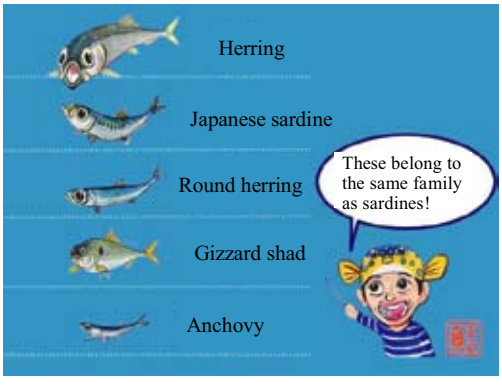
Visual Japan's Fisheries

Fisheries Agency
January 2009

* "Itadakimasu" is a Japanese phrase used to express one's gratitude for food.

Contents



[Sources for illustrations and photos (in the page order)]
Sakanakun (Anan International); Japan Fisheries Association; Fisheries Research Agency; National Fisherman Recruiting and Training Center (tentative translation); Irabu branch, Miyakojima, Okinawa Prefecture; Kochi Prefecture; Asahi Shimbun; Institute of Cetacean Research; National Federation of Fisheries Cooperative Associations; Banzu Satoumi-No-Kai (Nonprofit Organization); Marine Foods Corp.; National Association of Saury Fishery; Kushiro Shi Fisheries Cooperative Association; Shimonyuzu Branch, Oita Fisheries Cooperative Association; Kanagawa Prefectural Fisheries Technology Center; Sakana-kun (Entertainer, Illustrator)

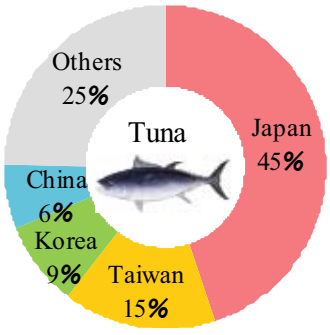
1 The State of Fisheries in Japan and the World

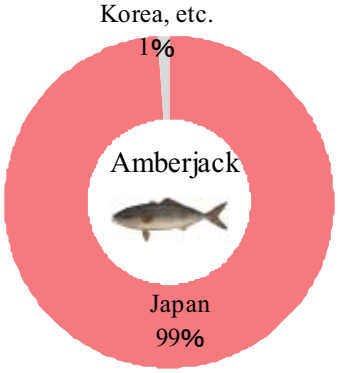
Where Does the Seafood in Sushi Come from?

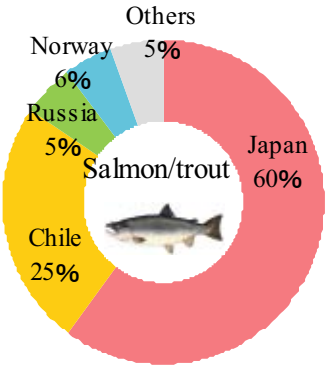
Seafood for sushi is imported from all around the world

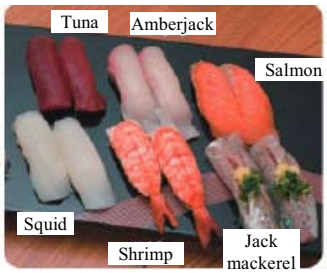
Let's look at imports of fish for nigiri sushi as a favorite for Japanese people. Seafood for sushi includes imports from abroad as well as domestic products.

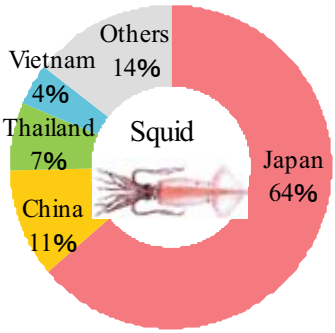
Percentages of Japan's Production and Imports (2007)

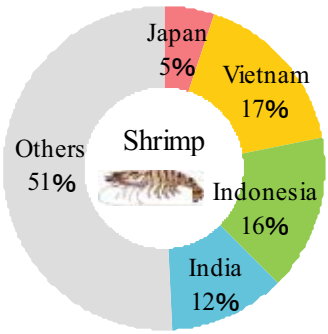


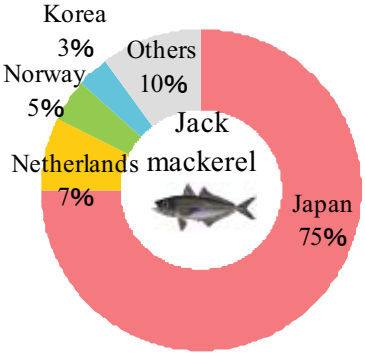












Source: Fisheries Agency

Japan as a Big Seafood Importer

Although Japan's seafood imports have tended to decrease over recent years, Japan is the world's second largest seafood importer after China.

Changes in Japan's Seafood Import Volume and Value

(1,000 tons for volume, ¥100 million for value)

		1975	1985	1997	2005	2006	2007
Volume	Total	710	1,577	3,411	3,343	3,154	2,892
	Shrimp	114	192	282	242	238	215
	Tuna/Marlin	100	151	280	337	287	247
	Salmon/trout	7	116	209	225	202	238
	Crab	10	34	124	99	95	75
Value	Total	3,855	11,760	19,456	16,691	17,074	16,373
	Shrimp	1,375	3,356	3,930	2,352	2,480	2,259
	Tuna/Marlin	383	860	2,034	2,190	2,326	2,190
	Salmon/trout	58	1,166	1,189	1,095	1,070	1,421
	Crab	48	335	1,089	694	697	658

Source: Created based on "Japan Trade Statistics," Ministry of Finance
Note: Salmon/trout imports in 2007 included "salmon fillet (frozen)" for the first time and lost continuity with the past data.

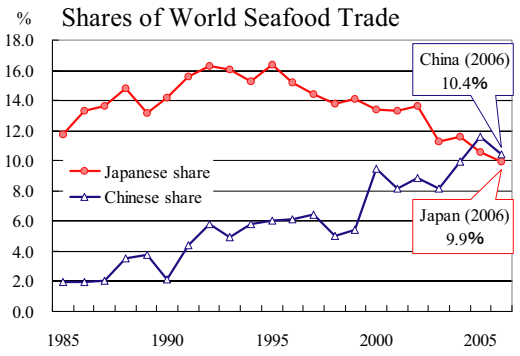
T O P I C !

China becomes largest seafood importer in the world

Japan's share of world seafood trade in volume declined from 16% in 1996 to 10% in 2006.

In 2005, China replaced Japan as the world's largest seafood importer in volume through a substantial increase in fishmeal purchases as well as cod and salmon imports for processing into exports.

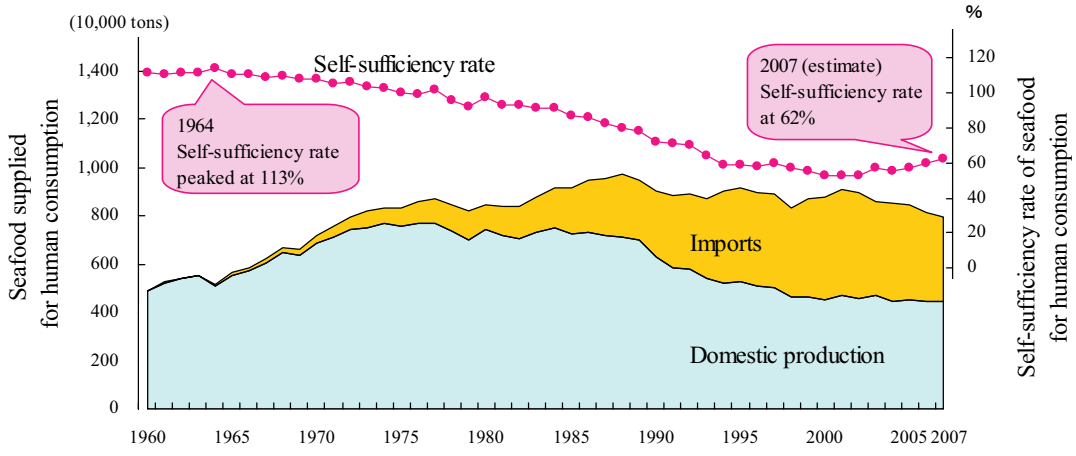
Source: "Fishstat," FAO (Fisheries Commodities production and trade 1976-2006)



Japan's self-sufficiency rate of seafood for human consumption stands at 62%

Japan's self-sufficiency rate of seafood for human consumption declined after peaking at 113% in 1964. Over recent years, the rate has ceased the downtrend and posted a small rise. But Japan still depends on imports for some 40% of fishery product supply.

Changes in Self-sufficiency Rate of Seafood for Human Consumption

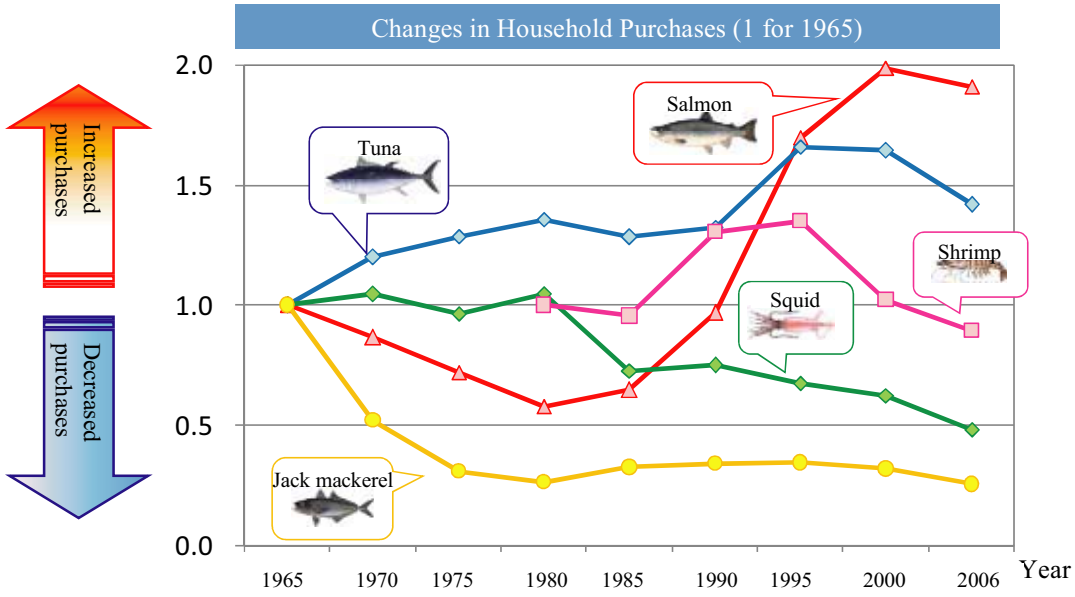


Source: "Food Balance Sheets," Ministry of Agriculture, Forestry and Fisheries

Why Does Japan Import Massive Seafood?

Domestic demand for seafood has been so strong despite a limit on domestic production

There are mainly three reasons for Japan's mass seafood import. First, as tougher international regulations have forced to reduce Japan's production through distant water fishery operations since around 1985, Japan's fishery imports have increased fast to make up for the decline. An increase in consumption of tuna and shrimp despite their limited domestic production since around 1989 and Japanese consumers' shift from domestic products to imports including salmon have also contributed to the fast increase in Japan's fishery product imports.



Source: Prepared by the Fisheries Agency based on "Annual Report on the Family Income and Expenditure Survey," Ministry of Internal Affairs and Communications

Behind fast import growth has been consumers' inclination toward "lower prices" and "easiness"

Since the burst of economic bubbles, consumers have growingly been inclined toward lower prices. An increase in double-income and single-person households has led to consumers' inclination toward simplification. As a result, consumption of squid and jack mackerel has apparently decreased, which are rather difficult to cook, and consumption increased for salmon fillet, tuna fillet and other fishery products that are easier to cook.

