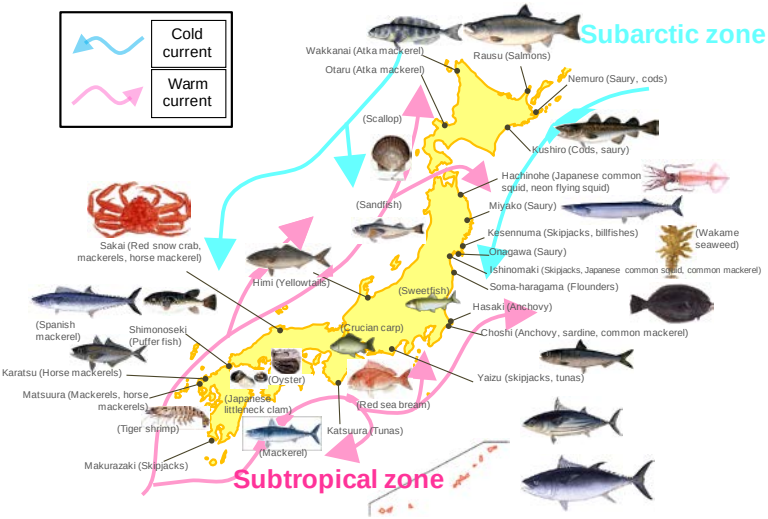
Sources:
For areas of EEZ, etc.: U.S. Department of State, *Limits in the Seas* (data for countries other than Japan); Japan Coast Guard Website (data for Japan).
For land area (including inland waters) ranking: U.S. Central Intelligence Agency, *The World Factbook*.
For catch volume: Food and Agriculture Organization (FAO), *Fishstat (Capture Production)* (data for countries other than Japan); Ministry of Agriculture, Forestry and Fisheries (MAFF), *Annual Statistics on Fishery and Aquaculture Production* (data for Japan).

Major fishing grounds of the world



Source: FAO, *Fishstat (Capture Production)*

Wide variety of fishery resources caught in the waters surrounding Japan



Source: Compiled by the Fisheries Agency based on MAFF, *Annual Report of Distribution Statistics on Fisheries Products* and *Annual Statistics on Fishery and Aquaculture Production*.

(Sustainable use of the abundant fishery resources through appropriate resource management)

- In order to achieve sustainable use of the abundant resources in the waters surrounding Japan, the following measures are implemented under compulsory regulations and fishers' voluntary resource management: (1) input control (restricting the number of fishing vessels, etc.); (2) technical control (restricting the mesh size of fishing nets, etc.); and (3) output control (setting the total allowable catch [TAC], etc.).
- With the aim of appropriately managing abundant fishery resources while ensuring the business stability of fisheries that use such resources for human consumption, "resource management/income stability measures" have been implemented.

Fishery resource management methods

[Appropriate resource management methods]

Input control

(Fishing permit system)

→ Restriction on the number of operating vessels
→ Restriction on the tonnage of fishing vessels
→ Restriction on the operating period
→ Restriction on the engine power of fishing vessels
and others

Technical control

(Operation regulations)

→ Fishing gear regulations, such as restriction on the fishing net mesh size
→ Measure to prohibit fishing during the spawning period
→ Establishment of protected areas in spawning grounds
and others

Output control

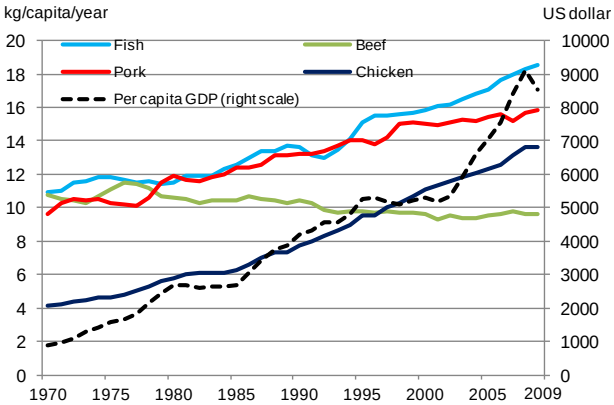
→ Total allowable catch (TAC)
→ Individual quota (IQ) allocated to each vessel
and others

(2) Fishery resources in the waters surrounding Japan gaining importance amid expanding global demand

(Consumption volume of fish and fishery products for food increasing worldwide)

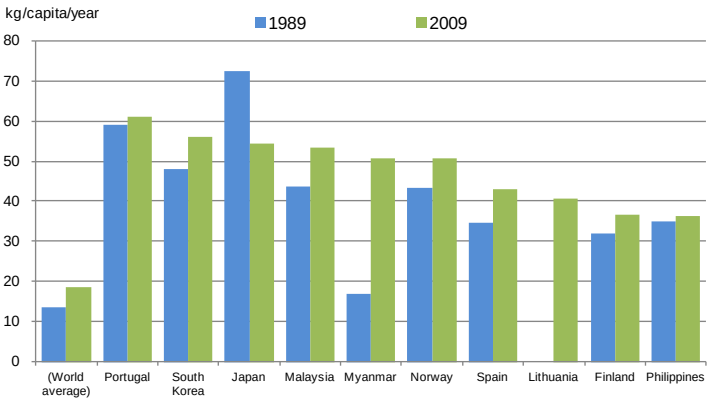
- The food consumption pattern around the world has changed due to improvement in living standards and other factors, with an increase in per capita gross domestic product (GDP). The per capita consumption of fish and fishery products has also increased, along with consumption of pork and chicken.
- Per capita consumption volume of fish and fishery products, which has been rising around the world, has declined in Japan (falling behind Portugal and South Korea in 2008 to the third rank among countries with a population of one million or more).

Changes in the world's per capita annual consumption of fish and other meats and per capita GDP



Sources: United Nations (UN), *National Accounts Main Aggregates Database*; FAO, *Food Balance Sheets*.

Per capita annual supply of fish and fishery products for human consumption (countries with a population of one million or more)

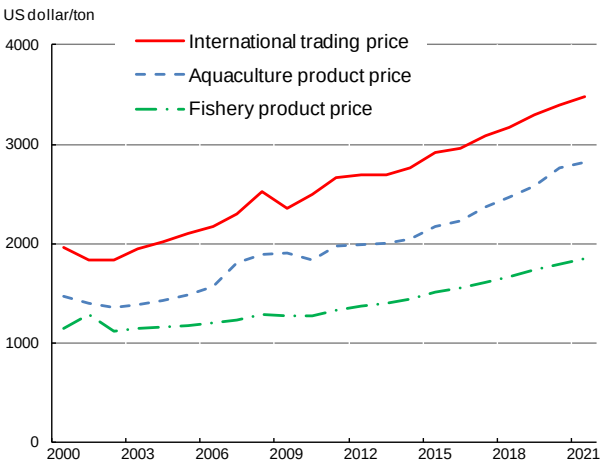


Sources: Compiled by the Fisheries Agency based on FAO, *Food Balance Sheets* (data for countries other than Japan) and MAFF, *Food Supply and Demand* (data for Japan).
Note: There is no 1989 data for Lithuania.

(Prices on a rising trend worldwide against growing demand and limited supply capacity)

- The world's fishery production volume, which depends on the status of fishery resources, has plateaued since the second half of the 1980s. The U.N. Food and Agriculture Organization (FAO) predicts that future supply increase in the world's fish and fishery products for human consumption will be brought about by an increase in aquaculture production.
- However, aquaculture also faces restricting factors such as a lack of suitable aquaculture sites and a rise in feed prices. The future increase of world population is likely to cause a tight supply-and-demand balance of the world's fish and fishery products as well as their price hike.
- The Organisation for Economic Co-operation and Development (OECD) and FAO forecast a global increase in prices of fish and fishery products.

Changes in prices of fish and fishery products and future forecasts

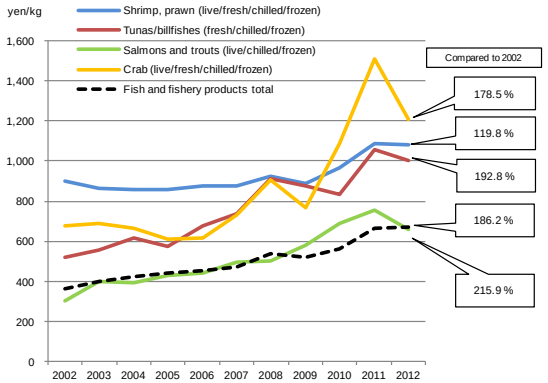


Source: OECD-FAO, *Agricultural Outlook 2012–2021*.

(Risk of Japan's unstable imports of fish and fishery products in the future)

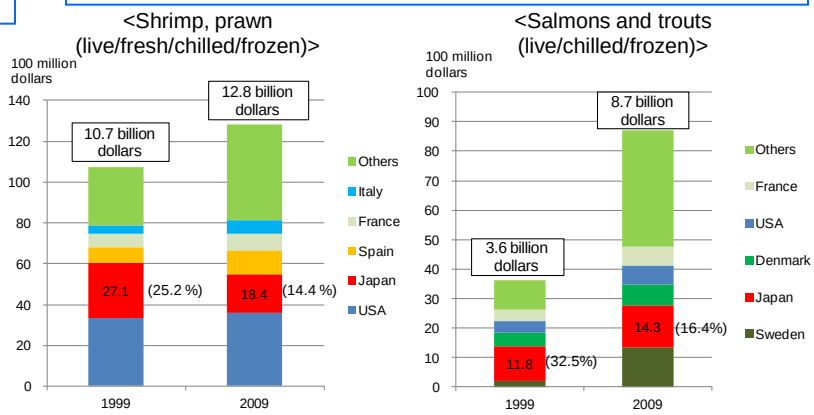
- Due to the growth in demand worldwide, the prices of Japan's imports of fish and fishery products have been on the rise. But while many countries' imports of key fish and fishery products have increased, the share of Japan's imports has been on a relative decline.
- There is an undeniable risk that Japan's imports of fish and fishery products will become unstable in the future.

Changes in the import prices of fish and fishery products (exchange rate fixed at the rate as of April 30, 2013: 1 dollar = 97.82 yen)



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

World trade of shrimps/prawns and salmons/trouts (changes in major importers and import prices)



Source: Compiled by the Fisheries Agency based on FAO, *Fishstat (Commodities Production and Trade)* (data for countries other than Japan) and Ministry of Finance, *Trade Statistics* (data for Japan).

(3) Fish and fishery products supporting a healthy diet for Japanese people

- Fish and fishery products are important sources of animal protein, vitamins, and essential minerals. They also contain plenty of functional components, including highly unsaturated fatty acids (DHA, EPA).
- Many studies have revealed the health benefits of eating fish and fishery products.

Intake of nutrients, etc. by food group (per capita per day)

	Intake (g)	Energy (kcal)	Protein (g)	Fat (g)	Potassium (mg)	Calcium (mg)	Magnesium (mg)	Iron (mg)	Vitamin D (μg)	Vitamin E (mg)	Vitamin B12 (μg)
Total intake	2027.5	1840	67.0	54.0	2189.4	507.3	232.5	7.5	7.1	7.8	6.1
Intake from fish	72.7	114	13.6	5.2	182	37	23	0.7	5.5	0.9	4.3
Intake from other meats	83.6	196	14.2	14.0	203	5	15	0.7	0.2	0.3	0.7
Intake from eggs	34.8	52	4.2	3.4	39	18	4	0.6	0.6	0.3	0.3
Intake from milk	122.7	92	4.4	4.6	157	148	13	0.1	0.2	0.1	0.4
Percentage of intake from fish	3.6%	6.2%	20.2%	9.7%	8.3%	7.2%	9.8%	9.0%	78.1%	11.8%	71.0%

Source: Ministry of Health, Labour and Welfare, *National Health and Nutrition Examination Survey* (2011).

Major functional components contained in fish and fishery products

Functional components	Fish and fishery products with high content	Component outline/expected effects
DHA	Fatty meat of bluefin tuna, salmon roe, yellowtail, mackerel	- Highly unsaturated fatty acid contained in large amounts in fish oil - Promotion of brain development, dementia prevention, prevention of a decrease in vision, prevention and reduction of arteriosclerosis, anticancer effect, etc.
EPA	Sardine, fatty meat of bluefin tuna, mackerel, yellowtail	- Highly unsaturated fatty acid contained in large amounts in fish oil - Thrombosis prevention, anti-inflammatory effect, hypertension prevention, etc.
Astaxanthin	Salmon, krill, spotted shrimp, red sea bream	- One type of carotenoid - In vivo antioxidant action, immune function enhancement effect
Taurine	Spiny top shell, oyster, cuttlefish, dark meat of tuna	- One type of amino acid - Prevention of arteriosclerosis, prevention of heart disease, gallstone prevention, anemia prevention, enhancement of hepatic detoxification effect, recovery in vision, etc.
Algin acid	Brown seaweeds (mozuku seaweed, hiziki, wakame seaweed, kelp, etc.)	- One type of high molecular polysaccharide; a dietary fiber contained in mucilage of brown seaweeds - Cholesterol-lowering effect, effect of inhibiting a rise in blood sugar levels, constipation prevention effect, etc.
Fucoidan	Brown seaweeds (mozuku seaweed, barilla, wakame seaweed, kelp, etc.)	- One type of high molecular polysaccharide; a dietary fiber contained in mucilage of brown seaweeds - Anticancer effect, anticoagulant activity, immune function enhancement effect, etc.
Anserine	Tuna, skipjack, salmon, shark	- A dipeptide consisting of two amino acids - Antioxidant action, effect of lowering uric acid level, pH-buffering effect, etc.
Balenine	Whale	- A dipeptide consisting of two amino acids - Anti-fatigue effect through antioxidant action

Source: Compiled by the Fisheries Agency based on data from Fisheries Research Agency, etc.

[Examples of study results on health benefits of eating of fish and fishery products]

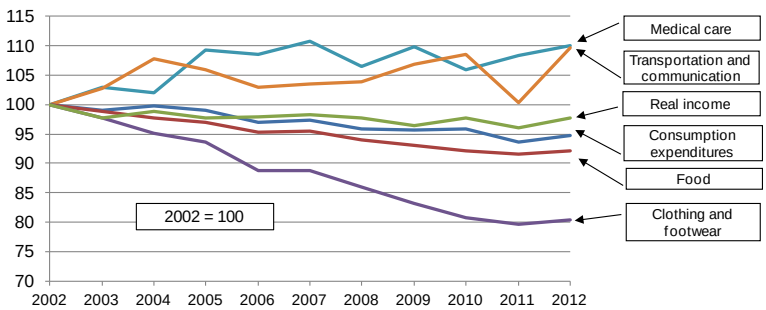
- People who eat more fish are less likely to suffer myocardial infarction.
  → Japanese people who eat fish eight times a week are 60% less likely to experience a myocardial infarction than those who eat fish only once a week.
- Fish diet significantly restrains thrombus formation.
  → In a fish diet, (1) fish oil has the effect of inhibiting blood clotting, and (2) fish meat protein has a thrombolytic effect.
- Eating seaweed and fish together is likely to prevent obesity.
  → Wakame seaweed and fish oil each has an effect of decreasing neutral fat in the blood with a different mechanism, so the effect is twofold.
- Eating of fish and fishery products is effective for preventing diabetes in men.
  → Eating of small and medium-sized fish and fatty fish reduces the risk of diabetes in Japanese men.
- Eating of fish and fishery products reduces the risk of liver cancer
  → The risk of liver cancer is low for groups that take in a large amount of fish with high content of n-3 polyunsaturated fatty acids.

