# Fisheries of Japan—FY2010 (2010/2011)

# Fisheries Policy Outline for FY2011

(White Paper on Fisheries: Summary)

This document reports the state of fisheries and the policy taken during FY2010 in accordance with the provisions of Article 10, paragraph (1) of the Fisheries Basic Act (Act No. 89 of 2001) and the policy to be taken in FY2011 in accordance with the provisions of paragraph (2) of said Article.

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### Great East Japan Earthquake

- O An earthquake of magnitude 9.0 (provisional value) occurred off the coast of Sanriku at 2:46 p.m., March 11, 2011, causing tsunamis. The earthquake and tsunamis inflicted tremendous damage on fishing cities and communities not only in the Tohoku region, but in a wide area along the Pacific coast.
- O The scale of damage was particularly large in Iwate, Miyagi, and Fukushima Prefectures, which were close to the seismic source. Many precious lives were lost, and all kinds of production bases supporting the fishery industry, such as fishing communities, fishing vessels, fishing port facilities, and fishery processing facilities, were badly damaged.
- O The tsunamis also severely damaged fishery-related facilities, including aquaculture facilities, in areas other than the Tohoku and Kanto regions.

#### Status of Fishery-related Damage Caused by the Great East Japan Earthquake (as of May 16)

Major damaged objects	Scale of damage	Amount of damage (100 million yen)	Major affected areas	
- Fishing vessels	20,718 vessels	1,384	Severe damage was inflicted on Iwate, Miyagi, and	
- Fishing port facilities	319 fishing ports	6,442	Fukushima Prefectures. Also, damage was reported from Hokkaido, Aomori, Ibaraki, Chiba, Tokyo, Kanagawa,	
- Aquaculture facilities		455	Shizuoka, Aichi, Mie, Wakayama, Tokushima, Kochi, Oita, Miyazaki, Kagoshima, and Okinawa Prefectures	
- Cultured organisms		545	(moreover, fishing vessels from Toyama, Ishikawa, and	
- Markets/facilities for common use, such as processing facilities		126	Tottori Prefectures were damaged while mooring in an affected area).	
Total		8,952		



From near to far: disasteraffected ice-making facility, refrigerating facility, and fishery processing facility (Minamisanriku Town, Miyagi Prefecture)

Fishing port filled with floating debris and other drifting objects (Ishinomaki City, Miyagi Prefecture)



- O The Ministry of Agriculture, Forestry and Fisheries (MAFF) established the MAFF Earthquake Response Headquarters on March 11, immediately following the earthquake.
- O The Fisheries Agency's fishery research/patrol vessels engaged in search activities on site, and in the transportation of relief supplies to the affected areas.
- O Since immediately after the earthquake, fishery-related entities have provided a variety of support to the affected areas, such as the transportation of emergency relief supplies, the supply of crude oil by fishery organizations, and cooperation in food assistance by fishery processers.



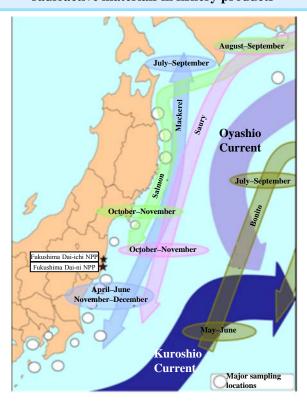
Due to the many drifting objects and destroyed quays, relief supplies were carried ashore using patrol boats loaded on fishery patrol vessels.



The All Japan Seamen's Union, which is a national organization of ship crews chartered a medium-size squid-fishing vessel, and delivered relief supplies to affected areas.

- O The accident of Tokyo Electric Power Company's (TEPCO's) Fukushima Dai-ichi Nuclear Power Plant (NPP) provoked concerns about the safety of fishery products in and outside Japan, in addition to affecting fisheries, as shown by fishers' self-restraint of operations, for example.
- O The Fisheries Agency notified prefectures, etc. of the Basic Policy for Inspections on Radioactive Materials in Fishery Products on May 2, 2011. It intends to continue its efforts to strengthen the monitoring of radioactive materials and to provide accurate information in cooperation with prefectures, etc.

# Outline of implementation of inspections on radioactive materials in fishery products



# Inspections on radioactive materials in fishery products

In order to ensure that consumers can eat fishery products without anxiety, it is important to inspect the levels of radioactive materials contained in fishery products and to take measures so that fishery products with radioactivity levels exceeding the provisional regulation values under the Food Sanitation Act are not distributed on the market.

The Fisheries Agency, which had already been promoting inspections on radioactive materials in fishery products in cooperation with the relevant prefectures, formulated the Basic Policy for Inspections on Radioactive Materials in Fishery Products on May 2, 2011, with an aim to further strengthen such inspections. Based on this policy, the relevant prefectures and industrial organizations currently implement inspection of radioactive materials in fish and shellfish sampled at major landing ports once a week, in principle.

If the level of radioactive materials is found to exceed the provisional regulation value as a result of the inspection, the relevant fishery operations around the sea area where the sample was caught are to be suspended based on a request by the national or prefectural government. In this manner, steps are taken to prevent the distribution of fishery products with radioactivity levels exceeding the provisional regulation values.

#### (Reference) MAFF website (as of May 16, 2011)

- O Basic Policy for Inspections on Radioactive Materials in Fishery Products http://www.jfa.maff.go.jp/j/press/sigen/110506.html http://www.jfa.maff.go.jp/e/inspection/pdf/110530\_housin\_en.pdf
- $\begin{tabular}{ll} O Questions and Answers on Fishery Products \\ http://www.jfa.maff.go.jp/j/kakou/Q_A/index.html \\ http://www.jfa.maff.go.jp/e/inspection/pdf/110803_qa_en.pdf \end{tabular}$

OThe national government intends to work on reconstructing the fisheries and processing/distribution industries, and on restoring and reconstructing fishing ports, fishing grounds, fishing vessels, aquaculture facilities, and fishing communities so that the disaster-affected fishery business operators can resume their business with hopes and prospects for the future.

#### [Fishery-related restoration measures under the FY2011 supplementary budget]

#### Outline of fishery-related supplementary budget [total of 215.3 billion yen]

### I Restoring fishing ports, fishing grounds, fishing communities, etc.: 30.8 billion yen

(1) Project for investigation of the damage status of fishery-related facilities, etc.: 300 million ven

Investigation of the damage status of fisheries facilities, such as fishing ports, fishing vessels, aquaculture facilities, and set nets, in the affected areas

- (2) Project for post-disaster restoration of fishing ports, etc. (public): 25 billion yen Post-disaster restoration of fishing ports, fishing grounds, seashores, etc. and concurrently implemented disaster-related project for preventing disaster recurrence
- (3) Fishery infrastructure restoration/reconstruction measures implemented in coordination with post-disaster restoration (public): 5.5 billion ven

Formulation of restoration/reconstruction plans for strengthening disaster-prevention functions, such as reviewing the design conditions for fishing port facilities and shore protection facilities, raising the ground level of fishing communities, etc., and implementation of measures for recovering the functions of fishing ports in coordination with post-disaster restoration

#### II Responding to payment of fishing vessels insurance/fishery mutual aid: 94 billion yen

(1) Payment of reinsurance money, etc. of fishing vessels insurance/fishery mutual aid: 86 billion yen (required amount: 96.8 billion yen)

Transfer of funds to a special account to be appropriated for the payment of reinsurance money for fishing vessel insurance and payment of insurance money for fishery mutual aid associated with the Great East Japan Earthquake

(2) Project for supporting insurance money, etc. paid by fishing vessel insurance cooperatives and fishery mutual aid cooperatives: 8 billion yen Support for the financial resources for the payment of insurance money, etc. by fishing vessel insurance cooperatives and fishery mutual aid cooperatives in the affected areas

#### III Supporting activities for recovering fishing grounds, such as cleaning up of seashores and seafloor: 12.3 billion yen

Project for supporting fishing ground restoration measures: 12.3 billion yen Support for fishers' activities for regenerating/recovering the diminished or lost functions or productivity of fishing grounds, such as collecting and disposing of the debris from fishing grounds

#### IV Supporting construction of fishing vessels and reestablishing set nets for joint use: 27.4 billion yen

Project for measures to support restoration of fishing vessels for joint use, etc.: 27.4 billion ven

Support for the following activities conducted by fisheries cooperatives, etc. for restoring the affected fishing vessels and set net fishing gear

- Construction of small fishing vessels for joint use based on the Act on Special Financial Support to Deal with the Designated Disaster of Extreme Severity (Act on Disaster of Extreme Severity)
- Introduction of fishing vessels based on the joint plan
- Introduction of set nets for joint use

#### V Supporting reconstruction of aquaculture facilities and seedling production facilities: 26.7 billion yen

Project of measures to support restoration of aquaculture facilities: 26.7 billion yen

- Restoration of damaged aquaculture facilities based on the Act on Disaster of Extreme Severity
- Emergency restoration of salmon/trout hatching/releasing facilities

#### VI Supporting reconstruction of landing area markets and processing facilities: 1.8 billion yen + an amount out of 7.6 billion yen

(1) Project for supporting restoration of fisheries facilities for joint use: 1.8 billion ven

Installation of equipment indispensable for early restoration of fisheries facilities for joint use owned by affected fisheries cooperatives, etc.