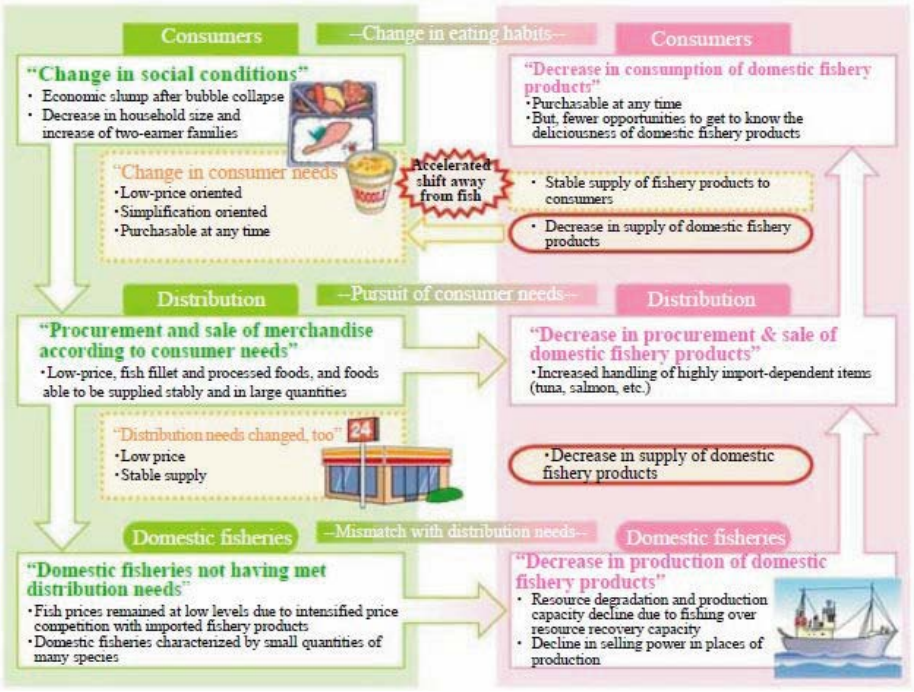
A dining table seen some 40 years ago

A recent dining table

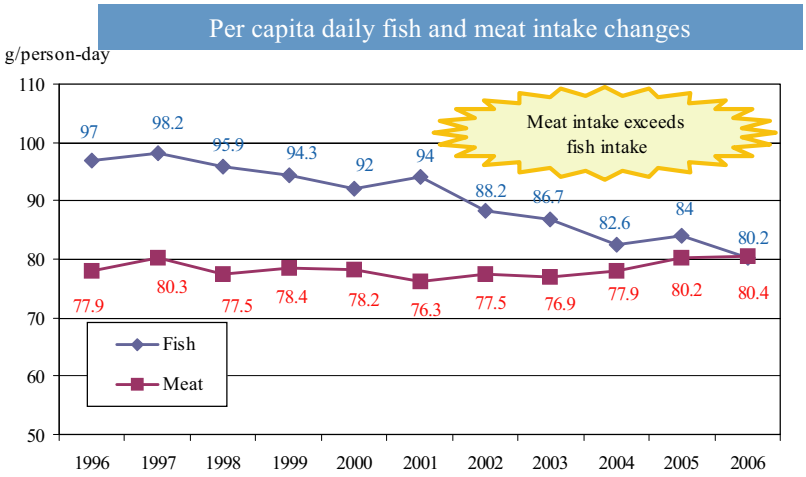
Easiness meeting consumer needs has accelerated changes

Large retailers have begun to sell mainly easier-to-cook products and large-lot imports for mass distribution to meet consumer needs.

Import growth has led to slacking prices for domestic fishery products and Japan's fishery productivity decline on a fierce fishing competition affecting the resilience of fish resources.



As a result, opportunities have declined for consumers to taste a variety of fishery products produced in waters surrounding Japan, accelerating their shift away from fish.



Source: "National Health/Nutrition Survey Report," Ministry of Health, Labor and Welfare

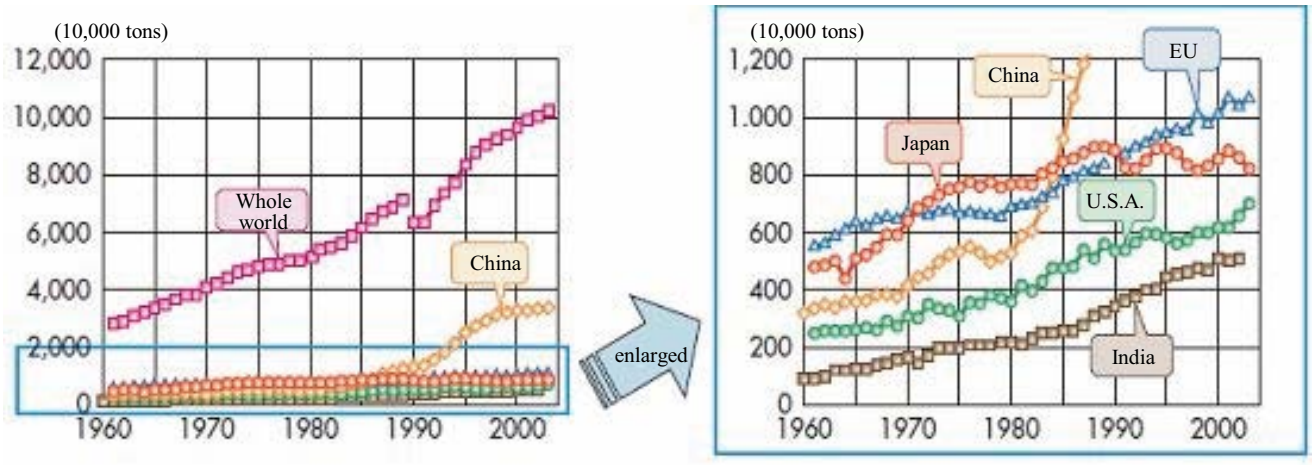
Japan has imported fishery products from throughout the world on dietary pattern changes. Consumers have accelerated their shift away from fish.

Can Japan Continue to Import Massive Seafood?

Fish consumption has been increasing throughout the world

While a shift away from fish has accelerated in Japan, the world's seafood consumption has increased on growth of health-conscious people in Western countries and China's rapid economic development.

Changes in Supply of Fishery Products by Major Countries



Sources: "Food Balance Sheets," FAO; "Food Balance Sheets," Ministry of Agriculture, Forestry and Fisheries

Per capita annual consumption of seafood has grown fast. Growth in 30 years between 1973 and 2003 was as high as 1.5-fold in the United States, 1.1-fold in the 15 EU countries and 5-fold in China.

Changes in Per Capita Annual Supply

Unit: kg

	Japan	World	U.S.	EU (15)	China
1973	66.5	11.8	15.6	19.6	5.1
2003	64.3	16.8	23.8	22	25.9
2003/1973	1.0	1.4	1.5	1.1	5.1

Sources: "Food Balance Sheets," FAO; "Food Balance Sheets," Ministry of Agriculture, Forestry and Fisheries

COLUMN

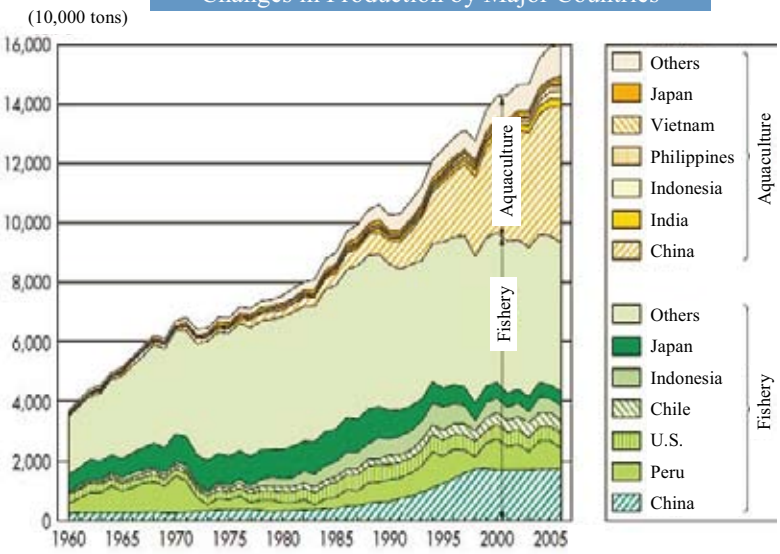
Sushi culture spreading throughout world

Nigiri sushi has been spreading globally, mainly in Europe and North America. In the United States where no one was used to eating raw fish, the word "sushi" has settled. Americans have even devised new sushi varieties including California Rolls.

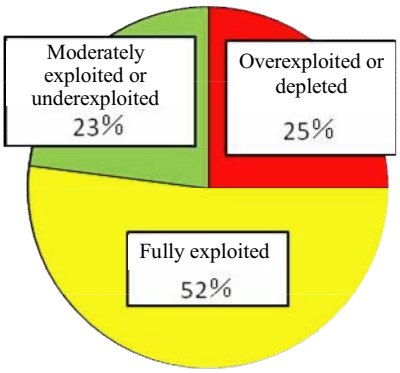
World Fishery Production Stagnant

Marine fishery production has recently been stagnant, while aquaculture (mainly in China) has been expanding. According to the Food and Agriculture Organization, some half of marine stocks in the world have been fully exploited, one quarter overexploited or depleted, and another quarter moderately exploited or underexploited.

Changes in Production by Major Countries



World Marine Stock Levels

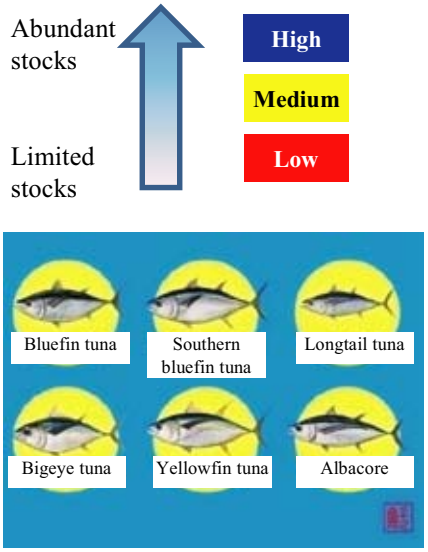


Source: "SOFIA 2006," FAO

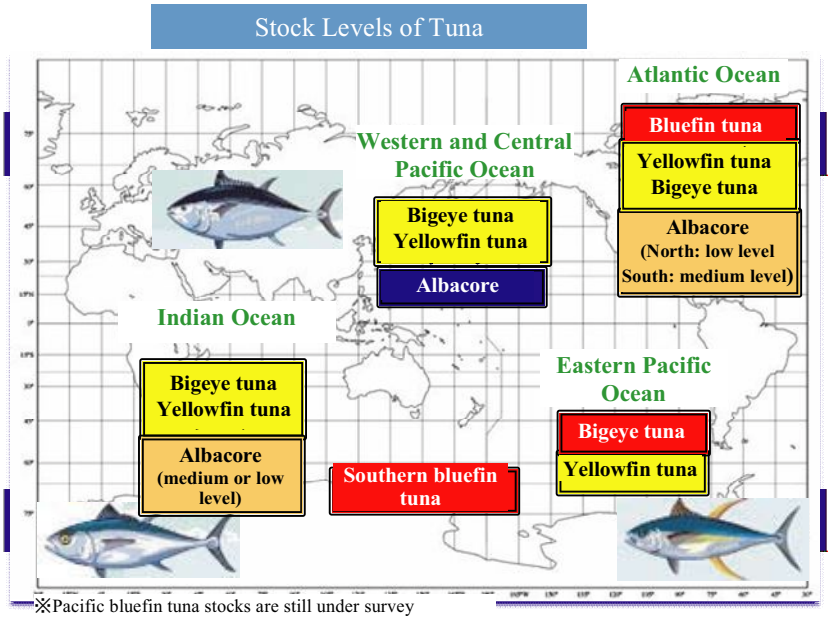
Sources: Prepared by the Fisheries Agency based on "Fishstat (Capture production 1950-2006)" and "Aquaculture production 1950-2006" (for countries other than Japan), FAO; "Annual Report on Fishery and Aquaculture Production Statistics" (for Japan), Ministry of Agriculture, Forestry and Fisheries.