Section 2 : Current status and challenges of consumption of fish and fishery products

(1) Overall trend of food consumption

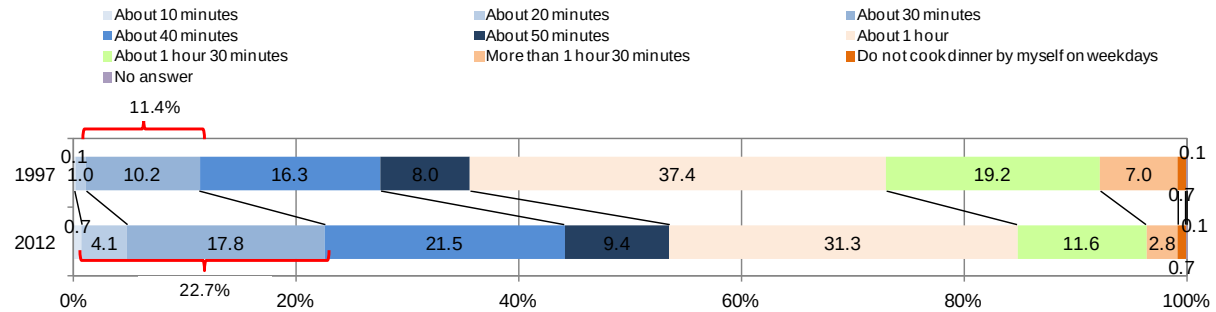
- Food expenditure is declining amid a decrease in household income and spending.
- Unprocessed fresh materials are used less frequently when cooking meals at home. The Japanese diet has become westernized and diversified, shifting away from Japanese-style meals.
- The process of cooking dinner is becoming simpler with increased use of processed foods and prepared foods (delicatessen, frozen foods, etc.).

Changes in per household expenditures by category of use



Source: Compiled by the Fisheries Agency based on Ministry of Internal Affairs and Communications, *Family Income and Expenditure Survey* (two-or-more-person households [excluding agricultural, forestry and fisheries households]) and *Consumer Price Index*.

Changes in time spent cooking dinner on weekdays

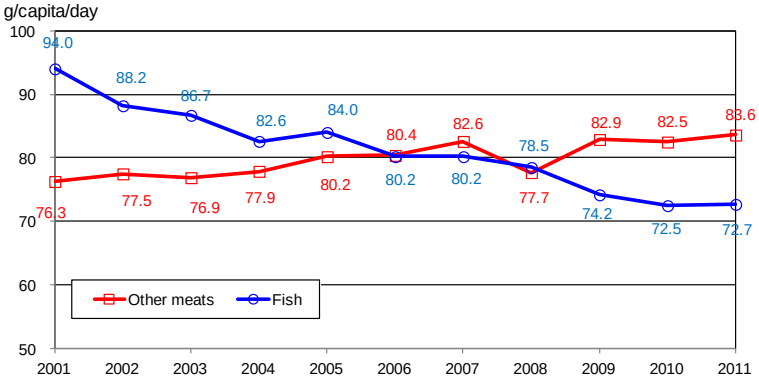


Source: Ajinomoto Co., Inc., *Ajinomoto Monitoring Consumer Survey.*

(2) Current status of consumption of fish and fishery products (Risk of a sharp decline in national eating of fish and fishery products)

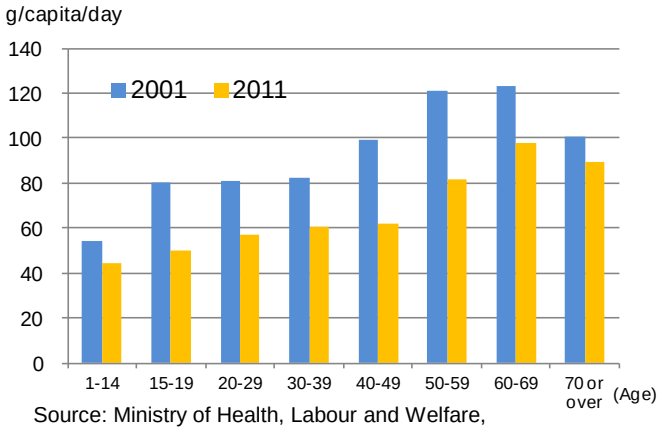
- While Japanese people's per capita daily eating of fish and fishery products is on a decline, the eating of other meats has increased or remained flat. Non-fish meat consumption surpassed fish consumption for the first time in 2006. Although eating fish has slightly increased over the previous year in 2011, the gap between fish and other meat eating has widened.
- When comparing per capita daily eating of fish and fishery products in 2001 and that in 2011, the "age-related effect" (a tendency of consuming more fish and fishery products with advancing age due to changes in food preferences) was absent in all adult age groups, while age groups with little eating of fish and fishery products have expanded.
- If this trend continues, there is a risk that the national eating of fish and fishery products will decline sharply in line with generational changes.

Changes in Japanese people's per capita eating of fish and other meats



Source: Ministry of Health, Labour and Welfare, *National Nutrition Survey* (2001, 2002) and *National Health and Nutrition Examination Survey* (2003–2011).

Changes in per capita eating of fish and fishery products by age group

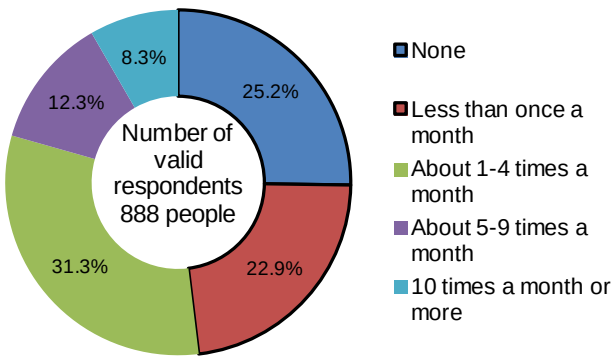


Source: Ministry of Health, Labour and Welfare, *National Nutrition Survey* (2001) and *National Health and Nutrition Examination Survey* (2011).

Frequency of eating fish and fishery products and frequency of buying and cooking whole fish

<Frequency of eating fish and fishery products>

<Frequency of buying and cooking whole fish (excluding such products as squid, shrimp, prawn, crab, and shellfish) in the past year>



Source: Monitoring survey conducted by MAFF.

(3) Consumer awareness revealed through questionnaire surveys
(Consumer awareness and preferences concerning fish and fishery products)

- Consumers highly regard the health benefits and an appreciation for the season that is associated with fish and fishery products.
- Compared to other meats, fish and fishery products have the following drawbacks: (1) not easy to use for food since they produce a lot of kitchen waste and are difficult to store for a long time; (2) seem more expensive than other types of meat; and (3) difficult to eat due to the bones, etc.
- Most consumers "like eating fish," and still nearly half of the consumers want to increase their opportunity to eat fish dishes. It is necessary to lower the hurdles for consumers to eat fish and create an environment for them to enjoy fish and fishery products more casually.

Strong points and weak points of fish and fishery products compared to other meats

Strong points

- Good for health (67.4%)
- Feel a sense of the seasons (53.6%)

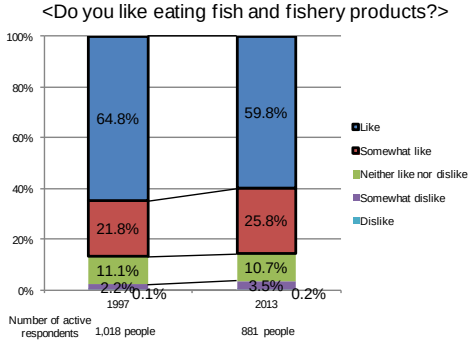
Weak points

- Difficult to store for a long time (42.4%)
- Kitchen waste is a burden (39.7%)
- Seems more expensive than other meats (33.7%)
- Difficult to eat due to the bones, etc. (31.4%)

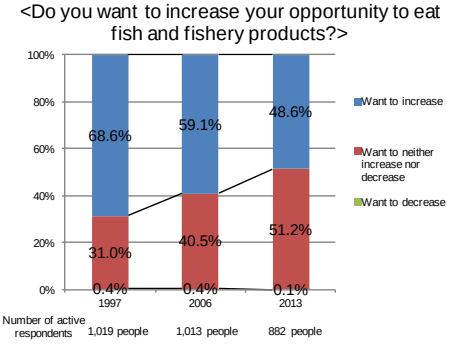
Source: Monitoring survey conducted by MAFF (January–February 2012; 1,588 male and female respondents aged 20 or older were asked to choose up to three strong points and three weak points of fish and fishery products compared to other meats).

Preferences concerning eating fish and fishery products

<Do you like eating fish and fishery products?>



<Do you want to increase your opportunity to eat fish and fishery products?>



Source: Monitoring survey conducted by MAFF.

Section 3 : Efforts within the fishery sector to respond to diverse consumer demands

- Japanese consumers are becoming less familiar with fish, with the eating of fish and fishery products decreasing among younger generations and the “age-related effect” (whereby fish eating increases with advancing age) no longer seen among older generations.
- In order to put a halt to the declining trend of fish consumption among Japanese people, the following challenges must be addressed:
  (i) increasing consumption by children, which serves as the starting point for eating of fish and fishery products; and
  (ii) taking measures to upturn consumption by current middle-aged and older age groups, which no longer indicates the “age-related effect.”
- It is important to implement effective measures that specifically target each age group.
- The following two approaches are essential: (i) fish-rich diet promotion activities and dietary education activities; and (ii) response to recent consumer needs such as “easy to use.” Shown below are examples of efforts made by various organizations within the fishery sector using these two approaches.

(1) Examples of fish-rich diet promotion activities and dietary education activities

(i) Effort to suggest the good way of eating and cooking fish

- Cooking school offering popular courses of special-occasion dishes (Hyogo Prefectural Federation of Fisheries Co-operative Associations “SEAT CLUB”)

At “SEAT CLUB,” a fish fun club in Hyogo Prefecture, fish cooking classes for cooking mainly special-occasion dishes of Italian, Korean and other cuisines have gained a great deal of popularity, and are enjoying repeat participants.

(ii) Activity to convey the benefits and tastiness of fish to children

- Providing guest lessons on “Learning and eating whole fish with bones” (Fishery Product Market Improvement Association, Osakana Meister Association)
- Providing guest lessons on EPA and DHA contained in fish (Nippon Suisan Kaisha, Ltd., Minochu KK)

The Osakana Meister Association provides the guest lesson “Fish has bones” at elementary and junior high schools in Tokyo, teaching students about fish and how to eat fish neatly while actually eating fish with bones.

(iii) Providing children with opportunities to eat fish through school meals

- Providing fish and fishery products to school meal suppliers to identify their needs and consider making it into a business (Ishikawa Prefecture, JF Ishikawa)
- Development and popularization of deep-fried products for school meals (Hokkaido Trawl Fisheries Cooperative Federation)

In 2011, JF Ishikawa (Ishikawa Prefecture) launched a model business to provide fish and fishery products that have been produced in Ishikawa Prefecture for school meals in elementary and junior high schools.

(2) Examples of efforts to produce and distribute products that meet consumer needs

(i) Providing products that meet the needs of consumers and users

- Enhancing the competitiveness of the producers by providing a line-up of high-quality products (Azuma-Cho Fishery Cooperative, Kagoshima Prefecture)
- Providing the season’s taste and freshness to consumers with the latest freezing technology (Furusato Ama Co., Ltd., Shimane Prefecture)
- Changing to a *lower-temperature* market in order to respond to consumers’ orientation toward safety and reliability (Nagoya Central Wholesale Market, Aichi Prefecture)

The Nagoya Central Wholesale Market implemented a redevelopment project for lowering the temperature of the selling space of the wholesale market in order to respond to the consumer needs for “food safety and reliability.”

- Selling fresh catches as *mince of fresh fish caught this morning* (Ito Fishery Cooperative, Shizuoka Prefecture)
- Developing new products that meet consumer demand (Nihon Enyou Makiami Gyogyou Kyoudou Kumiai , Fukushima Prefecture and Nagasaki Prefecture)
- Developing processing methods that make fish to be eaten with bone (KK Uehara , Nagasaki Prefecture)
- Expanding the potential usage of kelp through development of new processed products (Hokkaido Nissui Co., Ltd. , Hokkaido)

Nihon Enyou Makiami Gyogyou Kyoudou Kumiai makes fritters from horse mackerel and mackerel caught off the coast of Tsushima and Goto islands. Through pressure-cooking, the fritters can be eaten to the bone. They have been provided for school meals in Fukuoka Prefecture and Kagoshima Prefecture.

(ii) Creating diverse distribution routes, which contribute to fulfill the various needs of consumers and users

- Selling an assortment of fresh seasonal fish landed at various locations in Hokkaido in handy-size packages (Hokkaido Federation of Fisheries Cooperative Associations)
- Conducting primary processing of just-landed fish, and expanding direct business with large retailers (JF Shimane)
- Directly delivering freshly kept, frozen, processed products to fishery processors immediately after landing (Kushiro Shi Fisheries Cooperative Association , Hokkaido)
- Mediating between production areas and users nationwide through use of information technology (Syunzai, Ltd., Osaka)

Hokkaido Federation of Fisheries Cooperative Associations collects fish from its member fishery cooperatives, and directly sells and sends an assortment of fresh fish packed in a box to mass retailers in the Tokyo metropolitan area and other retailers.

(iii) Introducing unique ways to sell fish and fishery products at retail stores

- Effectively using online flyers that link between consumers and fish shops (Hiroshima Uosho Cooperative Society)
- Selling fresh saury through eight kinds of products (Aeon Retail Co., Ltd.)
- Developing fish-selling spaces that use new approaches to attract customers (Toshin Sea Foods Co., Ltd.)

Efforts have been made at a fresh fish store on the basement food floor of a department store to sell products by not only indicating their freshness and production area, but also the time required for cooking them as well as customer reviews, so as to effectively atract consumers who are less familiar with fish.

(iv) Promoting use of fish and fishery products in the ready-to-eat and food-service industries

- A supermarket chain introducing a fish delicatessen corner nationwide (Ito-Yokado Co., Ltd.)
- A restaurant chain expanding menu items that go well with liquor, using fish and fishery products (Pronto Corporation)

A supermarket chain introduced a special corner selling various kinds of ready-to-eat fish products in their selling space so as to provide consumers with tasty ready-to-eat fish.

Section 4 : For successfully reviving fish-rich diet

(1) Promoting a fish-rich diet in and outside Japan

(Need for activities to promote fish-rich diet that affect consumer's buying power)

- Many consumers like to eat fish, and nearly half of consumers want to increase their opportunity to eat fish. In order to turn such potential needs into actual consumption behavior, it continues to be important for related bodies to cooperatively carry out activities to promote fish-rich diet, as well as dietary education activities to convey to consumers the tastiness, joy, and goodness for health of fish-rich diet.
- It is necessary , in the future activities, to review how to approach consumers to promote fish-rich diet, taking into account the changes in the needs of a majority of consumers toward fish and fishery products, such as increased preference for "easy to use" products.
- It is important to note that activities to promote fish-rich diet are primarily aimed at actually stimulating fish consumption through spreading information to consumers, such as nutritional properties of fish, fish-cooking methods, and the significance of eating fish. The activities conducted to date at various locations need to be reviewed from such perspective.

(Importance of promoting Japan's fish-rich dietary culture to overseas consumers)

- It is also important to enhance the recognition of overseas consumers and users about Japan's fish-rich dietary culture as well as the high quality and other excellent characteristics of Japanese fish and fishery products, as a stepping stone to expanding the overseas market.
- The recent Japanese food boom overseas, a rise in fish and fishery product prices worldwide, and the depreciation of the yen since the end of 2012 are serving as favorable factors for the expansion of the overseas market.

Column: Uses of yellowtail expanding overseas

- Yellowtail(*hamachi*) is hardly cultured in Europe and the United States. However, its fatty texture is gaining popularity among overseas consumers. Ninety percent of exported yellowtail goes to the United States to be mainly used for sashimi and sushi at Japanese restaurants. Recently, however, they have also been used increasingly for non-Japanese cuisines, such as Carpaccio.