(2) Project for post-disaster restoration of agricultural, forestry, and fisheries facilities for joint use: (budget of the Management Improvement Bureau) (an amount out of 7.6 billion yen)

Restoration of fisheries facilities for joint use owned by affected fisheries cooperatives, etc. based on the Act on Disaster of Extreme Severity

#### VII Supporting financial measures through interest-free loans and unsecured/noguarantor loans, etc. and for reconstructing fisheries cooperatives: 22.3 billion yen

(1) Project to make fishery-related loans interest-free: [loan ceiling: 38 billion yen] 400 million yen

Making fishery modernization loans and Japan Finance Corporation (JFC) loans for the affected fishers practically interest-free

- (2) Project to establish unsecured/noguarantor fishery-related JFC loans: [loan ceiling: 6 billion yen] 2.2 billion yen Providing the JFC with funds necessary for establishing a system for unsecured/no-guarantor loans
- (3) Project for emergency guarantee measures for fishers, etc.: [guarantee ceiling: 63 billion yen] 4.8 billion yen Support for emergency guarantee to promote unsecured/no-guarantor loans for funds required for building fishing vessels and funds required for restoring fisheries cooperatives, etc.
- (4) Project for emergency support for guarantee/insurance funds, etc.: 14.5 billion ven

Provision of aid for the costs for subrogated performance to be paid to guarantee/insurance institutions, which are expected to swell due to the Great East Japan Earthquake

(5) Project for emergency support for management reconstruction of fisheries cooperatives: [loan ceiling: 15 billion yen] 400 million yen

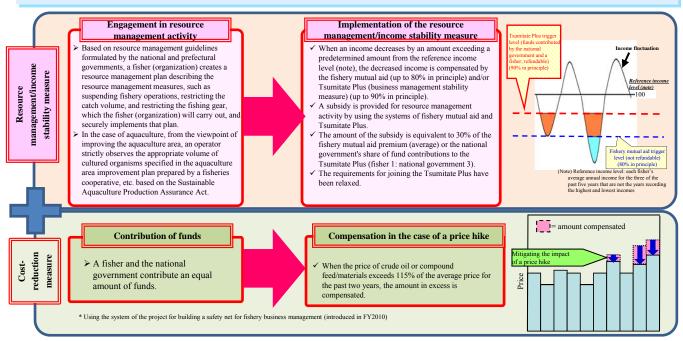
Making loans obtained by fisheries cooperatives for management reconstruction practically interest-free

### Topics: Fisheries in FY2010

#### 1. Resource management/fishery income compensation measure launched in FY2011

- O In order to secure a stable supply of fishery products for citizens, abundant fishery resources and fishery business management for acquiring such resources need to be sustained. As a step to ensure the sustainability of both the resources and business management, the resource management/fishery income compensation measure was launched in FY2011.
- O The resource management/fishery income compensation measure is a comprehensive income compensation system combining i) a resource management/income stability measure, which partially compensates income decreases exceeding a predetermined amount faced by fishers engaged in resource management or fishing ground improvement activity, and ii) a cost-reduction measure, namely, the project for building a safety net for fishery business management (implemented since FY2010).
- O A broad range of fishers are hoped to participate in this measure in order for the resource management to make steady progress.

#### Outline of the resource management/fishery income compensation measure (FY2011 budget: 51,818 million yen)



# 2. Changes in weather conditions and in the marine environment having effects on fisheries

○ The Japan Meteorological Agency announced that the average temperature in the summer (June–August) of 2010 recorded the highest level in northern and eastern Japan and the fourth highest level in western Japan since statistics began to be taken in 1946. Effects that are presumably caused by changes in seawater temperature, etc. have been observed in fisheries.

### Scallops found dead in Mutsu Bay due to high water temperature

In Mutsu Bay, Aomori Prefecture, scallops were found dead from August to September due to high water temperature. There are concerns about a considerable shortage in young scallops, which are required for production in the following year onward.

#### Large-scale red tide observed in the Yatsushiro Sea, Ariake Sea, and Tachibana Bay

From late June to early August 2010, a red tide caused by Raphidophyceae Chattonella was observed in the Yatsushiro Sea, Ariake Sea, and Tachibana Bay. The red tide inflicted damage worth about 5.4 billion yen on cultured fish such as yellowtail.

#### Good catch of Japanese common squid in Rausu, Hokkaido

Due to a high surface water temperature along the coast, the time of formation of squid fishing grounds off the coast of Rausu was extended. The Rausu Fishery Cooperative landed 20,000 tons of squid, which is about five times larger than in the previous year.

#### **Poor catch of saury**

The catch volume of saury in 2010 was 40% less than in the previous year, at 193,000 tons, since only a small amount of saury came to the area off the coast of eastern Hokkaido when the fishing season started, in August.

#### 3. Success in collecting wild Japanese eel eggs

- A joint research team of the Atmosphere and Ocean Research Institute, The University of Tokyo, and the Fisheries Research Agency succeeded in collecting fertilized eggs of wild Japanese eel for the first time in the world (published in February 2011).
- O Since this research has clarified wild Japanese eels' spawning environment and their growing environment immediately after hatching, technology for producing artificial seedlings of Japanese eels is expected to develop further in the future.





A Japanese eel's naturally fertilized egg collected for the first time in the world (left) Leptocephalus immediately after hatching (right)

Photo courtesy of the Atmosphere and Ocean Research Institute, The University of Tokyo.

#### 4. Toward the sustainable use of whale resources

- O The International Whaling Commission (IWC) has become dysfunctional due to polarization between nations that support the sustainable use of whales and anti-whaling nations. In order to overcome this situation, the "Future of the IWC" process was commenced in 2008. However, the IWC failed to reach a consensus on this issue at its annual meeting in June 2010, and it set a one-year period for reflection until the annual meeting in 2011.
- O In recent years, sabotage activities of an anti-whaling group, Sea Shepherd, against the Japanese fleet engaged in whaling for scientific research purposes in the Antarctic Ocean have become a serious problem. During the 2010/2011 research cruise, Sea Shepherd repeatedly sabotaged Japanese research activity by throwing glass bottles containing butyric acid or paint-filled projectiles, smoke bombs, and incendiary devices, and deploying wire ropes to entangle the propellers of the research vessels. Since it became difficult to ensure the safety of the research, the fleets had no choice but to cut their research activity of the season short in February 2011.
- O The Cabinet Secretariat and other relevant ministries/agencies will continue to consider necessary measures in cooperation with each other, so as to prevent Japan's legitimate research activities under the International Convention for the Regulation of Whaling from being sabotaged.

#### 5. Considering biodiversity from black kokanee

- O In 2010, fish presumed to be black kokanee, or *kunimasu* in Japanese, were discovered in Saiko Lake, Yamanashi Prefecture, although black kokanee were thought to have only inhabited Tazawa Lake, Akita Prefecture and to have become extinct in 1940.
- O In October 2010, the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity (COP 10) was held in Nagoya. Discussions were held on issues including measures for achieving a world for conserving biodiversity and living in harmony with nature. The Strategic Plan 2011–2020 (Aichi Biodiversity Targets), including a target to expand the marine conservation area to 10% of coastal and marine areas by 2020, was adopted at the conference.
- O In August 2010, a research finding was announced that 33,629 species of marine organisms, equivalent to about 14.6% of all marine organism species in the world, have been confirmed in the waters around Japan.

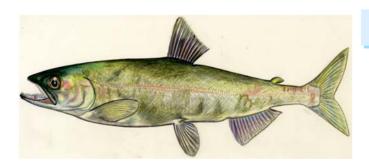


Illustration by Sakana-kun, one of the people who discovered black kokanee in Saiko Lake



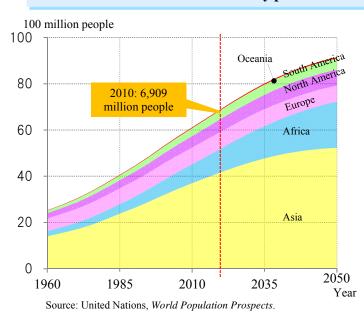
# Chapter I Highlight: Our Fishery Resources—Sustainable Fisheries and Food Supply

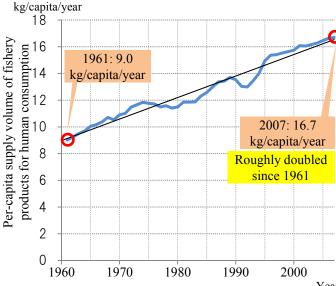
# Introductory section: Global status of fishery products for human consumption and fishery resources

#### (Increase in global demand for fishery products)

- O The global consumption volume of fishery products for human consumption has been growing every year. The world's per-capita annual consumption volume of fishery products has doubled in approximately 50 years.
- O The United Nations predicts the world population in 2040 to be 9 billion, which is a 30% increase from the 2010 level. Thus, the total global demand for fishery products is expected to grow further in the future.

# Changes in and future prediction of world population and changes in per-capita supply volume of fishery products for human consumption



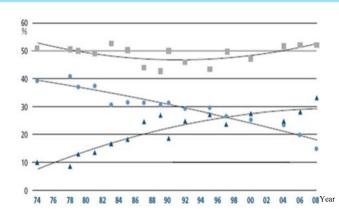


Sources: FAO, Food Balance Sheets and MAFF, Food Balance Sheet and Annual Statistics on Fishery and Aquaculture Production.

#### (Efforts toward sustainable use of fishery resources becoming increasingly important)

- O The FAO reports that the proportion of the world's marine fishery resources estimated to be "fully exploited" or "overexploited or depleted" has increased. There is risk that the supply cannot meet the fishery product demand that is expected to increase in the future.
- O Amid an expected global increase in the fishery product demand, it is important for Japan to appropriately manage the fishery resources in waters around Japan and to contribute to improving international resource management.

#### Status of use of marine fishery resources



- Underexploited and moderately exploited resources

  The catch volume is less than the adequate level, and there is room for a production increase.
- Fully exploited resources

  The catch volume is near the upper limit of the adequate level, and there is no room for any further production increase.
- A Overexploited or depleted resources

  The catch volume exceeds the adequate level, or the resources have already depleted.

Source: FAO, The State of World Fisheries and Aquaculture (SOFIA) 2010.

#### Section 1: Characteristics of fishery resources and importance of resource management

#### (1) Characteristics of fishery resources

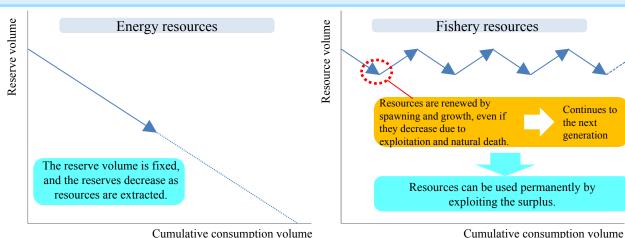
- O Fishery resources are produced by a natural reproduction system and can be used in a sustainable manner.
- O Prediction of resource volumes and observation of the resource conditions involve uncertainties.
- O A lack of appropriate resource management tends to lead to overexploitation caused by a race to catch first.

#### Comparison of characteristics of energy resources and fishery resources

Continues to

the next

generation



#### (2) Implementation of appropriate resource management

- O Resource management is necessary for preventing the overexploitation of fishery resources and for promoting the conservation and recovery of resources.
- O Resource management methods can roughly be divided into the following three:
  - (i) input control, such as restricting the number of fishing vessels or their engine power;
  - (ii) technical control, such as prohibiting fishing during the spawning period and restricting the mesh size of fishing nets;
  - (iii) output control, such as setting the total allowable catch (TAC).
- O In order to appropriately implement resource management, a scientific basis (such as a presentation of management measures based on resource assessment) and a system for ensuring the observation of rules (such as fisheries regulation by a public organization) are necessary.

