

**Fisheries of Japan— FY2009  
(2009/2010)**

**Fisheries Policy Outline  
for FY2010**

**(White Paper on Fisheries)**

This document reports the state of fisheries and the policy taken during FY2009 based on the provisions of Article 10, paragraph (1) of the Fisheries Basic Act (Act No. 89 of 2001) and the policy to be taken in FY2010 based on the provisions of paragraph (2) of said Article.

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# Topics: Fisheries in FY2009

## 1. Effective Use of Unused Fish: *Mottainai*

- When fishery products undergo the distribution process, some fish are not used for human consumption or are traded at low prices due to the uneven size of the catch or too small a product quantity to form one lot for distribution. In recent years, there have been growing moves to try to effectively use such “unused fish.”
- Effective use of unused fish complies with the spirit of *Mottainai*\*1 in terms of not wasting food and using resources to the fullest.
- In order to increase fishers’ earnings and to raise Japan's seafood self-sufficiency rate through expanding its consumption of fishery products, active efforts should be made by people concerned in each phase, from production to distribution and consumption of fishery products.

\*1 *Mottainai* is a Japanese phrase which Wangari Maathai, who was awarded the Nobel Peace Prize in 2004, advocated to spread as a universal slogan for protecting the environment. The phrase is often translated as “waste not, want not.”

### Effective use of unused fish by a wholesale market [Nagasaki Prefecture]

A wholesale market has opened a restaurant serving unused fish, and also started selling processed products made of unused fish via the Internet, both of which have been well reputed by users.



### Increase of earnings through use of unused fish

[Shizuoka Prefecture]

A supermarket has sold fixed net catches including unused fish that have been bought from a fishery cooperative, thereby increasing fishers’ earnings. This effort is also well reputed by consumers due to the outstanding freshness of the products.



### Effective use of unused fish with new processing technology [Ibaraki Prefecture]

Purse seine fishers and a fishery processing company have collaborated to develop new processed products made of unused fish for school meals and restaurants.



### Product development using unused fish parts

[Kagoshima Prefecture]

Stock company K has developed a new product by effectively using the flesh attached to the backbone of filleted farmed fish.



## 2. Raising Japan's Self-sufficiency Rate regarding Fisheries Products for Human Consumption through Fast Seafood (Fast Food + Seafood)

- Many conveyor-belt sushi bars have intensified their efforts to actively use local fishery products and reduce food scraps.
- Hamburger chains have provided seafood burgers using domestic fishery products as ingredients in response to consumers’ increased preference for healthy, safe and reliable food.
- It is necessary to increase Japan's seafood self-sufficiency rate by stimulating consumption of domestic fishery products.



Conveyor-belt sushi bars with various forms of entertainment



Squid hamburger

### 3. Infestation of Giant Jellyfish

- The infestation of giant jellyfish in FY2009 was characterized by its large scale, early timing, and extensive area.
- The massive infestation occurred because a number of conditions favorable for jellyfish outbreaks emerged as a result of environmental changes in the Yellow Sea and the East China Sea.
- The Fisheries Agency took measures such as paying the cost required for monitoring of area and status of the infestation and providing such information, promoting the introduction of improved fishing gear, exterminating giant jellyfish using a jellyfish cutter or an underwater pump for exterminating giant jellyfish in the sea, and processing the jellyfish on land for disposal or effective use. In addition, Japan strengthened cooperation with neighboring countries, in order to advance the level of infestation prediction technology through a joint monitoring survey with China and South Korea.



Giant jelly fish caught in a set net



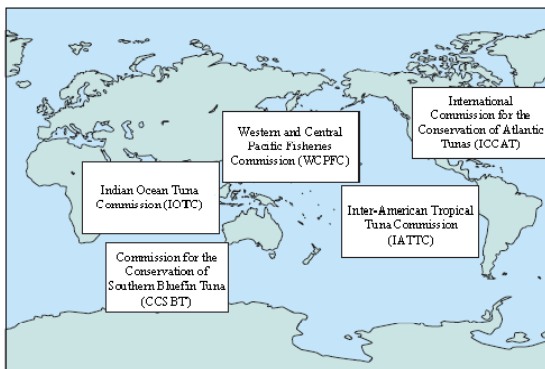
Drift route of giant jellyfish in 2009

Source: Fisheries Agency, Japan Fisheries Information Service Center.

### 4. World Trend of Conservation and Management of Tuna Resources

- The amount of Japan's tuna catches ranked the highest in the world in 2007, accounting for 14% (248,000 tons) of the world's total tuna catches. Also, Japan is the largest tuna consumer in the world, being supplied with 473,000 tons of tuna (the total amount of Japan's catches and imports).
- Japan is a member of all of the five regional fisheries management organizations (RFMO) in the world.
- With regard to bluefin tuna, the International Commission for the Conservation of Atlantic Tunas (ICCAT) and the Western and Central Pacific Fisheries Commission (WCPFC) strengthened their conservation and management measures.
- At the Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) held in Doha in March 2010, the proposal to list Atlantic bluefin tuna in CITES Appendix I was rejected. However, considering the fact that a number of countries supported the listing, Japan regards that the RFMOs' resource management is insufficient.
- As the world's largest tuna consumer, Japan is not in a position to import tuna that are not caught in compliance with RFMO rules. It is important for Japan to demonstrate international leadership with a view to prevent overfishing.

Regional Fisheries Management Organizations for Tuna



Status of Tuna Resources

RFMO Species	ICCAT	IOTC	IATTC	WCPFC	CCSBT
Bluefin tuna	Eastern Pacific: Low/decreased Western Pacific: Low/unchanged	—	—	Medium/unchanged	—
Southern bluefin tuna	—	—	—	—	Low/unchanged
Bigeye tuna	Low/unchanged	Medium/unchanged	Low/unchanged	Medium/decreased	—
Yellowfin tuna	Medium/unchanged	Medium/decreased	Medium/unchanged	Medium/unchanged	—
Albacore	Northern Atlantic: Low/increased Southern Atlantic: Medium/decreased	Medium/unchanged	—	Northern Pacific: High/unchanged Southern Pacific: High/decreased	—

Source: "FY2009 Current Status of International Resources," Fisheries Agency



## 5. Toward the Sustainable Use of Whale Resources

- The International Whaling Commission (IWC) has become dysfunctional due to the endless argument over the utilization of whole resources between nations that support the sustainable use of whales and anti-whaling nations. Toward normalizing the IWC, discussions on the “Future of the IWC” were commenced in 2008 with an aim to reach a comprehensive agreement on it.
- In February 2010, a report by the IWC Chair was released to the public, proposing a draft agreement framework to introduce provisional measures, such as allowing whaling activities under catch limits below present levels without defining the purpose of the whaling (e.g., commercial, research), for the next ten years.
- In recent years, anti-whaling groups’ obstructive actions against the Japanese fleet engaged in whaling for research purposes in the Antarctic Ocean have become a problem.
- During the 2009/2010 research cruise, the anti-whaling group Sea Shepherd obstructed Japanese research vessels by throwing bottles containing butyric acid at the crew members, trying to tangle the propellers of the research vessels with ropes, and pointing laser lights, at the faces of crew members, which could cause blindness. Further, a sabotage vessel collided with a Japanese research vessel, and a Sea Shepherd activist unlawfully boarded a Japanese research vessel.
- Japan should continue to request the relevant countries, including the country where Sea Shepherd's sabotage vessels are registered, to take responsible actions to prevent obstructions against Japan's legitimate research activities under Article 8 of the International Convention for the Regulation of Whaling.

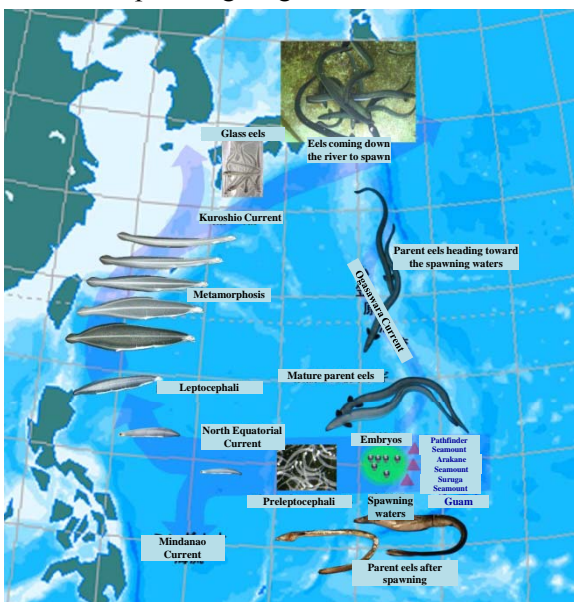


Sea Shepherd (on the right) obstructing a research vessel (on the left)

## 6. Eel Production not Relying on Natural Resources: Aiming for Closed-cycle Aquaculture

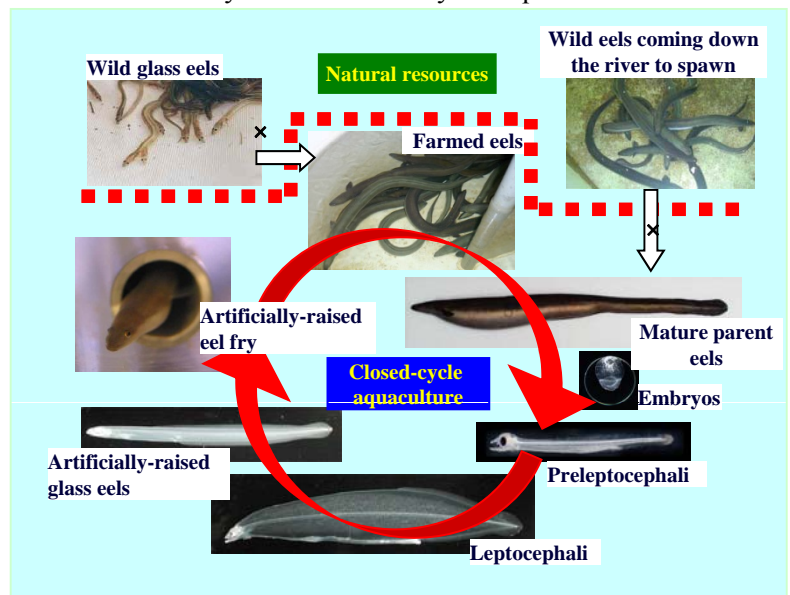
- In 2010, the Fisheries Research Agency succeeded in closing the life cycle of eels, from spawning, hatching and rearing to spawning, under artificial rearing.

Spawning Migration of Eels



Source: Fisheries Research Agency

System of Closed-cycle Aquaculture



Source: Fisheries Research Agency

# Chapter 1 Highlight: What Is Required of Fisheries and Fishing Communities in the Future

## Section 1. Current Status of Fisheries and Fishing Communities

(Fisheries and fishing communities support Japan's coastal communities)

- There are fishing communities all along Japan's coasts. On average, fishing communities are located every 5.6 km along the coastline.

Number of fishing communities: 6,298 (every 5.6 km along the coastline)

(Many fishing communities are located in less-favorable areas)

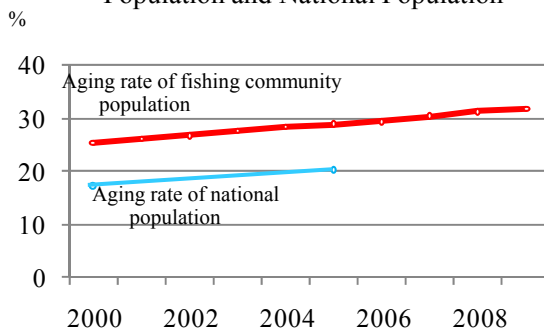
- About 20% of all fishing communities around port in Japan are located on isolated islands, and 30% are on peninsulas. In 30% of the fishing communities on isolated islands, 50% or more of the people living there are aged 65 or above.
- About 30% of fishing communities around port are located on steeply sloped areas, and 50% are in narrow areas immediately in front of a cliff or a mountain. Therefore, those communities lag behind in the development of infrastructure for daily living and are vulnerable to disasters such as large earthquakes and tsunamis.

Areas Designated as Fishing Communities around Port

	Isolated island areas	Peninsula areas	Depopulated areas	Total
Number of fishing communities around port	790 (17%)	1,468 (32%)	2,645 (57%)	4,653 (100%)
Number of communities where 50% or more of the population are aged 65 or above	210 [26.6%]	192 [13.1%]	399 [15.1%]	494 [10.6%]

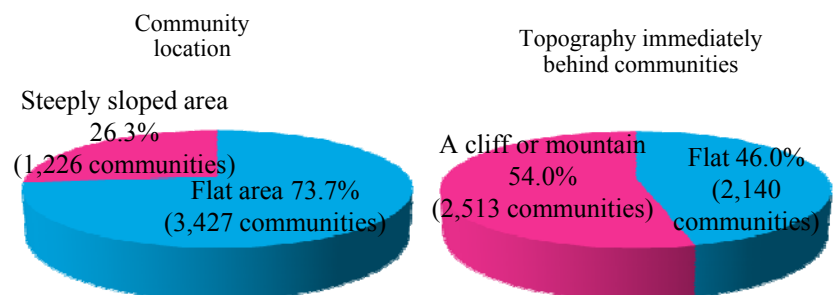
Source: Fisheries Agency (2009).

Comparison of Aging Rates of Fishing Community Population and National Population



Source: "Population Census," Ministry of Internal Affairs and Communications, Fisheries Agency.

Locational Characteristics of Fishing Communities around Port



Source: Fisheries Agency (2009).



Fishing community in a narrow area immediately in front of a cliff



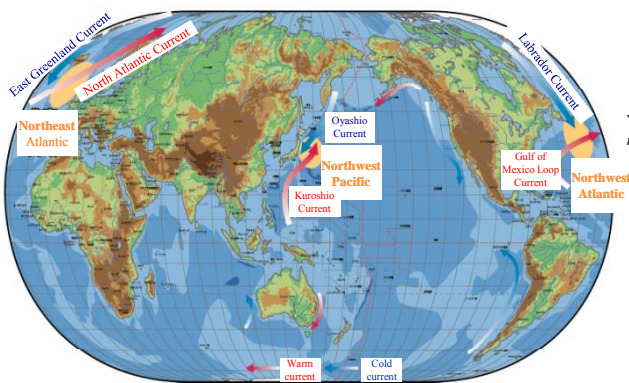
Fishing community between mountains and the sea, isolated from towns

## Section 2. Fisheries and Fishing Communities—Supporting Japan's Fish-eating Culture

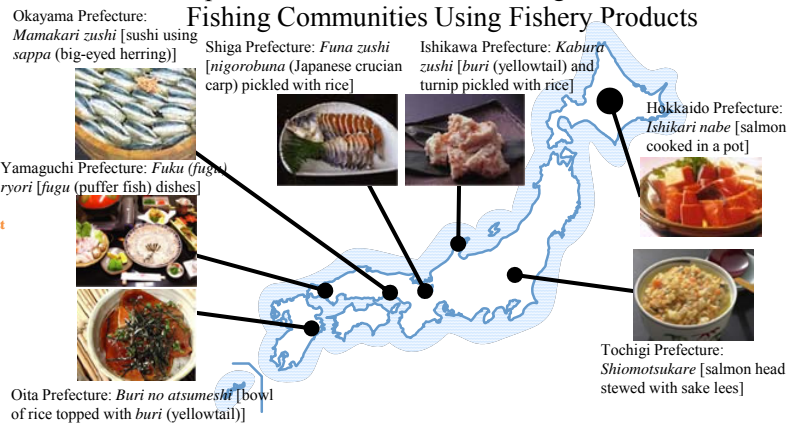
### (1) Fisheries, Fishing Communities, and Fish Culture Which Have Been Developed by Japan's Natural Environment

- Japan has a diverse natural environment extending from a subarctic climate to a subtropical climate, which has developed a rich fishing ground that is regarded as one of the three richest in the world.
- Japan has unique fishing communities with their own traditional culture and scenery all along its coasts.
- The rich coastal and marine areas surrounding Japan has developed the *fish-eating culture* that is unique to each region.

World's Three Richest Fishing Grounds



Examples of Local Dishes of Farming, Mountain, and Fishing Communities Using Fishery Products



Source: "One Hundred Selected Local Dishes of Farming, Mountain, and Fishing Communities," Ministry of Agriculture, Forestry and Fisheries.

### (2) Tracing Back the History of Japan's Fisheries and Fishing Communities

- In ancient times, there were people who were involved in not only fisheries, but also in marine transportation and commerce, and had broad exchanges with neighboring countries. They were called "ama" or "amabe."
- Since medieval times, *kaimin* (sea people) emerged as multi business operators who served not only as fishers, but also as marine transporters and the navy. Coastal whaling, which became active in the Edo period (1600–1868), formed a major industry of fishing communities that supported various types of industries including meat processing and the production of whale oil, fertilizers, and fishing gear. It was said that catching one whale brings profits to seven fishing communities.
- In the Edo period, the formation of fishing communities made progress as people began to settle in the communities and became full-time fishers due in part to the Edo shogunate's policy. Also, dried fishery products called *tawaramono* were actively exported.
- Since the Meiji period (1868–1912), fisheries have expanded from coastal fisheries to offshore and far sea fisheries, and have contributed to the acquisition of foreign currency and the stable supply of food to the Japanese people.