Yellowtail Carpaccio is gaining increased popularity in North America.

(2) Shifting production/distribution systems to the ones that can precisely respond to consumer demand

(Measures for promoting distribution and expanding consumption of fish and fishery products)

- In order to promote distribution of domestic fish and fishery products that can precisely respond to consumer needs and to expand their consumption, a government project started in FY2013 to comprehensively provide tangible and intangible support for distribution from production areas to consumption areas.

Column: Latest technology that expands the potential of domestic fish and fishery products

- Technology related to distribution and processing of fish and fishery products has made remarkable progress in recent years. The latest freezing technology has made it possible to deliver extremely fresh fish and fishery products to consumers. In addition, due to the progress of fish-processing technology, more edible parts can be obtained from fish catches than in the past.
- It is important to send out more information to consumers about the improved quality of fish and fishery products using the latest technology, and thereby create new demand for them.

Horse mackerel under alcohol brine freezing at −25° C

(For improving the production/distribution systems)

- In order to put a halt to the declining trend of fish consumption in Japan, the whole fishing industry needs to make the following efforts in concert: (a) respond to the recent typical needs of consumers, such as “easy to use” and “shorter cooking time”; and (b) develop methods to sell and provide fish and fishery products that would make them more approachable for consumers and improve the public perception of fish and fishery products.
- The following are some of the specific activities that related bodies should conduct:

(i) Promoting production, distribution, and sales of products geared to the needs of consumers and users
Production, distribution, and sales of products that respond to such needs as “easy to use,” “ready-to-eat,” and “safe and reliable” should be promoted.

(ii) Promoting fishery processing that meets the needs of consumers and users
The manufacturing of processed fishery products that meet consumer needs, such as “easy to use,” should be promoted. Production areas should provide fish and fishery products that are easy for the processing industry to use.

(iii) Constructing diverse distribution routes that meet the needs of consumers and users
A rich variety of fish and fishery products should be provided to consumers and users by constructing diverse distribution routes in addition to distribution through the market.

(iv) Introducing creative ideas in selling methods in the retail industry
The attractiveness of retail stores should be enhanced, as places to have direct contact with consumers.

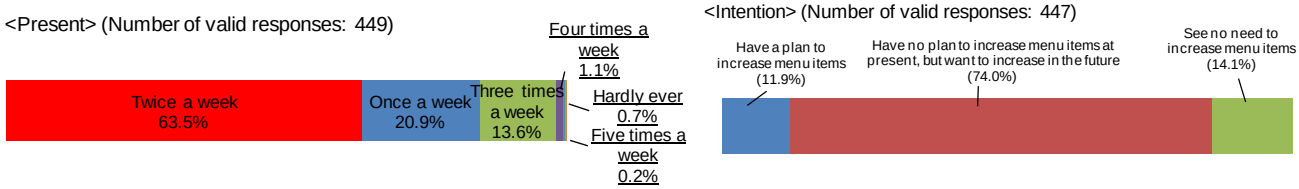
(v) Promoting use of fish and fishery products in ready-to-eat and food service industries
In order to make fish and fishery products more accessible, the use of fish and fishery products in ready-to-eat and food service industries should be promoted.

(vi) Promoting the use of fish and fishery products in school meals
In order to promote the use of fish and fishery products in school meals, a trust relationship should be established between producers and school meal suppliers.

[Use of fish and fishery products in school meals]

- According to a questionnaire survey of nutrition educators and school dietitians nationwide conducted by the Fisheries Agency in 2012, (i) about 80% of schools provided menu items using fish and their processed products at least twice a week, and (ii) more than 80% of the respondents answered that they will or want to increase the number of menu items using fish and their processed products.

Frequency of provision of menu items using fish and their processed products in school meals and intention for future provision



Source: Fisheries Agency, "Questionnaire survey about the use of fish and fishery products in school meals " (conducted in August 2012 with the cooperation of the School Dietitian Conference of Japan; extracted answers from ten nutrition educators and school dietitians as samples from each prefecture nationwide, and aggregated the data of the 449 people who responded).

Chapter II : Toward recovery from damages caused by the Great East Japan Earthquake

Section 1 : Coping with damage caused by the earthquake and tsunami

(1) Damage incurred by the fishing industry

- The tsunami that followed the Great East Japan Earthquake caused massive damage to the fishing industry in not only the seven prefectures facing the Pacific Ocean from Hokkaido to Chiba, but nationwide.
- The earthquake caused land subsidence in many locations along the Pacific coast from the Tohoku region to the northern Kanto region. As a result, fishing ports, markets, fishery processing plants, etc. suffered inundation and flood.

Fishery-related damage caused by the Great East Japan Earthquake and Tsunami

Total damage: 1.26 trillion yen (seven affected prefectures: 1.25 trillion yen)

Major types of damaged property	Nationwide		Seven affected prefectures	
	Extent of damage	Amount of damage (billion yen)	Extent of damage	Amount of damage (billion yen)
Fishing vessels	28,612 vessels	182.2	28,479 vessels	181.2
Fishing port facilities	319 ports	823.0	319 ports	823.0
Aquaculture facilities and products (Aquaculture facilities) (Aquaculture products)		133.5 (73.8) (59.7)		125.4 (71.9) (53.4)
Communal facilities	1,725 facilities	124.9	1,714 facilities	124.7

Notes:
1. Damage was compiled from prefectural reports and is current as of April 18, 2012.
2. The seven affected prefectures are Hokkaido, Aomori, Iwate, Miyagi, Fukushima, Ibaraki, and Chiba.
3. In addition to the damage listed here, there was approximately 160 billion yen in damage to fishery-processing facilities and ice-making/refrigeration facilities owned by private companies (source: hearings with fishery processors' associations).

(2) Recovery and reconstruction efforts in the fishing industry

- Based on the recommendations by the Reconstruction Design Council in Response to the Great East Japan Earthquake, the Fisheries Agency formulated the Fisheries Recovery Master Plan (guidelines on concrete measures for the recovery of fisheries, to be implemented by the national and local governments) in June 2011.
- In response to the Great East Japan Earthquake, the Cabinet's Reconstruction Headquarters compiled the Basic Disaster Recovery Policy for the Great East Japan Earthquake (hereinafter referred to as the "Basic Policy") in July 2011. Based on the Basic Policy, the Fisheries Agency formulated a work schedule for recovery and reconstruction of fishing ports, fishing vessels, aquaculture facilities, fishery processing and distribution facilities, fishing grounds, etc.
- Specifically, the Fisheries Agency has taken measures by using funds of more than a total of 800 billion yen from the FY 2011 first, second, and third supplementary budgets and the FY2012 initial budget (earmarked for recovery and reconstruction measures). It will also implement various measures for integrated reconstruction of fishery, aquaculture, and fishery-processing industries under the FY2013 budget.

Outline of the Fisheries Recovery Master Plan

Comprehensive and integrated reconstruction of various sectors constituting the fishing industry

Response to the nuclear power plant accident
- Strengthen national government's efforts for tackling the accident, including promoting inspections for radioactive materials contained in fish products
- Disseminate food safety information overseas

1. Fishing ports
- Secure the functions necessary for the whole region at an early stage, while sharing functions among fishing ports
  (1) Fishing ports serving as national production/distribution bases for fish products
  (2) Fishing ports serving as production/distribution bases for local fishing industry
  (3) Other fishing ports

2. Fishing grounds and resources
- Support removal of debris from fishing grounds in which early resumption of fishing activities should be prioritized
- Continuous research on the fishing ground environment

3. Fishing vessels and fisheries management
- Promote modernization and rationalization of fishing vessels and fleets
- Introduce fishing vessels for joint use, and promote joint and collaborative operations
- Ensure supply of fish products through measures to respond to fuel price hikes, etc.

4. Aquaculture and stock enhancement
- Promote joint or collaborative operations and incorporation of organization in order to foster highly productive aquaculture operators
- Reconstruct systems for producing seeds and releasing juveniles of salmon and trout, etc.

5. Fishery processing and distribution
- Promote integration of facilities or formation of facility complexes according to local wishes
- Support creation of a sixth industry and the improvement of quality and hygiene control
- Restructure landing area markets in a manner consistent with the reconstruction of fishing ports

6. Fishery business management
- Secure employment opportunities for affected fishers through removal of debris, etc.
- Promote coordination between local fishers and private companies

7. Fishery cooperatives
- Restructure organizations of fishery cooperatives that support local fisheries
- Ensure the soundness of JF marine banks through capital injections

8. Fishing communities
- Promote disaster-resistant fishing communities while respecting the wishes of local residents
- Secure optimum disaster-prevention capabilities according to the circumstances of fishing communities
- Promote implementation of more ecological operations and the creation of a sixth industry

Promote reconstruction of Japan's fisheries as a whole by taking care of various sectors constituting the fishing industry and considering the local wishes

(Overview of recovery and restoration of fishery-related facilities)

- Two years after the Great East Japan Earthquake, efforts to restore the fishing industry in the affected areas are only half way to the goal. It is important to continue mobilizing the capacities of the public and private sectors to work toward robust revival of the fishing industry. Below is the overview of recovery and restoration of fishery-related facilities that have been promoted through accumulation of activities by fishery-related entities in the affected areas.

<Landings>

- Total fish landings for January to March 2013 at key wholesale fishery markets in the production areas of Iwate, Miyagi, and Fukushima Prefectures were 71% of the pre-earthquake level (a total for January and February 2011 and March 2010) in volume and 61% in value.

<Fishing port facilities>

- Since it is important to secure the functions necessary for the whole region at an early stage, while integrating functions and sharing roles among fishing ports, recovery efforts have been made by selecting high-priority facilities.
- The recovery of fishing port facilities is aimed to be mostly completed by the end of FY2015. (For fishing ports serving as national production/distribution bases and fishing ports serving as production/distribution bases for the local fishing industries, major functions such as landing piers are to be recovered by the end of FY2013.)
- At the 319 affected ports, the landing function has been recovered for the total length of the landing pier at 115 fishing ports (36%), and for partial length of the landing pier at 149 fishing ports (47%). Of the total length of all affected piers, 28% has been recovered.

<Fishing vessels>

- Based on the wishes indicated by people resuming fishery and aquaculture operations in various locations, the target number of vessels to be recovered by the end of FY2013 was set at 12,000 vessels (Basic Plan for Fisheries, March 2012).
- This target has already been attained, but since people wishing for recovery of fishing vessels have increased with an increased resumption of fishery and aquaculture operations in various locations, a new target has been set, and further efforts are being made to recover fishing vessels.

<Aquaculture facilities>

- Aquaculture facilities are generally vulnerable to wave and tsunami damage. Damage occurred in a wide area on the Pacific coast from Hokkaido to Okinawa Prefectures.
- Support for aquaculture facilities has been provided through various budget-funded projects so that all operators wishing to resume aquaculture operations can gain prospects for repairing their facilities by the end of FY2012.
- Looking at the recovery status in Iwate and Miyagi Prefectures, many people launched aquaculture of wakame seaweed and kelp, which can be harvested in a relatively short period after seeding, as the first step toward resuming their work. So recovery of their aquaculture facilities has advanced. As for laver and oyster, many people refrained from resuming aquaculture in the harvest season immediately following the earthquake, but progress has been observed in the subsequent recovery.

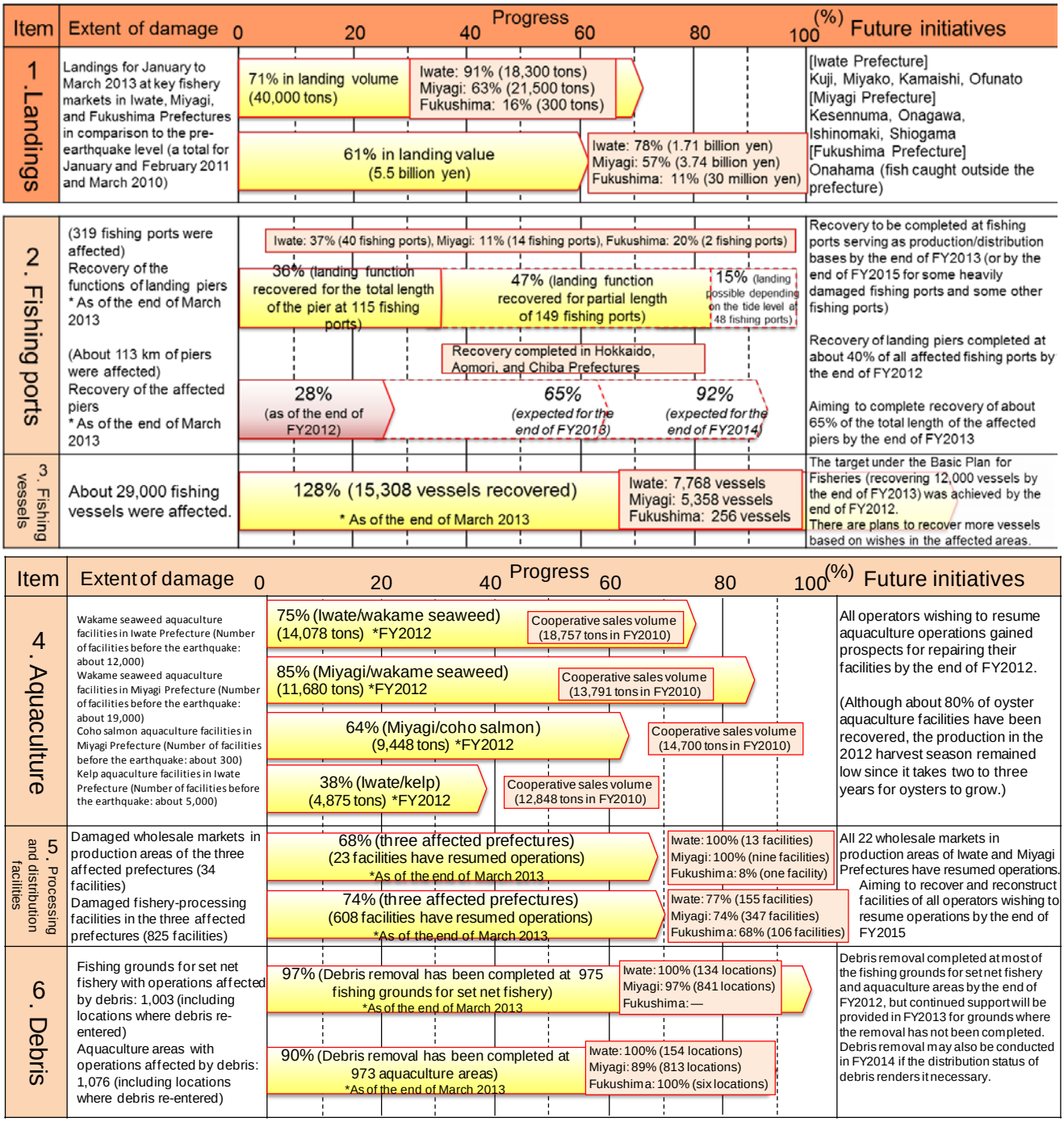
<Processing and distribution facilities>

- All 34 wholesale fishery markets in the production areas of Iwate, Miyagi, and Fukushima Prefectures were affected by damage. Among them, all 22 facilities in Iwate and Miyagi Prefectures resumed operations by September 2012. Of the 12 wholesale fishery markets in production areas in Fukushima Prefecture, only one facility (Onahama) has resumed operations (as of April 2013).
- According to the National Federation of Processed Fisheries Products Cooperatives , 958 fishery-processing facilities in Iwate, Miyagi, and Fukushima Prefectures were affected by damage. Of the 825 facilities that wished to reopen, operations have been resumed at 608(as of the end of March 2013).