#### Resource management methods and elements supporting those methods

#### Scientific basis for resource management Presentation of management methods Accurate information on the based on resource assessment resource status [Appropriate resource management methods] Input control Technical control Output control (Fishery permission system) (Operation regulations) → Total allowable catch (TAC) → Restriction on the number of operating → Fishing gear regulations, such as restriction → Individual (transferable) quota on the fishing net mesh size (IQ/ITQ) → Restriction on the tonnage of fishing → Measure to prohibit fishing during the etc. vessels spawning period → Restriction on the operating period → Establishment of protective zones at → Restriction on the engine power of fishing vessels spawning grounds

#### System for ensuring observation of rules

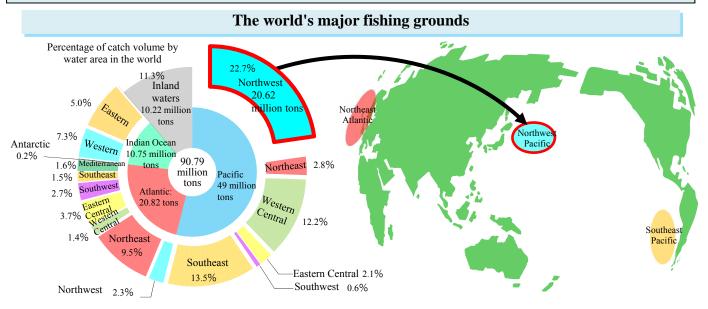
- Understanding of fishers
- Fisheries regulation by a public organization (compulsory regulation of legal violations)
- L Mutual monitoring between fishers (mutual awareness-raising of rule observance)

# Section 2: Current status of fishery resources in waters around Japan and their management

#### (1) Fishing grounds and fishery resources in waters around Japan

#### (Waters around Japan include some of the world's major fishing grounds)

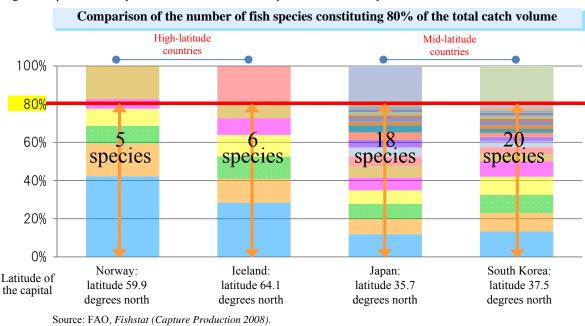
O Japan's exclusive economic zone (EEZ) boasts the sixth largest area in the world. The waters of the Northwest Pacific which is adjacent to Japan represent one of the most excellent fishing grounds, accounting for 22.7% of the world's fishery production volume.



Source: FAO, Fishstat (Capture Production 2008).

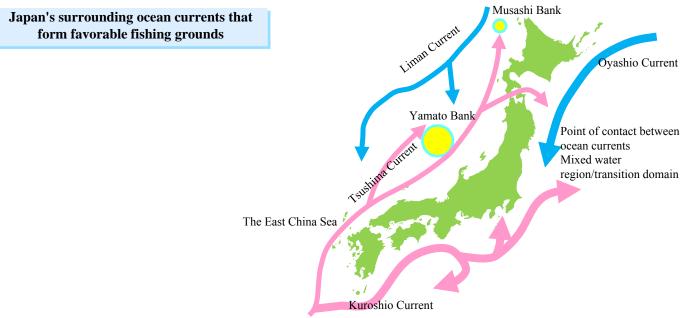
#### Japan's fisheries using diverse fishery resources

Looking at the number of fish species that constitute 80% of the total catch volume, five and six species, respectively, constitute such volume for Norway and Iceland, which are Nordic fishing countries. In contrast, the number of such fish species is far larger, at 18 and 20, respectively, for Japan and South Korea. The species found in a certain area are more diverse in areas of lower latitudes, and less diverse in areas of higher latitudes (latitudinal gradients in species diversity). Fisheries in each country have developed according to the species diversity and other natural conditions specific to that country.



#### (Factors contributing to the formation of the rich fishing grounds in waters around Japan)

- O The Oyashio Current (rich in nutrient salt and encourages plankton growth) and the Kuroshio Current (although poor in nutrient salt, brings fish from southern sea areas to waters around Japan) intersect and form an "Avenue of Fish."
- O Continental shelves have developed along the coasts of Hokkaido, the Tohoku region, and the San'in region at a depth of approximately 200 m, which is suitable for the habitats of bottom fish. Meanwhile, the Sea of Japan has the Yamato Bank and the Musashi Bank, which are terrace-shaped shallow sea areas.
- O The East China Sea and many inner bays (such as the Funka Bay, Ise Bay, Ariake Sea, and Yatsushiro Sea) in waters around Japan provide grounds for abundant fishery resources due to the rich nutrient salt carried in from land areas.



#### (2) Assessment of fishery resources in waters around Japan

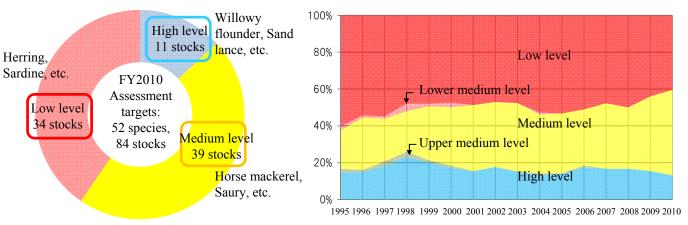
#### (Catch volume in waters around Japan: unchanged or moderately decreasing in recent years)

- O Japan's fisheries/aquaculture production volume in 2009 was 5.43 million tons, which is about half of the peak volume in 1984. The main reasons for the production decline are the increased withdrawal of operators from far seas fisheries and the drastic fall in the production volume of sardines.
- O The production volume of coastal/offshore fisheries, excluding sardines, has been unchanged or moderately declining in the past few years.

# (Resource levels: low for 40% of assessed stocks, but a slight increase in the number of stocks with medium or high resource levels)

- O The 2010 assessment results show that the resource levels are low for 40% (34 stocks) of the assessment targets (52 species/84 stocks).
- O In recent years, the percentage of low resource levels has slightly declined, and the percentages of medium and high resource levels have slightly increased.
- O In order to achieve the sustainable use of fishery resources in waters around Japan, it is necessary to continue taking sufficient measures according to the status of the respective resources and the actual conditions of fisheries.

#### Current resource levels (2010) in waters around Japan and past changes in such levels



Source: Fisheries Agency and Fisheries Research Agency, Assessment of Fishery Resources in Waters around Japan, etc.

#### (3) Japan's frameworks for fishery resource management

O Japan implements resource management by combining input control, technical control, and output control under the frameworks of public regulations (fishery right system, fishery permit system, etc.) and fishers' voluntary resource management, according to the characteristics of fish species and types of fisheries.

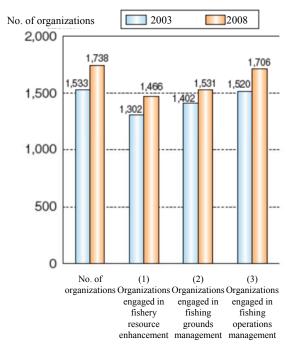
#### (Resource management under fishery right system or fishery permit system)

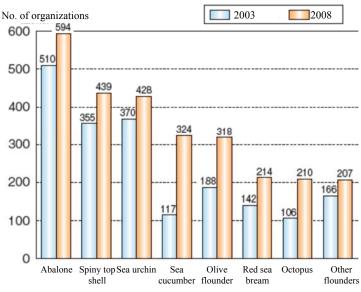
- O Prefectural governors grant "common fishery right licenses" to fisheries cooperatives for fishery targeting highly sedentary resources, etc. In granting the licenses, the target zone of fishing grounds, the target species, the fishing method, etc. are specified.
- O With regard to offshore/far seas fisheries, the Minister of Agriculture, Forestry and Fisheries or prefectural governors grants permission due to the need for adjustment with other areas and other types of fisheries and due to the substantial impact such fisheries have on resources. Under the permission system, the number and the total tonnage of fishing vessels as well as the operation periods/areas and fishing methods, etc. are regulated.
- O Seven fish species, including horse mackerel, mackerel, and Alaska pollack, are subject to the total allowable catch (TAC) system, as output control under the Act on Preservation and Control of Living Marine Resources.

#### (Fishers' voluntary resource management efforts)

- O In addition to public regulations, fishers themselves are making voluntary resource management efforts, such as suspending fishery operations, restricting the body length of the catch, and restricting the fishing periods/areas.
- O Since 2002, resource recovery plans have been developed and implemented for resources that need to be recovered urgently (as of 2010, 66 plans for 77 species).

#### Changes in the number of organizations engaged in voluntary resource management



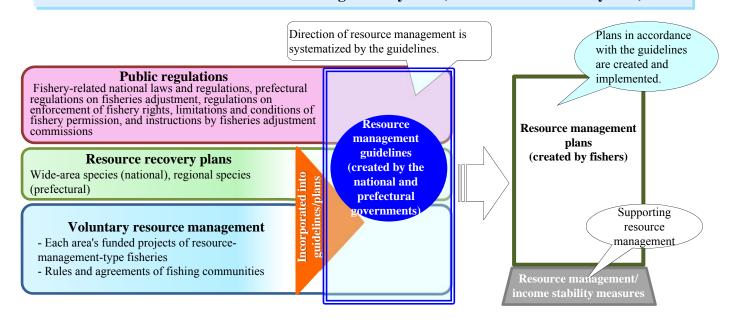


Source: MAFF, Fisheries Census (2003, 2008).

#### (New development of voluntary resource management measures: resource management plans)

- O In 2011, a new resource management system was introduced, which encompasses the public regulations, the conventional resource recovery plans, and local voluntary resource management efforts
- O Fisher organizations formulate and implement resource management based on the resource management guidelines established by the national and prefectural governments. This framework targets fisheries nationwide, covering coastal, offshore, and far seas fisheries.

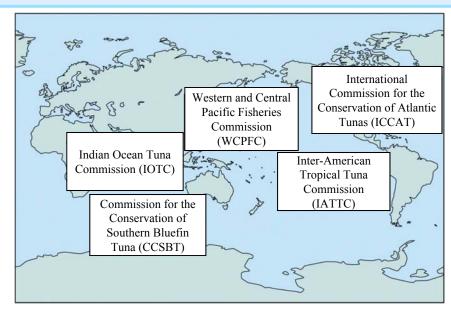
#### Illustration of the new resource management system (transition to the new system)



#### (4) Japan's contribution to international fishery resource management

- O International cooperation is essential for the resource management of highly migratory species (e.g. bonito and tuna) and anadromous species (e.g. salmon).
- O Japan is a member of all of the five tuna regional fisheries management organizations (RFMOs). Japan demonstrates leadership in the resource management of tuna through such measures as preventing imports of tuna caught by fishing vessels that do not observe the regulatory measures of RFMOs.