#### History of Fisheries and Fishing Communities (From Ancient to Early-Modern and Modern Times)

##### Ancient times

- An Imperial order was issued that all people shall be allowed to equally use mountains, rivers, groves, and wetlands.

##### Late medieval times

- Roles of sea people were fisheries, commerce, and the navy.
- Collection of land tax by temples, etc. was strengthened, and settled fishery was spread by recognizing exclusive rights over fishing grounds.

##### Early modern times

- Samurai dominated some fishers in their respective areas.
- *Amimoto* (heads of fishers' groups) and *funanushi* (shipowners) emerged.
- People engaged in migratory fishery or living in *ebune* (dwelling boats) came to settle in communities. The Edo shogunate indicated a principle that inshore fishing grounds shall be managed by nearby fishing communities, while offshore fishing grounds shall be common areas.
- *Isotsukimura* (communities of households half engaged in agriculture and half in fisheries), *urakata* (communities of households engaged in fisheries full-time)

##### Modern times

- Industrial capitals were formed.
- Fisheries were modernized through the introduction of western technology.

Meiji (1868–1912)  
Taisho (1912–1926)  
Showa (1926–1989)  
Heisei (1989–)

- Fisheries expanded from coastal fisheries to offshore and far sea fisheries. The era of Japan as a major fishing nation.
- The fisheries industry shrank due to the strengthening of international regulations, such as the introduction of the 200-nautical-mile exclusive economic zone for coastal nations.

Source: Compiled by Fisheries Agency based on "Economic History of Japan's Ancient Fisheries" (Kaizosha) by Yukichi Habara and other materials.



### Okikamuro Island in Suo-Oshima: The Sea Is the Way to the World

[Suo-Oshima Town, Yamaguchi Prefecture]

Fishermen of the Okikamuro Island in Suo-Oshima Town, Yamaguchi Prefecture, which prospered through pole and line fishing, made daring fishing expeditions to Kyushu, Tsushima, Taiwan, and even to the Hawaiian Islands, seeking fishing grounds. They developed relationships with such regions via the sea and formed settlements there. Although the aging rate has reached 66%, former residents who have moved outside the island still gather during the summer Bon period and at the New Year, and call Okikamuro an "island that sinks in the Bon period (with so many people coming back)."



Okikamuro Island at present

### Hot Springs on a Remote Island Serving as a Place of Exchange for Fishery Operators from Various Regions

[Goto City, Nagasaki Prefecture]

Until the latter 1960s to early 1970s, there were fishers who lived in boats called *ebune* and engaged in fishing, moving from place to place while selling their catches.

Arakawa Port in Goto City, Nagasaki Prefecture is known as a base for the fishing ground off Goto and as a port of refuge during rough weather. At Arakawa hot springs near this port, fishers who gathered from various regions used to reserve a washbowl with a towel and soap at the watch stand of public baths, and exchange information on fishing conditions. Such a scene can still be seen today.

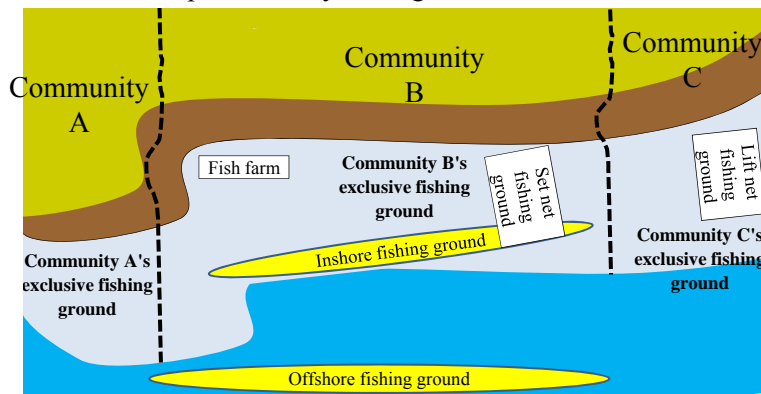


*Ebune* anchored at a fishing port  
(middle of the photograph)

### (3) Roots of Fishery Management in Japan

- In the Nara period (710–784), unsustainable fishery called *kokugyo*, which included private monopolization of fishery resources and taking all the fish in an area by draining a pond or using poison, became a problem. In response, an Imperial order was issued that all people shall be allowed to equally use mountains, rivers, groves, and wetlands.
- In the Edo period, the shogunate indicated a principle that inshore fishing grounds shall be managed by nearby fishing communities, while offshore fishing grounds shall be common areas, and a concept that serves as the basis for the present fishery rights system was established.

#### Basic Concept of Fishery Management in the Edo Period



Source: Compiled by the Fisheries Agency based on the "Guide to the Fishery Act" (Seizando Shoten) by Yoshiyuki Kaneda.

#### *Ura* and *Isotsukimura* in the Edo Period: Edo-style Fishery Policy

As an Edo-style fishery policy, the shogunate restricted farmers from becoming full-time fishers, and permitted only those who had traditionally been engaged in fisheries to engage in fisheries full time. Communities of such full-time fisherfolk were called *ura*. Meanwhile, communities mainly consisting of households half engaged in farming and half in fishing, only for home consumption without using vessels were called *isotsukimura*.

The first signs of fishery management can be observed in the Edo period, such as limiting the number of fishery workers and fishing communities, and prohibiting the sale and purchase of fish caught in *isotsukimura*.



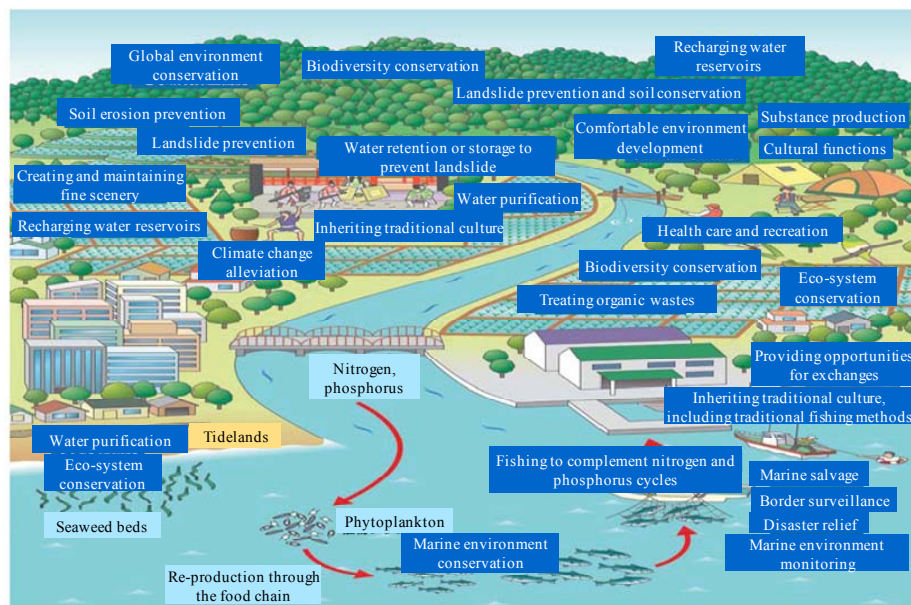
Source: "Fishing in the Edo Bay" (owned by the Research Center for Nonwritten Cultural Materials, Kanagawa University).

## Section 3. What Is Required of Fisheries and Fishing Communities

(People expect fisheries and fishing communities to play diverse roles)

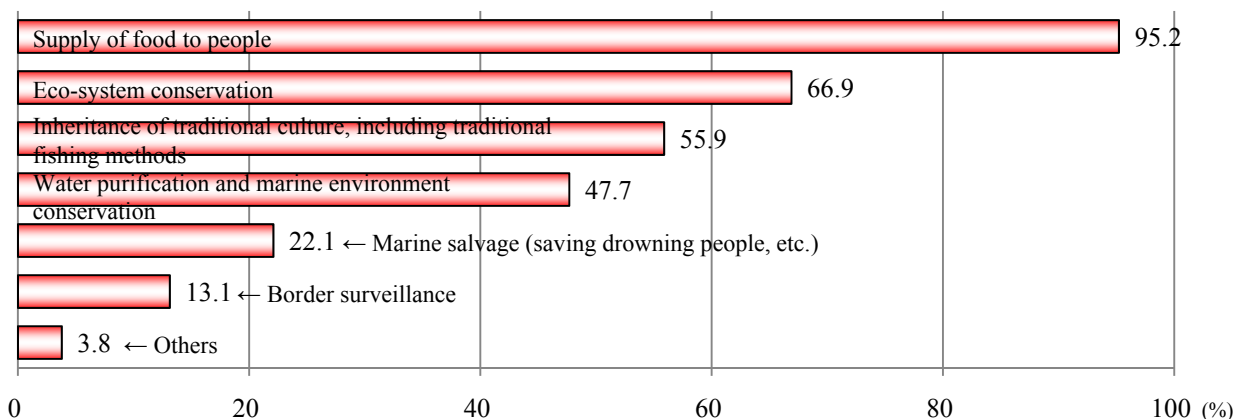
- Fishing communities, serving as the bases of fishery activities, not only provide places for people to live, but also have multiple functions that are demonstrated through the daily lives of people in those communities and their activities of fisheries.
- Consumers place importance on such roles to be played by fisheries as eco-system conservation, inheritance of traditional culture, and marine environment conservation, in addition to the supply of food.
- In order to revitalize fisheries and fishing communities, efforts should be made to enhance their added value by rediscovering the appeal of fishing communities through exchanges with urban residents, and making effective use of such appeal.

### Multifunctionality of Agriculture, Forestry and Fisheries



Source: Compiled by Fisheries Agency based on a report by the Science Council of Japan.

### Particularly Important Functions of Fisheries (multiple answers)



Source: "Survey Results of Awareness/Intent on Securing/Fostering Fishery Workers" (2009), Ministry of Agriculture, Forestry and Fisheries.

(Sustainable use of fishery resources is required)

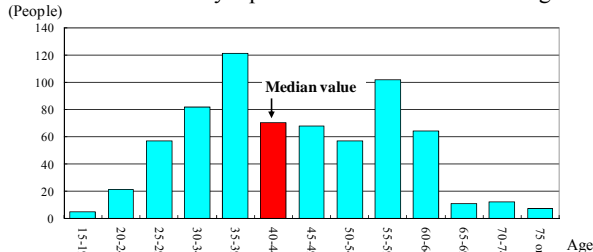
- Appropriate management and sustainable use of fishery resources are essential for fisheries and fishing communities to demonstrate multiple functions.
- Japan's unique method of jointly managing local fishery resources has been inherited up until today, and contributes to the existence of local communities.
- There are various parts of Japan where, in addition to official regulations under the Fishery Act, local fishery operators have independently and voluntarily concluded agreements to manage fishery resources so as to preserve their respective local communities.

## Fishing Community Taking Actions for Sustainable Use of Local Resources [Notsuke Peninsula, Hokkaido Prefecture]

Toward sustainable use of Hokkai shrimp, voluntary resource management efforts have been made, including restrictions on the use of power-driven vessels, resource surveys conducted before the fishing season, and the establishment of no-fishing zones. Due to efforts to stabilize fisheries income, the aging rate in this area is 4.4%, significantly lower than the national average of 34.2%.



Age Distribution of Fishery Operators in the Notsuke Fishing District

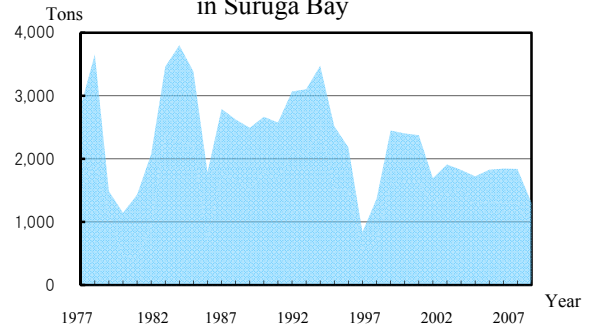


Source: "Fisheries Census" (2008), Ministry of Agriculture, Forestry and Fisheries.

## Cooperative and Active Challenges among Communities [Suruga Bay, Shizuoka Prefecture]

Fishers in this district are conducting joint and voluntary operations for the purpose of managing the resources of Sakura shrimp (*Sergia lucens*). They have implemented measures including equal distribution of landed value. Since the effectiveness of this resource management was recognized, the fishery cooperatives concerned acquired certification from the Marine Eco-Label Japan.

Changes in the Catch Quantity of Sakura Shrimp in Suruga Bay

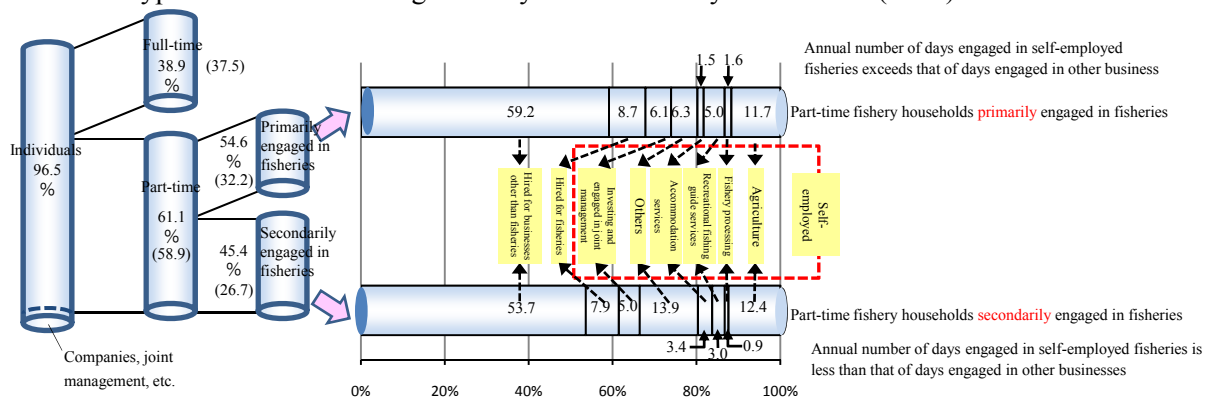


Source: Shizuoka Prefecture surveys.

(Shifting from marine transportation, trade and navy to recreational fishing guide services and accommodation services)

- Coastal fishery households also engage in economic activities other than fisheries, such as agriculture, recreational fishing guide services, accommodation services, and fishery processing.
- Fisheries and fishing communities still play diverse roles, similar to those in the medieval to early modern times.

Types of Business Management by Coastal Fishery Households (2003)



Source: Compiled by Fisheries Agency based on "Fisheries Census" (2003), Ministry of Agriculture, Forestry and Fisheries.

(Effective use of diverse human resources, including women is required)

- It is important to promote direct store sales and the processing and sales of fishery products, by using the female workforce in order to increase fishery households' earnings and to revitalize fishing communities.
- Some communities have been making revitalization efforts to make full use of local resources, including fisheries and fishing communities, by using people moving in from other areas and former residents returning from other areas, while some have improved the work environment for people moving in from other areas with the aim to foster and secure fishery workers.
- The future challenge is to facilitate the revitalization of fisheries and fishing communities based on exchanges of information among fishing communities, through a renewed recognition of the history of fisheries and fishing communities, which have developed by introducing new knowledge and technology through active exchanges with other communities.

## Using an Island as a Nature School [Ojika Island, Nagasaki Prefecture]

A non-profit organization promotes experiential activities and tours, such as a stay at an agricultural, forestry, or fisheries household, and sea kayaking, and hires young people both from the island and from other areas.



## Beach Lifestyle: Fisheries and Surfing [Kamogawa City, Chiba Prefecture]

Surfers engage in fisheries under the leadership of a female fisheries cooperative president, combining their hobby with work.





## Section 4. Developing Fisheries and Fishery Communities into a “Sixth Industry” (Summary)

- Efforts to develop fisheries and fishery communities into a sixth industry (combined form of primary, secondary and tertiary sector industries) have become active. Such efforts include fishery processing, direct sales of fishery products, fishery household restaurants, fishery household accommodations, experiential and tourist fishery, recreational fishing, and diving.

### Recreational Fishing [Kyoto Prefecture]

In Kyoto Prefecture, fishery cooperatives and recreational fishing-related organizations have made progress in making rules together, such as the establishment of harvest-prohibited zones and hours.



### Experiential and Tourist Fishery [Nachi-Katsuura Town, Wakayama Prefecture]

In Wakayama Prefecture, fishers have started a whale-watching business, and have contributed to revitalizing the region, which is also a hot springs resort.



### Fishery Household Accommodations [Fukui Prefecture]

Fishery household accommodations on Tsunekami Peninsula, Fukui Prefecture, have actively served local fish dishes and provided experiential learning programs. Their fishery income has been supplemented with such tourist income.



### Direct Sales of Fishery Products [Fukui Prefecture]

Taking advantage of its favorable location adjacent to a large city, the Itoshima Fishery Cooperative in Fukuoka Prefecture has opened oyster huts where visitors can eat oysters and other fishery products on-site, gaining its popularity.