Some tuna stocks have deteriorated

Japan consumes some one-third of global tuna production (2 million tons). Stocks have remained low for Pacific and southern bluefin tuna.



Stock Levels of Tuna



※Pacific bluefin tuna stocks are still under survey

Source: "FY2007 Present Conditions of World Fishery Resources," Fisheries Agency and Fisheries Research Agency

Supply/Demand Relationship Could Tighten

The FAO states that while demand for seafood is expected to increase, marine fishery production is projected to stagnate with aquaculture covering a future demand expansion. A supply-demand gap is expected to expand to 11 million tons in 2015.

Seafood prices are predicted to rise at an annual pace of 3.0% until 2010 and at 3.2% from 2010 to 2015. The world's seafood supply/demand relationship is expected to tighten further to boost prices.

Fishery Product Supply/Demand Outlook

	Per capita fish product consumption per year	Global demand A	Global output B	Demand - Output A−B
1999/2001	16.1kg	133 million tons	129 million tons	- 4 million tons
2015	19.1kg	183 million tons	172 million tons	- 11 million tons

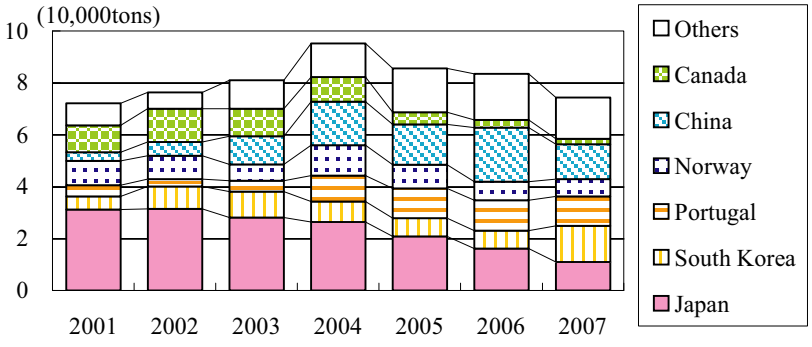
Source: Created based on "The state of world fisheries and aquaculture 2004," FAO
Note: Global demand or output includes noneligible products.

Japanese imports' share of world trade is falling for some fish

As international fishery product prices have soared on global demand growth, Japanese imports' share of world trade has been falling for some fish.

Case for Pacific Cod

U.S. Pacific Cod Exports (frozen, refrigerated or fresh) and Export Destinations



Japanese share	43.2%	41.2%	34.7%	27.7%	24.3%	19.4%	14.7%

Source: "U.S. Trade Statistics," U.S. Department of Commerce

Global demand for seafood has been increasing. In the future, Japan should expand its domestic production capacity and consumption.



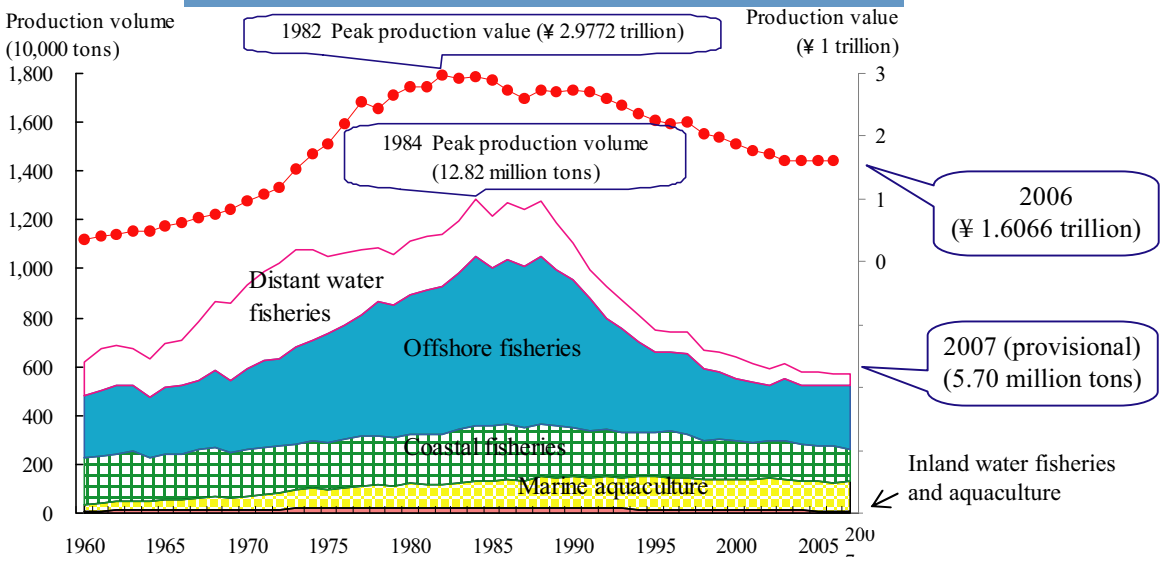
2 What's Going on in the Seas Around Japan Now?

What Is Japan Doing to Increase Benefits from the Seas through Proper Conservation and Management of the Seas?

Japan's fishery production has been decreasing

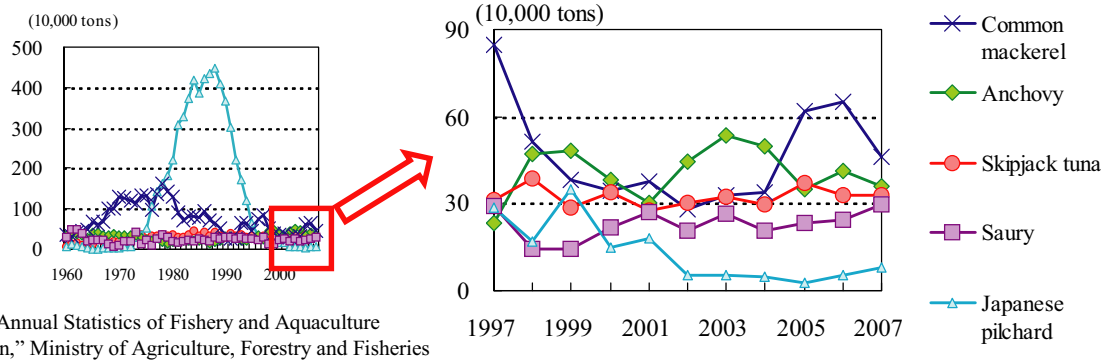
While Japan is one of the world's leading fishing countries, its fishery production has declined due to the tougher international regulations on distant water fishery operations, overfishing exceeding rebuilding capacity of stocks, and import growth emerging from dietary pattern changes.

Changes in Production Volume and Value by Fishery Category



In 1985, Japanese pilchard output alone totaled 4.49 million tons. Over recent years, output has increased for mackerel varieties, anchovy and bonito.

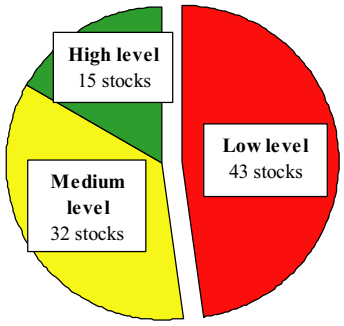
Changes in Catches by Species



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

Nearly a half of marine stocks are at low levels

Nearly a half of marine stocks in Japanese waters are at low levels after overfishing exceeding rebuilding capacity of stocks and industrial development for factories of coastal spawning and growth areas.



	Main species or stocks
High	Saury (Northwestern Pacific stock)
	Southern mackerel (Pacific and East China Sea stocks)
Medium	Japanese mackerel (Pacific and Tsushima warm current stocks)
	Japanese common squid (winter and autumn stocks)
	Snow crab (Northern Pacific and Sea of Japan stocks)
Low	Pacific mackerel (Pacific and Tsushima warm current stocks)
	Japanese pilchard (Pacific and Tsushima warm current stocks)
	Alaska pollack (Northern Seaof Japan and Pacific stocks)

Source: "Marine Fisheries Stock Assessment in Japanese Waters," Fisheries Agency and Fisheries Research Agency.

Resource recovery plans are ongoing.

Marine resources will be renewable eternally through proper conservation and management. In order to maintain and recover marine resources, we will have to restrict catches and fishing days and exploit resources rationally with priority given to quality rather than quantity.

○Total Allowable Catch (TAC) system

Annual catch quotas have been set to manage stocks (since 1997)

Pacific saury, Alaska pollack, horse mackerel, Japanese pilchard, mackerel, common squid, snow crab

○Total Allowable Effort (TAE) system

Restrictions are set on the number of fishing days for specific waters, fishing methods and periods to manage fishing efforts (since 2002).

Flathead flounder, sand eel, sharkskin flounder, Spanish mackerel, tiger puffer, small-mouthed sole, slippery flounder, spear squid

○Resource Recovery Plans

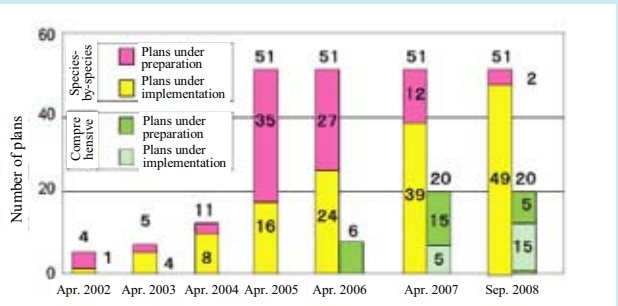
(Resource Recovery Plans by Species)

The specific recovery target is set for the period of the plan regarding fish species that require urgent resource restoration, and comprehensive efforts including the following are promoted to achieve this target: (1) reduction in fishing efforts such as reducing the number of vessels and suspending fishing operation; (2) active cultivation of resources through release of seedlings, etc.; and (3) conservation of the fishing ground environment.

(The Comprehensive Resource Recovery Plan)

The comprehensive resource recovery plan is formulated for multiple species with focus on the types of fisheries such as set net and trawl net fishing, which are difficult to be covered by the species-specific plans.

Number of resource recovery plans prepared and implemented



Source: Fisheries Agency

COLUMN Considering TAC and other systems

The Fisheries Agency created a panel of experts in April 2008 for consideration of TAC and other systems. Specifically, the panel is tackling the TAC system and the IQ/ITQ system (see explanations below). By September, the panel discussed the roles, challenges and improvements of the TAC system in Japan's marine stock management and compiled an interim report on the TAC system.

【Explanation】

IQ (Individual catch Quota)

An allowable catch quota is set for each fisherman or fishing boat.


80t

An allowable catch quota for each boat


50t

ITQ (Individual Transferable Quota)

Individual catch quotas are transferable to others.


80t
↓
90t

Transfer
10t


50t
↓
40t

9

C O L U M N

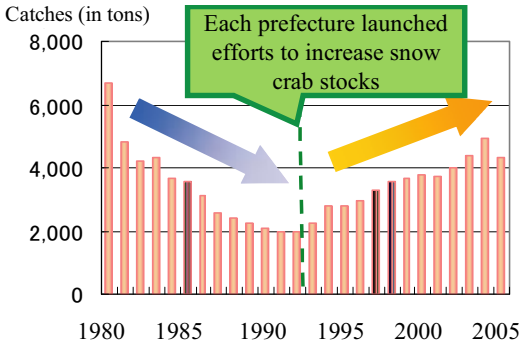
Snow crab stocks increased through appropriate control (Sea of Japan)

In addition to fishing ban seasons and zones as set by government ordinances for snow crabs, fishery operators have voluntarily imposed tougher controls including extension of fishing ban seasons, and restrictions on sizes and volume of crabs for catching.