#### Tuna regional fisheries management organizations

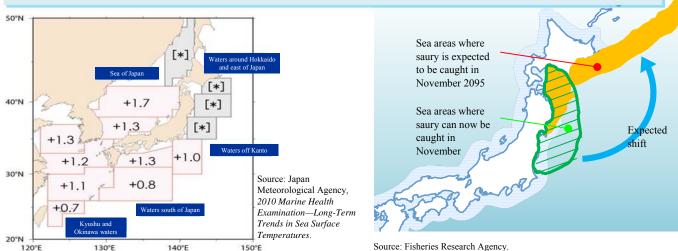


#### Section 3: Challenges concerning sustainable use of fishery resources

#### (1) Appropriate measures to respond to changes in the environment and resources

- O Seawater temperatures in waters around Japan have been increasing in the long term (by 0.7–1.7°C/100 years). If the temperatures continue to rise, it could cause a change in the fishing grounds of migratory species. It is necessary to closely watch the future developments of the impact of global warming on fisheries.
- O Seaweed beds, which serve as spawning and nursery grounds for aquatic animals, have decreased by 40% over the past 30 years due to such factors as coastal development.

## Long-term changing trend of average seawater temperature (annual average) of waters around Japan ( $^{\circ}$ C/100 years) and saury fishing grounds



### Changes in the total area of seaweed beds/tidal flats

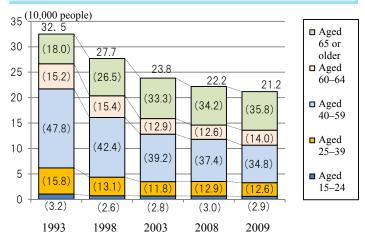
Source: Ministry of the Environment, *National Survey on the Natural Environment*, and Fisheries Agency survey (20007).

#### <Total area of seaweed beds> <Total area of tidal flats> (10,000 ha) (10,000 ha) 30 10 8 20 6 8.3 4 10 20.8 14.5 4.9 2 (Estimate) 0 0 1998 1945 1998 2007

#### (2) Production capacity for the sustainable use of fishery resources

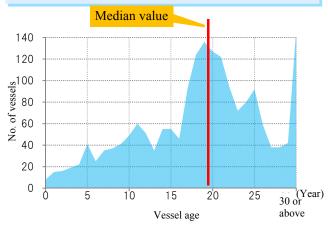
- O Fishery resources can be used as resources only when they are caught and consumed by humans. Thus, in order to achieve sustainable use of fishery resources, fishery production capacity needs to be secured while conserving fishery resources at the same time.
- O Fishery workers are decreasing and aging. The national government implements measures for recruiting new fishery workers so as to secure human resources.
- O The aging of fishing vessels has also become a serious issue.
- O A project of comprehensive measures for fisheries structural reform is implemented in order to promote a switch to profitability-focused operation systems that pursue energy and personnel saving in accordance with the resource levels.

#### Changes in the number of fishery workers



Source: MAFF, Fisheries Census and Report of Survey on the Trend of Fishery Employment.

### Distribution of ages of fishing vessels (vessels under designated fishery permission)



Source: Fisheries Agency survey

#### Section 4: Fishery resource management supported by all citizens

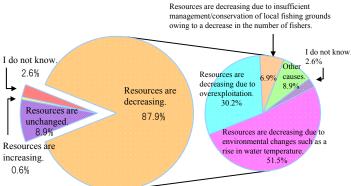
#### (1) Findings from an opinion/intention survey

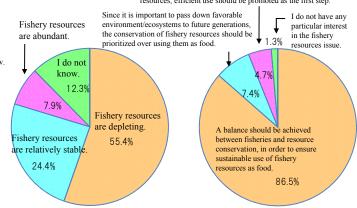
- O With regard to the status of fishery resources, 87.9% of fishers feel that "resources are decreasing."
- O Among consumers, 86.5% responded that "a balance should be achieved between fisheries and resource conservation, in order to ensure sustainable use of fishery resources as food."
- As for effective measures for deepening the consumer understanding of resource management, many of both fishers and consumers pointed to "enhancement of information provision by administrative organs" and "transmission of information by fishers."
- O With regard to marine eco-labels, 69.9% of the respondents intended to "choose products with the eco-labels if the prices and the freshness are the same," and 16.0% intended to "purchase products with the eco-labels even if the prices are slightly higher." The results suggest that dissemination of the marine eco-labels is likely to contribute to promoting consumer understanding of resource management and to selling the labeled products at an advantage. In order to increase the consumer recognition of marine eco-labels, it is important to promote the understanding of fishers, processors, and distributors about the significance and effects of the eco-labels, and to increase the occasions for sales of labeled products.

# Status of fishery resources and the cause of decreasing resources (fishers' opinion)

### Recognition of the resource status and ideas about the use of fishery resources (consumer opinion)

Since it is difficult to accurately understand the status of fishery resources, efficient use should be promoted as the first step.





Source: MAFF, Opinion/Intention Survey Concerning Food, Agriculture, Farming Communities, and Sustainable Use of Fishery Resources (published in May 2011).

#### Effective measures for deepening consumer understanding of resource management (multiple answers allowed)

60 <sub>%</sub> 10 **52.1** 50.7 Enhancement of information provision by administrative organs to consumers about the status of fishery resources and the importance of fishery resource management Strengthening of efforts by fishers and fisheries cooperatives to advertize their fishery resource management activities (transmission of information via the Internet, approach to mass media, etc.) 43.5 Increase of occasions in which consumers can select and purchase, at stores, fishery 33.6 products that have been caught under proper resource management efforts Increase of occasions for interchanges and direct contact between fishers and consumers 36.8 Consumers 8.8 Implementation of awareness-raising activities for consumers by fishers in cooperation with the markets and the restaurant industry **Fishers** 

Source: MAFF, Opinion/Intention Survey Concerning Food, Agriculture, Farming Communities, and Sustainable Use of Fishery Resources (published in May 2011).

#### What are marine eco-labels?

Marine 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, with an aim to promote consumer understanding of resource management. The Marine Stewardship Council (MSC), headquartered in the United Kingdom, commenced certification in 1997. In Japan as well, the Marine Eco-Label Japan (MEL Japan) introduced the marine eco-label in 2007.

O Marine Stewardship Council (MSC)

Kyoto Danish Seine Fishery Federation snow crab and

flathead flounder, and Tosakatsuo Suisan pole and line skipjack tuna are certified (as of March 2011).

海のエコラベル 持続可能な漁業で獲られた 水産物 MSC認証 www.msc.org/jp

O Marine Eco-Label Japan (MEL Japan) Six types of fisheries are certified, including the red snow crab fishery in the Sea of Japan, the sakura shrimp two-boat trawl fishery, the Jusanko freshwater clam fishery, and the sand lance seine fishery (as of March 2011).



#### (2) Various forms of participation in resource management

- O Further measures need to be implemented to prevent illegal fishing, such as promoting people's understanding about conservation and management of fishery resources, and, in cooperation with distributors, preventing the distribution of illegal catches.
- O Efforts are also being made to enhance the understanding of recreational fishers about resource management and the conservation of the marine environment. A total of 211 fisheries cooperatives nationwide carry out activities in cooperation with recreational fishing-related organizations concerning marine use, such as protection and enhancement of resources and conservation of fishing ground environments.
- O There have been cases throughout the nation where fishers' resource management efforts are driving the revitalization of the local economy.

# Village revitalization taking advantage of achievements of yellow goosefish resource management

In Kazamaura Village in the Shimokita Peninsula, Aomori Prefecture, the Kazamaura Village Yellow Goosefish Resource Management Council was established in 2009. The council engaged in such efforts as (1) re-releasing small fish that weigh less than 2 kg, (2) establishing a no-fishing period, and (3) shifting the operation period to winter, when demand for goosefish dishes rises. As a result, the landed value of yellow goosefish increased.

The village uses yellow goosefish as a local resource for revitalizing the village, by holding a Shimokita Amusing Village Goosefish Festival and developing processed products.



Tag and release survey conducted by the Mutsu Fishery Office, Aomori Prefecture

#### (Summary: For the sustainable use of fishery resources in waters around Japan)

- O Appropriate management of fishery resources in waters around Japan and their sustainable use are issues that involve not only fishers, but also processors and distributors who handle fishery products, and consumers who eat fishery products. These are challenges that should be addressed by all citizens also from the viewpoint of ensuring food security.
- O In order for all citizens to support the sustainable use of fishery resources, it is important for all citizens to put in practice what they can do in their respective positions in cooperation with each other.
- O With an aim to link citizens' interest in fishery resources to actual actions, fishers, fishery organizations, processors, distributors, administrative organs, and research institutes should cooperate with each other in transmitting information to consumers, and in carrying out dissemination and awareness-raising activities for consumers, so as to get more and more people to join in the collaborative efforts.

#### **Examples of efforts by the relevant sectors**

#### Sustainable use of fishery resources

#### Administrative Processors/distributors organs/research institutes O Accurate understanding of the resource O Information provision/awarenessraising activities for consumers O Provision of information concerning Fishers/fishery organizations resources O Active sales of fishery products caught by sustainable methods O Appropriate/strict application of resource O Appropriate use of fishery resources based management systems on scientific knowledge Regulation of illegal operations O Passing on fishing skills to future Awareness-raising of consumers generations O Response to consumer needs O Enhancement of citizens' understanding through active transmission of information O Active purchase of fishery products caught by sustainable methods O Consumption behavior of eating seasonal fish (in-season production and consumption) Consumers • Activities to directly feel the importance of sustainable use of fishery resources, such as conservation of sato-umi (coastal areas where biological productivity and biodiversity has increased through human interaction)

### Chapter II Review of Japanese Fisheries since FY2009 (2009/2010)

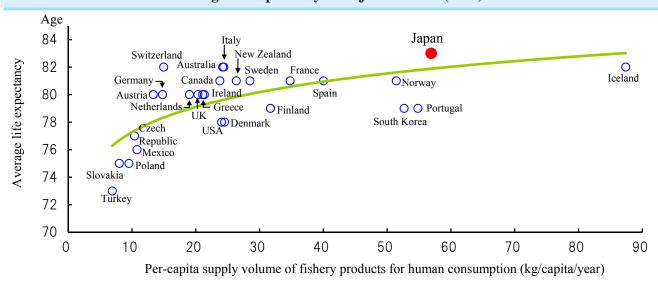
# Section 1: Developments related to consumption/supply and demand of fishery products

#### (1) Trend of consumption of fishery products

#### (Japan's per-capita supply volume of fishery products ranks the highest among major countries)

O Japan's per-capita supply volume of fishery products ranks the highest among countries with a population of one million or more. The fish-rich diet has supported Japanese people's longevity.