- Fisheries function as the core of local industries that utilize local resources, including fishery processing, refrigerated warehousing, and fertilizer manufacturing, which clusters around fishery product landing ports.
- It is important to spur the local economy by enhancing cooperation among fishery processors and distributors within the area, and to strive to supply fishery products desired by the actual users, through the development of new products and sales channels.

### Development of Premium Canned Products Using Large, Sashimi-Grade Saury [Kesennuma City, Miyagi Prefecture]

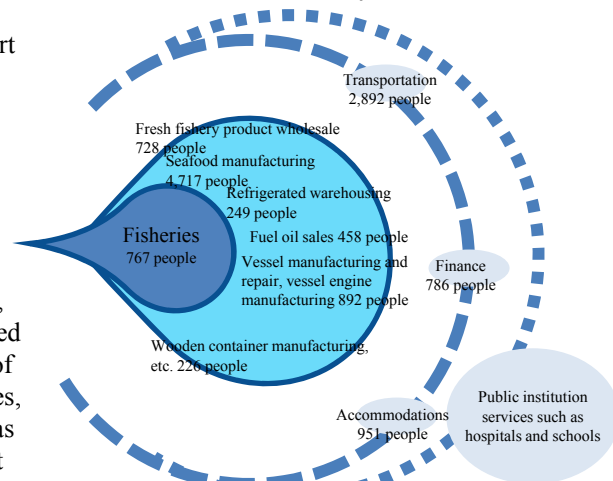
In Kesennuma City, Miyagi Prefecture, fishers, a canner, and a soy sauce manufacturer have cooperated to develop and sell canned products using large, fatty, sashimi-grade, high quality saury.



### Fisheries Industry Functioning as a Local Core Industry

The fisheries industry is an important local core industry for areas where a large fishery product landing port is located. For example, in Yaizu City, Shizuoka Prefecture, the number of marine fishery workers is 767, only accounting for 1.2% of the number of workers of all industries, which is 65,135. However, workers of industries related to fishery constitute 20% of the workers of all industries, and an industrial cluster has developed with fisheries at the core.

#### Industries Surrounding Fisheries in Yaizu City



Source: "Fisheries Census" (2008), Ministry of Agriculture, Forestry and Fisheries, and 2006 Establishment and Enterprise Census (Yaizu City).

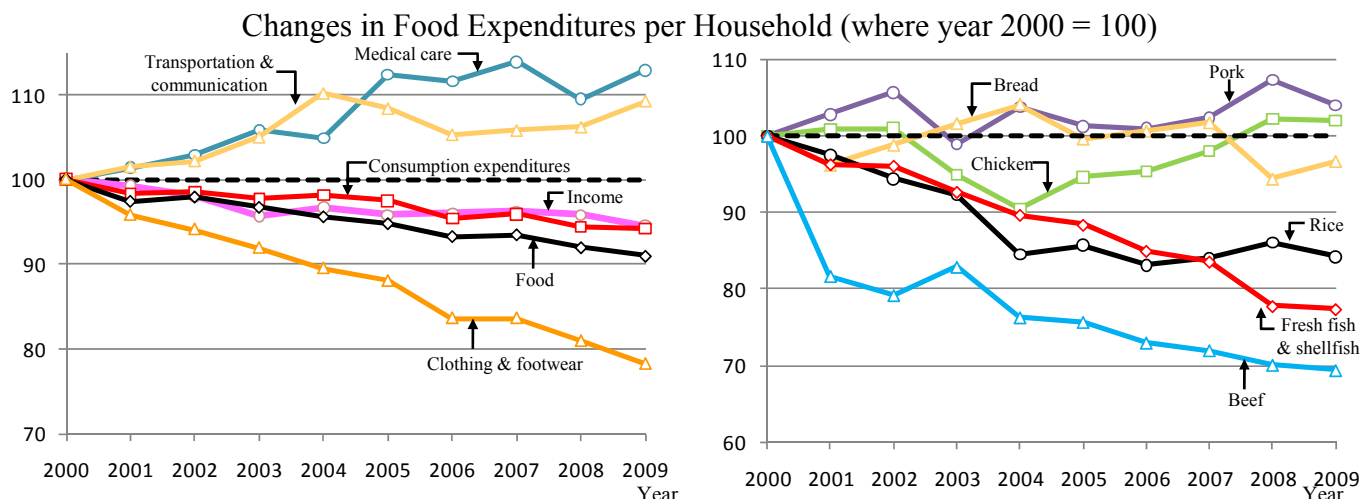


## Section 1 Consumption, Supply and Demand of Fishery Products

### (1) Trend of Consumption of Fishery Products

(Tight household budget is causing a shift away from fish)

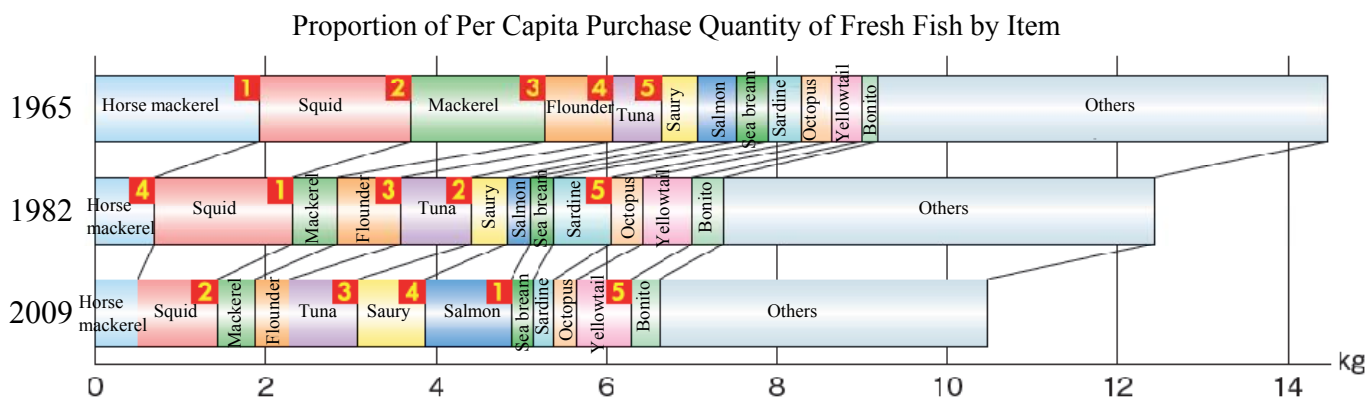
- Japanese households' food expenditures have declined in recent years, reflecting severe economic conditions. In particular, the expenditure for fresh fishery products has decreased notably.



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

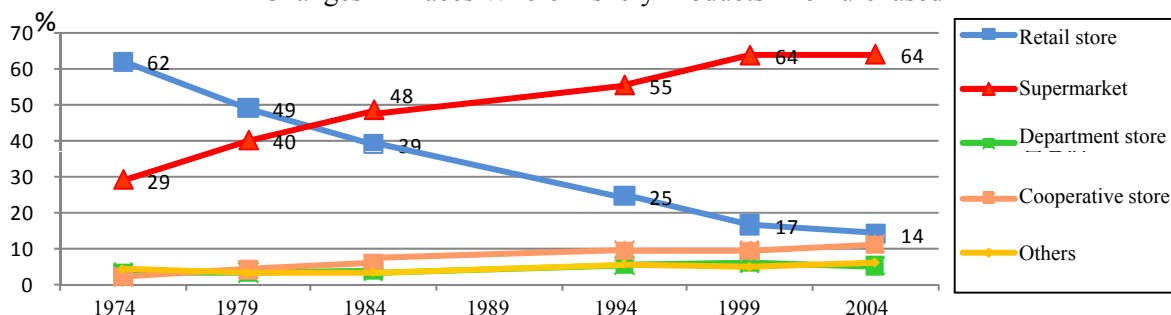
(Fish consumed at home has been changing)

- 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 2009. The changes in the items and quantity purchased likely reflect the changes in the forms of fishery products purchased and the places where they are purchased.



Source: Compiled by Fisheries Agency based on "Family Income and Expenditure Survey" (1965 and 1982: all households (excluding agricultural, forestry, and fishery households); 2009: two-or-more-person households (excluding agricultural, forestry, and fishery households)) by Ministry of Internal Affairs and Communications.

### Changes in Places Where Fishery Products Are Purchased



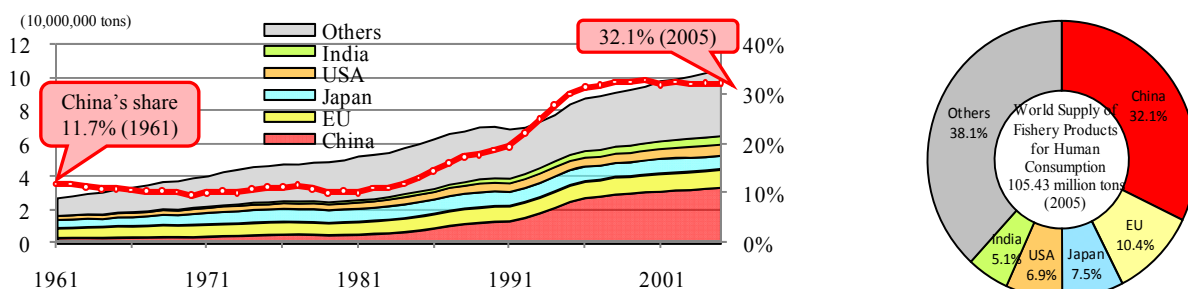
Source: "National Survey of Family Income and Expenditure" (two-or-more-person households; national; percentage of purchase amount) Ministry of Internal Affairs and Communications.

## (2) Trend of Supply and Demand of Fishery Products

### (Trend of World Supply and Demand of Fishery Products)

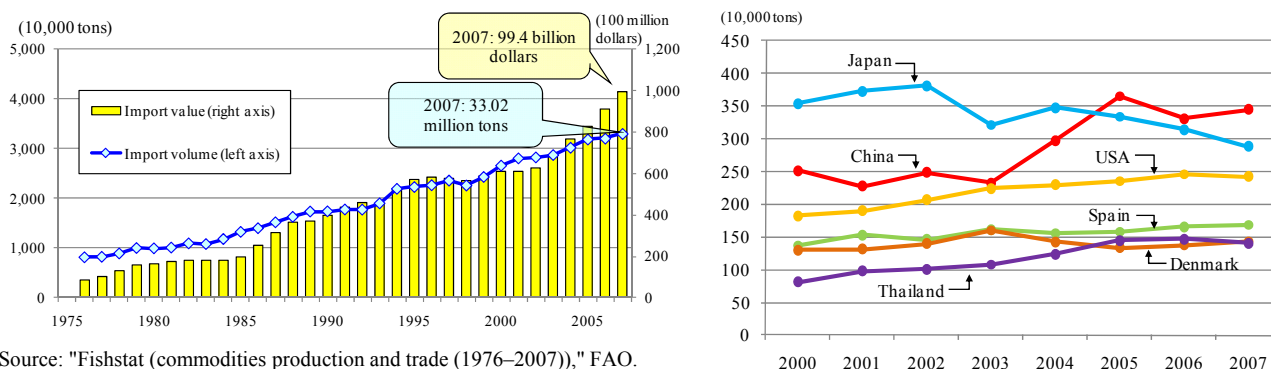
- World fishery product supply has increased year by year due to a rise of health consciousness in Europe and the United States and the economic development in China, India, etc. The supply increase has been particularly notable in China, accounting for one-third of the total world supply in 2005.
- Fishery product trade has also been on the increase year by year with demand growing worldwide. The total import volume and total import value marked a record high in 2007. Amidst a decrease in Japan's import volume, China's import value has surpassed that of Japan and ranked the highest in the world since 2005.

#### Changes in the World Supply of Fishery Products for Human Consumption by Country



Source: Compiled by Fishery Agency based on "Food Balance Sheets (1961–2005)" by FAO and "Food Balance Sheets" by Ministry of Agriculture, Forestry and Fisheries.

#### Changes in the World Trade Value and Volume of Fishery Products (Left) and Import Volume by Country (Right)

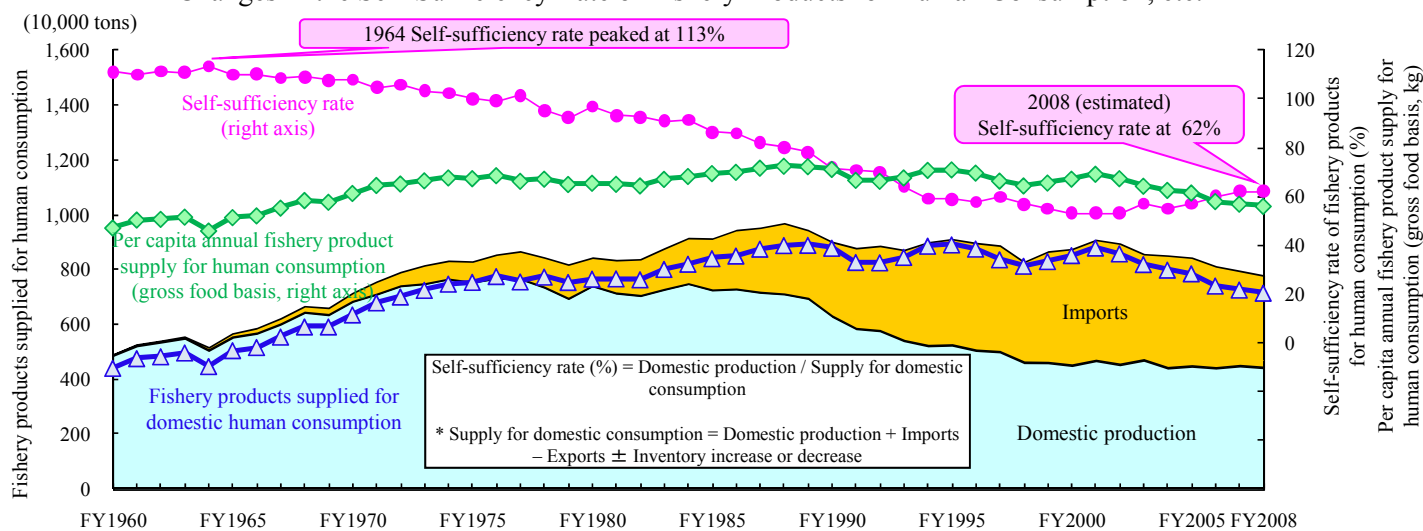


Source: "Fishstat (commodities production and trade (1976–2007))," FAO.

### (Trend of Japan's Supply and Demand of Fishery Products)

- Japan's self-sufficiency rate of fishery products for human consumption has been on a slightly increasing trend due to the fall of the domestic production volume coming to a halt and a decline in the import volume of fishery products. The self-sufficiency rate for FY2008 was 62%, which is the same as the rate for FY2007.

#### Changes in the Self-Sufficiency Rate of Fishery Products for Human Consumption, etc.



Source: "Food Balance Sheets," Ministry of Agriculture, Forestry and Fisheries

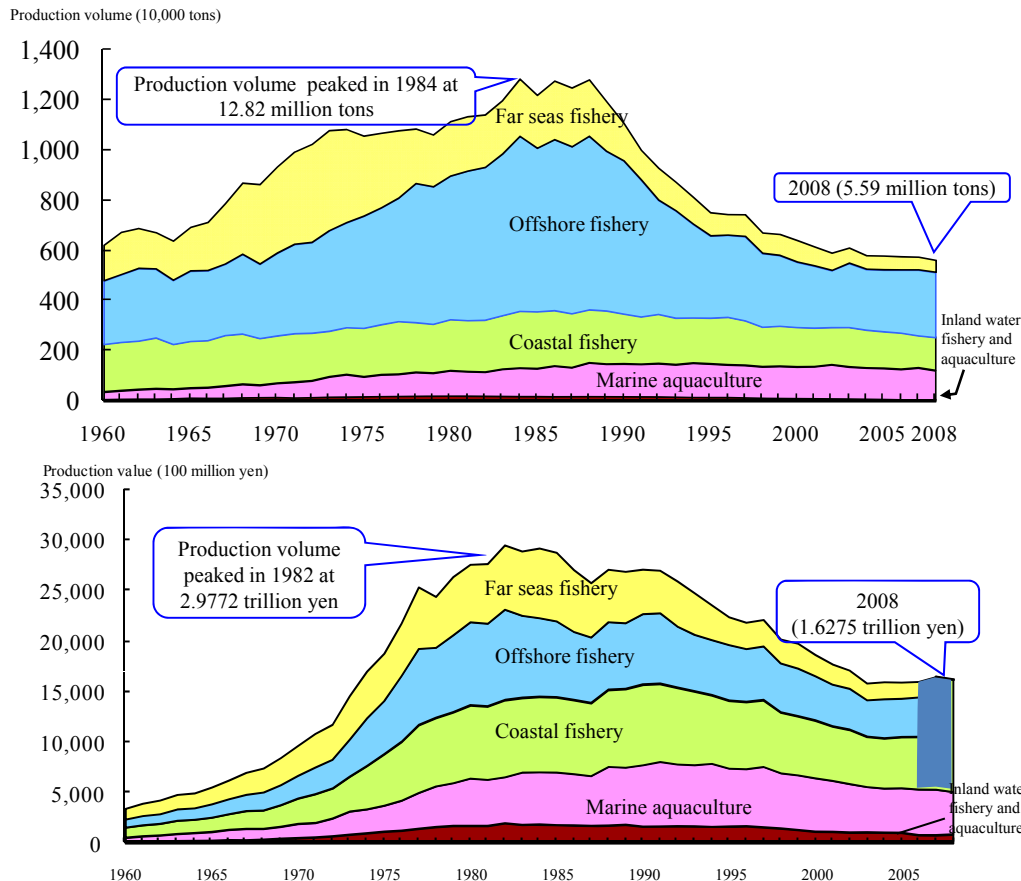
## Section 2 Developments Surrounding Japan's Fisheries

### (1) Japan's Fisheries in the Global Context

#### (Status of Japan's fisheries and aquaculture)

- In 2008, fishery and aquaculture production volume in Japan was 5.59 million tons, decreased by 2.2% from the previous year. The production value came to 1.6275 trillion yen, falling 1.5% from the previous year.