Since the Japan-Korea Fisheries Agreement was concluded in 1999, Korean fishing boats' operations have been limited to the Korean exclusive economic zone and the so-called provisional waters designated by the two countries.

As a result of such efforts, snow crab stocks have been increasing.

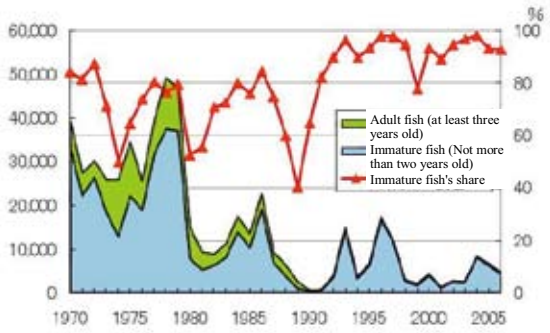
Snow Crab Catches in Sea of Japan



Sources: Fisheries Agency and Fisheries Research Agency

Pacific mackerel stocks expected to recover (Pacific Ocean)

Pacific Mackerel Catches and Immature Fish's Share



Pacific mackerel catches in the Pacific Ocean peaked at 1.47 million tons in 1978 and declined to only 20,000 tons in 1990. In 1992 and 1996, dominant year class mackerel emerged. But immature fish catches prevented stocks being restored. Overall catches are still limited to low levels.

In a bid to protect immature fish and secure spawning fish, Japan has suspended mackerel fishing operations using medium to large encircling nets in the Northern Pacific since fiscal 2003.

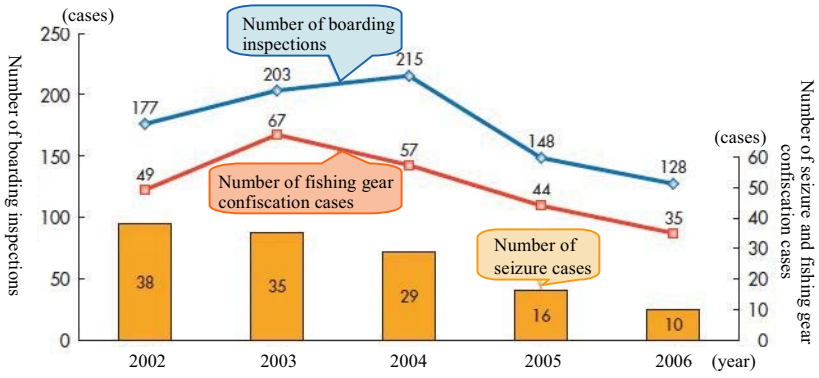
Source: "Fish Stock Assessment in Japanese Waters," Fisheries Agency and Fisheries Research Agency

(HP) Stock Management Room http://www.jfa.maff.go.jp/suisin/index.html

Enhancing Crackdown on Foreign Fishing Vessels

Japan monitors and cracks down on foreign fishing vessels' illegal operations in its exclusive economic zone and territorial waters. Recently, foreign fishing vessels' malicious actions have stood out. Some foreign fishing vessels have rejected boarding inspections and fled from Japanese patrol boats. Japan has thus been enhancing its monitoring and crackdown activities.

Fisheries Agency's Boarding Inspections and Other Actions



Source: Fisheries Agency

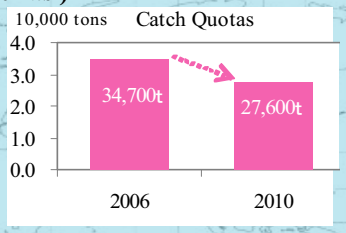
Responsible fisheries management is needed internationally

Given that tuna and other highly migratory stocks migrate widely, over-fishing in a certain sea area could affect catches in other sea areas. Therefore, regional tuna fishing management organizations have been created to implement management measures such as total allowable catch and national quota systems and quantitative restrictions on tuna-fishing vessels.

Recent major decisions

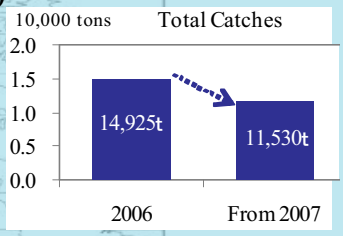
ICCAT (International Commission for the Conservation of Atlantic Tunas)

・Atlantic bluefin tuna catch quotas will be reduced gradually (from 34,700 tons in 2006 to 27,600 tons in 2010)
・Introduction of a catch documentation scheme



CCSBT (Commission for the Conservation of Southern Bluefin Tuna)

・Total southern bluefin tuna catches will be reduced from 14,925 tons in 2006 to 11,530 tons in and after 2007.



IOTC (Indian Ocean Tuna Commission)

・Restrictions on the number of fishing boats for bigeye tuna, yellowfin tuna, swordfish and albacore tuna

IATTC (Inter-American Tropical Tuna Commission)

・Encircling net fishing ban season in 2007
・Restrictions on bigeye tuna catches with the long line fishing method in 2007

WCPFC (Western and Central Pacific Fisheries Commission)

・Limiting bigeye and yellowfin tuna fishing capacity or efforts with encircling nets to levels for recent years
・Limiting 2006-2008 bigeye tuna catches with the long line fishing method to levels for recent years

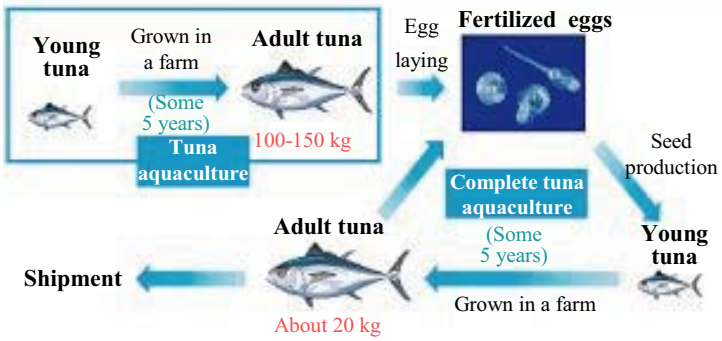
(HP) Tuna information http://www.jfa.maff.go.jp/j/tuna/index.html

T O P I C ! Expectations on Tuna Aquaculture

Japan's bluefin tuna aquaculture production has increased year by year. Such production was expected to exceed 4,000 tons in fiscal 2007. As bluefin tuna demand is growing globally, efforts are required to secure stable bluefin tuna supply for the future.

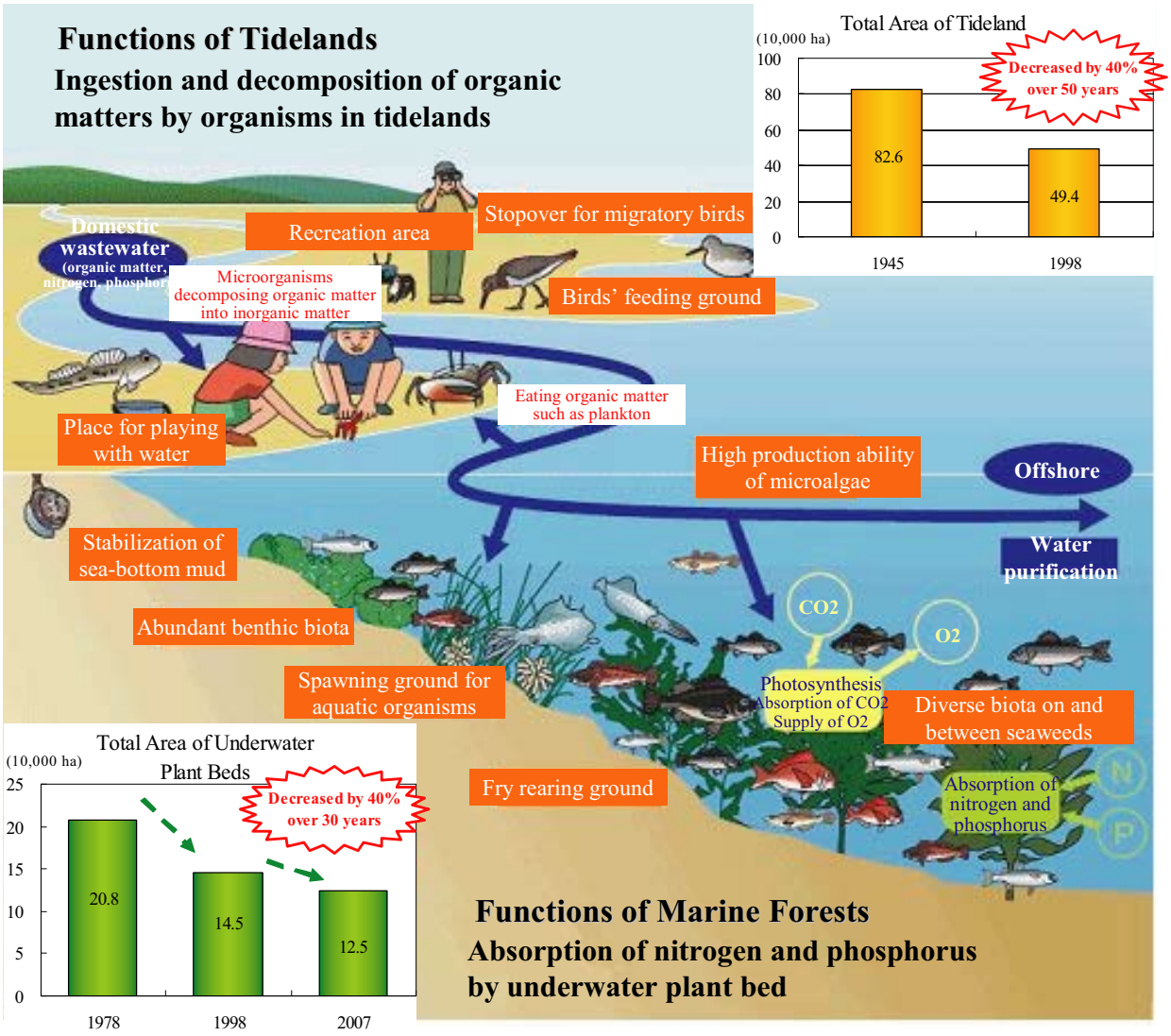
But seed supply has been unstable and assorted feed has yet to be developed. Given these problems, the government has been promoting development of artificial seed production technology and assorted feed in a bid to build infrastructure for stable bluefin tuna supply.

Hopes placed on progress in studies on complete tuna aquaculture



Marine forests and tidelands have declined

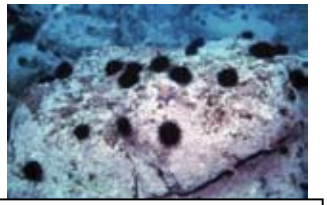
Japan's coastal areas have had marine forests and tidelands that are suitable for fish spawning and growth as well as purification of water. But their space has declined substantially.



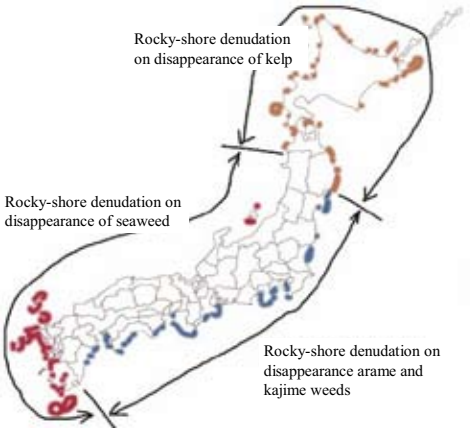
Sources: "Basic Survey on Natural Environment Conservation," Ministry of the Environment; Fisheries Agency

"Rocky-shore denudation" has emerged nationwide to affect fish living in marine forests.