<Seedling production facilities>

- A total of 48 salmon and trout hatcheries from Aomori to Ibaraki Prefectures were damaged. Among them, 26 facilities have been recovered (as of the end of March 2013). The salmon and trout seedling production capacity rose to about 80% of the level before the earthquake within FY2012.
- Meanwhile, 23 facilities producing seedlings of fish and shellfish (sole, abalone, sea urchin, etc.) for stocking purpose from Hokkaido to Ibaraki Prefectures were damaged. Among them, 11 facilities have been recovered. Seven facilities are under restoration work (as of May 2013).

Recovery and reconstruction from damage caused by the Great East Japan Earthquake in the fishing industry



(Identifying the impact of the earthquake on fishing ground environment)

- In order to identify the conditions of fishing ground environment on the Pacific coast of the Tohoku region, the Fisheries Research Agency, fishery-related research institutes, and other organizations in the affected prefectures jointly conducted an environmental survey of the affected fishing grounds.

(3) Reconstruction efforts in the affected communities

- Young fishers and new recruits in the affected areas are using the national training system to acquire fishing and aquaculture skills.

- Engaged in set net fishery in Kanagawa Prefecture after the earthquake. Returned to hometown and learning wakame seaweed aquaculture as a trainee. (Mr. Tatsuhiko Ito in Miyako City, Iwate Prefecture)
- Entered the world of fisheries without experience, through a job-matching fair held in Sendai after the earthquake. Became a trainee of large-scale set net fishery. (Mr. Shungo Kuramochi in Ishinomaki City, Miyagi Prefecture)

- Distinctive efforts were introduced in affected areas to cultivate sales channels through collaborative operations or cooperation between production areas or between industries.

(i) Efforts toward resumption of the fishing industry

- Increasing efficiency of small-scale set net fishery through collaborative operations (Mr. Yukio Ono from the Miyako Branch of JF Miyagi)

(ii) Efforts toward recovery and expansion of sale channels

- Expanding sales channels through ties with agricultural cooperatives (JF Hirota in Rikuzentakata City, Iwate Prefecture)
- Making new developments for the fishery-processing industry (Domannaka Otsuchi Cooperative in Otsuchi Town, Iwate Prefecture)

(iii) Efforts toward reconstruction of port towns

- Expanding the fishing port area and developing a center for fishery-processing facilities (Kesennuma City, Miyagi Prefecture)

(4) Continuous support that backs up reconstruction of the fishing industry in the affected areas

- Efforts to support the fishing industry in the affected areas have been continued at various locations, powerfully backing up the reconstruction.

Cooperation between production areas for expanding oyster consumption (Hiroshima and Miyagi Prefectures)

- Hiroshima Prefecture called on Miyagi Prefecture so that the two major production areas of cultured oysters in Japan would cooperate to expand oyster consumption and promote reconstruction of oyster aquaculture in Miyagi Prefecture.
- The two prefectures jointly held sales promotion events and recipe contests in the Tokyo metropolitan area.

Section 2 : Coping with damage caused by the nuclear power plant accident

(1) Efforts for ensuring the safety of fishery products

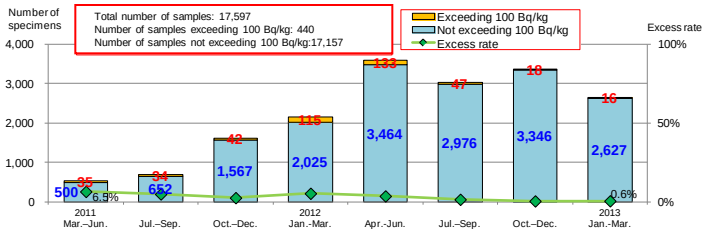
- Sales, distribution, and processing of food containing radioactive materials exceeding the standard limit (100 Bq/kg) are prohibited under the Food Sanitation Act.
- Radioactive materials monitoring for fishery products has been implemented in collaboration with relevant local governments, relevant fishing industry/cooperatives and relevant ministries and agencies. Fishery products that have landed at key ports of different locations have been monitored once a week, in principle.
- When radioactive materials close to or exceeding the standard limit are detected in the fishery products, fishers voluntarily suspend fishing operations and/or distribution, or relevant local governments require fishers or distributors to suspend distribution and/or fishing operations.
- Meanwhile, when the expansion of sea contamination is detected, for example, where radioactive cesium that exceeds the standard limit is detected in different locations off the coast of a certain prefecture, the Director-General of the Nuclear Emergency Response Headquarters (the Prime Minister) directs distribution restriction by area and species.
- Through such system, the government makes sure that fishery products containing radioactive materials exceeding the standard limit are not distributed to the market.

(2) Status of radioactive materials monitoring for fishery products

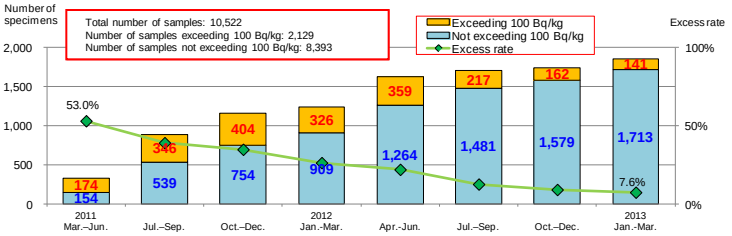
- Radioactive materials monitoring for fishery products are implemented mainly for species that have exceeded 50 Bq/kg in the preceding fiscal year and the major species in the prefectures concerned.
- After the accident at TEPCO's Fukushima Daiichi Nuclear Power Plant Station(F1NPS), 28,119 samples had been monitored nationwide by the end of March 2013. Among them, 25,550 samples (90.9%) did not exceed 100 Bq/kg, which is the current standard limit.
- Among 17,597 samples for fishery products sampled outside Fukushima , 17,157 samples (97.5%) did not exceed 100 Bq/kg. Also for demersal fish (sole, flounder, etc.), the ratio of samples exceeding 100 Bq/kg had been decreasing, marking 0.1% in the January–March term of 2013.
- Among 10,522 samples for fishery products sampled in Fukushima, 8,393 samples(79.8%) did not exceed 100 Bq/kg. For demersal fish (sole, flounder, etc.), samples exceeding 100 Bq/kg was 53.0% in the March–June term of 2011, but the ratio had been gradually decreasing to 10.0% in the January–March term of 2013.

Results of radioactive materials monitoring for fishery products (including freshwater)

<Fish caught outside Fukushima Prefecture (as of the end of March 2013)>



<Fish caught in Fukushima Prefecture (as of the end of March 2013)>



Major marine products for which none of the samples exceeded the standard limit in radioactive materials monitoring (as of the end of May 2013)

Seaweeds	All species
Shellfish	All species excluding Stimpson's hard clam
Squids and octopuses	All species
Shrimps, prawns, and crabs	All species
Epipelagic fish	Sardines, saury, juvenile sand lance, juvenile anchovy (whitebait) , barracudas, flying fish
Mesopelagic fish	Mackerels, billfishes, skipjacks, tunas, coho salmon, chum salmon, yellowtail, mako shark, blue shark, greater amberjack, gizzard shad, Spanish mackerel, mahi mahi (dorado), capelin, crimson sea bream, yellowtail amberjack
Demersal fish	Black-throat seaperch, horse mackerels, bigeyed greeneye, Japanese parrotfish, forked hake, black scraper, alfonsino, thornyhead, tiger puffer, herring, spiny goby, balloonfish, Rikuzen flounder
Mammals	Whales

Marine products under distribution restriction (not distributed) in Fukushima Prefecture and neighboring prefectures (as of the end of May 2013)

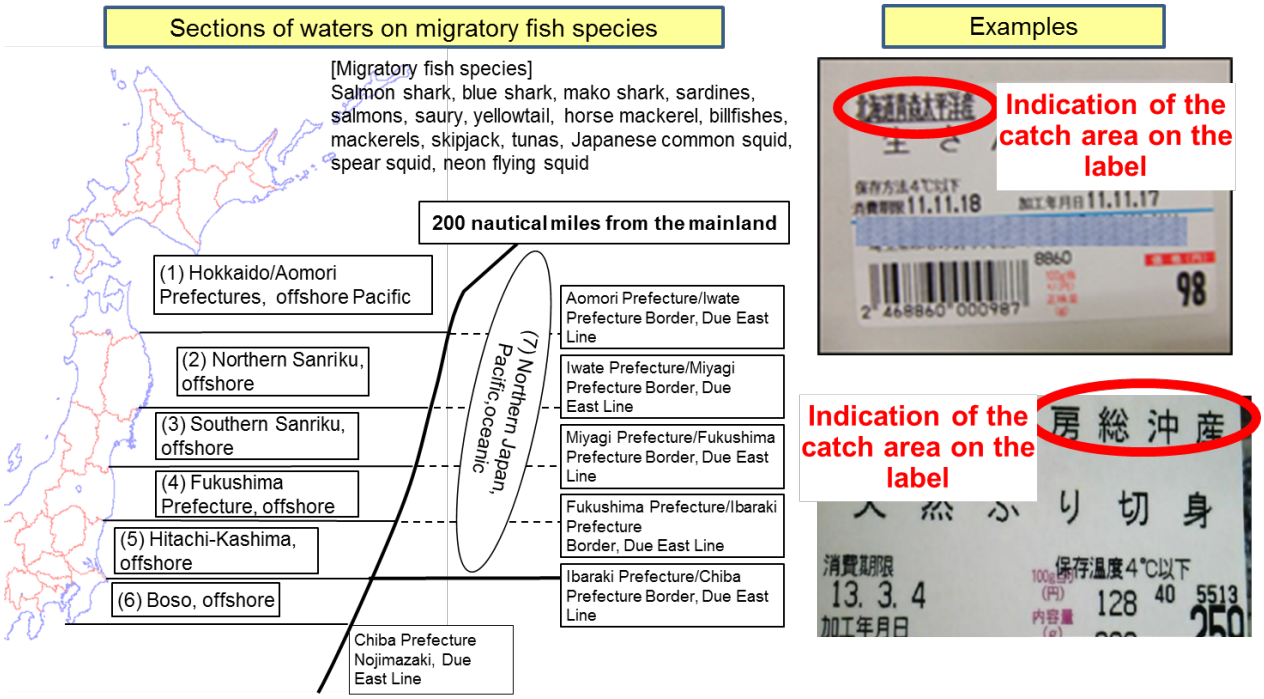
Fish species		Panther puffer	Olive flounder	Stone flounder Ocellate spotalate Rockfish Nibe croaker Pacific cod	Japanese black porgy	Sea bass
Part of Iwate Prefecture (note 2)					×	×
Miyagi Prefecture					×	×
	Southern part (note 3)	×				
Fukushima Prefecture (note 4)		×	×	×	×	×
Ibaraki Prefecture	Northern part (note 5)		×	×		×

Notes:
1) The "×" mark in the table denotes a area and species under a distribution restriction directive.
2) Sea area south of the due east line from the land area border between Iwate and Miyagi Prefectures
3) Sea area of Miyagi Prefecture south of Kinkasan Island
4) In the sea area of Fukushima Prefecture, a distribution restriction directive has been imposed for 32 species of marine products other than the nine species indicated in this table.
5) Sea area of Ibaraki Prefecture north of latitude 36° 38' N

(3) Status of efforts toward securing consumer confidence

- The national government, the relevant prefectures, and relevant fishery industry/cooperatives have worked together to ensure that fishery products containing radioactive cesium exceeding the standard limit are not distributed to the market, and that the food safety for fishery products that reach consumers has been secured.
- In order to allow consumers to purchase fishery products in Japan without anxiety, it is important that the national government, the relevant local governments, fishery industry/cooperatives to cooperate with each other to continue to implement radioactive materials monitoring for fishery products and to publicize the monitoring results in a way that consumers find easy to understand.
- Due to the growing consumer's interest in the waters where fishery products are caught , the Fisheries Agency has established the sections of the waters in the Pacific Ocean off the coast of East Japan and recommended to use them when indicating areas where fishery products were caught on food label.
- To respond to other countries' tightened import regulations on Japanese foods that include fishery products, the Japanese government has provided information on its radioactive materials monitoring results and safety measures to foreign governments, and has requested that they reconsider their own excessively strict import restrictions for agricultural, forestry, and fisheries products and foods, of which safety has been scientifically verified. As a result, a part of the restrictions for exporting fishery products to the EU has been lifted, and export to Egypt has resumed.

Labeling of the catch areas for fishery products



Stressing the safety of Alaska pollack to media reporters from South Korea (Hokkaido Federation of Fisheries Cooperative Associations)

- Alaska pollack in Hokkaido Prefecture had been exported mainly to South Korea as a popular ingredient for hot-pot and other dishes. However, exports decreased sharply after the accident of TEPCO's F1NPS.
- In order to wipe out South Korean consumers' concerns and recover the export of Alaska pollack, the Hokkaido Federation of Fisheries Cooperative Associations invited South Korean media reporters to Hokkaido in January 2013, so that they would report on the information on food safety gathered in Hokkaido back in South Korea.

(4) Developments toward resumption of fishery in Fukushima Prefecture

- The Fukushima Prefectural Federation of Fisheries Co-operative Associations set up the Fukushima Local Fisheries Reconstruction Council, consisting of representatives from fishery-related entities, fishery processors and distributors, financial institutions, academic experts, and Fukushima prefectural government, aiming for the recovery of the fishing industry and resumption of fishery operations off Fukushima Prefecture.
- After deliberations at the Council and the conference of the heads of fishery cooperatives in Fukushima Prefecture, offshore trawlers belonging to the Soma-Futaba Fishery Cooperative started trial fishing operations in limited sea areas and for limited fish species in June 2012.
- The target fish species and fishing methods have been expanded; and as of the end of May 2013, 16 species were targeted, including North Pacific giant octopus, Japanese common squid, horse hair crab, Japanese whelk, thornyhead, bigeyed greeneye, and juvenile sand lance. The fishery products caught in the trial fishing operations have been distributed, after strict check of radioactive cesium, not only within Fukushima Prefecture, but also to central wholesale markets in Sendai, Tokyo, and Nagoya. They were sold out and delivered to consumers in various locations.

Efforts at Onahama Port

- The Onahama Port in Fukushima Prefecture had been developed as a hub port for far-seas skipjack fishing vessels and large and medium-sized purse seiners. However, due to the damage by the earthquake and tsunami as well as the accident of TEPCO's F1NPS, vessels from other prefectures that used to land catches at the Onahama Port have come to avoid using the port.
- In such a situation, Aeon Retail Co., Ltd., a large distributor of nation wide, started an action to purchase skipjack that were landed at the Onahama Port and sell them at its retail stores, starting from June 2012 until the end of the skipjack fishing season in September.
- In addition, 100,000 cans of flaked skipjack, made of the species that were landed at the Onahama Port, were manufactured, and have been sold under the brand name of the Fukushima Prefectural Federation of Fisheries Co-operative Associations since January 2013.