### Relation between per-capita supply volume of fishery products for human consumption and the average life expectancy in major countries (2007)

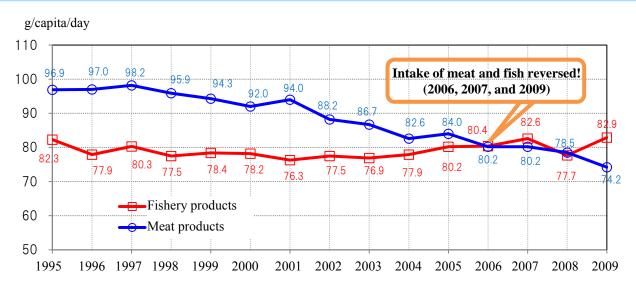


Sources: Compiled by Fisheries Agency based on FAO, Food Balance Sheets (countries other than Japan); MAFF, Food Balance Sheet; and WHO, Statistical Information System (WHOSIS).

#### (Consumption volume of fishery products has continued to decline)

O The per-capita daily intake of fishery products has continued to decline. The intake volume of meat products surpassed that of fishery products for the first time in 2006. The difference between the meat and fish intake volumes widened in 2009.

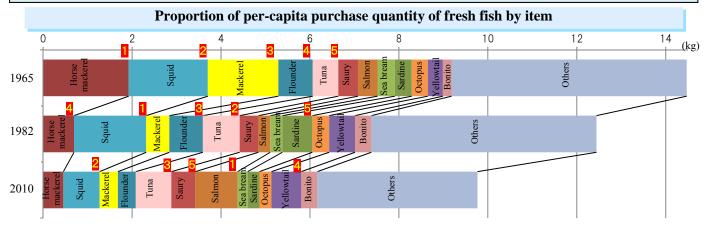
#### Changes in the per-capita daily intake volumes of fishery products and meat products



Sources: Ministry of Health, Labour and Welfare, National Nutrition Survey (1995-2002), and National Health and Nutrition Survey (2003-2009).

#### (Kinds of fish consumed at home have changed)

○ The three kinds of fresh fish most purchased by households in terms of quantity have changed from horse mackerel, squid, and mackerel in 1965 to salmon, squid, and tuna in 2010. These changes likely reflect the changes in the forms of fishery products purchased and the places where they are purchased.

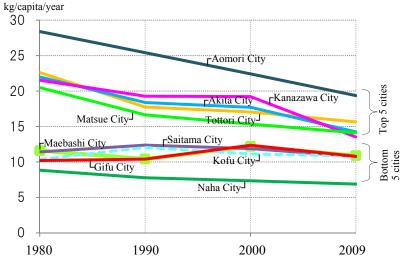


Sources: Compiled by Fisheries Agency based on Ministry of Internal Affairs and Communications, Family Income and Expenditure Survey (1965 and 1982: all households excluding agricultural, forestry, and fishery households; 2010: two-or-more-person households excluding agricultural, forestry, and fishery households).

#### (Regional gaps in the purchase quantity of fresh fishery products have narrowed)

Oue to the development of low-temperature transportation technology for fishery products and the establishment of fishery product distribution systems centering on mass retailers, the regional gaps in the purchase quantity of fresh fishery products have narrowed.

Changes in per-capita purchase quantity of fresh fishery products by prefectural capital city

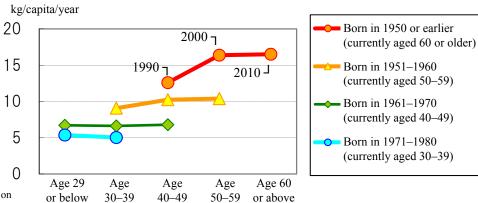


Source: Compiled by Fisheries Agency based on Ministry of Internal Affairs and Communications, *Family Income and Expenditure Survey*.

#### (The younger the generation, the smaller the household purchase volume of fish)

○ The household purchase volume of fresh fishery products is smaller for younger generations. The dissemination of a fish-rich diet particularly among children who will lead the future and among their parents' generation poses a challenge.

Change in the purchase quantity of fresh fishery products per household member by age group of the householder



Source: Compiled by Fisheries Agency based on Ministry of Internal Affairs and Communications, Family Income and Expenditure Survey.

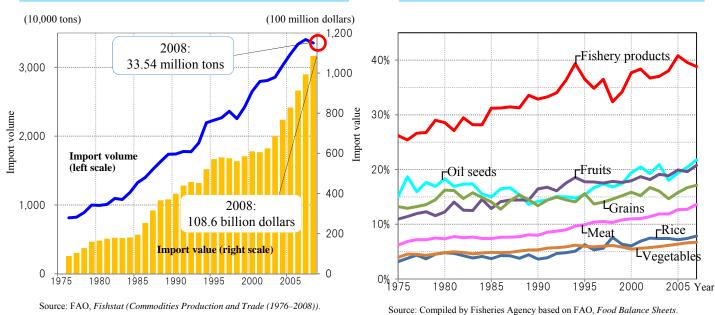
#### (2) Trend of supply and demand of fishery products

#### (Expanding world trade of fishery products)

- O While demand for fishery products has been expanding worldwide, the world's trade of fishery products has been increasing both in terms of quantity and value. The world's total import value hit a record high in 2008.
- O The proportion exported is larger for fishery products than for grains and other product categories. The growth of such tendency can also be observed in the long term.

# Changes in the world's import volume/value of fishery products

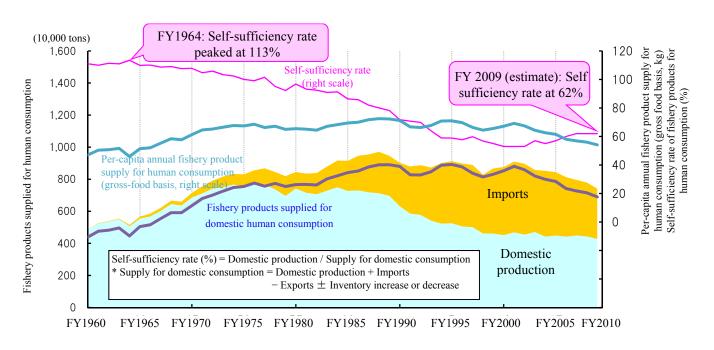
## Changes in the proportion of world production volume that is exported by item



#### (Japan's self-sufficiency rate of fishery products for human consumption)

O Japan's self-sufficiency rate of fishery products for human consumption had been slightly increasing in recent years, but the rate was 62% for three consecutive years from FY2007 to FY2009 due to a decrease in both the domestic production and imports.

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



Source: MAFF, Food Balance Sheet.

### Section 2: Developments regarding Japan's fisheries

#### (1) Trend of fisheries and aquaculture

#### (Production volume and value both dropped sharply in 2009)

O In 2009, Japan's fishery and aquaculture production volume was 5.43 million tons, a 2.9% decrease from the previous year. The production value came to 1.473 trillion yen, a 9.5% drop from the previous year.

#### Changes in fishery and aquaculture production volume and value 10.000 tons Production volume 1,500 1984: Production volume 2009 (1,000 peaked at 12.82 million tons tons) Far seas fisheries Total 5,432 1,000 Marine 5,349 2009: 4,147 Production volume Fisheries Far seas fisheries 443 Offshore fisheries Offshore fisheries 2,411 500 Coastal fisheries 1.293 Aquaculture 1,202 Coastal fisheries Inland water fisheries Inland water 83 and aquaculture Marine aquaculture Fisheries 42 Aquaculture 41 1960 1965 1970 1975 1980 1985 1990 1995 2000 \* Figures for offshore fisheries and coastal Production value fisheries are estimates 100 million yen 1982: Production value 30,000 2009 (100 million yen) peaked at 2.9772 trillion ven Far seas fisheries Total 14,730 2009: 13,840 Marine .4730 trillion yer 20,000 Fisheries 9,745 Production value Offshore fisheries Far seas fisheries Offshore fisheries Coastal fisheries 10,000 Coastal fisheries Aquaculture 4,095 Inland water 890

#### (Productivity of Japan's fisheries)

1970

1975

1980

1965

Λ

1960

O The per capita production volume and production value of fishers in Japan are about the same as the average levels of EU members.

1995

Inland water fisheries

2005

and aquaculture

2000

Fisheries

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

Aquaculture

264

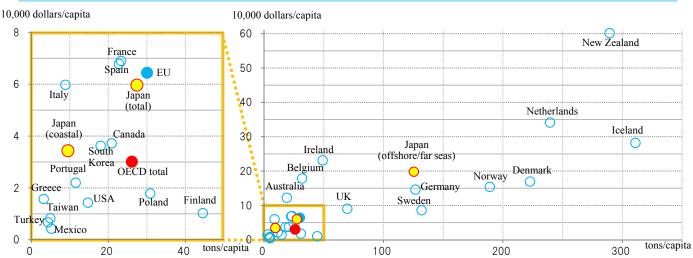
626

Marine aquaculture

1990

1985

# International comparison of the productivity of fisheries (production volume/capita, production value/capita)



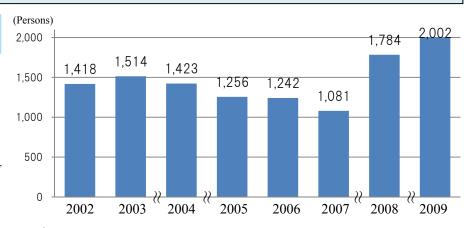
Sources: Compiled by Fisheries Agency based on OECD Report 2009 (other than Japan); MAFF, Annual Statistics on Fishery and Aquaculture Production (2007); and Report of Survey on the Trend of Fishery Employment (2007).

#### (Trend of fishery workers and promotion of new recruits)

- O There were 212,000 fishery workers in 2009, a 4.6% decline from the previous year (see p. 12). Also, fishery workers are aging.
- O Meanwhile, the number of new recruits has been increasing amid the severe employment situations and the increased diversity in attitudes toward occupation and lifestyle.

# Changes in the number of newly recruited fishery workers

Sources: Compiled based on MAFF, Survey on Newcomers in Agriculture, Forestry and Fisheries (2002, 2003) and Fisheries Census (2008). Figures for 2004 and 2009 were estimated from surveys on new recruits conducted by prefectures. Figures for 2005 to 2007 are based on a questionnaire survey of fisheries cooperatives conducted by the Japan Fisheries Association.