#### Change in Fishery and Aquaculture Production Volume and Value



		2008 (1,000 tons)
Production volume	Total	5,592
	Marine	5,520
	Fishery	4,373
	Far seas fishery	474
	Offshore fishery	2,581
	Coastal fishery	1,319
	Aquaculture	1,146
	Inland water	73
	Fishery	33
	Aquaculture	40

\* Figures for offshore fishery and coastal fishery are estimates.

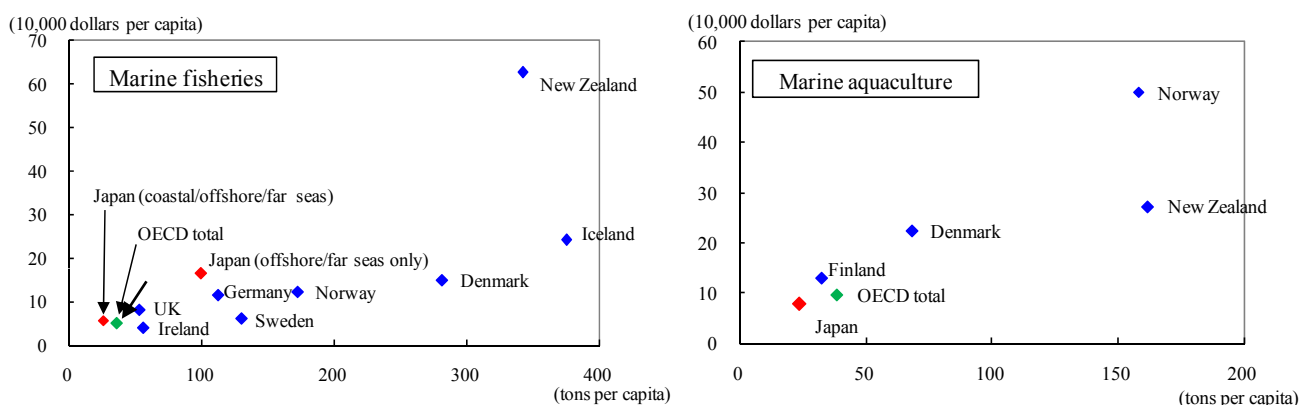
		2008 (100 million yen)
Production volume	Total	16,275
	Marine	15,423
	Fishery	11,246
	Far seas fishery	...
	Offshore fishery	...
	Coastal fishery	...
	Aquaculture	4,178
	Inland water	851
	Fishery	239
	Aquaculture	612

Source: "Annual Statistics of Fishery and Aquaculture Production," Ministry of Agriculture, Forestry and Fisheries

#### (International standing of Japan's Fisheries and Aquaculture)

- When comparing the per capita production volume and production value of fishers of offshore and far seas fisheries in Japan with those of major fishing nations, the per capita production volume is low, but the per capita production value is relatively higher.

#### International Comparison of the Production Capacity of Fisheries and Aquaculture (Per Capita Production Volume, Per Capita Production Value)

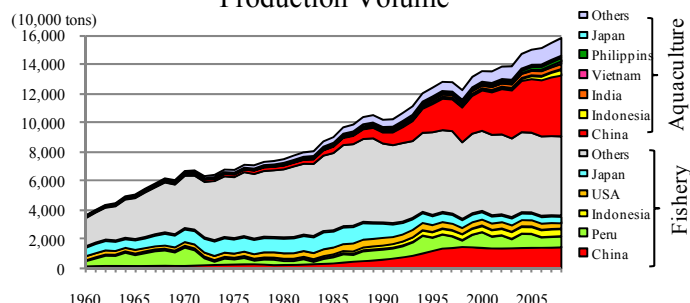


Source: Compiled by Fisheries Agency based on OECD Report 2008 (other than Japan), and "Annual Statistics of Fishery and Aquaculture Production" (2005) and "Report of Survey on the Trend of Fishery Employment" (2005) by Ministry of Agriculture, Forestry and Fisheries.

(It is required to strengthen the international competitiveness of Japan's aquaculture by effectively using its own technology)

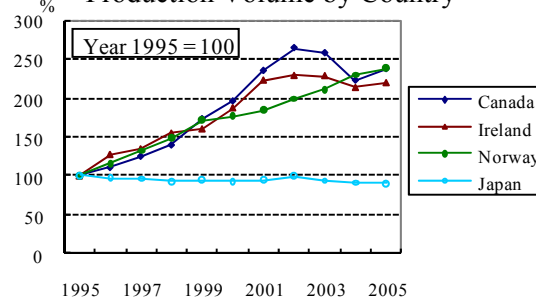
- Among the OECD member countries, Japan ranks the highest in terms of aquaculture production volume. From 1995 to 2005, however, while Canada, Ireland, and Norway posted high growth every year, Japan showed a decline.
- Raising the international competitiveness of its aquaculture by effectively using world-leading aquaculture technology, including the seedling production technology for bluefin tuna, is a significant issue.

Changes in World Fishery and Aquaculture Production Volume



Source: Compiled by Fisheries Agency based on "Fishstat" (Capture Production 1960–2008) (Aquaculture Production 1960–2008) (countries other than Japan) by FAO and "Annual Statistics of Fishery and Aquaculture Production" by Ministry of Agriculture, Forestry and Fisheries.

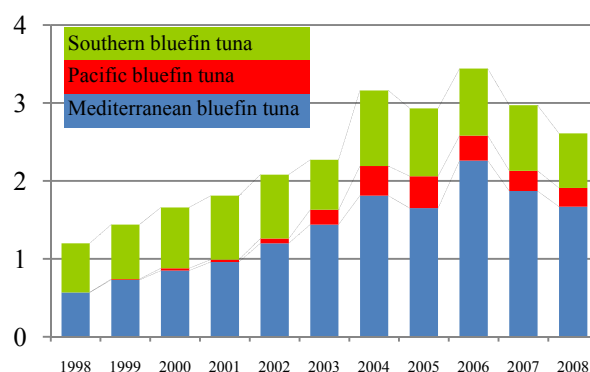
Changes in the Growth Rate of Aquaculture Production Volume by Country



### Aiming to Establish Closed-cycle Aquaculture Technology for Bluefin Tuna That Does Not Rely on Natural Resources

The farmed bluefin tuna which Japan imports include *fattened tuna*, which have been caught by purse seiners, fed in fish cages, and fattened within a short period. The production volume of such fattened tuna has been growing since the latter half of the 1990s due to exporting to Japan, and there are concerns about their impact on resources. While fishing regulations on bluefin tuna have been strengthened in the international community, Japan has seen development races by research institutes, such as universities, and by the private sector aimed at realizing a closed-cycle aquaculture of bluefin tuna that does not rely on natural resources. They are expected to make further efforts to establish closed-cycle aquaculture technology that does not impose a burden on natural resources.

Changes in the Import Volume of Farmed Tuna (Product Weight)

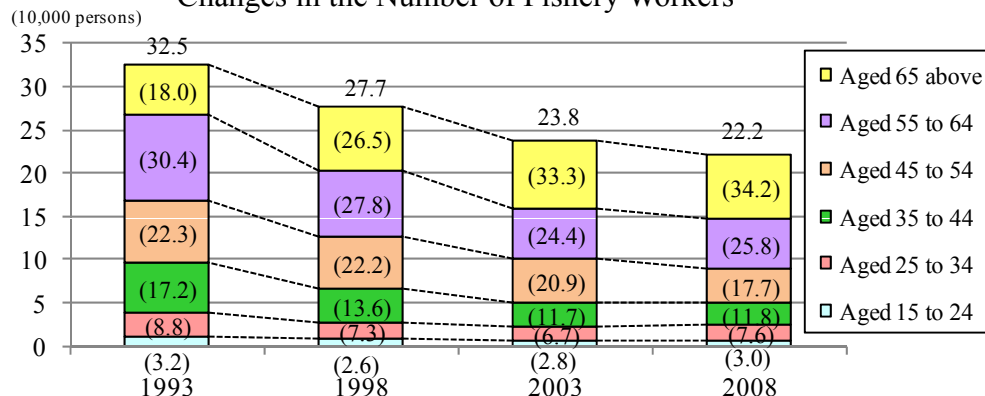


Source: Estimated by Fisheries Agency based on "Trade Statistics of Japan" by Ministry of Finance, WCPFC documents, and CCSBT documents.

(Employment structure)

- The number of fishery workers was 222,000 in 2008, decreasing by 6.9% from five years earlier. The proportion of elderly people aged 65 or above rose by 0.9 percentage points to 34.2%, indicating further aging of fishery workers.

Changes in the Number of Fishery Workers



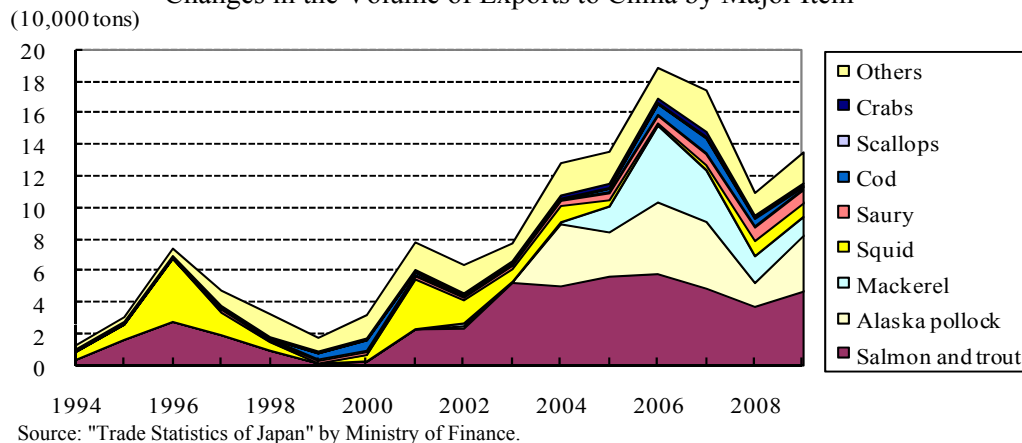
Source: "Fisheries Census," Ministry of Agriculture, Forestry and Fisheries.



(Promotion of fishery product exports)

- Whereas the domestic market is expected to shrink as a result of a population decline and consumers' shift away from fish, demand for fishery products has been expanding in Europe, the United States, China, and other countries.
- The Ministry of Agriculture, Forestry and Fisheries promotes exports with the aim to increase Japan's exports of agricultural, forestry, and fishery products and food items to a level of 1 trillion yen by 2020 ("New Growth Strategy (Basic Policies)" decided by the Cabinet on December 30, 2009).
- China's fishery processing industry is becoming internationally competitive. In order to compete with China, Japan should not only supply ingredients for processing, but also enhance the added value by exporting fresh fishery products and processed fishery products that use Japan's original freshness-keeping technology or processing technology.

Changes in the Volume of Exports to China by Major Item

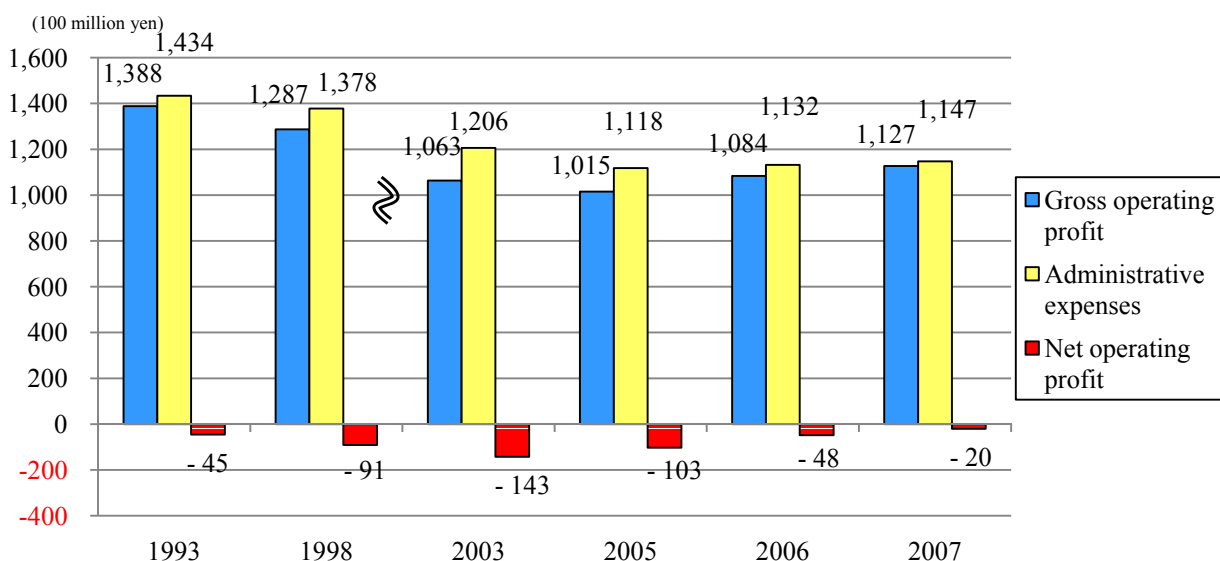


(2) Developments Surrounding Japan's Fisheries and Aquaculture

(Strengthening the foundations of fisheries cooperatives)

- The business management of fisheries cooperatives faces an extremely severe situation. Some cooperatives find it difficult to improve their management due to their large amount of loss carried forward, which acts as an impediment to merging with other cooperatives.
- The "Fisheries Cooperatives Management Reform Support Fund" was established to prevent fisheries cooperatives from going bankrupt and to support fisheries cooperatives that are engaged in the development and implementation of a management improvement plan (FY2008). In addition, the "Project for Promoting Reinforcement of Fisheries Cooperatives Management Base" was established supply, which provides financial replenishment for the interest on Fisheries Cooperatives Management Reform Support Fund (FY2010).

Changes in Fisheries Cooperatives' Gross Operating Profits, Administrative Expenses and Net Operating Profits



Source: "Statistics of Fisheries Cooperatives," Fisheries Agency

(Scale of fishery business differs substantially depending on the types of fisheries)

- Although fishery operators engaged in Minister-licensed fisheries only account for 1% of all fishery operators, they have a 40% share in the Japan's total production volume.
- Fishery operators engaged in coastal fisheries account for 95% of all fishery operators, but their average catch in value per operator is 7.38 million yen.

Comparison of the Scale of Fishery Business by Types of Fisheries

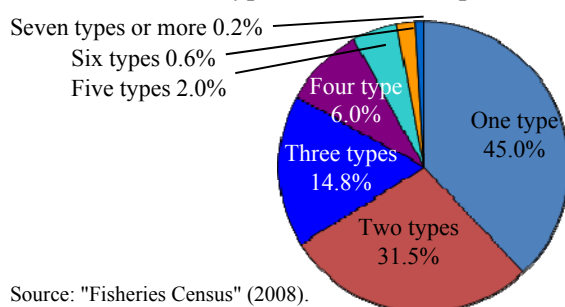
		Number of fishery operators	Catch in value (100 million yen)	Average catch in value per operator (10,000 yen)	Production volume (10,000 tons)
Marine fisheries/aquaculture		132,417 (100%)	15,638 (100%)	1,181	552 (100%)
Institutional Category	Minister-licensed fisheries	1,209 (0.9%)	4,010 (25.6%)	33,169	200 (36.1%)
	Prefectural governor-licensed fisheries	31,675 (23.9%)	3,631 (23.2%)	1,146	352 (63.9%)
	Others (fisheries based on fishery rights, etc.)	99,533 (75.2%)	7,997 (51.1%)	803	
Operational Category	Coastal fisheries	125,434	9,257	738	246
	Marine aquaculture	23,067	5,005	2,170	115
	Other coastal fisheries	102,367	4,252	415	132

Source: "Fisheries Census" (2003) for the number of fishery operators and the catch in value, and "Annual Statistics of Fishery and Aquaculture Production" (2008) for the production volume. Since the survey system was reviewed, the figures for 2003 are used for the number of fishery operators and the catch in value.