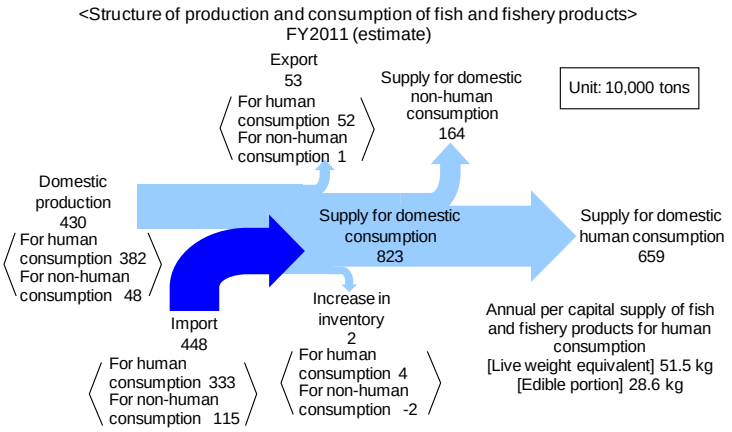
Chapter III Review of Japan's Fisheries since FY2011

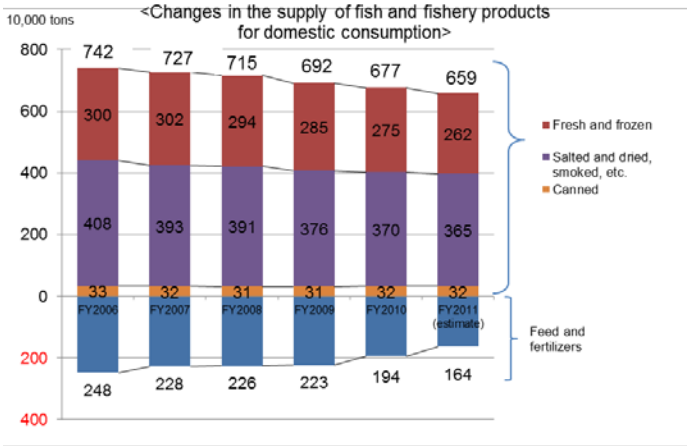
Section 1 : Trends in the supply and demand of fish and fishery products

(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





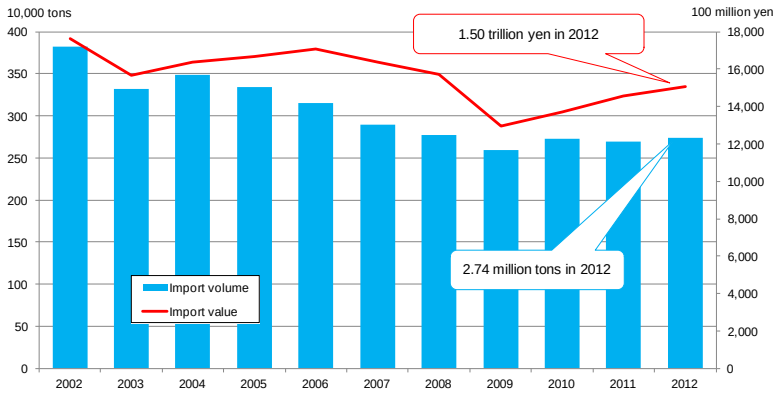
Source: MAFF, *Food Supply and Demand*.

(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

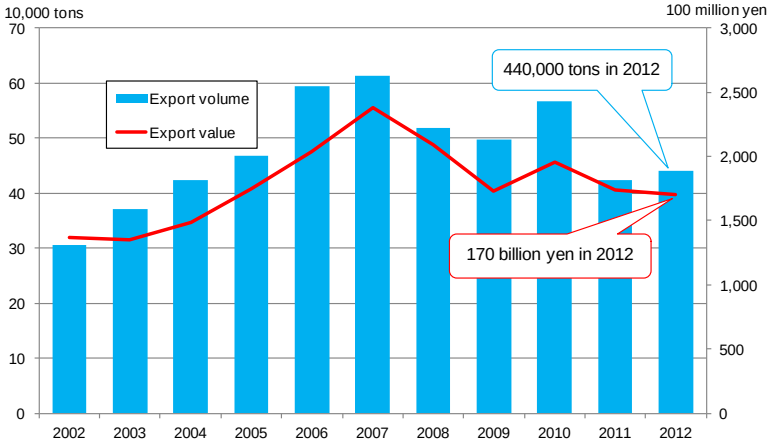


Source: Ministry of Finance, *Trade Statistics*.

(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



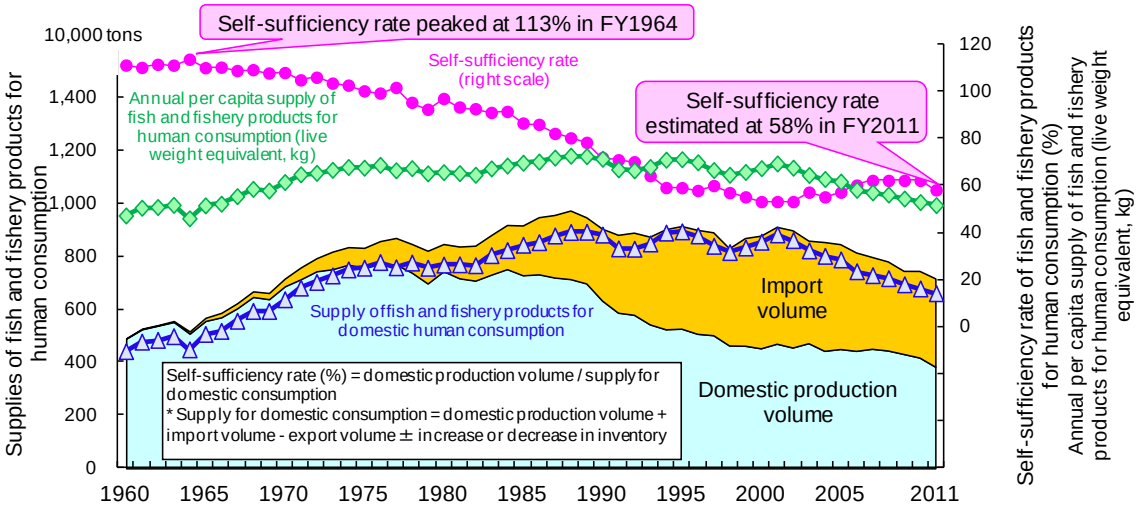
Source: Ministry of Finance, *Trade Statistics*.

(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*.

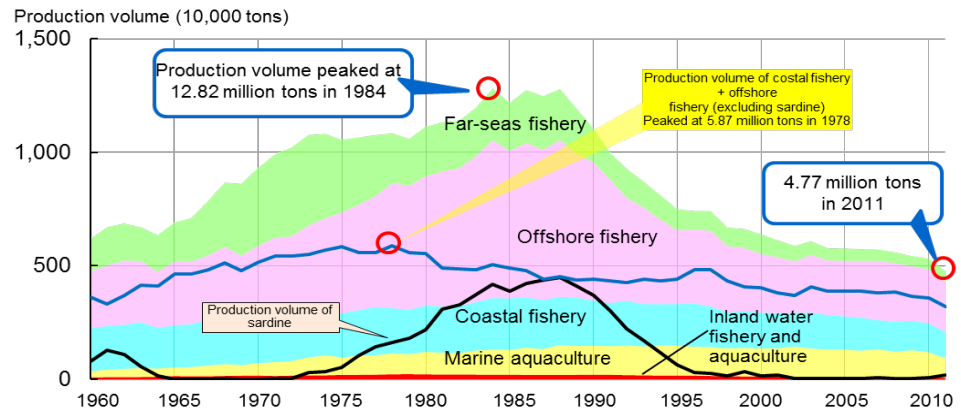
Section 2 : Trends in Japan's fisheries

(1) Trends in fisheries and aquaculture

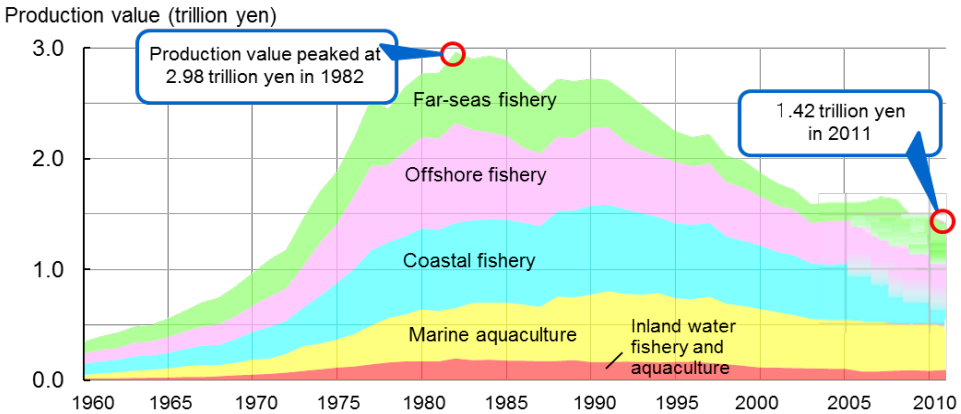
(Domestic fishery and aquaculture production)

- 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



		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
	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
	Fishery	202
	Aquaculture	716

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.

Column: Various styles for tuna and skipjack fishery

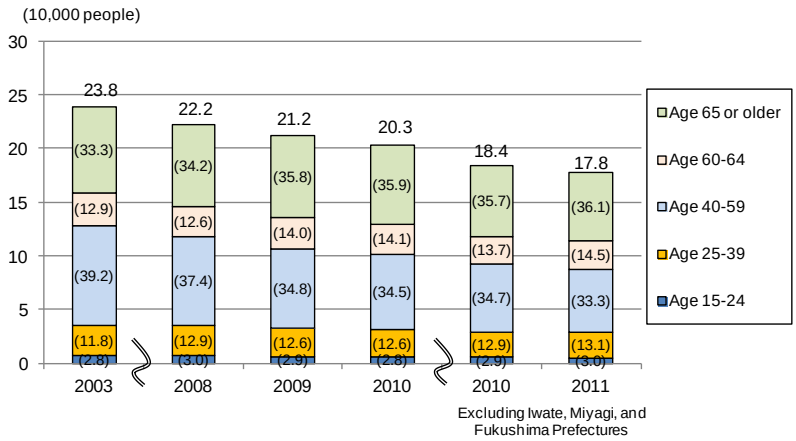
- Tunas and skipjacks, which are highly migratory fish species, are distributed widely in oceans around the world. The tunas and skipjacks can be caught not only in waters surrounding Japan, but in waters around the world. Thus, Japanese fishing vessels are operating in various sea areas.
- Bluefin tuna 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

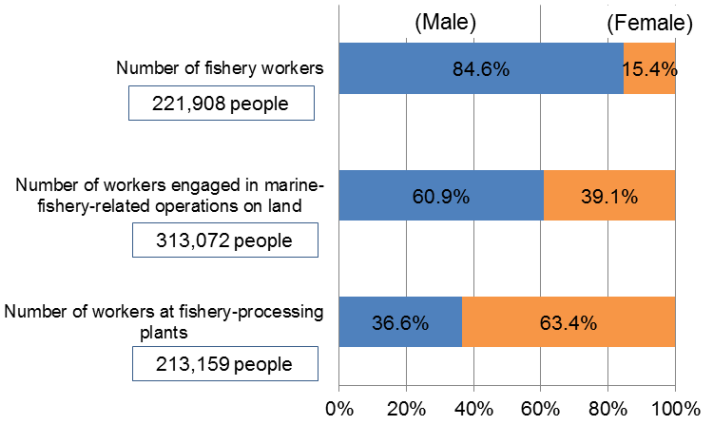
- Fishery courses are available at 46 high schools in 36 prefectures. The number of students was 9,612 in FY2012. Among those who graduated in March 2011, 40% became fishery or maritime-related workers, excluding those pursuing further education.
- Fisheries high schools offer a broad range of fishery 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



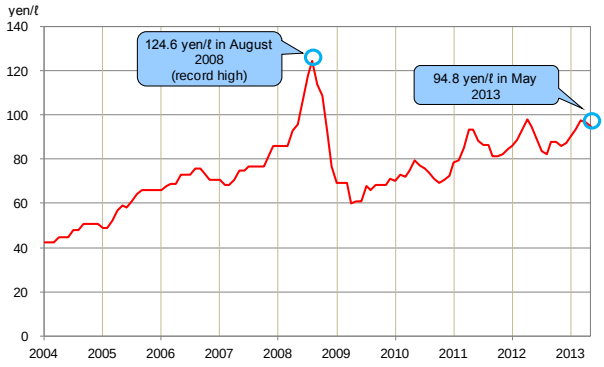
Source: MAFF, *Census of Fisheries* (2008).

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)

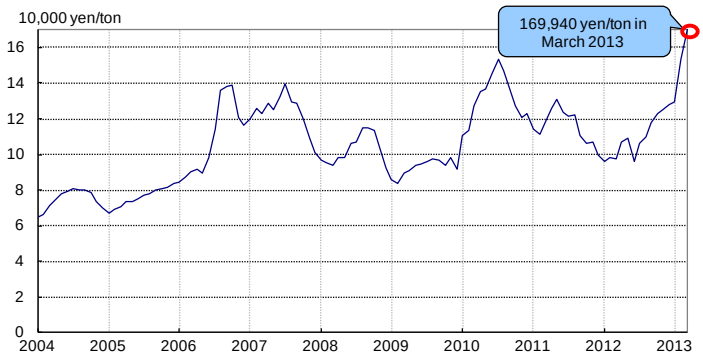
- As an initiative for ensuring both appropriate management of fishery resources and stable fishery business management, the government has implemented resource-management/fishery-business-management stability measures as a comprehensive business-management-stability initiative, combining resource-management/income-stability 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



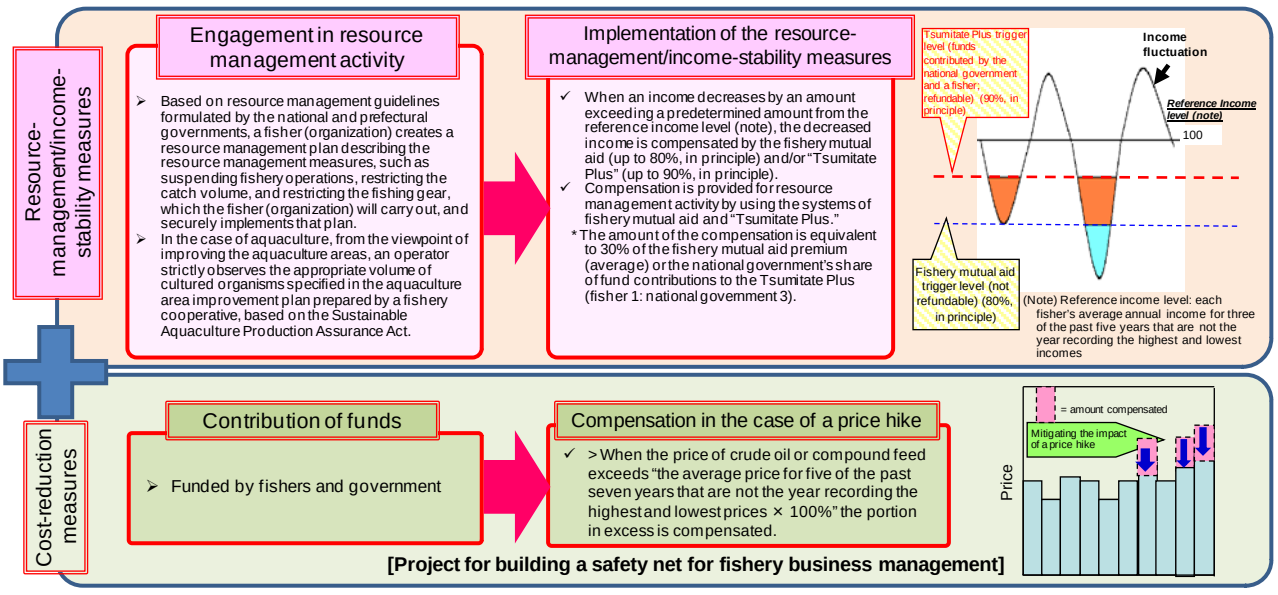
Source: Fisheries Agency survey.