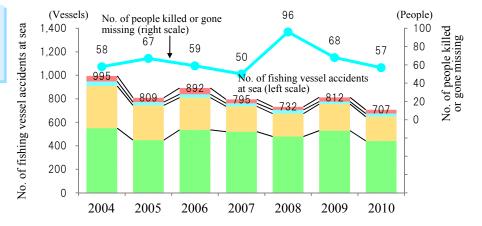
#### (Status of fishing vessel accidents at sea)

- O In 2010, there were 707 fishing vessel accidents at sea in which a total of 57 people were killed or went missing.
- O In 2010, 59 people were killed or went missing due to falling into the sea in cases other than fishing vessel accidents.

#### Changes in the number of fishing vessel accidents at sea and the number of people killed or gone missing



Source: Japan Coast Guard.



#### (Fishery damage by harmful organisms)

- O In recent years, harmful organisms, such as giant jellyfish, sea lions, longheaded eagle rays, and Ascidia zara have appeared in waters around Japan, and have caused such damage as the delaying of operations, a decrease in catch volume, and destroying of fishing gear.
- O The national government has implemented measures, including a survey of the infestation status of harmful organisms, provision of related information to fishers, and extermination or driving away of such organisms.

#### Areas of infestation of harmful organisms and details of damage

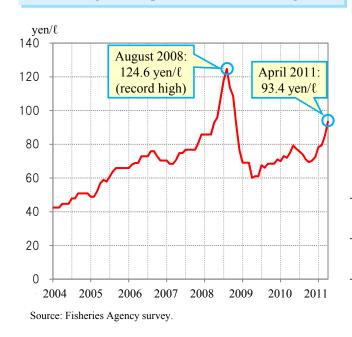
Name of harmful organism	Area of infestation	Details of damage
Giant jellyfish	Along the Sea of Japan; Sanriku coast	Although no large-scale infestation was observed in 2010, giant jellyfish have appeared almost every year since 2002 and have caused such damage as the destroying of fishing nets and the deterioration of catches.
Longheaded eagle rays	Ariake Sea, Inland Sea of Japan	Feeding damage to Japanese littleneck clam and pen shells
Sea lions	Hokkaido Prefecture, Aomori Prefecture	Destroying fishing gear and feeding damage to catches
Ascidia zara	Hokkaido Prefecture, Aomori Prefecture	Damage to scallop aquaculture

#### (2) Status of business management in the fishery industry

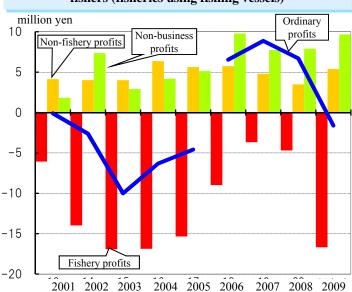
#### (Status of fishery business management)

- O The price of fuel oil for fishing has fluctuated widely in recent years due to the effect of the international supply and demand balance and the inflow of speculative funds. After marking a record high in August 2008, the price temporarily declined, but has been on an increase again since the beginning of 2011. Close attention needs to be paid to future developments.
- As for the business management of corporate fishers engaged in fisheries using fishing vessels (powered fishing vessels of 10 tons or more) in FY2009, fishery sales dropped considerably in spite of a decline in fishery expenditure due to a decrease in the oil cost. The fishery losses have grown further, and the ordinary profits have fallen into the red.

#### Changes in the price of fuel oil for fishing



### Changes in the business management status of corporate fishers (fisheries using fishing vessels)

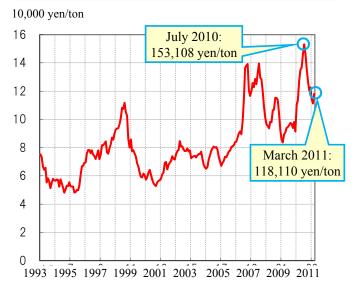


Source: Compiled by Fisheries Agency based on MAFF, Fishery Business Management Survey Report.

#### (Status of aquaculture business management)

- The import price of fish meal, which is the main ingredient of compound feed for aquaculture, surged in the first half of FY2010 due to a demand increase in China and other parts of the world, and has remained high since then.
- O The business management of aquaculture of yellowtail and sea bream, which involves high income and high expenditure, tends to be unstable due to large fluctuations in aquaculture income.

#### Changes in the import unit value of fish meal



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

# Changes in the fishery income of marine aquaculture business operators

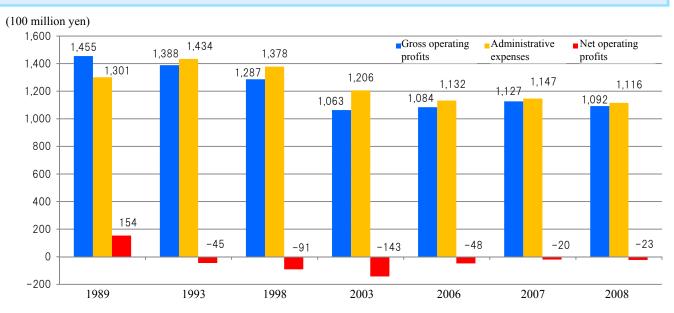
(Unit: 10,000 yen) Aquaculture income 2003 2004 2005 2006 2007 2008 2009 571 Average 626 611 508 538 366 388 Yellowtail 1,014 617 **▲**42 1,081 141 **▲**614 ▲39 389 Sea bream **▲**634 **▲**493 356 917 **▲**434 **▲**756 ▲97 Pearls 450 403 24 **▲**14 708 **▲**107 Mother of 226 226 332 . . . pearl 697 Oysters 769 566 454 185 377 476 670 1,020 894 597 608 417 525 Scallops Nori 692 763 748 574 682 575 562 seaweed Wakame 375 347 495 325 396 448 435

Source: Compiled by Fisheries Agency based on MAFF, Fishery Business Management Survey Report.

# (Promoting the strengthening of organization, business management, and operating bases of fisheries cooperatives)

- O About 70% of fisheries cooperatives suffer net operating losses due to the difficulty in reducing administrative expenses while their business size shrinks.
- O Many fisheries cooperatives face difficulty in improving their business management, being unable to merge with other cooperatives due to large amounts of losses carried forward.
- In FY2008, the national government established the Fisheries Cooperatives Management Reform Support Fund for refinancing fisheries cooperatives' debts, in order to support fisheries cooperatives engaged in the development and implementation of a management improvement plan. In FY2010, the government launched the Project for Promoting Reinforcement of Fisheries Cooperatives Management Base, which provides financial replenishment for the interest on the Fisheries Cooperatives Management Reform Support Fund.

#### Changes in fisheries cooperatives' gross operating profits, administrative expenses, and net operating profits



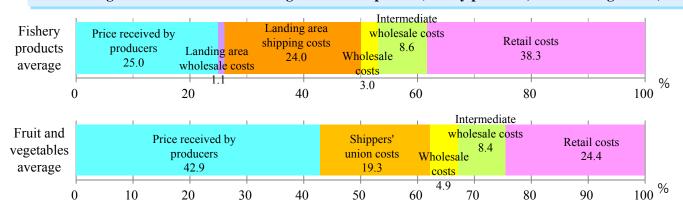
Source: Fisheries Agency, Statistics of Fisheries Cooperatives.

#### (3) Status of fishery product distribution and processing

#### (Status of fishery product distribution)

- O Fishery product distribution has a multi-phase distribution system in which products are first sorted, divided into cargos, and shipped at the landing area markets, then collected again at the consumption area markets, and finally delivered to consumers through retailers.
- O Since many of the landing area markets of fishery products have small transaction sizes and little leeway for price-setting, they face the challenge of increasing fishers' earnings through such measures as consolidating markets and facilities, and enhancing market functions.

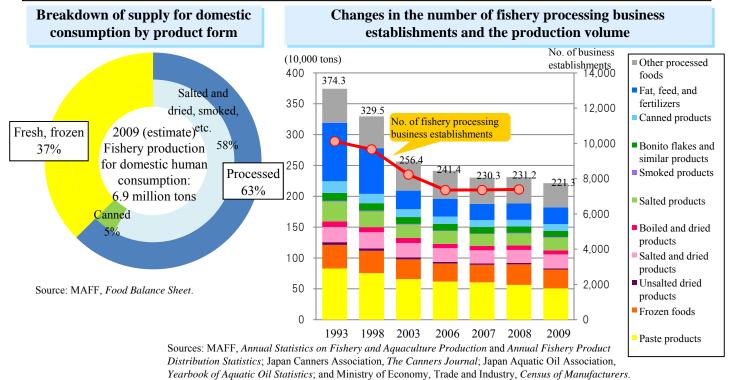
#### Percentage distribution of costs among distribution phases (fishery products, fruit and vegetables)



Source: MAFF, Survey of Food Prices at Various Stages of Distribution (Survey on Fishery Product Costs) and Survey of Food Prices at Various Stages of Distribution (Survey on Fruit and Vegetable Costs) (June 2010).

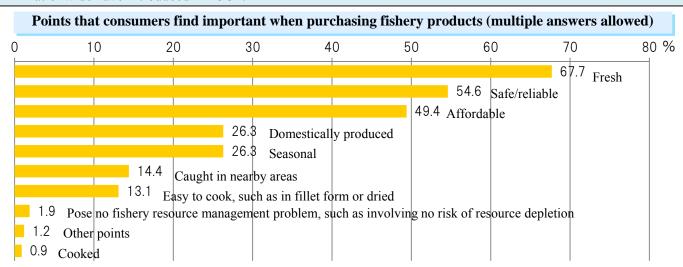
#### (Status of fishery processing industry)

- O The shipment value of the fishery processing industry in 2008 was 3.3978 trillion yen, accounting for 13.6% of the total shipment value of the food manufacturing industry.
- O Indeed, 63% of Japan's fishery and aquaculture production for domestic human consumption was used by Japan's fishery processing industry as raw materials. The fishery processing industry plays an important role also as a key industry in fishing community regions.
- O The production volume of processed fishery products has been declining, reflecting the sluggish consumption of fishery products, a decrease in the number of business establishments concerned, and the destabilization of raw material supplies.



#### (Securing the safety of and consumer confidence in fishery products)

- O In order to supply safe and reliable fishery products to consumers, it is important to secure safety by appropriately managing the production and processing steps and to provide information on such efforts in an easy-to-understand manner.
- O For aquaculture fishery products, various efforts have been made including introducing Good Aquaculture Practice (GAP), which is aimed at reducing risk factors in each process of production, shipping, and processing, and disclosing product record information.
- O To increase the added value of products and to expand export markets, 1,102 fishery processing facilities nationwide have introduced HACCP.