"Rocky-shore denudation" means the disappearance of marine algae due to rising water temperatures or an increase in sea urchin and rabbitfish.



"Rocky-shore denudation" emerging on sea urchin's feeding damage (Saimura Fisheries Cooperative, Aomori Prefecture)

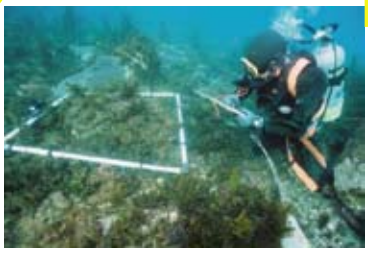


Promotion of conservation of marine forests and tidelands

In a bid to conserve marine forests, fishermen have taken leadership in culling sea plant eaters including sea urchin and setting up nets to prevent sea plants from being eaten.

Exterminating sea urchin

Disappearance of seaweeds on rocky-shore denudation (Kuroshio, Kochi Prefecture)



Monitoring after sea urchin culling

Recovery from rocky-shore denudation

Source: Guidelines against rocky-shore denudation, Kochi Prefecture

We also dredge up tideland mud regularly and eliminate unnecessary sand and sea lettuce to restore and conserve tidelands.

Countermeasures for Global Warming

In May 2007, Japanese Spanish mackerel that usually live in warmer waters were caught in the northeastern Japanese prefectures of Aomori and Iwate. Catches have increased in the Sea of Japan as well.

These changes may be attributable to a medium-term rise in water temperatures. Environmental changes are feared to affect fisheries.

Therefore, we are assessing global warming's effects on the fisheries industry and developing projected technologies and considering countermeasures.

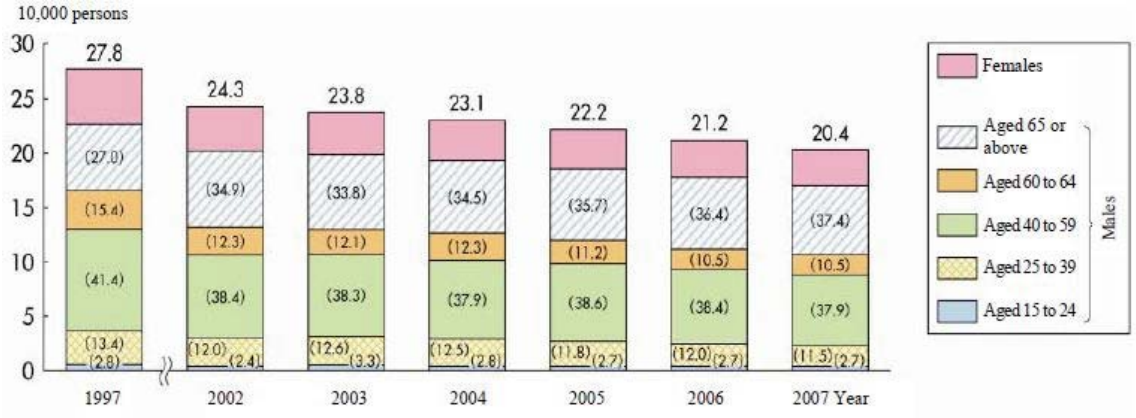
Japanese Spanish mackerel caught in fixed netting (off Misawa, Aomori Prefecture)
Source: Asahi Newspaper

How Many People Are Fishing in Japan? How Have Fuel Price Hikes Affected Fishing?

Shrinking and aging fishermen population

The fisherman population has been on the decline, standing at 204,000 as of 2007, of which those over 65 years old accounted for 37.4%. Despite the progress in aging, only about 1,200 people newly joined the fishery workforce.

Changes in Number of Fishery Workers



Sources: "Annual Statistics on Fishery Industry" (1997), "Annual Statistics on Fishery Workers" (2002), "Fishery Census" (2003), and "Survey Report on Fishery Workers" (from 2004), Ministry of Agriculture, Forestry and Fisheries.

Harsher reality of fishing businesses

The average earnings of coastal fishing households have been on the decline. Many fishery companies offset the losses in fishery business by the profits in fishery processing business and other non-fishery business and by non-operating profits.

Financial situation of coastal fishing households

(Unit: thousand yen)

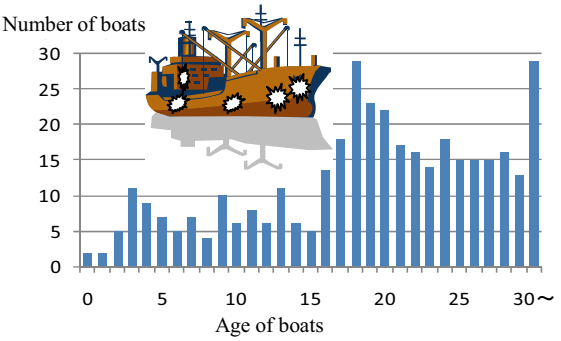
	2001	2002	2003	2004	2005	2006
Fishery earnings	2,257	2,267	2,156	2,153	2,143	2,466
Fishery income	5,160	5,153	5,002	4,943	4,908	6,321
Fishery expenditure	2,903	2,887	2,846	2,790	2,766	3,855
Fuel expenses	411	401	416	423	482	730
Proportion to the expenditure	(14.2)	(13.9)	(14.6)	(15.2)	(17.4)	(18.9)
Non-fishery earnings	282	264	238	190	180	84
Business earnings	2,540	2,530	2,394	2,343	2,323	2,550

Source: Prepared by the Fisheries Agency based on the "Fishery Business Management Report" issued by the Ministry of Agriculture, Forestry and Fisheries

Note: Since the survey of 2006 was conducted under a significantly modified survey system, the results of the survey in 2006 do not have continuity from those of previous years.

Fishing boats are aging too.

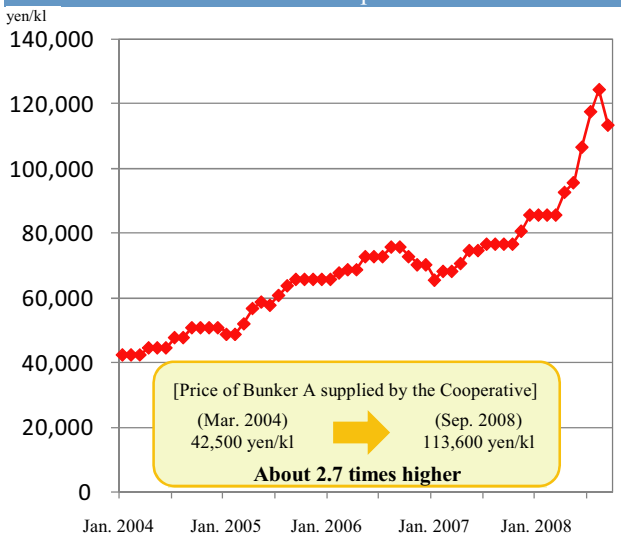
Although the lifespan of fishing boats is usually 15 years, about 40% of the boats used in offshore trawl net fishing have been in use for 20 years or longer (See the graph on the right). The aging of boats could decrease the productivity and safety while increasing the maintenance costs.



Rising fuel prices

The crude oil price has been on the rise worldwide. In the fishery industry, the proportion of fuel expenses in the total costs is higher than in other industries. As a result, the rising fuel prices have greatly impacted fishery business management.

Trend in the price of Bunker A supplied by the National Federation of Fisheries Cooperative Associations



Source: Fisheries Agency

Proportion of furl costs in the total fishery expenditure

(%)

	2004	2008
Small bottom trawl fishing	23.8	31.3
Gill net fishing	15.8	21.4
Offshore bottom trawl fishing	23.6	31.0
Coastal squid fishing	30.7	39.3

Source: Fisheries Agency
Note. The data for 2008 was calculated in consideration of an increase in the fuel cost while assuming that the non-fuel fishery expenditure remains the same. (Calculation was made based on the average fuel costs in 2008 on the assumption that the fuel price stays at the level in September (¥113,600).)

The characteristics of fishery products, such as great fluctuations in production volume, wide variances in terms of type and size, and rapid deterioration of quality, have contributed to the development of a diversified distribution system.

Producer ⇨ Wholesaler ⇨ Shipper at the landing area ⇨ Wholesaler ⇨ Intermediate wholesaler ⇨ Retailer/foodstuff Wholesale store ⇨ Consumer

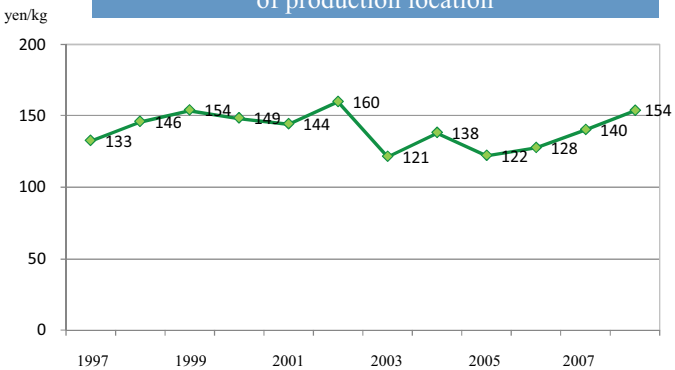
Catch and landing of fishes

Wholesale market at the landing area

Wholesale market at the consuming area

As a result, the diversified distribution system coupled with the high cost of processing and freshness maintenance tends to raise distribution costs. The prices of fish are determined based on the market mechanism regardless of high fuel prices. Consequently, the rising production costs are not sufficiently reflected in the product prices in the fish market of production location.

Trend in the wholesale prices in the fish market of production location



Source: Source: Prepared by the Fisheries Agency based on the “Fishery Product Distribution Statistics” issued by the Ministry of Agriculture, Forestry and Fisheries
Note: The data for 2008 was calculated based on the weighted average for a period up to July.

What Is Japan Doing for Fishermen Capacity Building and for Competitive Fisheries Industry Building?

Measures have been taken to promote the entry of new workers and companies into the fishery industry.

In addition to fishery job information service, a 6-month on-the-job training program is offered to young people in cities. Measures have been taken to support the initiatives of groups of fishery operators lead by veteran fishery operators.

Fishery job placement fair

Experience-based education program for fishery

Training program at fishing sites

Job placement at the training site!

TOPIC!

Formation of "The Ryoshi's (The Fishermen)"

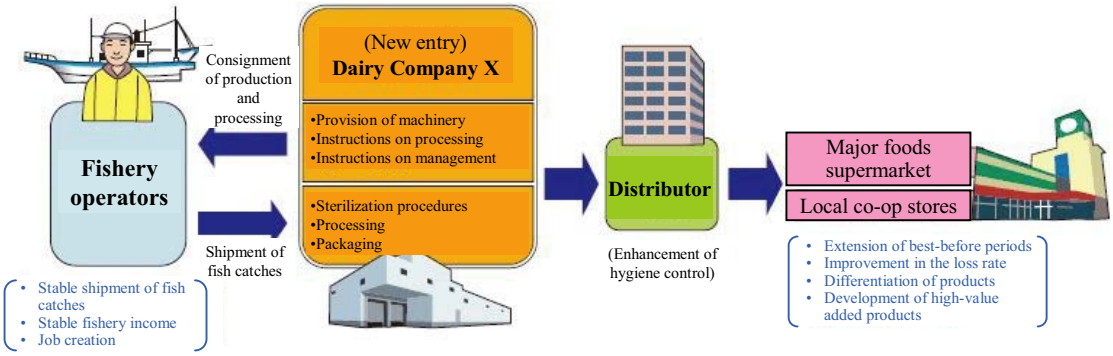
For the Fishery Job Placement Fair 2008, "The Ryoshi's" was formed to convey the appeal of fishery and fishing villages.