Changes in the import unit value of fish meal



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

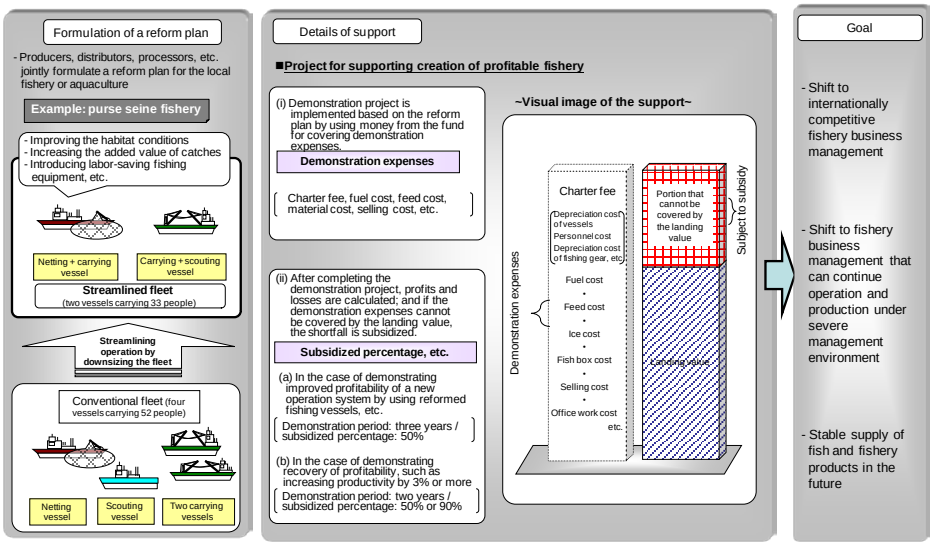
Outline of the resource-management/fishery-business-management stability measures



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

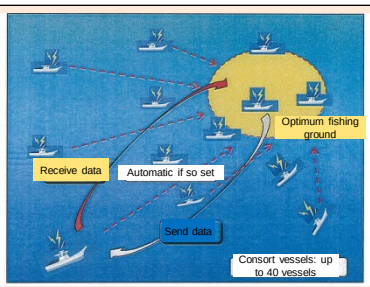
- Japanese fishing vessels are decreasing and aging. This is because fishers/fishing companies cannot afford to build new fishing vessels due to the stagnation of fishery income.
- In order to shift the operation and production systems of fisheries using fishing vessels to more profitable ones, the government 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.



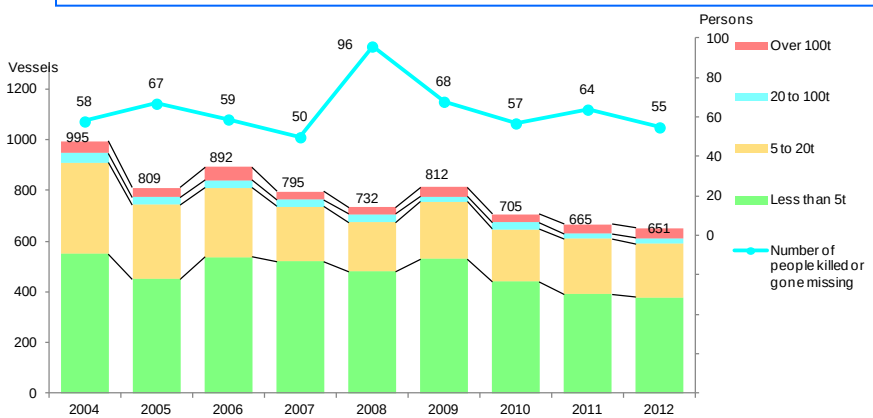
By mounting a fishing plotter, a vessel can automatically receive data (location, water temperature, tidal current, etc.) from consort vessels, and display the data on the plotter screen. It substantially enhances the vessel's ability to find fishing grounds.

(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

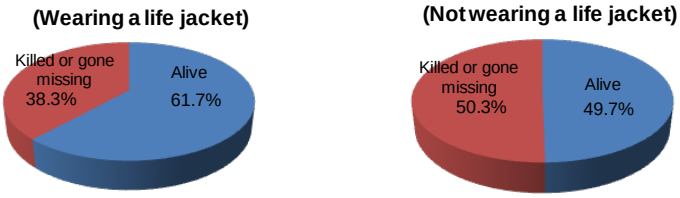


Source: Japan Coast Guard
Note: Excluding marine accidents due to heavy snowfall in the Sanin region (two vessels in 2010; 215 vessels in 2011).

(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)



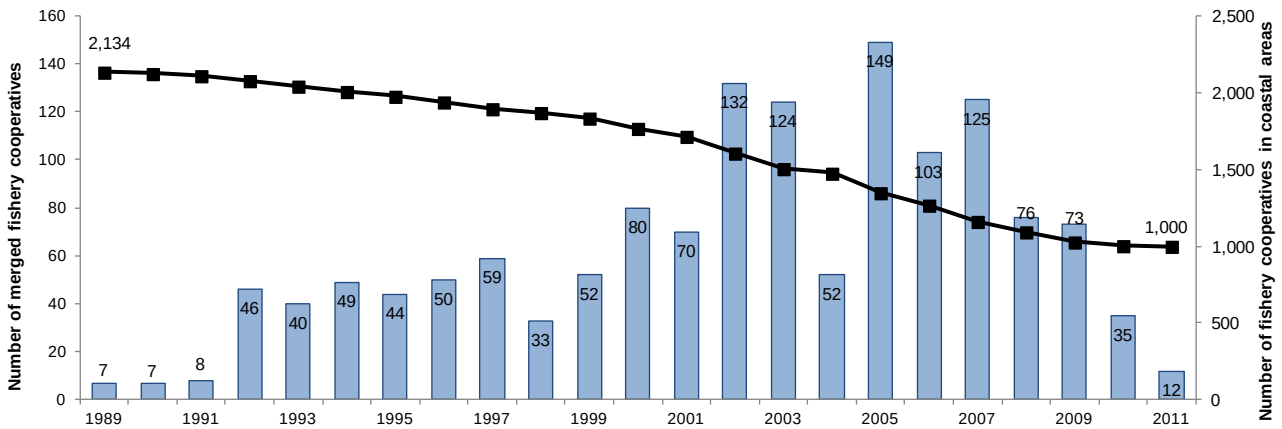
Source: Japan Coast Guard

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



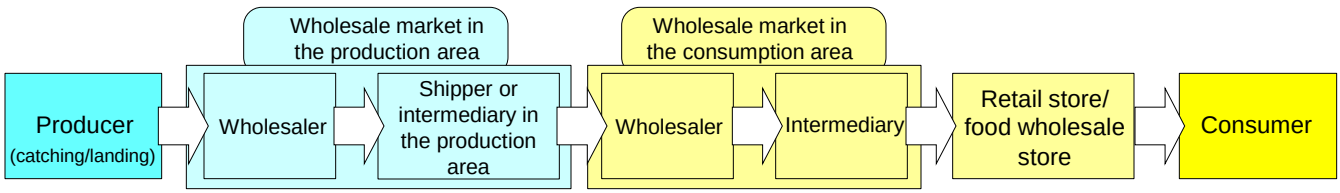
Source: Fisheries Agency, *Annual Report on Fishery Cooperatives*

(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



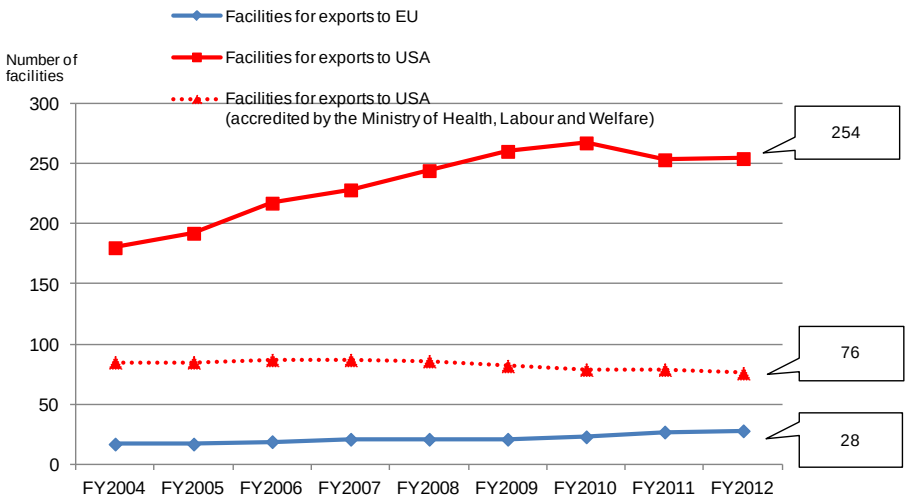
(Current status of the fishery-processing industry)

- 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

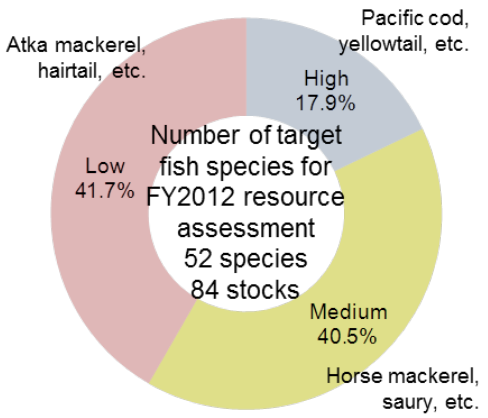
Section 3 : Trends in Japan's fishery resources and fishing grounds environments

(1) Fishery resources in waters surrounding Japan

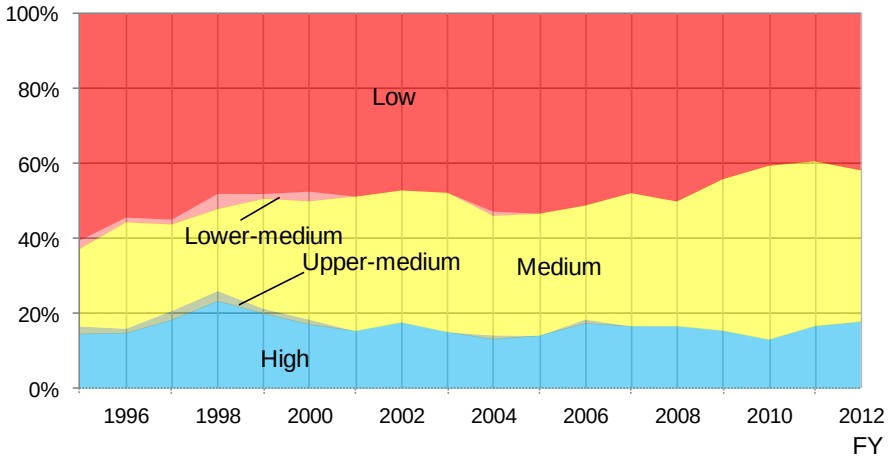
- According to the FY2011 assessment of the state of major fishery resources in waters surrounding Japan, of the assessment targets (52 species, 84 stocks), the resource level was high for 15 stocks (17.9%), medium for 34 stocks (40.5%), and low for 35 stocks (41.7%).
- In recent years, the percentage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

Current resource levels (FY2012)



<Changes in 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.

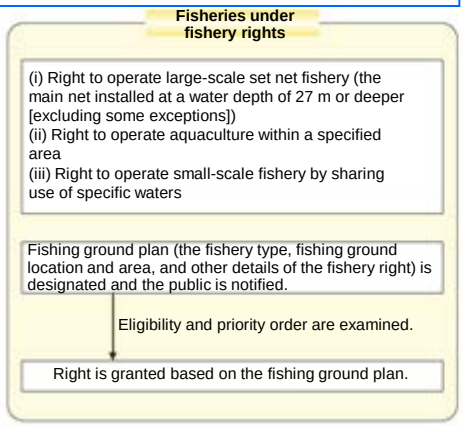
Column: Characteristics of the TAC system in Japan

- 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.

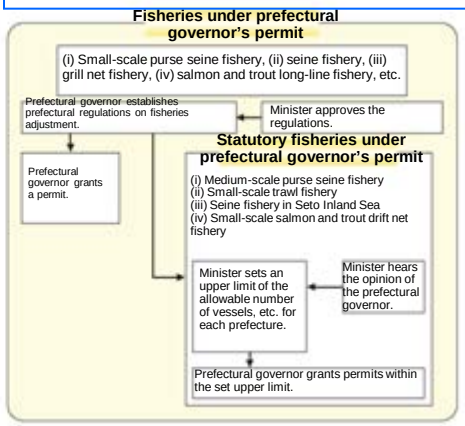
(Resource management based on public regulations)

- 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).

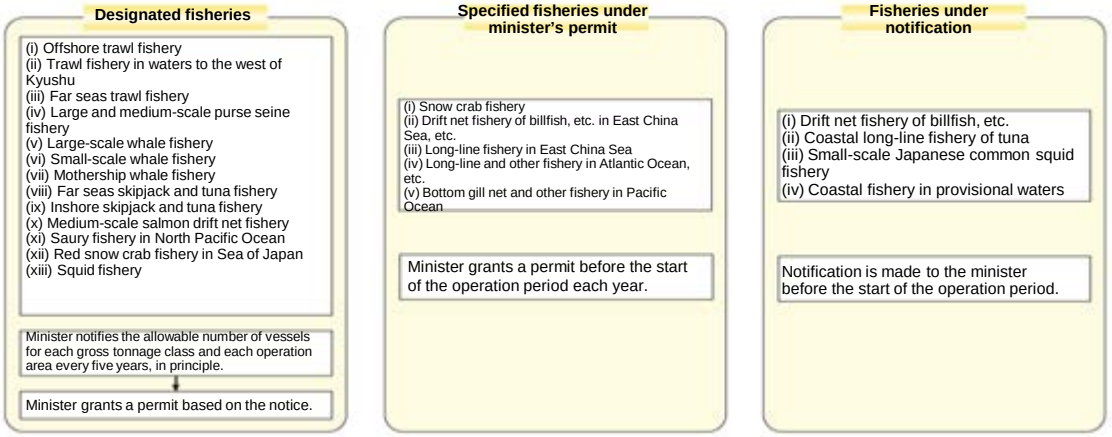
Conceptual diagram of fisheries under fishery rights



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.

- Saury
- Alaska pollack
- Horse mackerel
- Sardine
- Common mackerel and spotted mackerel
- Japanese common squid

Satisfying requirements (i) and (iii)

-Snow crab ····· Satisfying requirements (ii) and (iii)

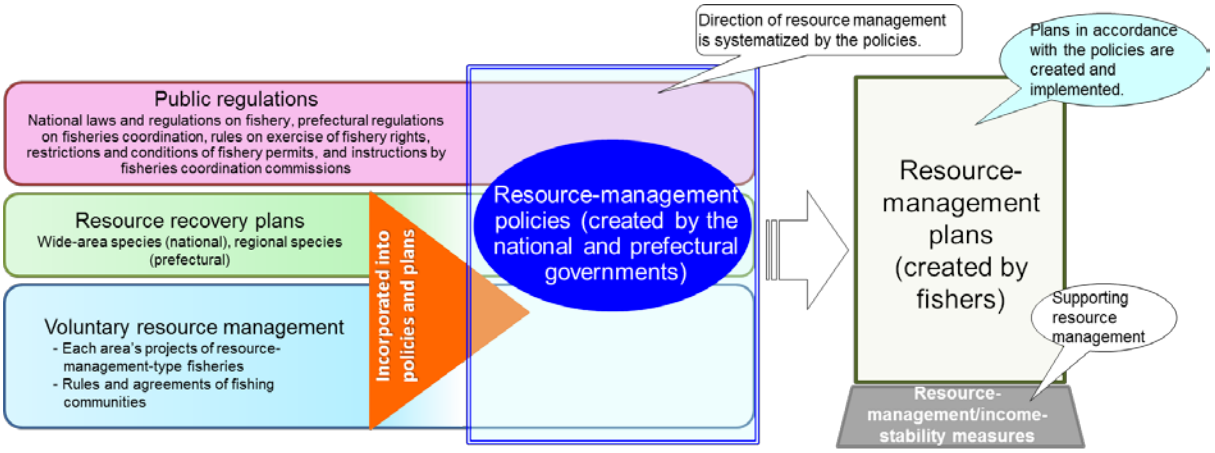
(Voluntary resource management by fishers)

- 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.