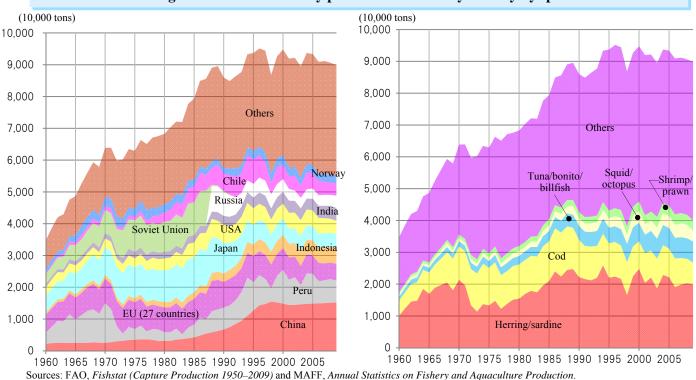
Source: MAFF, Fishery Opinion/Intention Survey Concerning Food, Agriculture, Farming Communities, and Sustainable Use of Fishery Resources (published in May 2011).

### Section 3: International situation of fishery industry

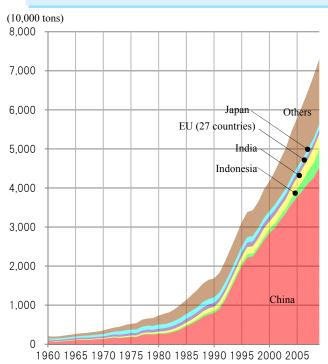
#### (1) Status of the world's fisheries and aquaculture

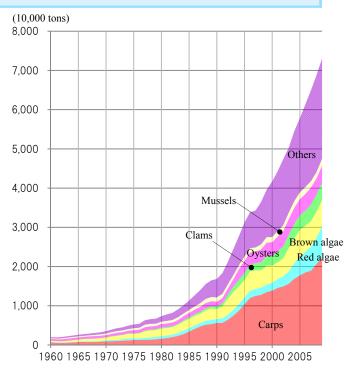
- O The world's fishery production volume in 2009 was 90.12 million tons. By country, China was the largest producer, accounting for 17% of the world's production volume. By species, herring/sardine accounted for the largest catch volume, constituting 22% of the total catch volume (19.90 million tons).
- The world's aquaculture production volume in 2009 was 73.04 million tons. By country, China was the largest producer, accounting for 62% of the world's production volume. By species, carps accounted for the largest production volume, constituting 30% of the total production volume (22.23 million tons).

#### Changes in the world's fishery production volume by country/by species



#### Changes in the world's aquaculture production volume by country/by species





Source: FAO, Fishstat (Aquaculture Production 1950-2009).

#### (2) Japan's international fishery relations

- O Japan has concluded bilateral fishery agreements with South Korea, China, and Russia, and fishery activities can be conducted in each other's exclusive economic zones under predetermined conditions. Also, the operations of Japanese fishing vessels are secured through the conclusion of bilateral intergovernmental agreements and/or private-sector agreements on fisheries with Pacific island countries and African countries, etc.
- O In ongoing Doha Round negotiations under the World Trade Organization (WTO), Rule Negotiation Group held a series of discussions on developing disciplines on fisheries subsidies. Japan submitted its proposal in this regard to the WTO in January 2011.

#### Outline of Japan's proposal on the WTO disciplines on fisheries subsidies

#### **Basic ideas**

- O Fisheries subsidies do not always contribute to overcapacity/overfishing.
- O Implementation of appropriate fisheries management can prevent or offset the negative effects on fisheries resources even if capacity/effort-enhancing effects are induced by subsidies.
- O Prohibition of subsidies should be limited to those which are indeed contributing to overcapacity/overfishing.

#### Major proposals

- O Such subsidies as "support for fish processing and distribution industries," "development and maintenance of infrastructures," and "income support for fishers" should be eliminated from the proposed list of prohibition by Chair's 2007 text.
- O Support for "acquisition, construction, repair and modernization of fishing vessels" may be prohibited in principle, but exceptions should be granted for certain purposes, such as reducing the total gross tonnage of fishing vessels concerned, ensuring sea safety, and measures necessary for fisheries resource management.
- O With regard to support for "operating costs of fishing vessels," such support as labor costs and insurance fees should be eliminated from the prohibition list. Support for fuel and fishing gear may be prohibited, but exceptions should be granted in such cases as necessary to mitigate damage to fishers due to unexpected incidents.

#### (3) Fishery policies of other countries

- O The United States has revised the Dietary Guidelines for Americans, recommending people to consume at least 8 ounces (224 g; cooked edible portion) of seafood per week.
- O As measures to counter illegal, unreported and unregulated (IUU) fishing, the EU has implemented a trade restriction measure to eliminate the IUU catch from EU markets and a measure to prohibit IUU fishing vessels from calling at EU ports, since January 2010.

#### Section 4: Development of vigorous fishing communities

#### (1) Current status of fishing communities

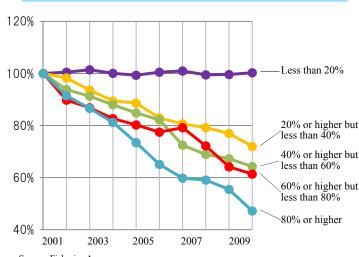
- O Fishing communities support Japan's coastal regions
  - (i) Number of fishing ports: 2,914 (every 12.1 km along the coastline), (ii) number of fishing communities: 6,298 (every 5.6 km along the coastline)
- The aging rate of fishing communities is higher than that of the national average, and the population decrease is faster for communities with a higher proportion of fishery households.

### Changes in the population/aging rate of fishing communities

#### (10,000 people) 270 40 Aging rate of fishing 27.6 28.3 28.9 29.4 30.4 31.2 31.7 32.2 260 30 1<mark>9.5</mark> 20.1 <sup>20.8</sup> 250 20 Japan's aging rate (right scale) 10 240 Population of fishing c<mark>om</mark>munities (left scale) 230 2000 2002 2004 2006 2008 2010 Sources: Fisheries Agency survey (population changes and aging rate of fishing

Sources: Fisheries Agency survey (population changes and aging rate of fishing communities), Ministry of Internal Affairs and Communications, *Population Census* (Japan's aging rate for 2000 and 2005) and *Population Estimates* (Japan's aging rate for other years).

# Proportion of fishery households in the fishing communities and degree of population decrease



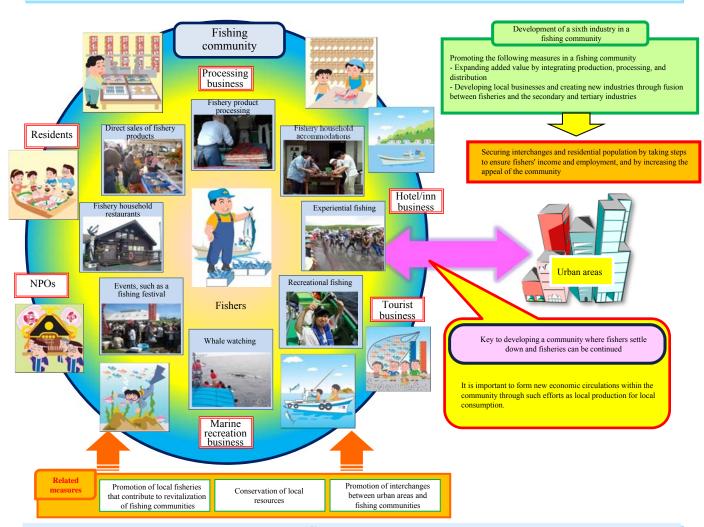
Source: Fisheries Agency survey

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#### (2) Developing fisheries and fishing communities into a sixth industry

O In order to enhance the vitality of fishing communities and to secure the earnings and employment of fishers, efforts to develop fisheries and fishing communities into a sixth industry need to be promoted further, while making use of the rich, local fishery resources.

#### Illustration of development of a sixth industry in a fishing community



#### Case examples

#### **Direct sales business**

The Kurobe Fisheries Cooperative (Toyama Prefecture) secures a large proportion of its income through a direct sales business, selling the landed fish at direct sales stores.



### **Extension of the market in cooperation with processors**

The Yaeyama Fisheries Cooperative (Okinawa Prefecture) extended the market for fresh fish to the Tokyo metropolitan area in cooperation with fishery processors within the prefecture.



#### **Commercialization and branding**

The Wakkanai Kisen Fisheries Cooperative (Hokkaido) raised new demand for sand lance, which had not been popular for human consumption, by developing processed products, such as deep-fried sand lance and sand lance broiled in sweet soy sauce.



# Prize winners in the FY2010 Agricultural, Forestry and Fisheries Festival (fishery section, etc.)

#### Awarded the Emperor's Cup (fishery section)

Fukuura Sawara-no-kai (Fukuura Spanish mackerel group), Fisheries Cooperative JF Shimane (Representative: Toshihiro Sakurai) Matsue City, Shimane Prefecture

Like-minded fishers formed the Fukuura Sawara-no-kai. The group surveyed and analyzed the cause for a fall in the unit price of Spanish mackerel and created and put into practice a Spanish mackerel handling manual. As a result, it succeeded in raising the fish price to double the former. In addition, it achieved a substantial income increase by developing the market through market research.



#### Awarded the Prime Minister's Prize

Maruu Tashiro Co., Ltd. (Representative: Isao Tashiro) Odawara City, Kanagawa Prefecture

Maruu Tashiro commercialized small grunt fish, which had been traded at a low price as a material for feeds and fertilizers, as an ingredient of kamaboko (steamed fish paste). The product became a popular item that represents the company. Due to this effort, the price of small grunt fish rose and led to an increase in fishers' earnings.



# Awarded the President's Prize of the Japan Agriculture, Forestry and Fisheries Promotion Association

Kawajiri Isomono Butai (Kawajiri inshore seafood team) (Representative: Ryoichi Sakamoto) Hitachi City, Ibaraki Prefecture

Since the number of abalone fishers has decreased due to aging, abalone fishers allowed seiner fishers to take abalone. This measure supports fishers using fishing vessels whose business management had been unstable in recent years. By developing a collaborative system, forming fishing grounds through the release of seedlings, and implementing resource management-type fisheries, sustainable fisheries are achieved without resource depletion.



# Awarded the President's Prize of the Japan Agriculture, Forestry and Fisheries Promotion Association (community development section)

Research Society of Kamae Blue Tourism, Specified Nonprofit Organization (Representative: Masae Hashimoto) Saiki City, Oita Prefecture

The research society opened Amabe Tosei College (Amabe livelihood college) where visitors can learn about diet, the fishery industry, and oceans through direct interchanges with local residents. Its activities have contributed to revitalizing the local community, such as by giving rise to efforts to create a sixth industry in which fisheries and tourist businesses cooperate with each other.