(Fishery business is diverse and depends on the region and type of fishery)

- Since fisheries target seasonally diverse fishery resources, more than 50% of fishery operators conduct business combining two or more types of fisheries.
- Even for the same type of fisheries, the target fish species, the fishing method, and the fishing vessel size differ considerably depending on the regions.

Number of the Types of Fisheries Operated by One Fishery Operator



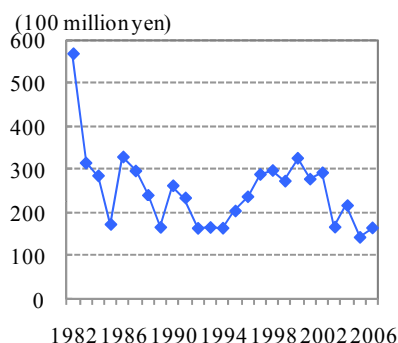
Source: "Fisheries Census" (2008).

(Fishery income changes substantially each year)

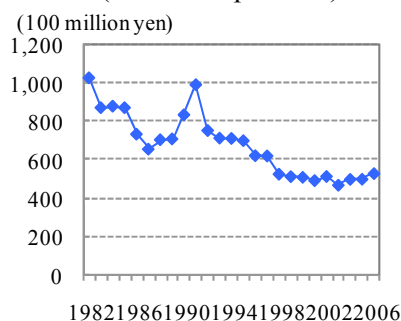
- Due to fisheries' characteristic of catching wild fishery resources, the fishery production value by type of fisheries changes substantially each year, making fishery business management unstable.

Changes in the Fishery Production Value by Major Fish Species

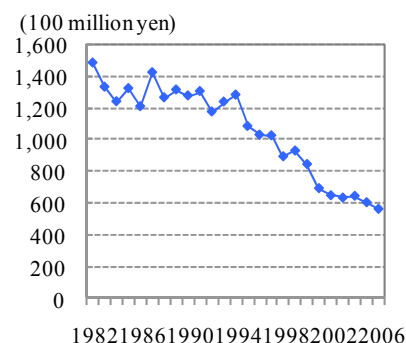
Saury stick-held dip net



Offshore trawl (one-boat operation)



Squid angling

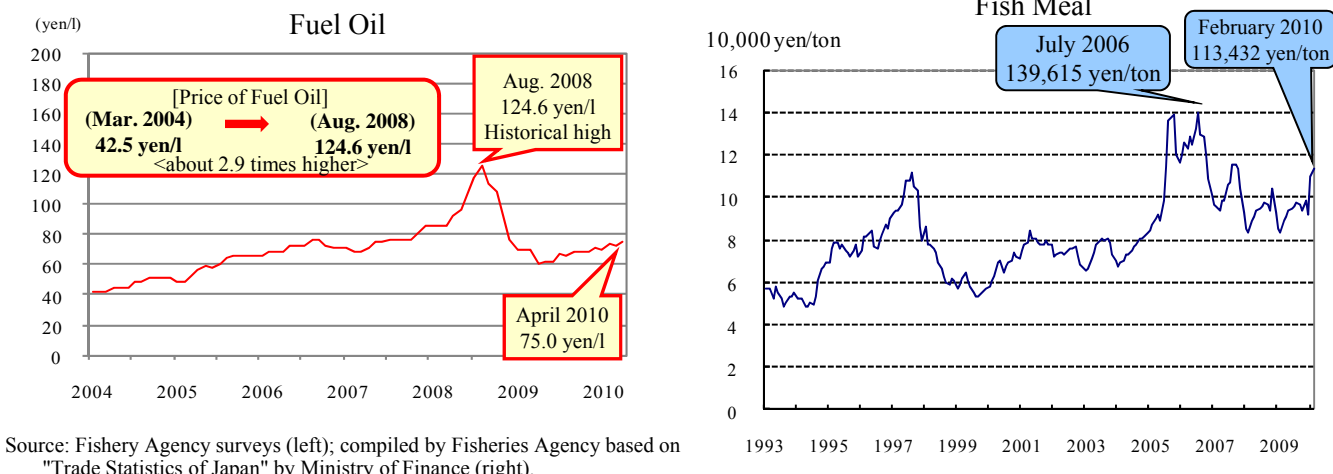


Source: "Annual Statistics of Fishery and Aquaculture Production," Ministry of Agriculture, Forestry and Fisheries.

(Business costs have increased due to the price hike of fuel oil and fish meal)

- The price of fuel oil, which accounts for a large proportion of fishing costs, has wildly fluctuated in recent years, reflecting the international supply and demand balance and the inflow of speculative funds, posting a record high in August 2008.
- The price of fish meal, which is the main ingredient of compound feed for aquaculture and for which Japan mostly relies on imports, has also been fluctuating violently on the back of demand growth in China and other countries around the world.
- Since 2010, a project for building a safety net for fishery business management has been implemented. The safety net is aimed to provide compensation using money contributed by fishery/aquaculture operators and the government, when the price of fuel oil or compound feed for aquaculture rises beyond a predetermined level.

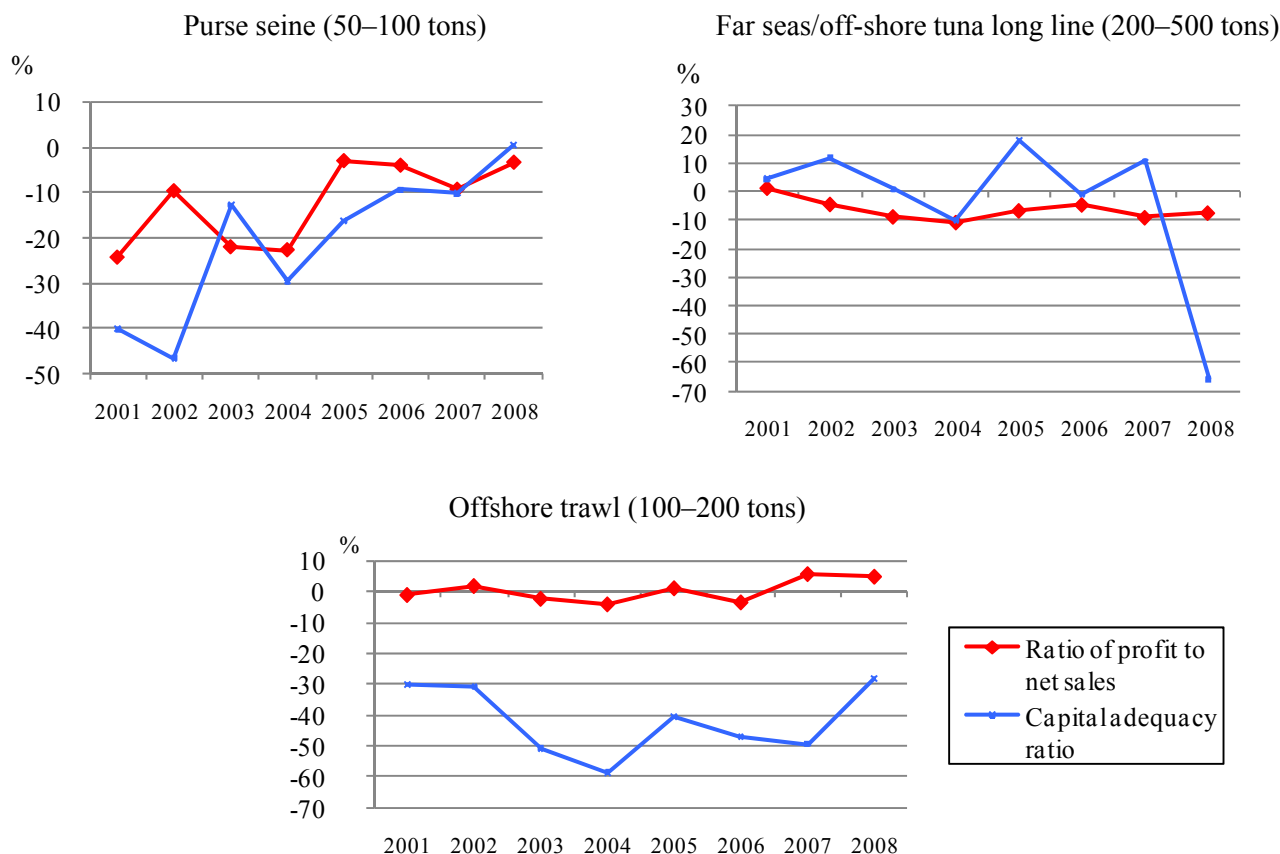
#### Changes in the Prices of Fuel Oil for Fishing and Fish Meal



(Corporate fishery operators are lacking management vitality)

- Looking at the business management status of corporate fishery operators, the ratio of profit to net sales and the capital adequacy ratio are both in the negative territory for many fishery categories.

#### Business Management Status of Corporate Fishery Operators



Source: "Fishery Business Management Survey Report," Ministry of Agriculture, Forestry and Fisheries.

(Status of marine accidents of fishing vessels)

- The number of fishing vessels involved in marine accidents in 2009 was 812, increasing by 80 vessels over the previous year. The number of people killed or missing in the accidents in 2009 was 68, decreasing by 28 persons from the previous year.
- The most frequent cause for fishing vessel accidents was a collision, which was mostly attributable to human error, such as insufficient watch keeping and inappropriate ship handling.

(Status of accidents involving fishing vessel crew)

- In 2009, the number of people killed or missing due to falling into the sea in cases other than marine accidents involving fishing vessels stood at 90, increasing by 10 people over the previous year.
- In addition, the occurrence rate of work-related accidents of fisheries is still high compared to other industries, and 43% of work-related accidents have occurred during fishing operations.

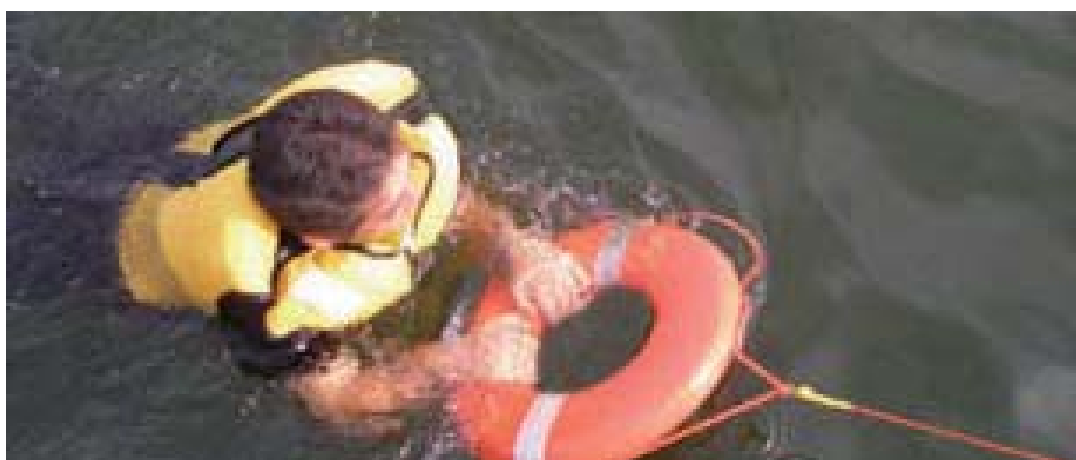
Occurrence Rate of Work-Related Accidents Involving Vessel Crew  
and Onshore Workers (FY2008)

Industry category	Accident occurrence rate (per 1,000 persons)
All industries	2.3
Fisheries	14.7
Forestry	29.9
Mining	14
Construction	5.3
Port operations	6.3
Onshore cargo handling	7.9

Source: Calculated based on "Summary of Reports on Accidents and Diseases of Vessel Crew (Article 111 of the Mariners Act)" by Ministry of Land, Infrastructure and Transportation and statistics by the Ministry of Health, Labor and Welfare.

(Measures for safe operations of fishing vessels)

- In order to reduce the number of people who are killed or go missing due to fishing vessel accidents or falling into the sea, the government promotes the dissemination of the Guidelines for Promoting Use of Life Jackets by Fishers, which was publicized in October 2008, and also promotes the spreading of the use of life jackets and awareness raising on safe operations through such measures as holding seminars on safe operations.



Life jacket training/seminar  
(Sea-rescue practice)

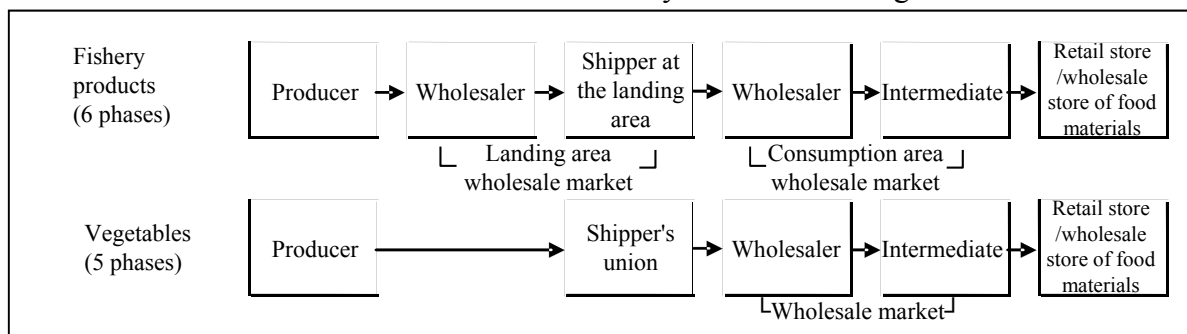


### (3) Developments Surrounding Fishery Product Distribution and Processing

#### (Trends of consumption area markets)

- Fishery products are characterized in that the production volume changes considerably since the catch landing is affected by weather and fishing conditions, fish are caught in small volumes of diverse species, and the use of the same kind of fish differs depending on size and freshness.
- Accordingly, a multiple-phase distribution system via the landing area wholesale market and the consumption area wholesale market has been developed for fresh fishery products.

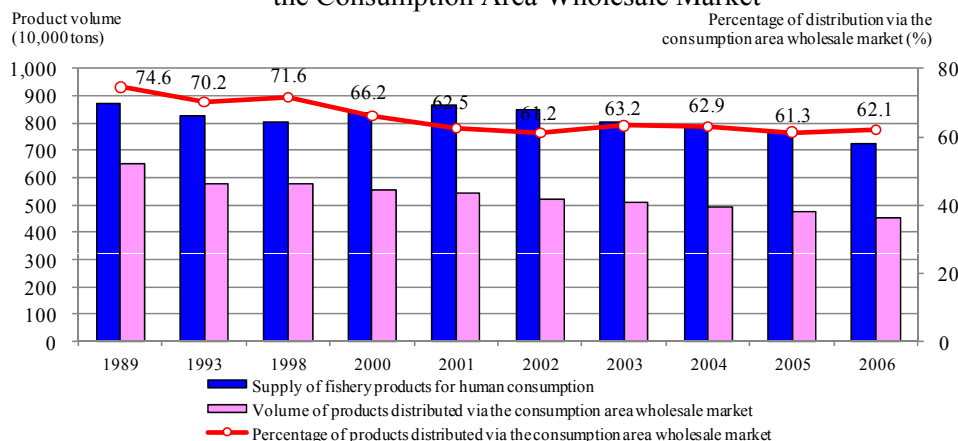
#### Distribution Channels for Fresh Fishery Products and Vegetables



Note: The 6-phase distribution of fishery products is limited to fresh fishery products. Other distribution channels include those for imported products, frozen products, farmed products, and processed products.

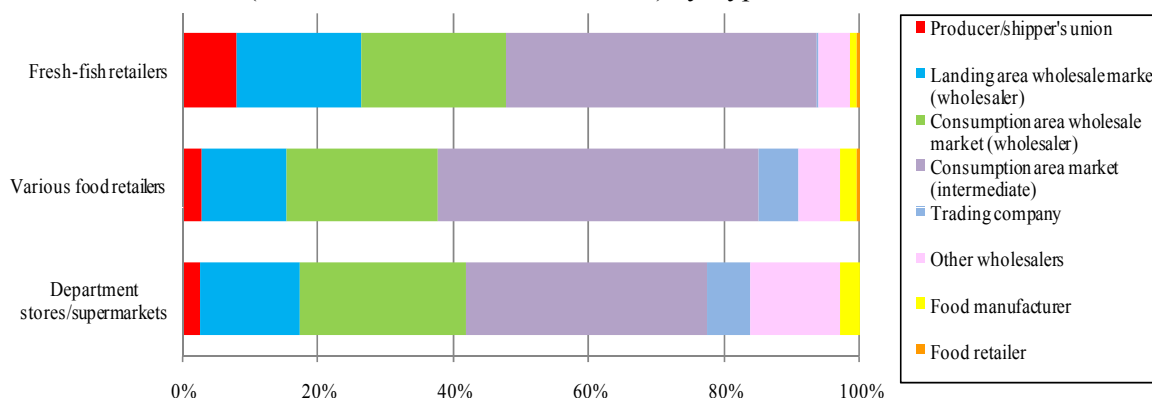
- Distribution via the consumption area market accounts for the largest share, 60%, of all fishery product distribution, but the share of such distribution channel has been declining over the years due to the shift of the main place for purchasing fishery products from small, fresh-fish retailers to supermarkets, and the increase in distribution in the form of processed products and frozen products.
- There have been moves in consumption area wholesale markets to enhance the market function by such measures as requirements of large supermarkets, and to cooperate with local supermarkets.