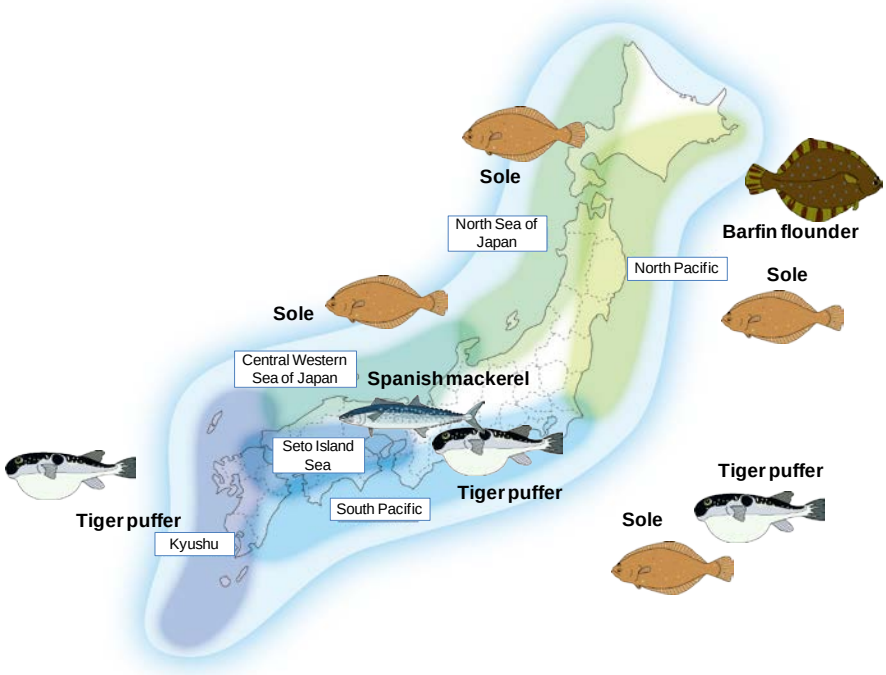
New resource-management system based on resource-management policies and resource-management plans



(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.

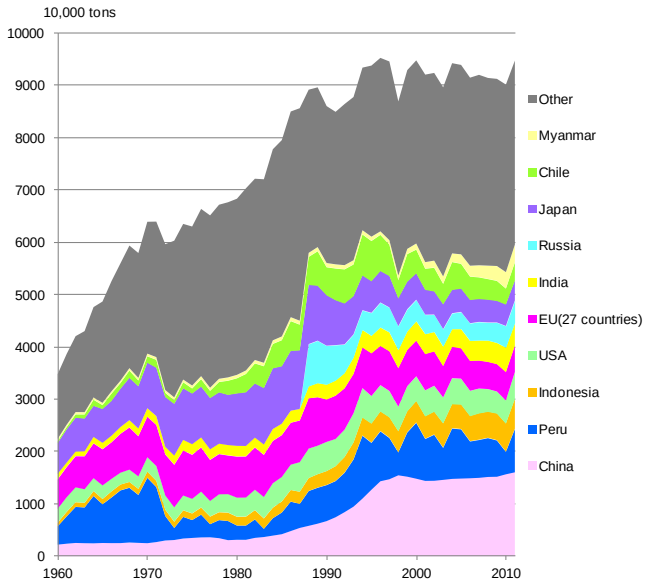
Locations of occurrence of fishery damage and damage details

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 (*Ascidiella aspersa*)	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.

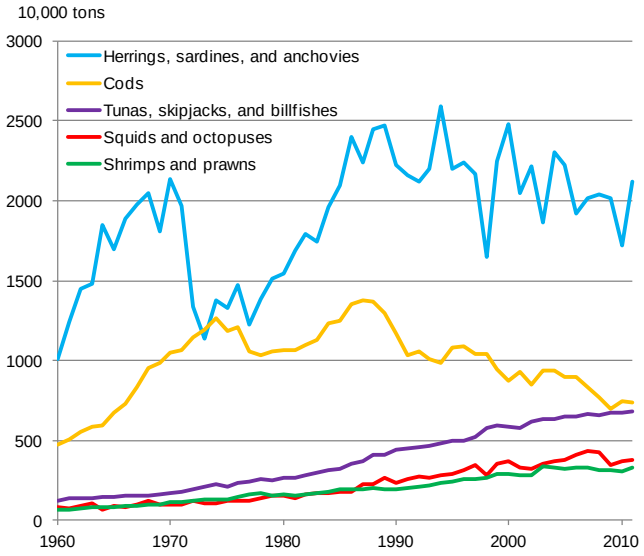
(1) State of world fisheries and aquaculture production

- 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)

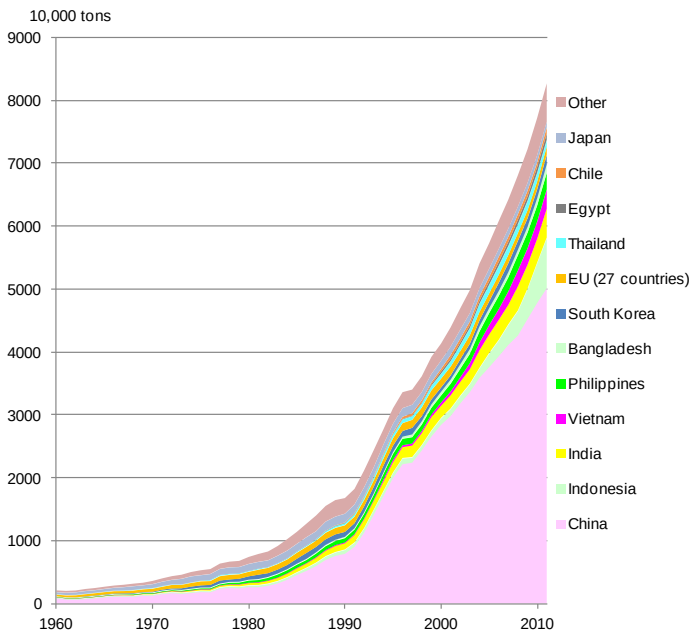


Changes in global fishery production (by fish species)

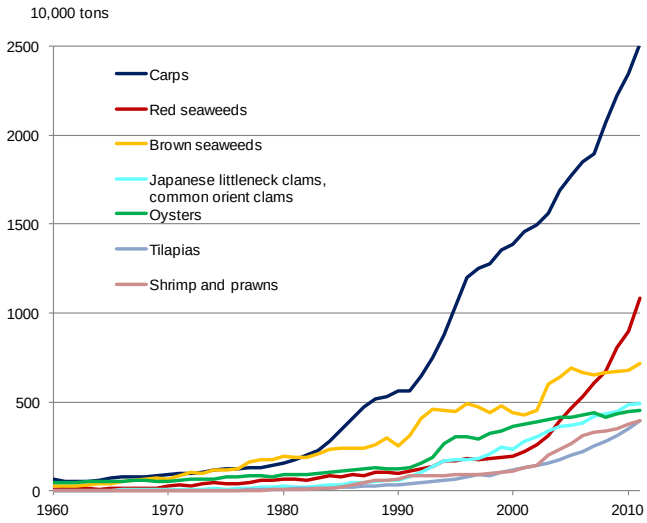


Source: FAO, *Fishstat (Capture Production)* (data for countries except Japan) and MAFF, *Annual Statistics on Fishery and Aquaculture Production* (data for Japan).

Changes in global 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)

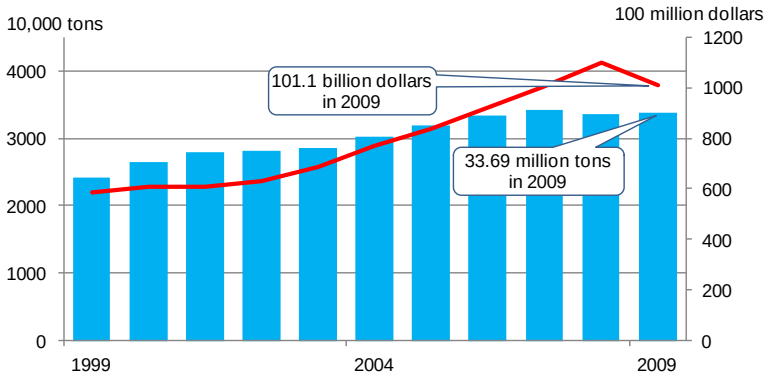
		2003	2004	2005	2006	2007	2008	2009	2010
Japan	Powered fishing vessels of 10 t or more (those that are actually in operation)	13,115 (10,547)	12,916	12,729	12,447	12,277	12,099 (9,742)	11,782	11,634
China	Powered fishing vessels of 12 m or more	—	—	—	—	—	132,462	136,137	136,863
South Korea	Powered fishing 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.

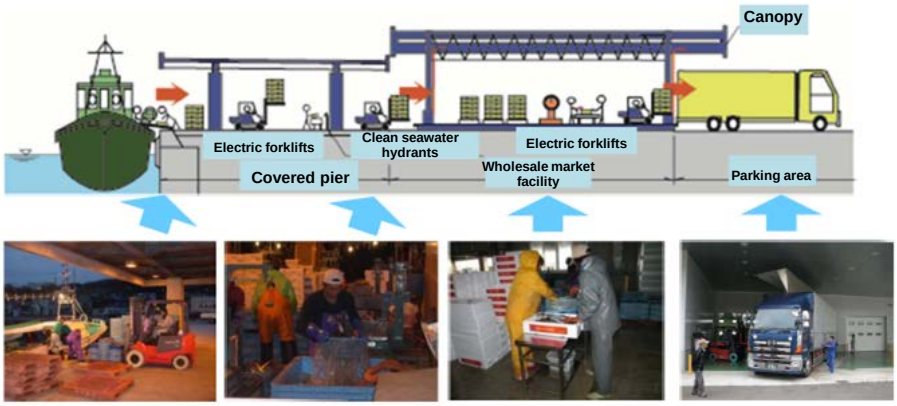
Chinese tiger net fishing vessel (in front) operating without a permit within Japan's EEZ. Captured by one of the Fisheries Agency’s fishery patrol vessels in February 2013.

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.)



- Covered pier for protection from sunlight and bird droppings
- Electric forklifts that emit no exhaust gas

- Fish washing using clean seawater

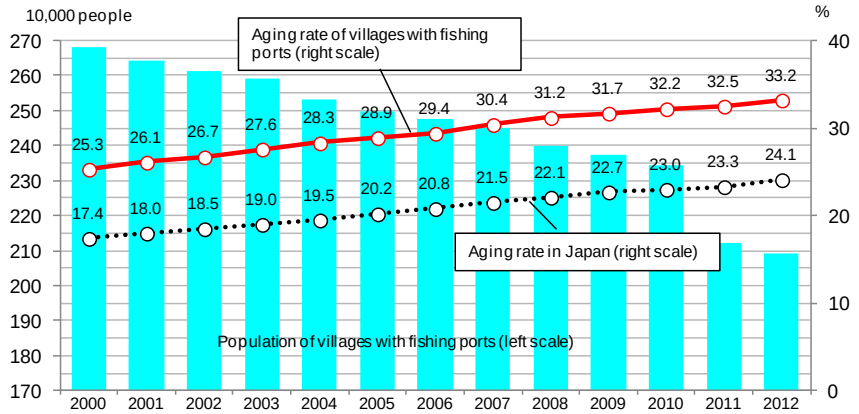
- Measuring and packing in a closed wholesale market facility to prevent exposure to bacteria, etc.

- Loading onto trucks at a loading dock under a canopy

(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	Peninsula area	Remote island area	Depopulated area	Populated 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.

Policy

Encouraging speedy evacuation to evacuation sites, putting human life first
Keeping damage to a minimum (disaster mitigation), and supporting prompt emergency measures

Establishment of the system

Making a united effort with the community
- Creating a fishing community disaster-prevention council
- Establishing the fishing community's voluntary disaster-prevention organization, etc. adapted to the aging of the community
- Achieving cooperation among coastline/fishing port managers, the voluntary disaster-prevention organization, and other related entities

Measures

(i) Ensuring the safety of local residents, workers, and visitors
- Identifying the respective situational attributes of local residents, workers, and visitors
- Ensuring the safety of local residents, workers, and visitors

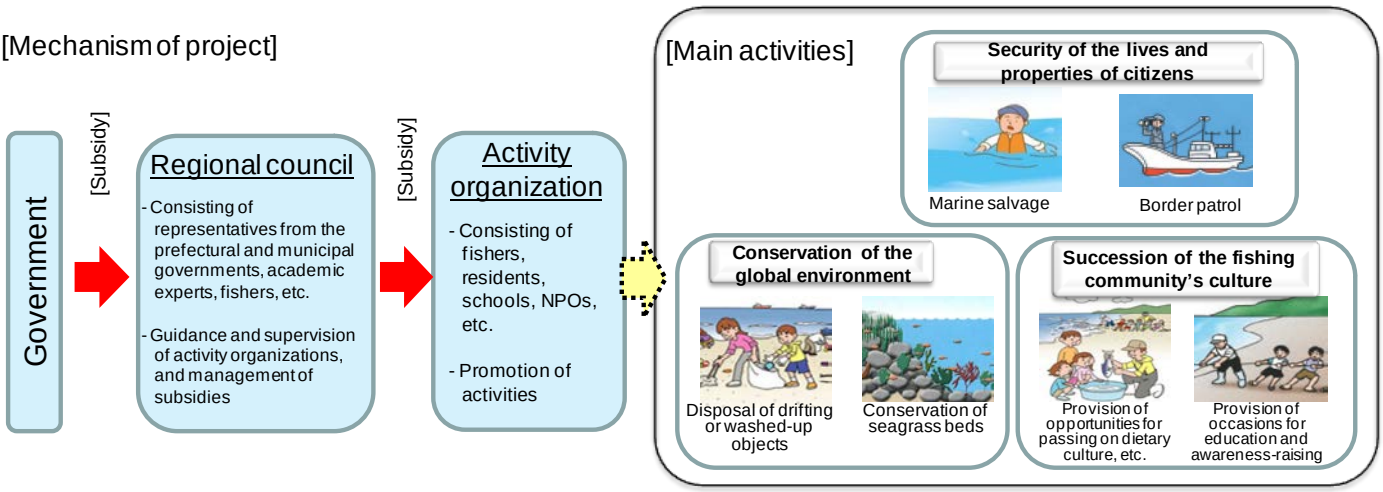
(ii) Comprehensive disaster-prevention measures for fishing ports and communities
- Preventing expansion of damage by making appropriate use of land
- Implementing measures to use fishing ports as support centers
- Responding to isolation of communities
- Supporting emergency/reconstruction measures by securing open spaces
- Appropriately managing and operating floodgates, land locks, etc.
- Preventing expansion of damage caused by drifting objects
- Preventing expansion of damage caused by hazardous objects
- Preventing expansion of damage caused by fire
- Preventing expansion of damage by ensuring continuity of the community

(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

Government support for local activities contributing to demonstration of multiple functions



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 CO_2 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.

Fishery Policy for FY2013

Based on the Basic Plan for Fisheries formulated in March 2012, the government will promote recovery and management of fishery resources, and will strive to establish a robust fishing industry that remains sustainable in the future. To this end, the government will implement such measures as ensuring the stability of fishery business management through resource-management/fishery business-management stability measures, securing and training fishery operators, and supporting the activities of fishers, etc. for demonstrating the multiple functions of the fishing industry and fishing communities.