The four fishermen forming the group are called "fishery executives," who quit their previous jobs to become fishermen. They are eager to convey the thrill of being fishermen.

(HP) National Fisherman Recruiting and Training Center, Ryoshi jp http://www.ryoushi.jp/

New business developed through cross-industry collaboration

Efforts have been made to revitalize the fishery industry and fishing villages by encouraging companies and entrepreneurs in non-fishery fields to use their know-how and skills to make business out of fishery resources and develop new business models.

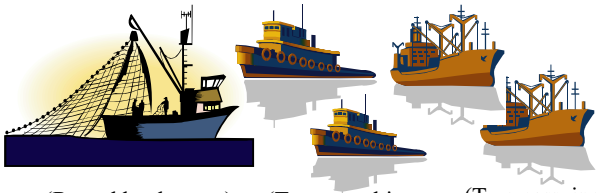


For example, in the case of Chirimen (boiled and dried baby sardines) and Kounago (boiled and dried baby sand lance), for extension of best-before periods, efforts have been made to enhance hygiene control and improve the loss rate through better bacterial control.

Support for the Initiatives to Promote the Structural Reform of the Fishing Boat Operation and the Fishing Industry

Measures have been taken to promote managerial changes through introduction of high-profit operation and production systems and replacement of old boats with human-resource-saving, energy-saving boats.

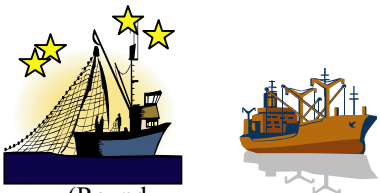
[Initiative 1: Smaller fleet of round haul netter]



(Round haul netter) (Two searching boats) (Two carrying boats)

Smaller fleet

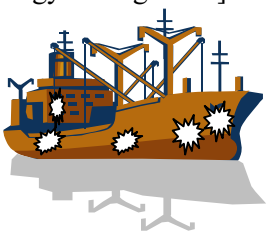
[Mini fleet]



(Round haul netter) (Searching and carrying boat)

Reduction of operation costs

[Initiative 2: Human-resource-saving, energy-saving boats]



Replacement of an old boat with a low-cost boat

•Introduction of human-resource-saving machines (Automatic net hauler)
•Introduction of energy-saving fish-luring lights

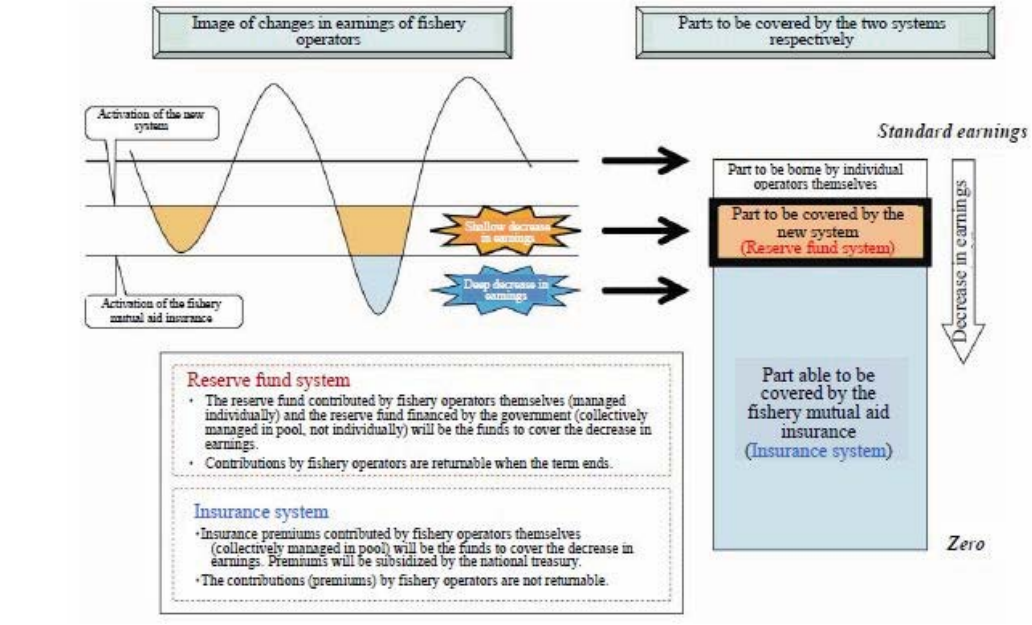
Use of human-resource-saving, energy-saving fishing boats

(HP) Structural reform of fishing boat fisheries http://www.jfa.maff.go.jp/j/enoki/gyosen/index.html

New Program to Stabilize Fishery Business Management: "Reserve Plus"

A program called "Fishery Business Stabilization Program" has been offered since 2008 in order to realize "effective and stable fishery business management." This is a new program targeted at fishery operators seeking proactive and strategic improvement of their fishery business management. This program is designed to supplement the currently available management stabilization programs offered by the Fishery Mutual Relief Fund in order to alleviate the negative effect of income reduction on fishery business management.

Image of New Fishery Business Stabilization Measures



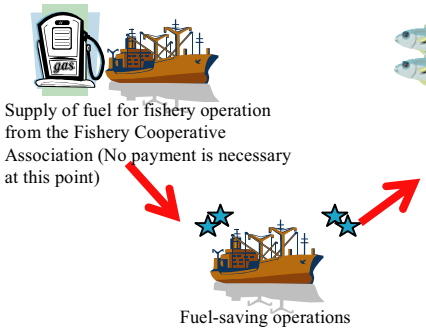
(HP) Fisheries Agency "*Tsumitate Purasu* (Reserve Plus)" http://www.jfa.maff.go.jp/j/hoken/keieiantei.html

Measures against Rising Fuel Costs

To cope with the rising fuel costs, measures have been taken to promote energy-saving initiatives of fishery operators. Furthermore, Japan has been promoting a structural reform of fishery business management.

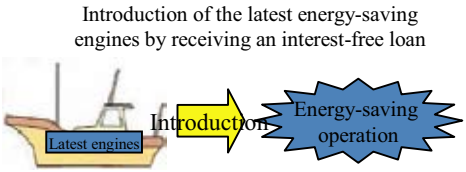
○Demonstrative project with the focus on fuel cost increase

In this project, Japan will subsidize 90% of the increase in fuel costs upon request from fishing groups that cut fishery fuel consumption by 10% or more.



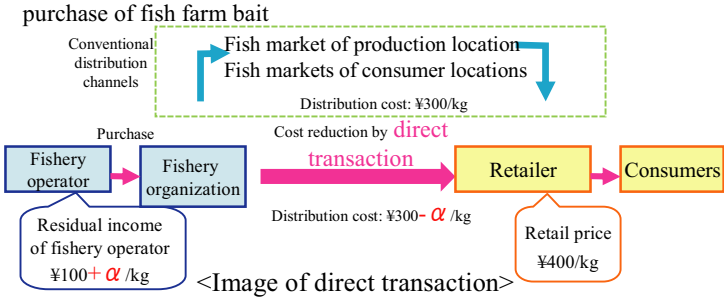
○Interest-free loan system to promote energy saving

The criteria for receiving the Coastal Fishery Improvement Fund were modified in such a way that allows fishery operators to receive fund repeatedly for introduction of energy-saving facilities and equipment and provides them with interest-free loans for energy-saving fishery operations.



○Measures to increase the residual income by taking advantage of diversification of distribution channels

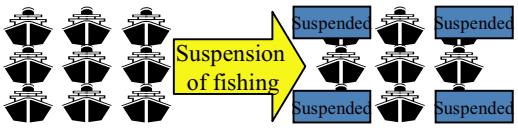
In order to increase the residual income of fishery operators, the following measures have been taken:
(1) Increase in the purchase size of fishery products, (2) Improvement of measures to support direct transactions, and (3) Promotion of direct purchase of fish farm bait



<Image of direct transaction>

○Suspension of fishing and decrease in the number of fishing boats

In view of the rising fuel cost, financial obligation on fishery operators has been eliminated. Further measures that best suit the reality of each fishery type have been taken such as the suspension of fishing and decrease in the number of fishing boats.



* Financial burden on fishery operators, etc., during the suspension period

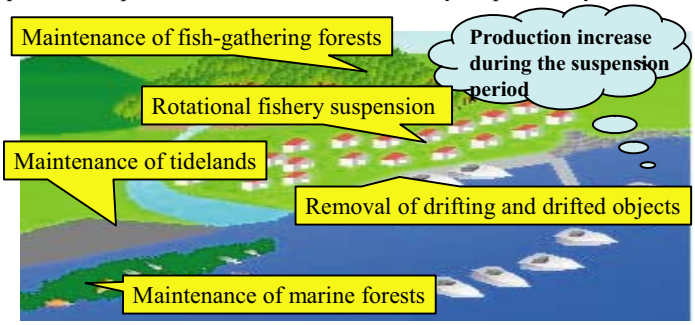
Burden on the Nation	(Conventional rule) 1/3→ (New rule) 1/3
Burden on prefectural and city governments	(Conventional rule) 1/3 → (New rule) No requirement
Burden on fishery operators	(Conventional rule) 1/3 → (New rule) No requirement

○Measures to enhance fishery business management culture

Measures have been taken to promote group operations (use of jointly-used searching boat and carrying boats) and replacement of old facilities with energy-saving facilities.

○Measures to support the activities of energy-saving promotion organizations

Measures have been taken to promote initiatives taken by fishery operators suspended under the rotational fishery suspension system.



(HP) Fisheries Agency: Measures against Rising Fuel Costs in Fishery http://www.jfa.maff.go.jp/j/keiei/nenyu/index.html

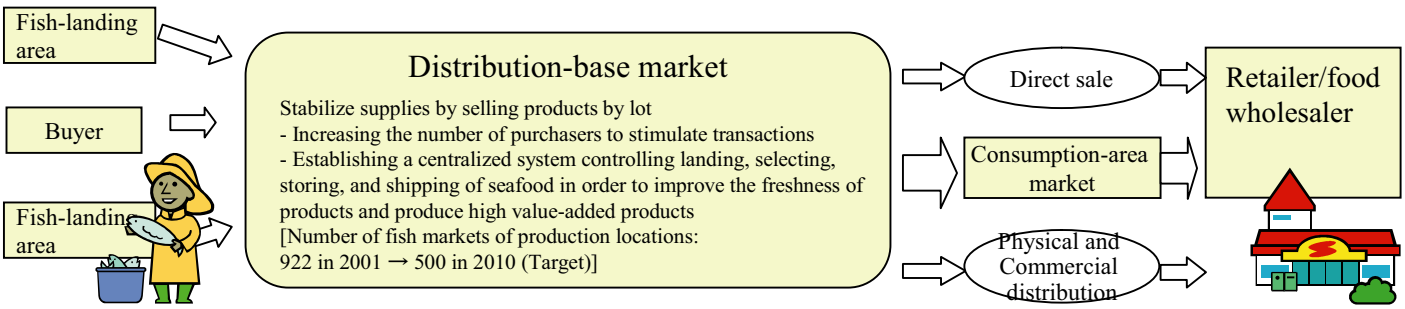
Initiatives by fishermen are indispensable for sustainable use of fishery resources for stable fishery business and conservation of marine ecosystem.

How Is Seafood Treated before Becoming Available for Eating?