#### Changes in the Product Volume and the Percentage of Fishery Products Distributed via the Consumption Area Wholesale Market



Source: "Food Balance Sheets," Ministry of Agriculture, Forestry and Fisheries for the supply of fishery products for human consumption; and "Wholesale Market Data" (2008), Ministry of Agriculture, Forestry and Fisheries for the percentage and volume of products traded via the consumption area wholesale market.

#### Comparison of Distribution Channels for Domestic Fishery Products (Fresh, Chilled, Frozen, and Salted) by Type of Retailer

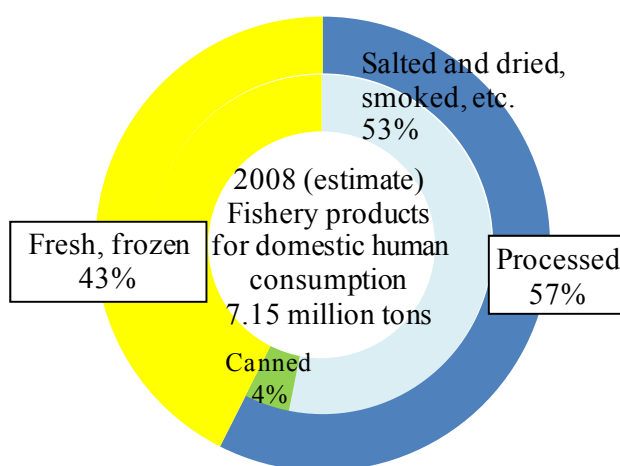


Source: "Survey on Activities of the Food Industry" (FY2007), Ministry of Agriculture, Forestry and Fisheries.

### (Trends of the fishery processing industry)

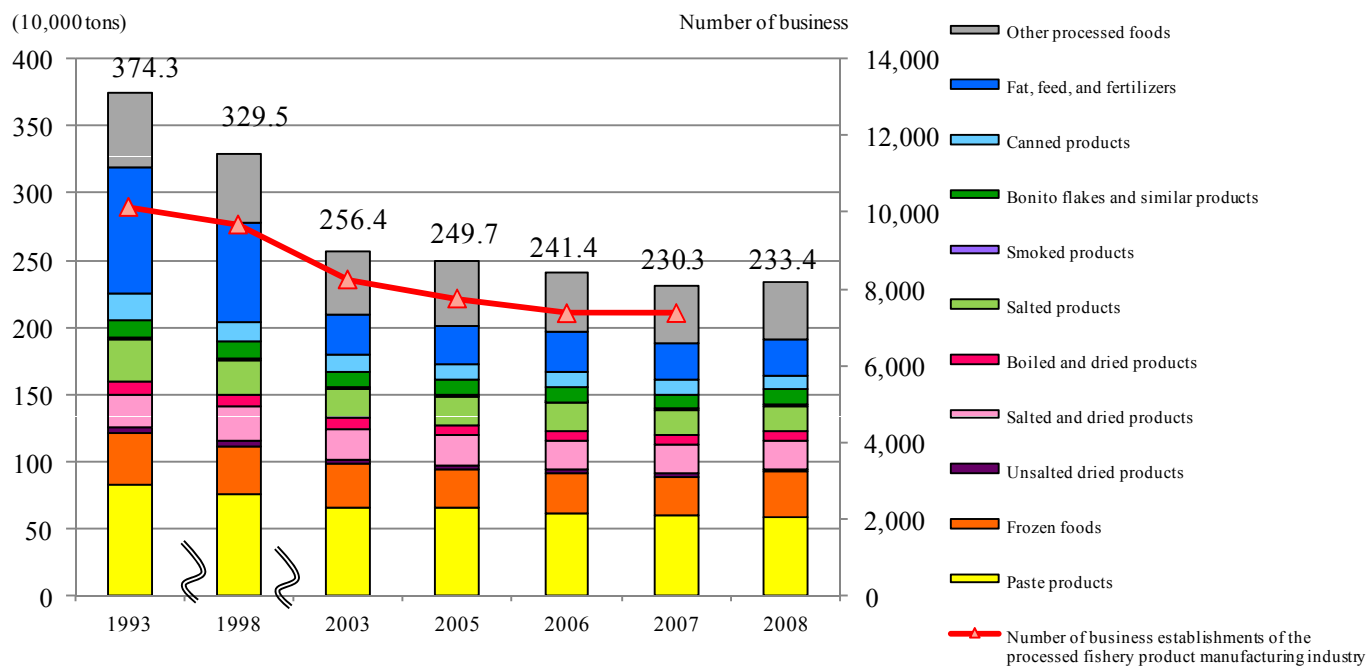
- The shipment value of the fishery processing industry in 2007 was 3.4071 trillion yen, accounting for 14% of the total shipment value of the food manufacturing industry (24.1963 trillion yen).
- With 60% of fishery products for domestic human consumption being processed products, the fishery processing industry plays an important role also as a key industry in fishing regions.
- 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.

Breakdown of Supply for Domestic Consumption by Product Form



Source: "Food Balance Sheets," Ministry of Agriculture, Forestry and Fisheries.

Changes in the Production Volume of Processed Fishery Products and the Number of Business Establishments for Manufacturing



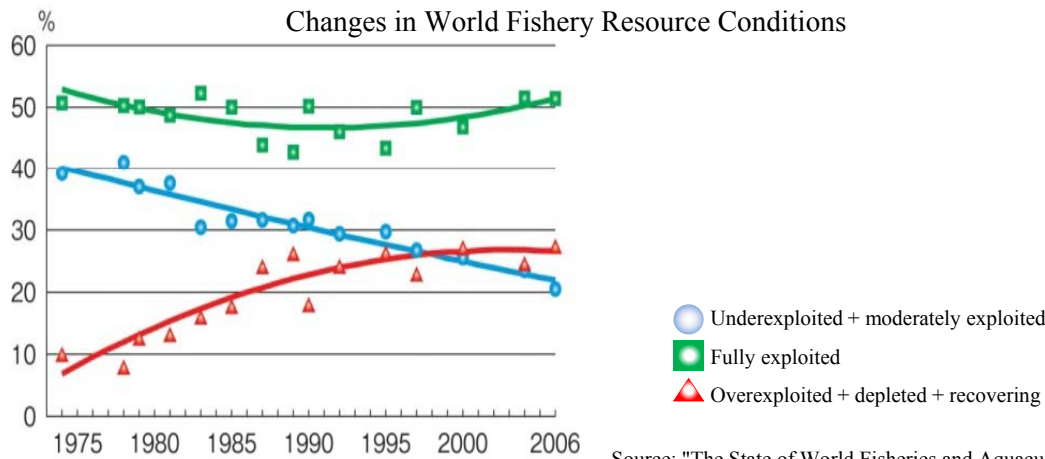
Source: "Annual Statistics of Fishery and Aquaculture Production" and "Annual Fishery Product Distribution Statistics," Ministry of Agriculture, Forestry and Fisheries, "The Cannery Journal," Japan Cannery Association, "Yearbook of Aquatic Oil Statistics," Japan Aquatic Oil Association, and "Census of Manufacturers," Ministry of Economy, Trade and Industry.

## Section 3 Developments Surrounding Fishery Resources, Marine Environment, etc.

### (1) Trend in Fisheries, Aquaculture and Fishery Resources in the Global Context

(Resources are deteriorating in the long term)

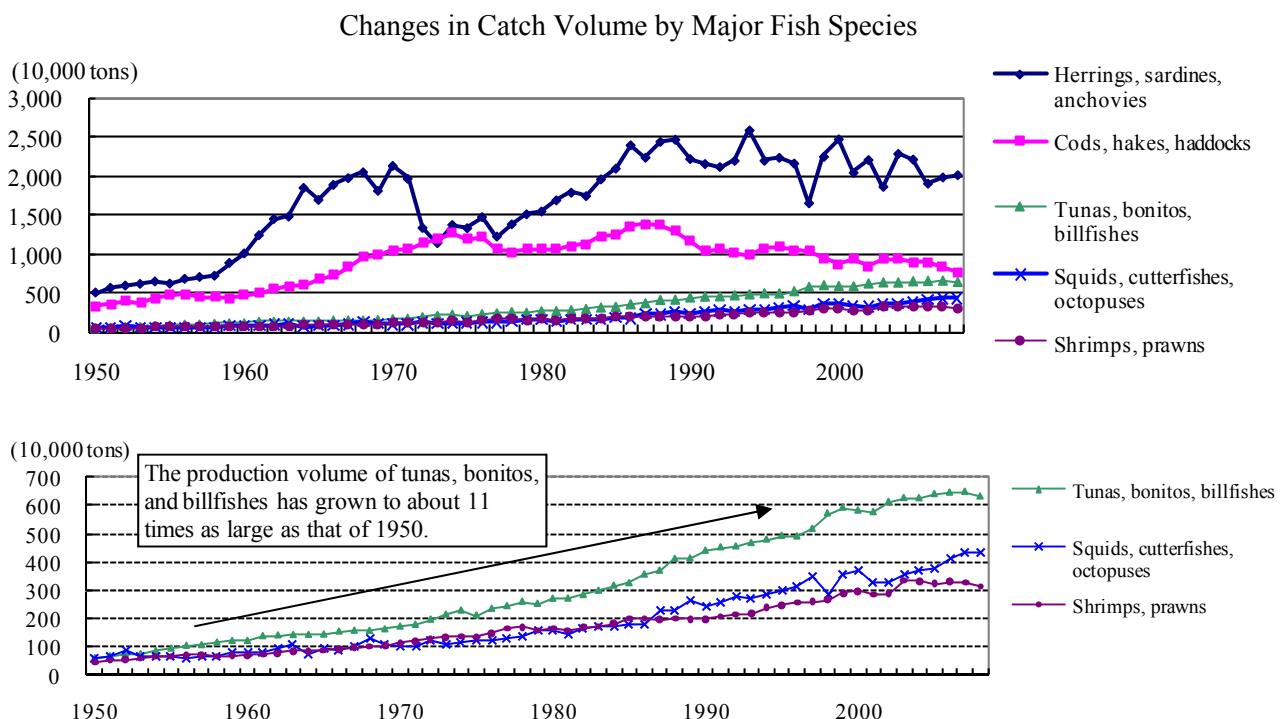
- The United Nations Food and Agriculture Organization (FAO) reported that, in 2006, the percentage of marine fishery resources that are "underexploited or moderately exploited" decreased from the previous year to 20%, while the percentage of resources that are "fully exploited" and "overexploited or depleted or recovering" rose to 52% and 28%, respectively.



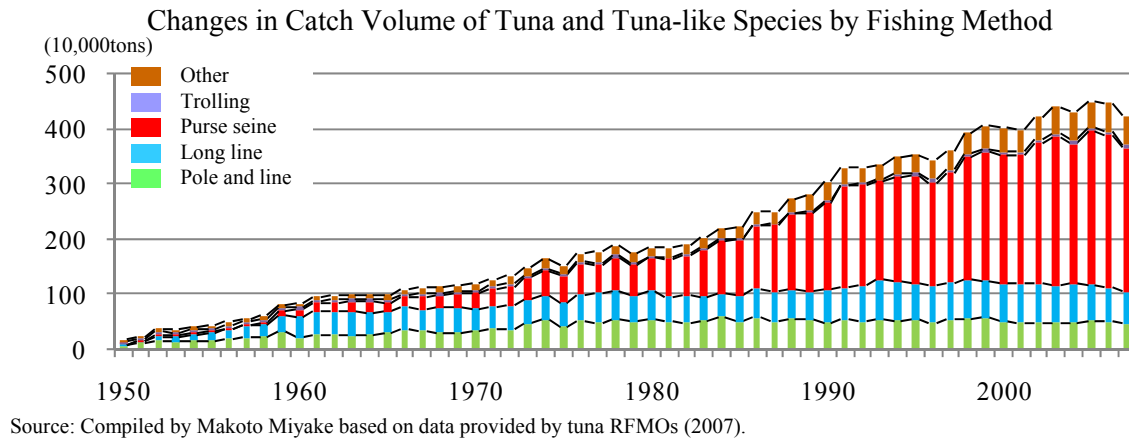
Source: "The State of World Fisheries and Aquaculture (SOFIA) 2008," FAO.

(Catch volume by major fish species)

- In 2008, herrings, sardines, and anchovies accounted for the largest fishery production volume in Japan at 20.14 million tons, which is 22.2% of the total world fishery production volume.
- Except for cods, hakes, and haddocks, of which the catch volume is decreasing due to overfishing, etc., production volume has been increasing for all major fish species. In particular, the production volume of tunas, bonitos, and billfishes is now 11 times as large as that of 1950.
- As for bonito and tuna, the volume of catches by purse seine has surged since the 1980s, growing to account for more than 60% of the total catch volume of those species by 2007.

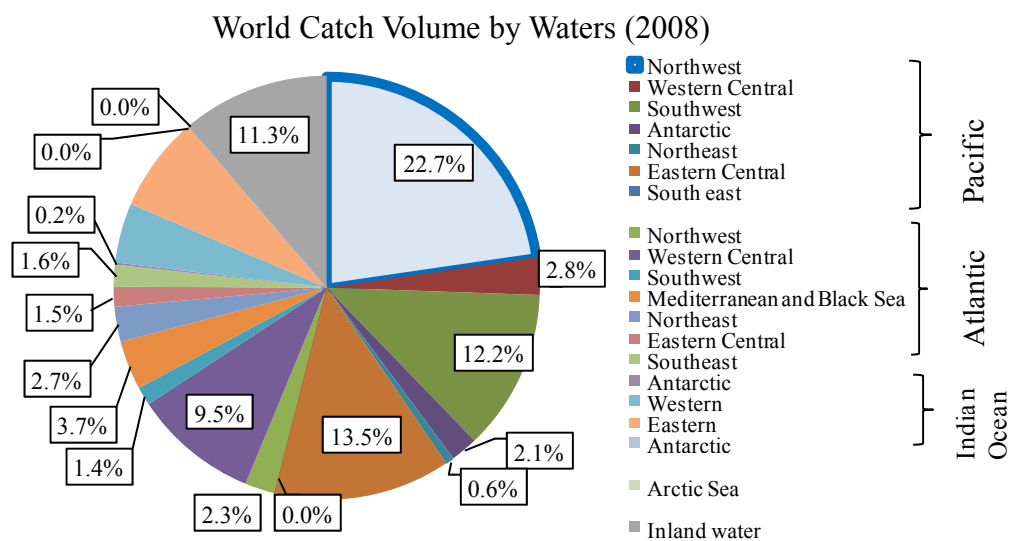


Source: "Fishstat (Capture Production 1950–2008)," FAO.



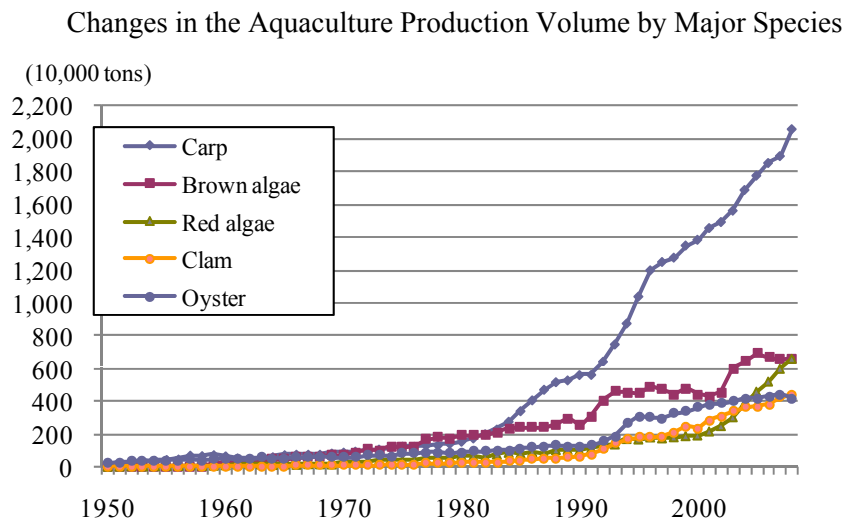
**(Fishery production volume by waters)**

- Looking at the world fishery production volume by waters, the volume is the highest for the Northwest Pacific, which includes Japan's exclusive economic zone, accounting for 22.7% of the total volume in 2008.



**(Aquaculture in the global context)**

- The percentage of aquaculture in the total world production of fisheries and aquaculture increased to 42.9% by 2008, reflecting substantial production growth in China.
- Of the total world production volume of aquaculture in 2008, carp was the highest, at 20.59 million tons, accounting for 30.1% of the total.