I Reconstruction of the damages caused by the Great East Japan Earthquake

1 Steadily implementing measures oriented toward realizing reconstruction
2 Overcoming the impact of the accident at TEPCO's Fukushima Daiichi Nuclear Power Plant

II Strengthening fishery resource management under a new resource-management system

1 Strengthening resource management in Japan's exclusive economic zones
2 Promoting global resource management
3 Enhancing investigative research related to fishery resources
4 Establishing sustainable aquaculture with little environmental burdens
5 Ensuring development of fisheries based on coexistence of a variety of marine organisms

III Achieving stability of business management of motivated fishery operators

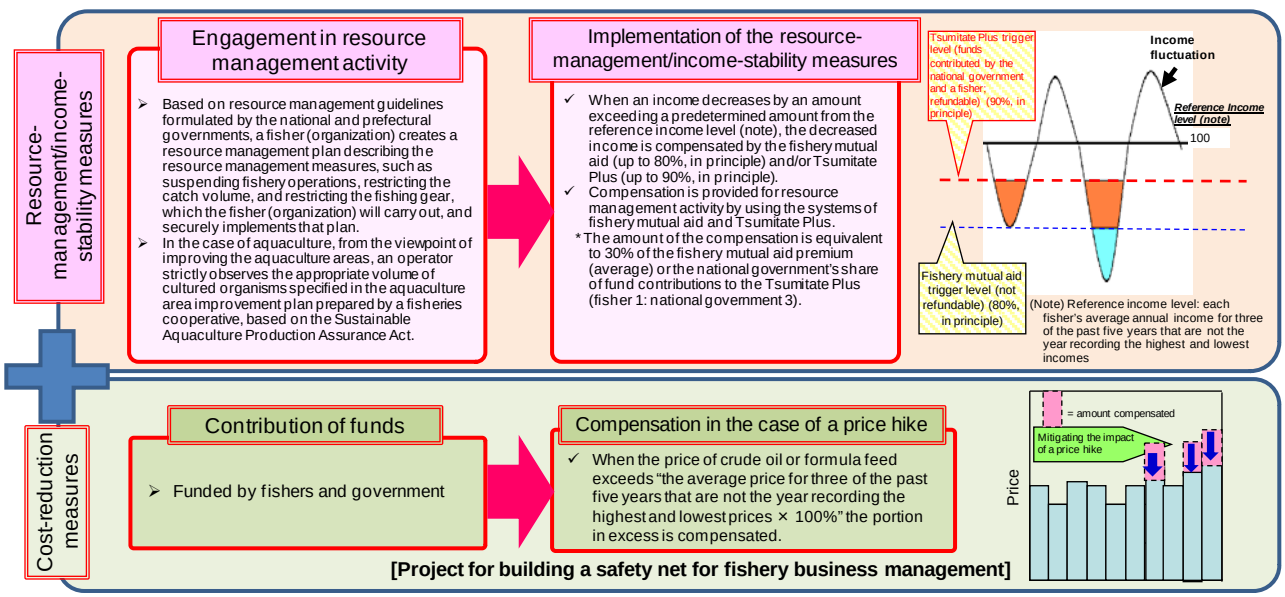
1 Ensuring the stability of fishery business management through resource-management/fishery business-management stability measures

- In order to achieve appropriate resource management and stability of fishery business management and to secure a stably supply of fish and fishery products to people, resource-management/income-stability measures will be implemented for fishers who systematically engage in resource management by utilizing the system of fishery mutual aid. By combining such measures with the project for building a safety net for fishery business management, which is a cost-reduction measure, the government will comprehensively promote the stability of fishery business management.

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

Key points:

- In order to secure a stable supply fish and fishery products to people, resource-management/income-stability measures are implemented for fishers who systematically engage in resource management by utilizing the system of fishery mutual aid; and by combining such measures with a cost-reduction measure, comprehensive business-management stability measures are developed.
- The measures target types of fisheries that are subject to fishery mutual aid (coastal, offshore, and far-seas fisheries and aquaculture).



2 Appropriately managing the fisheries insurance system

IV Establishing a vibrant production structure based on diverse development of fisheries business

1 Strengthening the constitution of fisheries business management oriented towards the cultivation of fishers/fishing companies with international competitiveness
2 Making fisheries a highly value-added industry
3 Precisely implementing fishery business-support measures, such as finance and credit guarantee
4 Securing and training fishery workers and promoting participation by women

- Fishers/fishing companies that can engage in fishery activities in a sustainable manner will be fostered by training and securing human resources. In order to secure new recruits and develop successors in the fishing industry, funds will be provided to such people at the job preparation phase. Also, the government will support the holding of fishery job consultation meetings and long-term training at fishery sites.

Outline of the comprehensive support project for new fishery workers

The government will develop an environment to allow motivated young people to enter the fishing industry and continuously engage in fisheries, and will secure and train human resources who will make the fishing industry a highly value-added industry.

Job preparation

Providing benefits for youth preparing to work in the fishing industry

Providing minimal funds (compared to other industries) to young people who are acquiring necessary knowledge at prefectural fishery schools to work in the fishing industry

Offering information to encourage people to take a fishery job

- Providing job information on the website and in pamphlets
- Setting up prefectural job-consultation counters
- Holding lectures in urban and rural areas on taking fishery jobs and holding job-preparation workshops for gaining experience in fishery operations
- Arranging interviews between people who wish to work in fishery and people from fishing communities (job-matching) at fishery job-consultation meetings in urban and rural areas

Encouragement to take the job and stay in it

Long-term training support

Employment	Executive training	Independence
Subsidizing training costs for an instructor (mainly a juridical person) teaching trainees who will be hired by fishers/fishing companies	Subsidizing training costs for an instructor (mainly a juridical person) teaching trainees who have been hired by a far seas offshore fishing vessel and are aiming to become executives	Subsidizing training costs for an instructor (mainly a juridical person) teaching trainees who want to become independent and self-employed
Working as a juridical person or full-time staff		Working as an independent or self-employed operator

Supporting skills acquisition

Supporting acquisition of skills necessary for fishery activities, accounting, tax affairs, distribution and processing, and safe operations

V Strengthening safety measures for vessel fishery

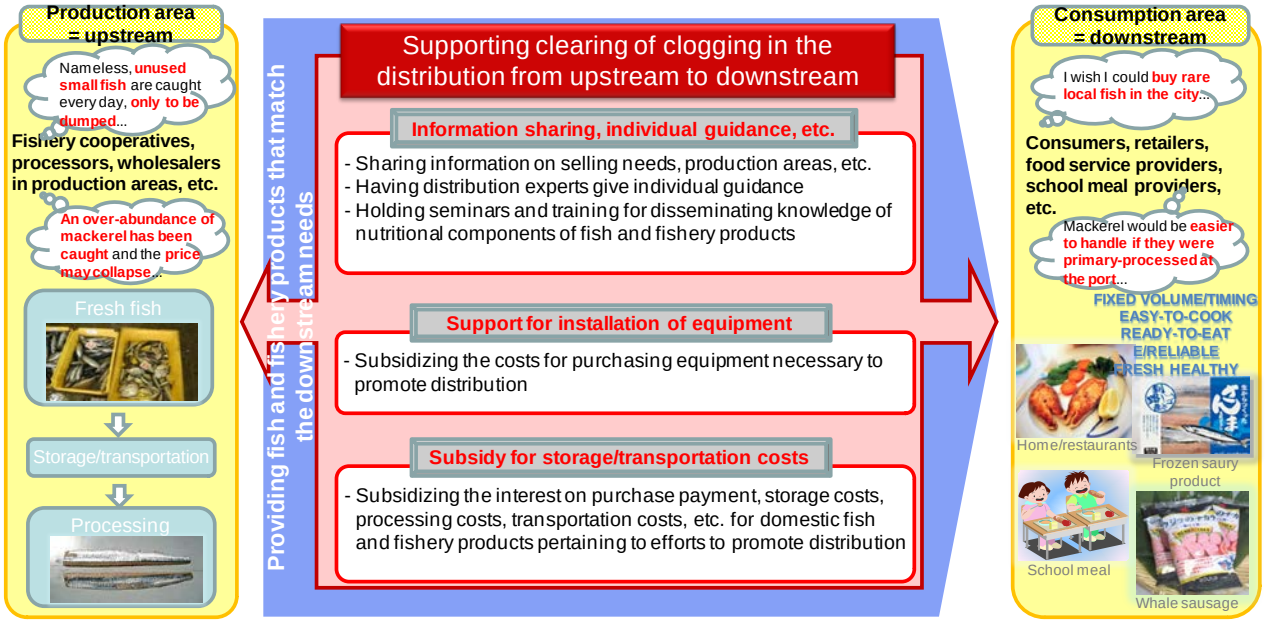
VI Ensuring a stable supply of safe fish and fishery products based on sustainable development of the processing and distribution industries and expanded consumption

1 Enhancing information provision to consumers
2 Promoting dissemination of a fish-rich diet
3 Promoting quality and hygiene-control measures for distribution of fish and fishery products

- The government will promote distribution and expand consumption of domestic fish and fishery products by clearing any clogging in the distribution from upstream (production area) to downstream (consumption area) and meeting consumer needs.

Outline of the project for promoting distribution of domestic fish and fishery products

- Amid a sharp decline in consumption of fish and fishery products (40.2 kg/capita/year in 2001 → 29.5 kg/capita/year in 2010), it is urgent to promote distribution of domestic fish and fishery products by clearing any clogging in the distribution.
- The government will comprehensively support the distribution of domestic fish and fishery products from upstream (production area) to downstream (consumption area) both through soft measures and hard measures.



4 Constructing diverse distribution routes
5 Increasing added value based on fishery processing and expanding sales channels
6 Ensuring an appropriate supply-and-demand balance by demonstrating processing/distribution functions
7 Promoting exports of fish and fishery products
8 Securing imports of fish and fishery products

VII Developing safe and vibrant fishing communities

1 Strengthening disaster-prevention functions and disaster-mitigation measures of fishing ports and fishing communities

- The government will increase the disaster-prevention capacity of fishing ports and fishing communities by strengthening the structure of fishing port facilities so that they can demonstrate their effects persistently and by making the piers earthquake-resistant.

Outline of fisheries infrastructure development projects

Reconstruction from disaster & disaster-prevention measures

[Challenges and countermeasures]
- Massive damage assumed to be caused by large-scale earthquakes, etc.
- Growing concerns among residents about possible damage from waves, high tide, earthquakes, and tsunamis

- Extending the life-span and strengthening the disaster-prevention functions of fishing port facilities
- Recovering the productivity of fishing grounds
- Establishing an evacuation system in fishing communities


Artificial ground of a fishing port and embankment/leveling of a fishing port village

Hygiene-control measures for distribution centers

[Challenges and countermeasures]
- Need for comprehensive hygiene-control measures in the processes from landing to shipping
- Aging and functional decline of markets, etc.

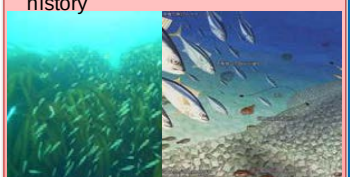
- In addition to fish wholesale market facilities and piers under hygiene control, developing carry-in/carry-out work spaces at fishing port markets


Fishing port serving as a production/distribution base
Hygiene control of a fishing port

Fishery resource recovery measures

[Challenges and countermeasures]
- Low-resource-level fishery resources still accounting for about 40% of all resources
- Constant shrinkage of seagrass beds and tidal flats

- Developing fishing grounds in offshore areas
- Optimizing habitat conditions for aquatic organisms based on life history


Conservation/creation of seagrass beds
Upwelling fishing ground

2 Maintaining and strengthening fishing port functions that serve as the foundation for a stable supply of fish and fishery products

- From the viewpoint of appropriately maintaining fishing port functions to support a stable offer of fish and fishery products and effectively using the existing stock of fishing ports, the government will promote the systematic repair and upgrade of fishing port facilities.

3 Using local resources and demonstrating the multiple functions of the fishing industry and fishing communities

- The government will promote revitalization of the fishing industry and fishing communities and revival of the fishing industry by supporting the activities of fishers, etc. and demonstrating the multiple functions of the fishing industry and fishing communities.
- The government will support fishery-revival activities on remote islands through original and unique efforts of the local community, and promote the development of safe and vibrant fishing ports and fishing communities.

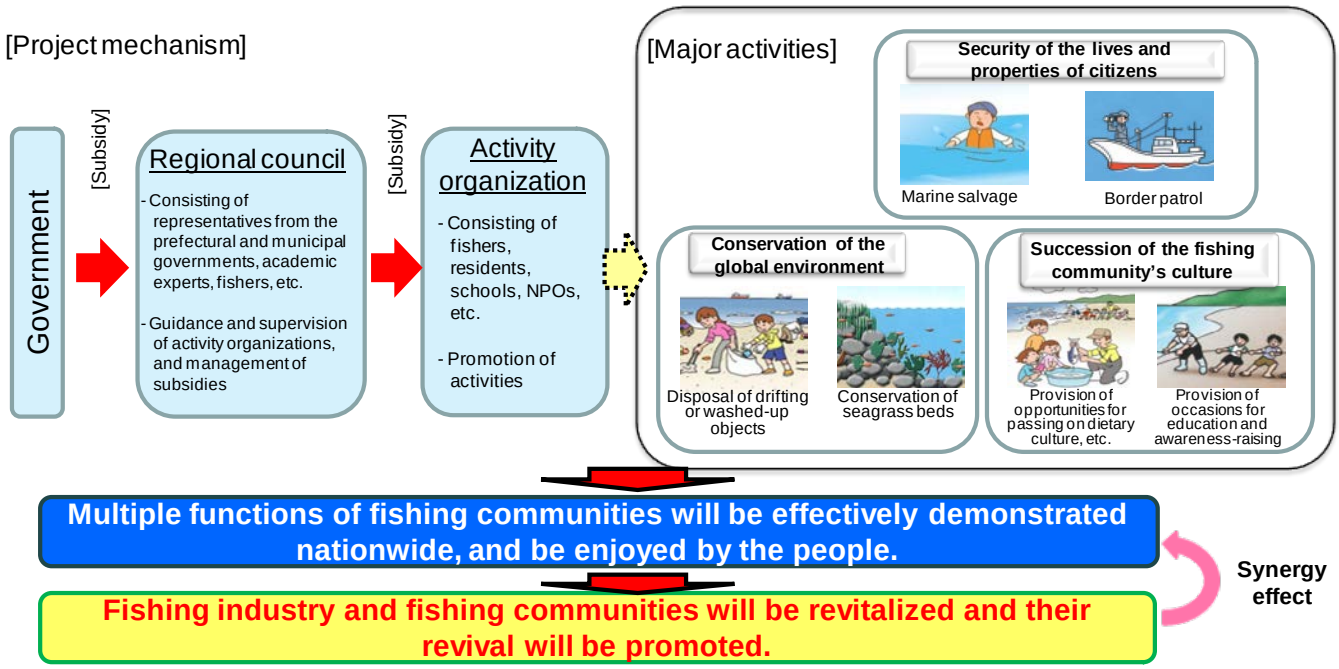
Outline of the project for measures to demonstrate the multiple functions of fisheries

Background

Demonstration of the multiple functions of the fishing industry and fishing communities has been hindered due to the aging of fishers and the population decline of fishing communities. Therefore, it is necessary to revive the fishing industry and revitalize fishing communities by supporting local efforts that contribute to demonstrating the multiple functions effectively and efficiently.

Project details

The government will support a certain amount of cost for activities of fishers, etc. that contribute to demonstrating the multiple functions of the fishing industry and fishing communities.



VIII Enhancing technological development and investigative research that supports the fishing industry

1 Developing and disseminating new technology that paves the way for the future of the fishing industry

2 Steadily implementing basic surveys and research, such as marine-environment monitoring

IX Reorganizing and developing fishery-related organizations

1 Reorganizing fishery-cooperative organizations.

2 Securing the business infrastructure of fisheries insurance organizations

X Other important measures

XI Necessary items for comprehensively and systematically promoting fishery-related measures