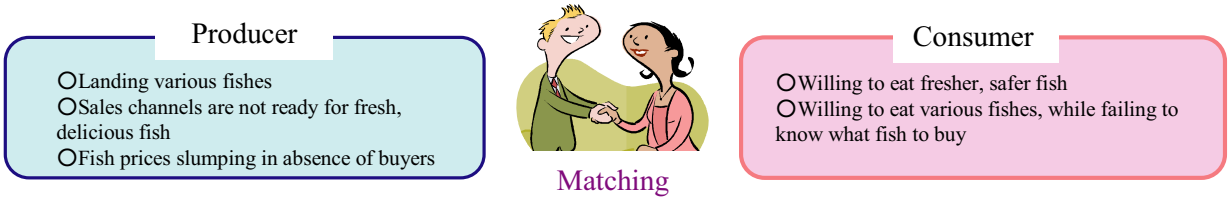
Measures to Distribute Seafood Efficiently

In order to provide fresh, safe seafood stably, fish-landing areas should enhance sales capacity and exactly meet consumers' needs.

As for great seafood demand for mega-supermarkets, efforts are ongoing to develop distribution bases for stable supply through unification of lots and standards.



As for a wide variety of products for small-lot foreshore production and distribution, diverse distribution channels including direct sales to consumers should be developed to reduce distribution costs.



Hygiene Control and Quality Control

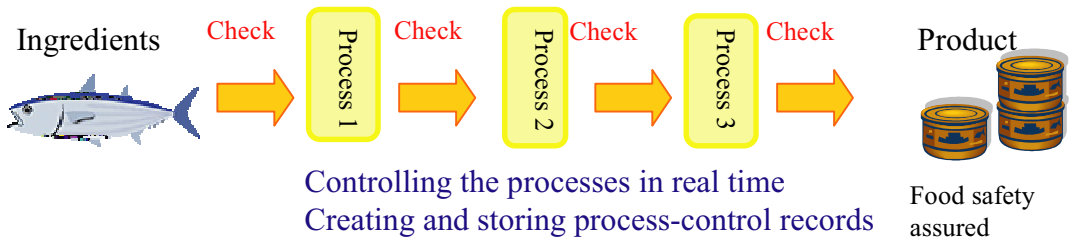
In order to provide consumers with safe, reliable seafood, fishery industry workers are improving quality control through such measures as introduction of the HACCP system at fishery processing plants and development of facilities at fish-landing area markets.

●HACCP●

HACCP is a system to control hazards (biological, chemical, and physical factors that could cause disease or injury) by establishing critical control points in the manufacturing processes from food ingredients to the final product.

HACCP

(Hazard Analysis) (Critical Control Point)

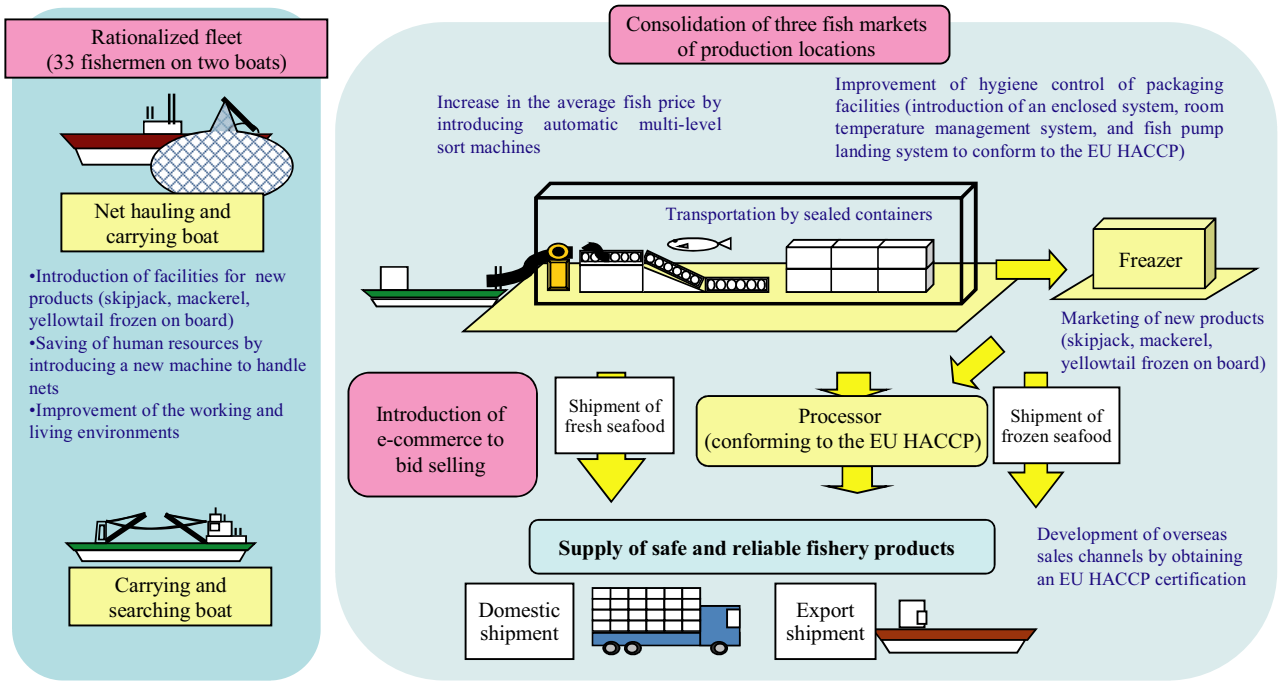


Controlling the processes in real time
Creating and storing process-control records

Food safety assured

Outline of the Hachinohe Area Project Reform Plan (large and midsize round haul net fishing)

-Improvement of the hygiene control of fish market facilities → Promoting the structural reform of the fish market of production location and the distribution of seafood
- Enhancement of the value added to fish catches and development of new sales channels including export → Establishment of new business models



C O L U M N

In-Store Fish Advisor

Fresh fish promoting communication with customers

In a supermarket in Tokyo, a sales assistant of the fish section is busy helping customers. He recommends which cooking method best suits a certain kind of fish, advises which fish are in season, and cuts fish for sashimi or for any other purpose upon request.

The presence of such a fish sales assistant has contributed to the recent increase in the number of young housewives shopping there. Face-to-face sales of fresh fish is an effective way to promote communication with customers.

Important roles to be played by Fish Meisters

A private qualification system, “Fish Meister” was started in October 2007 to foster experts who can convey the appeal of fish and promote fish consumption. In August 2008, 31 people were certified as the first generation of Fish Meisters. They are expected to become intermediaries between consumers and producers in the future.

(HP) Fish Meister: http://www.osakana-center.com/meister/meistertop.html

Distributors play an important role in delivering fishermen’s catches to consumers in such a way that minimizes waste and deterioration in quality and taste. Distributors are also exploring new markets and providing consumers with the thrill of new discoveries and the joy of enjoying good fish.



3 Getting Familiar with Seas and Fish to Conserve Bountiful Seas

Why Is It Good to Eat Fish?

To convey the fish-eating culture full of wisdom and wishes of ancestors

Japan is surrounded by bountiful seas and is also blessed with highly productive brackish waters and lakes. Here, seafood are closely related to people's daily lives. They are also incorporated in seasonal ceremonies such as "*osechi*" dishes for new year and carp streamers.

"*Osechi*" dishes are full of Japanese spirit

There are many dishes that use fish in "*osechi*," which is the series of traditional dishes for celebrating new year.

You can find the Japanese spirit in its traditions, such as using shrimp, whose bent back symbolizes old age and therefore longevity, with a wish for long life, or eating "*tazukuri*," which means to make a rice paddy, with a wish for abundant harvest.

Whale-eating culture

Japanese lifestyle is also closely related to whales. It became a popular foodstuff among the general public in the Edo era. Art and culture related to whales also developed.

Whale meat is rich in vitamin A, good for the eyes. It contains more protein and less cholesterol compared to beef, pork or chicken, so it is a healthy food.

C O L U M N

Number of whales is increasing except for certain kinds

Because of the temporary ban of whale hunting by the IWC (International Whaling Commission), Japan stopped commercial whaling other than for scientific research from 1998. Whales consumed in Japan are mainly those caught in accordance with a treaty, for the purpose of examining whether the number of whales is increasing and what whales are eating.

It became clear from this research that the number of whales is increasing except for certain kinds. Because whales eat massive amounts of fish, it is important to use the increased whales as a resource, from the perspective of not only supporting human lives but also to ecologically maintain the numbers of other fish.

Whales with numbers increasing


minke whale


Bryde's whale


sperm whale


sei whale

[HP] Fisheries Agency: http://www.jfa.maff.go.jp/whale/indexjp.htm

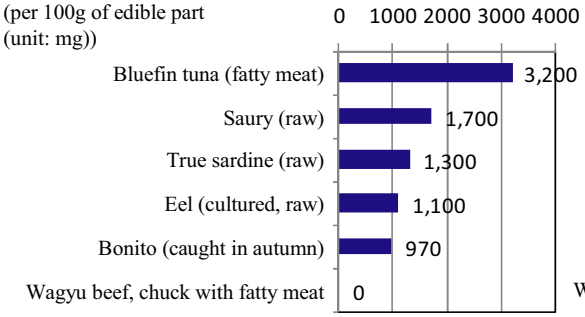
Illustration source: Institute of Cetacean Research

Seafood is very nutritious!

It is widely known that DHA included in fish oil has a brain-enhancing function, and EPA works to improve the flow of blood. Recent research results show that people eating more fish are less likely to have a myocardial infarction.

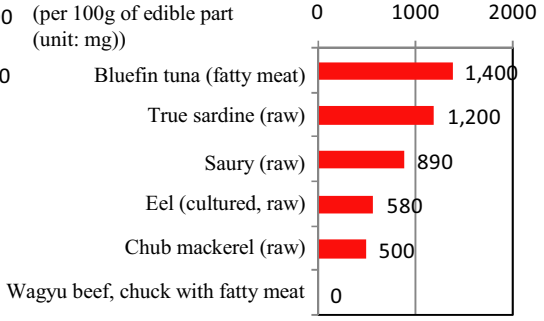
Docosahexaenoic acid (DHA)

Helping develop or maintain brain and nerve system functions, working against allergy and inflammation



Eicosapentaenoic acid (EPA)

Preventing blood clots and vascular constriction, reducing blood lipid



Source: STANDARD TABLES OF FOOD COMPOSITION IN JAPAN Fifth Revised and Enlarged Edition

Functional components	Major functions	Major seafood containing functional components
Taurine	Adjusting blood pressure, eliminating cholesterol, improving liver functions, maintaining eyesight	Squid, oyster, octopus, abalone, scallop, prawn, salmon
Calcium	Forming bone, adjusting blood pressure and nerve systems	Small fish
Iron	A main component of blood erythrocyte (hemoglobin), helping maintain human body functions	Laver, hizikia, lam

Japanese seafood now attracts people worldwide.

Due to reasons such as stronger health concerns in Western countries, the global trend of a Japanese-cuisine boom and increase in wealthy people based on the economic development of Asian countries, export of seafood is increasing.

Changes in Japan's Seafood Export Volume and Value

(1,000 tons for volume, ¥100 million for value)

		1975	1985	1997	2005	2006	2007
Volume	Total	603	786	343	468	594	612
	Dried sea cucumber	…	…	…	0.230	0.273	0.345
	Salmon/trout	5	15	58	25	26	48
	Mackerel	…	…	49	58	180	156
Value	Total	1,687	2,876	1,698	1,748	2,041	2,382
	Pearl	177	822	573	302	338	365
	Dried sea cucumber	…	…	…	79	126	167
	Salmon/trout	8	54	150	89	101	151
	Mackerel	…	…	33	37	127	141

Source: Created based on "Japan Trade Statistics," Ministry of Finance

TOPIC! Japanese cuisine featured also at Toyako Summit

During the period of the Hokkaido Toyako Summit, dishes such as frozen salmon, spit-roasted scallops and Ishikari-style stew were offered to foreign press/media personnel at the international media center, which was the base for news coverage. On this occasion, food culture of Japan, the appeals of Japanese cuisine and the attractiveness of Japanese foodstuff were extensively communicated to other parts of the world.