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Based on the Basic Plan for Fisheries (approved by the Cabinet in March 2007) and the New Growth Strategy (approved by the Cabinet in June 2010), MAFF will promote policies including resource management/fishery income compensation measures for concurrently achieving appropriate resource management and stable fishery business management, in order to secure the stable supply of fishery products to citizens and to establish a powerful fishery industry and rich, vigorous fishing communities that can support such stable supply.

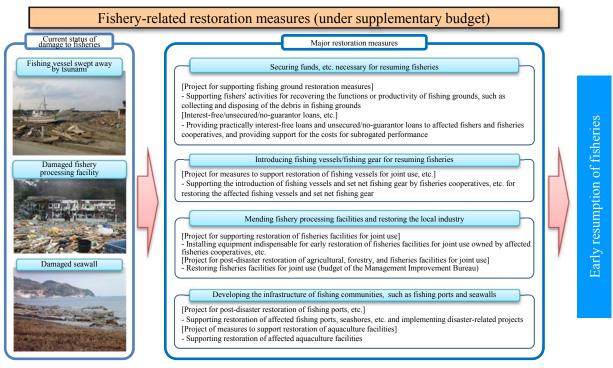
MAFF will also make utmost efforts in the post-disaster restoration and reconstruction so that people affected by the Great East Japan Earthquake can resume their fishery business with hopes and prospects for the future.

#### I Measures related to the Great East Japan Earthquake

1. Restoration measures in the immediate future

The early reconstruction of fishery industry in the affected areas not only directly links to reconstruction of the local economy and people's living, but is also vital for securing a supply of abundant fishery products to citizens. Therefore, MAFF will, as restoration measures in the immediate future, take such measures as restoring fishing ports, fishing grounds, and fishing communities, providing support for recovering fishing vessels and fishing gear, reconstructing landing area markets and fishery processing facilities, and securing necessary funds for resuming fisheries, under the supplementary budget.

- O Restoration fishing ports, fishing grounds, fishing communities, etc.
- O Response to payment of fishing vessels' insurance/fishery mutual aid
- O Support for activities for recovering fishing grounds, such as the cleaning up of seashores and the seafloor
- O Support for building fishing vessels and reestablishing set nets for joint use
- O Support for reconstruction of aquaculture facilities and seedling production facilities
- O Support for reconstruction of landing area markets and processing facilities
- O Support for financial measures, such as interest-free loans and unsecured/no-guarantor loans, and for reconstructing fisheries cooperatives

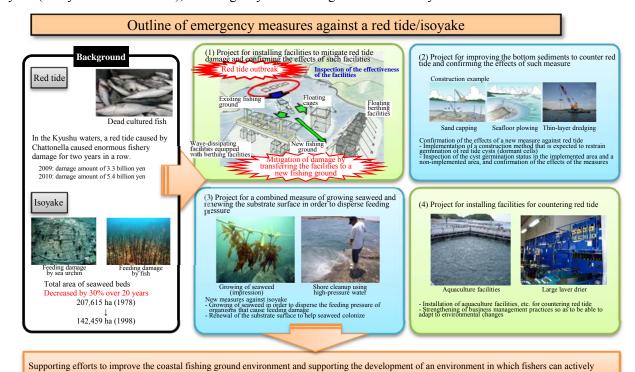


2. Measures for full-fledged reconstruction

# Il Promoting the recovery and management of fishery resources that remain at low levels

- 1. Promoting appropriate resource management and business management stability measures by introducing resource management/fishery income compensation measures
- O Promoting resource management/income stability measures by introducing resource management/fishery income compensation measures
- O Promoting resource management guidelines and resource management plans

- 2. Promoting surveys and research on fishery resources
- 3. Resource management in Japan's exclusive economic zone, etc.
- 4. Promoting international resource management in waters, including the high seas
- 5. Maintaining and developing overseas fishing grounds and promoting international cooperation
- 6. Improving the habitat for aquatic animals and plants in marine and inland waters and promoting aquaculture
- O Supporting efforts to improve the environment of coastal fishing grounds that have been deteriorated due to red tide or isoyake (rocky-shore denudation), as emergency measures against red tide/isoyake



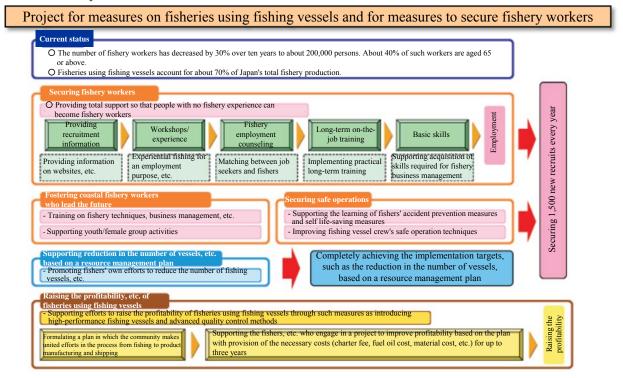
engage in resource management, accompanying the introduction of resource management/fishery income compensation measures in FY2011

- O Supporting efforts to collect floating debris and spilled oil, disseminate technology for recycling fishery materials such as Styrofoam floats, and collect large drifting objects from fishing grounds, and promoting the appropriate disposal of drifting objects collected during fishing activity
- O Supporting activities for improving fishing grounds conducted by fisheries cooperatives, etc., such as cultivating the bottom of a lake where the fishing ground environment, including the quality of water and bottom sediment, has deteriorated, provided that such activities are conducted while confirming the effects produced
- O Supporting activities to conserve seaweed beds, tidal flats, etc. conducted by fishers and local residents

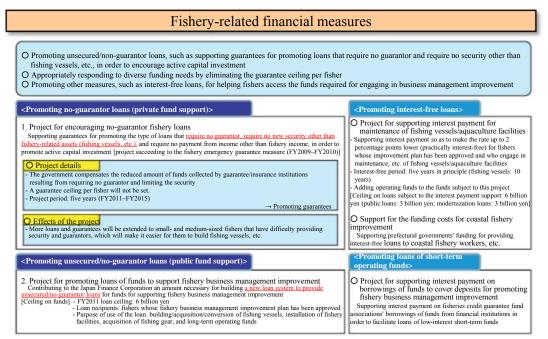
#### Project for conservation and damage control of fishing ground environment Prevention of damage caused by harmful organisms (Monitoring and exterminating harmful organisms, such as jellyfish, Ascidia zara [a type of sea squirt], and sea lions; and Conservation of the fishing ground introducing fishing gear for preventing bycatch) Sustainable fishery production and stable supply of fishery products to citizens Conservation of biodiversity (Developing methods for assessing biodiversity and environmental status; and conserving rare organisms) Measures against red tide (Monitoring red tides and notifying fishers so as to prevent damage; and investigating the occurrence mechanism) Improvement of fishing grounds and development of resource enhancement technology (Improving fishing grounds in the sea and lakes; developing coral resource enhancing technology, resource enhancing technology for promoting the use of wooden materials, and technology for improving the quality of bottom sediment; taking measures against oxygen-deficient water mass; and conservation of the fishing ground environment responding to growth stages of fish) Measures against oil pollution damage (Preventing the spread of oil pollution damage) Measures against damage from operations of foreign fishing vessels (Supporting measures concerning foreign fishing vessels, including collecting and disposing of fishing gear cast away by fishing vessels of foreign countries such as South Korea and China and dealing with such vessels' emergency harborage, and supporting measures on drifting materials and materials washed ashore) Measures for conservation of the environment/ecosystems (Supporting activities to conserve seaweed beds, tidal flats, etc. conducted by fishers and local residents)

# Ill Fostering and securing internationally competitive fishers and developing a vigorous fishery employment structure

- 1. Intensifying measures to foster and secure internationally competitive fishers
- O Implementing an intensive project for driving fisheries reform and promoting a switch to profitability-focused operation/production systems that pursue energy and personnel saving, in order to urgently drive structural reform and foster fishers that lead the future
- O Continuing to support efforts to reduce the number of vessels, etc. in order to promote the establishment of a fisheries system that corresponds to the resource levels



- O Taking necessary measures for establishing a loan system under which unsecured/non-guarantor loans can be extended with regard to funds provided by the Japan Finance Corporation for improving fishery business management
- O Supporting guarantee/insurance institutions in order to promote types of loans that require no guarantor, require no new security other than fishery-related assets (fishing vessels, etc.), and require no payment from income other than fishery income in the case of discontinuing business
- O Extending the implementation of interest-support measures, which have been commenced in FY2009, and which cover all or part of the interest for loans of equipment funds to be provided to fishers whose fishery business management plan has been approved, as well as adding operation funds to the funds subject to these measures and raising the loan ceilings that are set for individual facilities



- 2. Promoting the rationalization of production, distribution, and utilization of fishery production materials
- 3. Appropriate operation of fishing insurance systems
- 4. Developing a vigorous fishery employment structure

# IV Developing processing, distribution and consumption measures to secure a stable supply of fishery products

- 1. Promoting the creation of a sixth industry and increasing the efficiency of and upgrading distribution
- 2. Increasing added value through fishery processing
- 3. Strengthening the retail sector
- 4. Securing fishery product imports and aggressively developing export strategies
- 5. Promoting the expansion of fishery product consumption and fish-eating education through the development of confidence-based networks linking producers to consumers

# V Developing and disseminating new technologies to unlock the future of the fisheries industry

- 1. Developing and disseminating new technologies to meet workplace needs
- 2. Promoting effective use of biomass resources
- 3. Creating, protecting, and exploiting intellectual property

# VI Comprehensive development of fishing ports, grounds and communities, and demonstration of multiple functions of fisheries industry and fishing communities

- 1. Integral development of fishing ports and grounds for the creation of powerful production areas
- 2. Developing safe, vigorous fishing communities
- 3. Promoting harmony between fisheries and marine recreation in marine use
- 4. Demonstration of multiple functions of fisheries industry and fishing communities

#### VII Reorganizing fishery-related organizations

- 1. Reforming the management and business of fisheries cooperatives
- 2. Reorganizing other fishery-related organizations

#### **VIII Other important measures**

- 1. Promoting biodiversity conservation measures
- 2. Efforts to tackle WTO negotiations
- 3. Promoting the preparation and use of statistics that meet policy needs

# IX Efforts to promote measures on fisheries comprehensively and systematically

- 1. Building well-organized and easy-to-understand policy structures and securing transparency
- 2. Developing measures from the perspective of public interest, taking into consideration the viewpoints of consumers and citizens
- 3. Promoting the demonstration of originality and ingenuity of business operators and fishery production areas
- 4. Operating financial measures in an efficient and focused manner
- 5. Improving reform process control and measures, and building a system for promoting measures effectively and efficiently