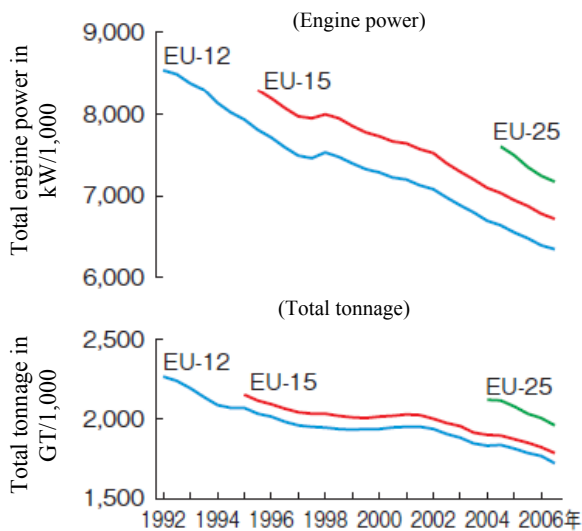




## (2) Development of Fishery Policy in Foreign Countries

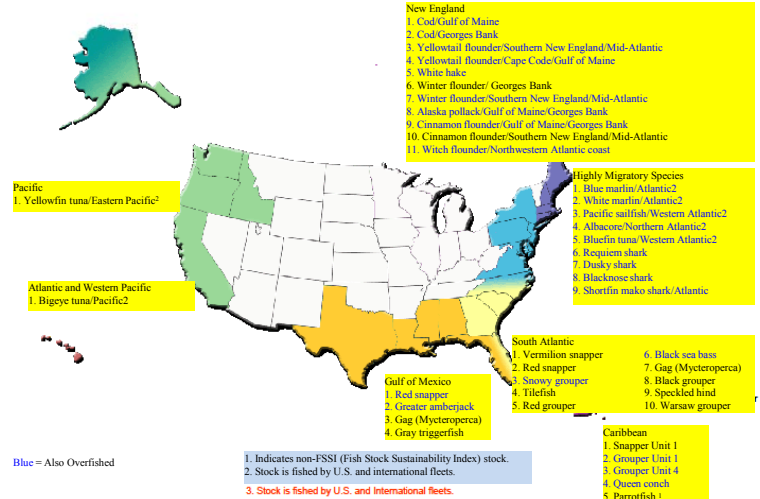
- The European Union has started discussions toward implementing a new Common Fisheries Policy (CFP), starting in 2013, given that 88% of major resources in the common fishing grounds are overexploited.
- In 2010, the United States plans to introduce a catch-share program, aiming at preventing overfishing and at rebuilding fisheries and communities.
- Cod resources in the Barents Sea in the northeast of Norway had also been used by Russia and EU countries and had been overfished. However, monitoring and enforcement efforts have been strengthened under Norway's initiative, successfully leading to a decline in the catch volume.

Changes in Fishing Vessel Capacity in EU



Stocks Subject to Overfishing in the United States

A total of 41 stocks are subjected to overfishing (as of March 31, 2010)

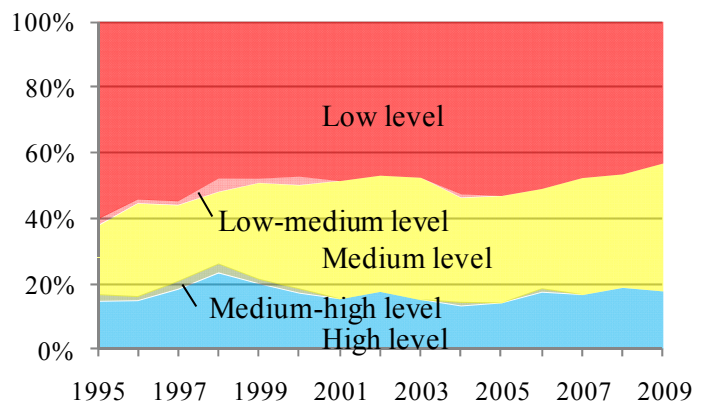
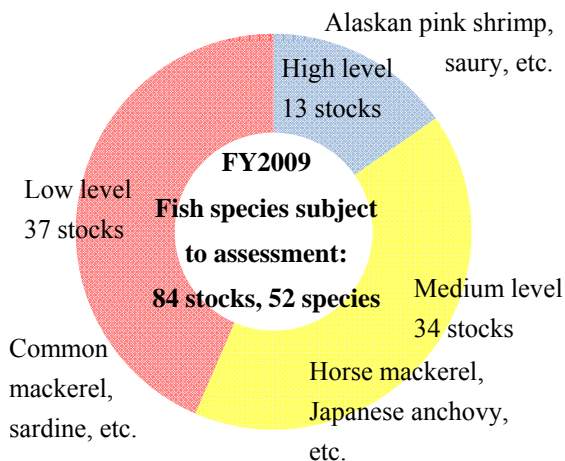


## (3) Fishery Resource Management in Waters Surrounding Japan

(Resource management in waters surrounding Japan)

- In waters surrounding Japan, 40% of the fishery resources subject to assessment (37 of the 84 stocks) are at low levels. The estimated factors behind such decline in resources include changes in the marine environment, a decline in seaweed beds and tidelands for the spawning and growth of fish through coastal development, and overfishing exceeding recovery potential for some resources. In recent years, the percentage of resources at low levels declined slightly, and the percentage of those at high and medium levels slightly increased.
- As of the end of March 2010, 50 resource recovery plans for 77 fish species, as well as 16 comprehensive resource recovery plans that focus on the fishery type in certain areas are being implemented.

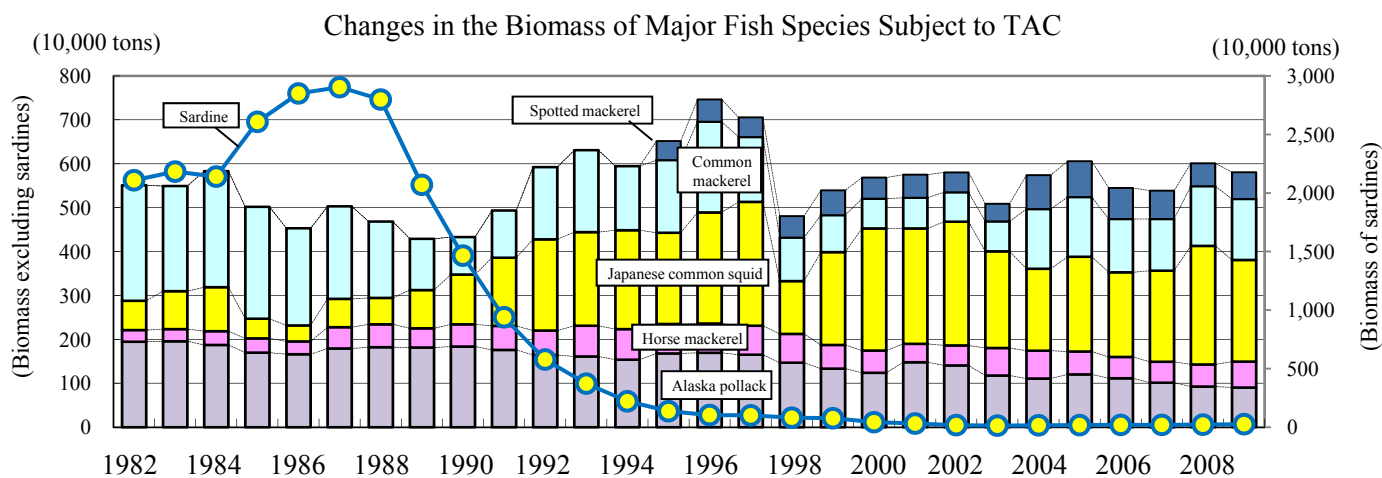
Resource Levels of Fish Species Subject to Assessment (Left) and Changes in the Resource Levels (Right)



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

### (Changes in the Biomass and Resource Status of Major Fish Species Subject to TAC)

- The total biomass of major fish species subject to the total allowable catch (TAC) has been relatively unchanged recently.
- However, when focusing on the levels and trends of resources by species, many species are found to remain at low levels. Accordingly, further resource management efforts are required in the future.



Source: Compiled based on "Assessment of Fishery Resources in Japan's Surrounding Waters" by Fisheries Agency and Fisheries Research Agency, etc.

### Changes in the Resource Assessment Results for Species Subject to TAC

Species	Stock	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Sardine	Pacific stock	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level
	Tsushima warm current stock	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level
Horse mackerel	Pacific stock	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level
	Tsushima warm current stock	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level
Common mackerel	Pacific stock	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level
	Tsushima warm current stock	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level	Low level
Spotted mackerel	Pacific stock	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level
	East China Sea stock	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level
Saury	Northwestern Pacific stock	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level
Alaska pollack	Northern Sea of Japan stock	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level
	Nemuro Strait	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level
	Southern Okhotsk Sea stock	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level
	Pacific stock	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level
Snow crab	Sea of Japan stock	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level
	Okhotsk Sea stock	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level
	Northern Pacific stock	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Western Hokkaido stock	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Japanese common squid	Winter stock	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level
	Autumn stock	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level	High level

Source: Compiled based on "Assessment of Fishery Resources in Japan's Surrounding Waters" by Fisheries Agency and Fisheries Research Agency, etc.

Note:  High level  Medium level  Low level

### Marine Eco-Label Japan: A Sign of Proper Resource Management That Links Producers and Consumers

Since consumers have few opportunities to learn about the resource management carried out at the fishing ground, there have been active moves among producers to acquire an eco-label certification indicating that their fishery products have been caught with fishing methods that enable sustainable use of fishery resources.



#### (4) Japan's International Relationships Concerning Fisheries

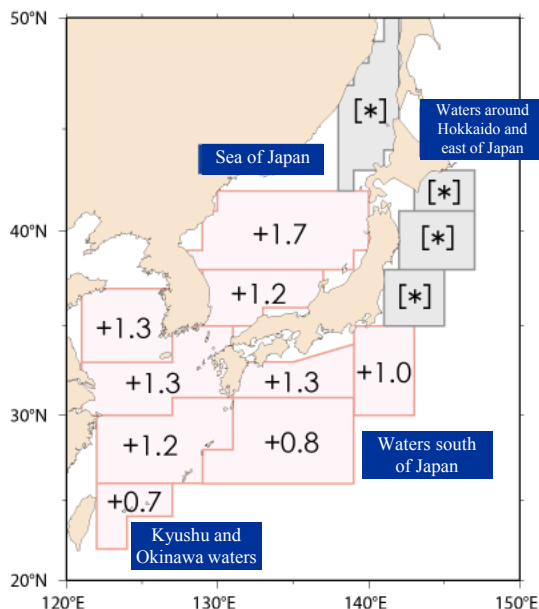
- In the fishery product trade negotiations at the World Trade Organization (WTO), trade rules that contribute to the sustainable use of fishery resources, which are limited natural resources, need to be established given the stagnant status of the world's fishery resources.
- Japan has concluded bilateral 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.

#### (5) Situation Surrounding Marine Environment, etc.

##### (Global warming and fisheries)

- According to a report by the Intergovernmental Panel on Climate Change (IPCC), increased global warming is predicted to cause various phenomena, including frequent bleaching and extensive death of coral, a decrease in sea ice coverage both in the Arctic and Antarctic Oceans, and a rise in sea level caused by thermal expansion of the ocean.
- A rise in the sea surface temperature has also been reported in waters around Japan, causing concerns about the impact of marine environment on biodiversity, such as the fishing grounds for migratory species, including saury, moving to the north, and the expanding distribution of southern-type algae.

##### Long-Term Trends in Average Sea Surface Temperatures in Water around Japan (Annual Average) (°C/100 years)



The annual average seawater temperatures in waters around Japan—in Kyushu and Okinawa waters, the central and southern Sea of Japan, and waters south of Japan—are rising at a rate of 0.7-1.7°C per 100 years. This is 1.4 to 3.4 times the rate of annual average sea surface temperature rise of 0.5°C for all seas.

The rise in water temperatures may not be attributed solely to global warming since the waters in question are small in area and thus are prone to be influenced by natural fluctuations. Nevertheless, it is a fact that the rise in sea surface temperatures in waters around Japan exceeds the world average.

Source: “2009 Marine Health Examination—Long-Term Trends in Sea Surface Temperatures (in Seas off Japan),” Japan Meteorological Agency

##### (Tsunami damage caused by an earthquake originating off the coast of central Chile)

- A tsunami hit Japan as a result of an earthquake that originated off the coast of central Chile at 15:34, on February 27, 2010 (JST). Aquaculture facilities for wakame seaweed, scallops, and oysters were damaged, particularly those on the Pacific coast in the Tohoku region.
- Required measures, such as damage assessment and payment of insurance money, have been taken in order to help the affected fishery operators recover at an early stage.



Raft-type aquaculture facilities drifting after the tsunami (Iwate Prefecture)

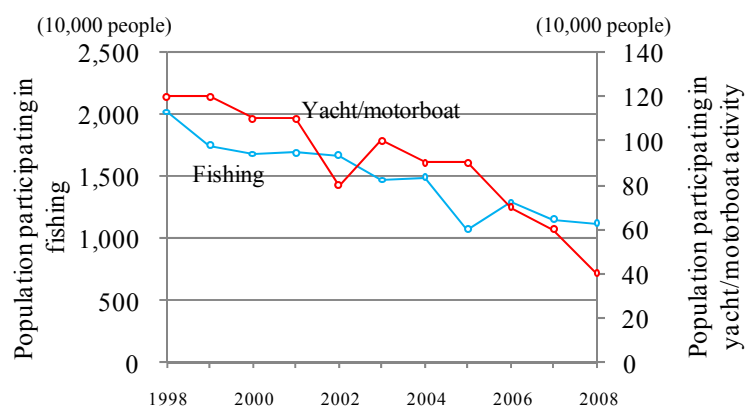
(Fishery damage by alien fish species and common cormorants)

- Fishery damage by common cormorants and alien fish species, including black bass and bluegill, has become a problem. The national and prefectural governments and related organizations have cooperated to promote countermeasures such as prevention or elimination.

(Status of recreational fishing)

- Fishing is an opportunity to increase one's interest in and understanding of the sea, fish, and fisheries.
- Since a higher rate of resources are used in recreational fishing regarding some species than in fisheries, fishers' cooperation in resource management is essential.
- In order to prevent recreational fishers from having accidents, steps need to be taken to raise their awareness and disseminate information about the observance of rules and manners for marine use.

### Changes in Population Participating in Leisure Activities Related to Recreational Fishing



Source: "White Paper of Leisure," Japan Productivity Center.

(Conservation of seagrass and seaweed beds and tidalflats)

- While seagrass and seaweed beds serve as important spawning and nursery grounds for aquatic animals, with a rise in water temperature, seagrass and seaweeds have decreased and *isoyake* (rocky-shore denudation) has occurred, which is a phenomenon where the beds become covered with crustose coralline algae.
- The government finalized the guidelines for countermeasures against isoyake, identifying causes and summarizing concrete countermeasures, and promoted efforts to create seagrass and seaweed beds.

### Seaweed Beds Recovered from Isoyake Following Efforts Led by Fishers

#### Extermination of sea urchins



Disappearance of seaweeds as a result of isoyake  
(Kuroshio Town, Kochi Prefecture)



Monitoring survey after the extermination



Recovery from isoyake!

Source: "Guidelines against rocky-shore denudation," Kochi Prefecture

(Holding of COP 10 of the Convention on Biological Diversity)

- The main themes for the 10th Meeting of the Conference of the Parties (COP 10) to the Convention on Biological Diversity, which is to be held in Nagoya City, Aichi Prefecture in October 2010 include "a significant reduction of the current rate of biodiversity loss." Japan needs to actively disseminate information both within and outside Japan about Japan's fishery industry, which is contributing to biodiversity conservation around Japan.



## Prize Winners in the FY2009 Agricultural, Forestry and Fisheries Festival (Fishery Section)

### [Awarded the Emperor's Cup]

Youth Division, Toushi Branch, Toba Isobe Fisheries Cooperative  
(Representative: Masayuki Hashimoto) Toba City, Mie Prefecture

Amidst a decrease in the catch volume of abalone and turban shell due to a loss of Arame (algae: *Eisenia bicyclis*) beds caused by isoyake, the youth division of the fisheries cooperative strove to restore Arame through trial and error while cutting costs by acquiring diver's licenses themselves and other measures. As a result, they established a method to plant Arame on natural stones and a method to prevent feeding damage by predators such as rabbitfish. Such methods are expected to be spread to other areas that also face the isoyake problem.



### [Awarded the Prime Minister's Prize]

Fukutoku Taisei Co., Ltd.  
(Representative: Yoshikazu Ota) Kumamoto City, Kumamoto Prefecture

Fukutoku Co., Ltd. developed a new product that offers the flavors of both fresh fish and minced fish by employing a new idea and technology to marinate, in vinegar, gizzard shad, which had been traded at a low price due to its rapidly losing freshness, and to combine it with minced pike eel and golden threadfin bream.



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

Mebaru, a group founded by women in a fishing community  
(Representative: Masako Kuwahara) Saiki City, Oita Prefecture

From a desire to create a link between fishers and meals for consumers, women in the fishing community started to conduct direct sales of fishery products via a live-fish truck, and to manufacture and sell a local traditional dish called *gomadashi*, using fresh fish. They succeeded in establishing a new distribution style and starting a profitable business.





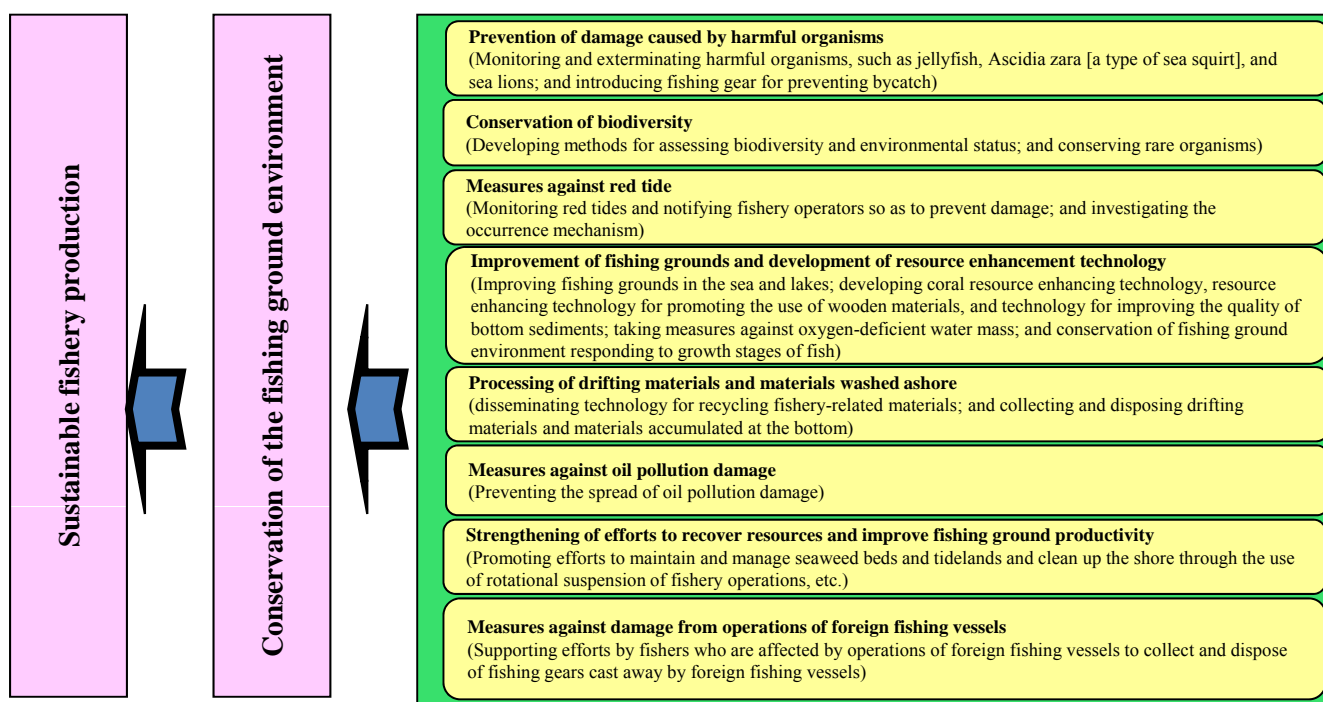
## ○ Fisheries Policy for FY2010 (Executive Summary)

Based on the Basic Plan for Fishery Policy developed in March 2007, the government will work to recover fishery resources through the promotion of resource management and the conservation of seagrass/seaweed beds and tidelands, as well as take countermeasures against fishery damage by harmful organisms such as giant jellyfish. In addition, the government will achieve stability in fishery business management by taking measures to mitigate the impacts of a decrease in income and of fluctuations in the costs of materials such as fuel oil.

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

1. Promoting surveys and research on fishery resources
  2. Resource management in Japan's exclusive economic zone, etc.
  3. Promoting international resource management in waters, including the high seas
  4. Maintaining and developing overseas fishing grounds and promoting international cooperation
  5. Improving the growing environment for aquatic animals and plants in marine and inland waters and promoting aquaculture
- The government will promote the development and dissemination of technology for recycling fishery-related materials, support for collecting large drifting materials from fishing grounds, and appropriate processing of drifting materials collected during fishing activities.
  - The government will support efforts of fisher's groups to take turns in suspending fishing operations and engage in activities that contribute to the recovery of resources and increasing the fishing ground productivity, such as conservation of seagrass/seaweed beds and tidalflats, and beach clean-up activities.
  - The government will implement training at various locations nationwide to deal with large-scale oil-spill incidents and defray the costs required for controlling and clearing oil pollution caused by oil-spill incidents, as well as support programs to develop experts who can lead appropriate oil pollution control measures and support actions to prevent the spread of damage.
  - The government will support 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 sediments, has deteriorated, provided that such activities are conducted while verifying the effects produced.
  - The government will promote such measures against giant jellyfish and other harmful organisms as the identification of the infestation status and provision of such information, extermination, introduction of improved fishing gear, and disposal of collected jellyfish on land, as well as conduct experiments of effective methods to drive away sea lions, such as systematic mass repelling.

### Conservation and Damage Control of Fishing Grounds



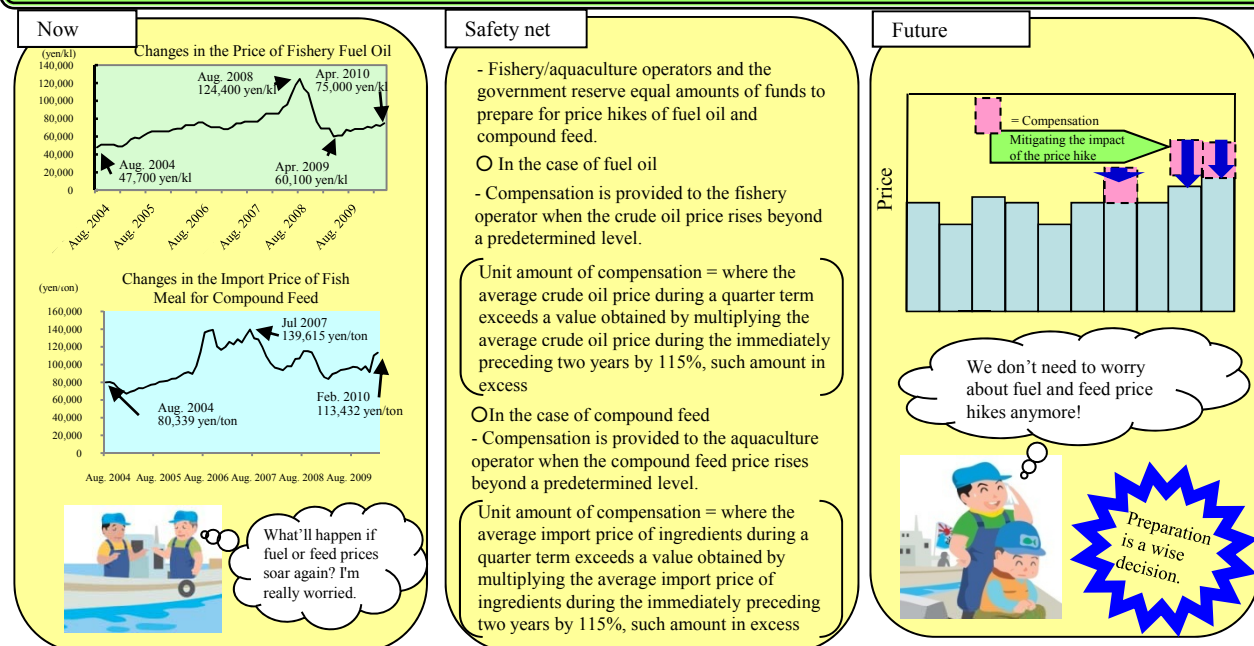
## II Fostering and securing internationally competitive fishery operators and developing a vigorous fishery employment structure

### 1. Intensifying measures to foster and secure internationally competitive fishery operators

- In order to mitigate the impact of a sharp price hike of fuel oil or compound feed on business management, the government will build a safety net wherein fishery/aquaculture operators and the government contribute money, and compensation is provided to the fishery operators and aquaculture operators who have made the contribution, when the price of fuel oil or compound feed rises beyond a predetermined level.

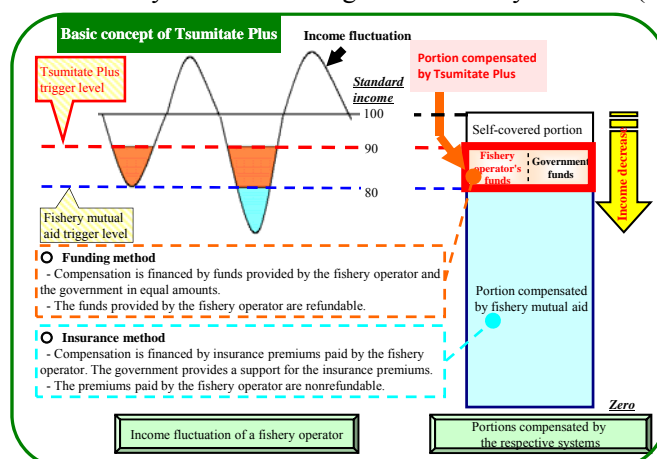
#### Business Management Stability Measure for Responding to Price Fluctuations of Fishery Fuel Oil and Aquaculture Compound Feed

Business management stability is achieved by providing compensation out of money contributed by fishery/aquaculture operators and the government, at the time of a price hike of fuel oil or compound feed.



- In order to develop an environment where fishery operators, who will undertake the stable supply of fishery products, can actively work on business management improvement, the government will promote a business management stability measure (Tsumitate Plus) for mitigating the impact of income fluctuations on fishery business management, as an addition to the business management stability function of the current fishery mutual aid system. Tsumitate Plus targets fishery operators who systematically work on business management improvement with the aim to achieve efficient and stable fishery business management.

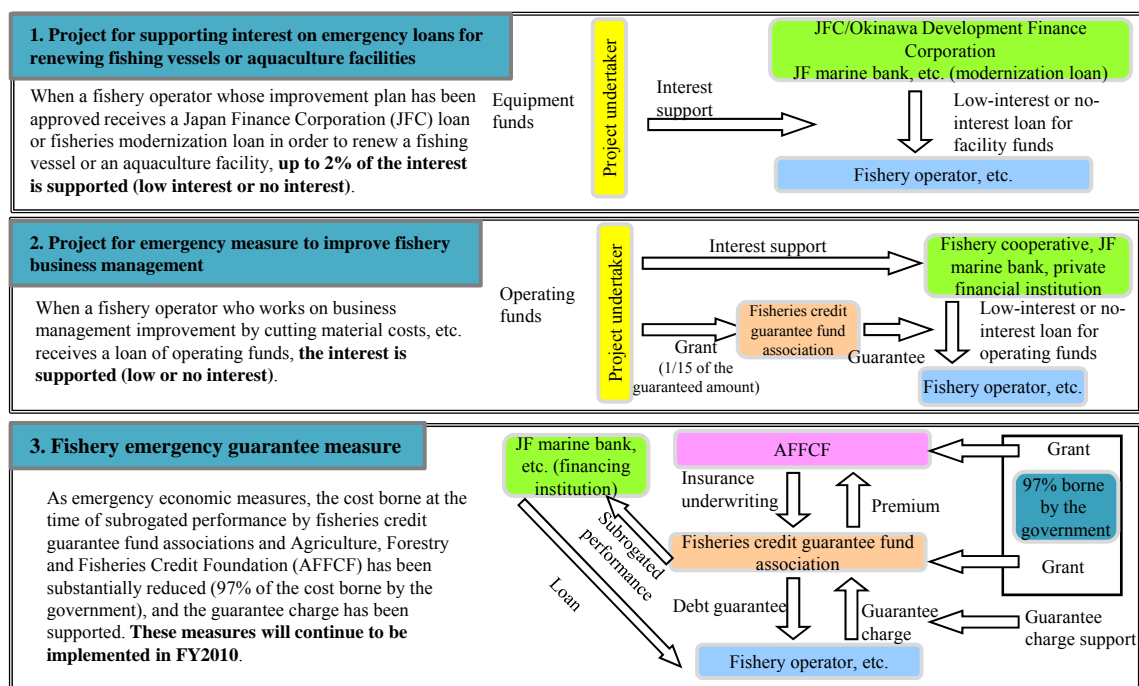
#### Fishery Mutual Aid/Fishery Business Management Stability Measure (Tsumitate Plus)



- In order to facilitate fund management by fishery operators, the government will take measures to establish special guarantee systems, such as those requiring no collateral or surety, for accessing fishery facility funds and operating funds, and to support the cost for subrogated performance to be paid to a guarantee insurance institution and reduce the amount of guarantee charge to be paid by fishery operators.

The government will also take interest-support measures that cover all or part of the interest for loans of equipment funds to be extended to fishery operators whose fishery business management plan has been approved and for loans of operating funds to be extended to fishery operators who are working on business management improvement.

## Outline of Financial Measures



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

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

- Enhancing the sales capacity of production areas, and increasing the efficiency of and upgrading distribution
- Increasing added value through fishery processing
- Strengthening the retail sector
- Securing fishery product imports and aggressively developing export strategies
- Promoting the expansion of fishery product consumption and fish-eating education through the development of confidence-based networks linking producers to consumers

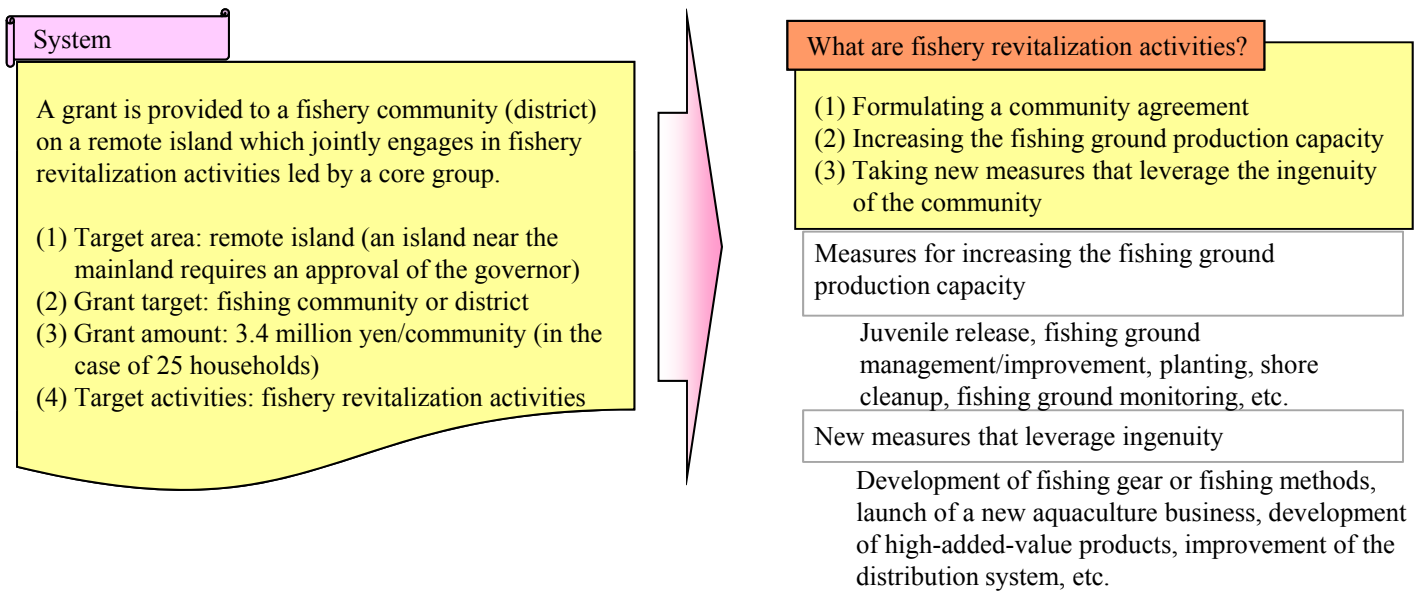
### IV Developing and disseminating new technologies to unlock the future of the fisheries industry

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

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

- Integral development of fishing ports and grounds for the creation of powerful production areas
- Developing safe, vigorous fishing communities
- Promoting harmony between fisheries and marine recreation in marine use
- Demonstration of multiple functions of fisheries industry and fishing communities
  - In order to revitalize fisheries in remote islands under less favorable conditions, the government will continue to provide grants to fishing communities on remote islands which are taking measures to increase their fishing ground's capacity, such as releasing juveniles and monitoring the fishing ground, or are taking measures that leverage the ingenuity of the community.

## Grant for Supporting Fishery Revitalization on Remote Islands



### VI Reorganizing fishery-related organizations

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

### VII Other important measures

1. Promoting biodiversity conservation measures
2. Efforts to promote WTO negotiations
3. Efforts to promote economic cooperation, including economic partnership agreements (EPAs) and free trade agreements (FTAs)
4. Promoting the preparation and use of statistics that meet policy needs

### VIII 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