Frozen salmon

(HP) Ministry of Agriculture, Forestry and Fisheries, "Promotion of the export of agricultural and marine products": http://www.maff.go.jp/sogo_shokuryo/yusyutu.html

What Fish Are Good for Eating?

Let's eat seafood more ecologically

Fish resources such as saury and bonito found in waters near Japan are currently abundant. Moreover, they are relatively low-priced and rich in seasonal taste. Eating these fish in season will also raise the self-sufficiency rate and will result in conservation of the sustainable fisheries and food culture.

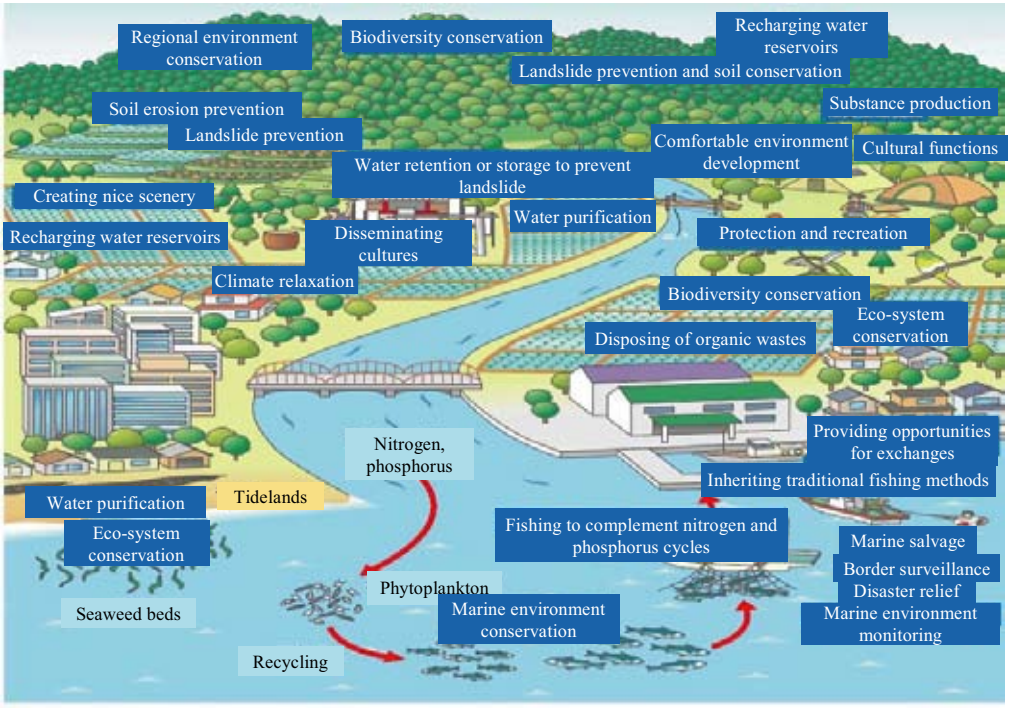
If each Japanese person eats more fish in the respective seasons than before, Japan's self-sufficiency rate will increase!

Source: "Food Balance Sheets (FY2007)," Ministry of Agriculture, Forestry and Fisheries
Photos: Marine Foods Corp.; National Association of Saury Fishery; Kushiro Shi Fisheries Cooperative Association

Consumption of local-caught seafood is also expected to have a significant favorable impact on environment.

What Can We Do In Addition to Eating Fish?

Fisheries industry and fishing communities have various roles (multiple roles) other than their intrinsic role to supply seafood stably.



Source: Created by the Ministry of Agriculture, Forestry and Fisheries based on the Reports by the Science Council of Japan

Let's go out to the sea and fishing communities!

There are fresh seafood, abundant nature and beautiful scenery in fishing communities. People can enjoy recreational activities such as clam digging, and the places have their own attractiveness different from that of urban areas.

Recently, an increasing number of communities are offering opportunities to experience fisheries and establishing product stands and morning markets. Efforts to revitalize the town through "marine business" are emerging by fusing fisheries with tourism and leisure, with a view to creating a new value to the citizen.

The website below includes information on events held around the country. Using these kinds of information as a reference, let's go out to the sea and fishing communities!

(HP) Let's go to fishing communities!: http://www.gyoson-go.com/index.html

Sea industry: a collective term for "businesses in which people make a living by using the sea and beaches, including fisheries and marine leisure."

"The best 100 agriculture, forestry and fisheries guest house mothers" Guest House Maruni-maru, Ms. Masae Hashimoto [Saiki City, Oita Prefecture]

"No extravagant measures, no pretense" is the true hospitality, zest for living is given from natural wind, tide and sky.

Ms. Hashimoto manages a fishery guest house that use a building built as a private residence as-is, and provides dishes using abundant seafood to guests. With "Kamae Blue Tourism Study Group" serving the central role of activities, she offers opportunities to experience fisheries and study about them. Ms. Hashimoto is also making exertions to vitalize the Kamae area as the president of the tourism association.

(HP) Guest House Maruni-maru: http://marunisuisan.at.infoseek.co.jp

Implanting peal cores

PR of lobster (woman wearing the costume of a fish boat banner is Ms. Hashimoto. She is in the photo with governor Higashikokubaru.)

Let's join forces to conserve the sea.

In accordance with the rising awareness of environmental problems among citizens, there is a growing interest in programs for citizens to participate in maintaining underwater plant beds and tidelands.

In addition, the idea of "Satoumi (home-sea)" is proposed to conserve biodiversity and maintain the high productivity of the sea, and to nurture traditional culture, through interaction between nature and human. The number of such programs is increasing for participation by city residents.

Kanazawa Hakkei - Council for restoring Amamo (eelgrass) beds (Yokohama City, Kanagawa)

Recover bountiful Tokyo Bay through the restoration of Amamo

This council was established 15 years ago with an aim to recover the rich nature in Kanazawa Hakkei through the restoration of Amamo and to transmit valuable nature and culture of the sea to future generations. Various sectors, including fishermen, fisheries research institutes, universities, companies and local schools are cooperating to restore Amamo beds.

Planting of Amamo

(HP) Kanazawa Hakkei -Tokyo Bay Amamo Bed Restoration Conference: http://www.amamo.org/

The sea is a mirror reflecting our lifestyle.

Contaminants and wastes generated in our daily lives are ultimately washed out to the sea.

Lives of consumers are connected with the sea via rivers. It is necessary for us to live in such a way to take care of resources and the environment.

TOPIC! Eco-label system has started!

Eco-label shows that the fishery product was caught in a way that gives little impact on the ecosystem and the sustainability of resources.

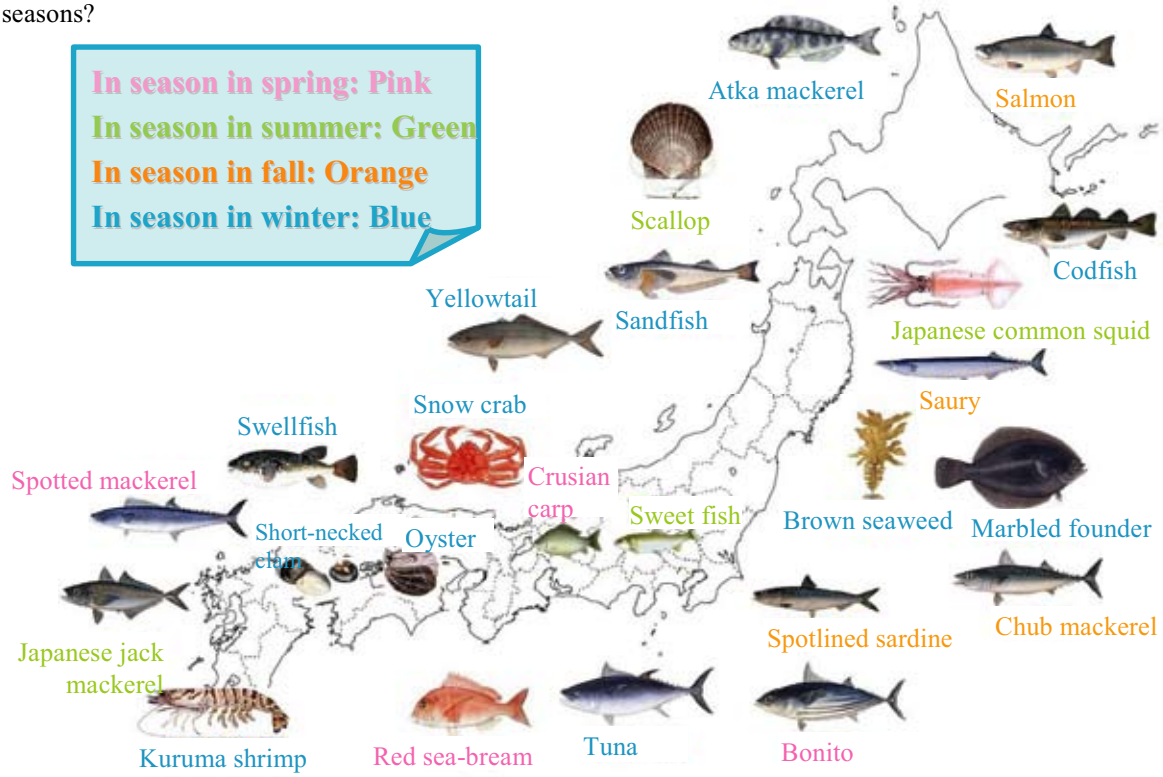
In December 2007, Japan's own eco-label system was established, reflecting the characteristics and advantages of the Japanese fisheries production and resource management. Products with this eco-label are scheduled to be on sale by the end of 2008. It is expected that purchasing fishery products with this eco-label attached will result in conservation of the ecosystem and promotion of the sustainable use of resources.

(HP) Marine Eco-Label Japan: http://www.melj.jp/

Slow Seafood Movement

Neighboring waters of Japan are bountiful seas, where there are both warm and cold currents and which produce various seafood such as originating from the north or in warm currents. Do you know what kinds of fish are caught and what kinds of dishes are eaten in your homeland?

Different types of fish are caught according to the four seasons in Japan. When it becomes the time when the fish is most delicious to eat, we say the fish is “shun” (“in season”). This means that the fish in season is abundant and has high nutritional value at the same time. The fish are also sold at reasonable prices. Why not enjoy the delicious local fish and feel the change of seasons?



Let’s cook!

By reading up to here, you might now feel like eating fish. How about making seafood dinner today? Here are some simple tips to make your daily seafood dishes even more delicious!

Spring

Katsuo-no-tataki (lightly roasted bonito)

☆Ingredients (for four servings)

Bonito	half a fish	Welsh onion	8 stems
Daikon radish	200g	Ginger	40g
Garlic	2 cloves	Soy sauce	5 tablespoons
		Pon-zu	3 tablespoons

Point!
You can add a slightly different touch to the dish by sprinkling on fried garlic slices and chopped cashew nuts.

① Grate *daikon* and drain briefly. Slice garlic. Chop welsh onion, and grate ginger.
② Skewer three sticks into bonito. Roast the surface of one side using the highest flame of the stove. Dip it in ice water to cool and wipe off the water.
③ Slice the bonito putting the roasted side up. (*Tosa-zukuri*)
④ Place the bonito slices on a dish. Put grated *daikon* and ginger evenly on top, sprinkle welsh onion and garlic and put into the refrigerator.
⑤ Serve with soy sauce mixed with *pon-zu*.

[HP] Japan Fisheries Association “Fish World”:: http://www.fishworld.or.jp/
JF Zengyoren “The Complete Seafood Recipes”: http://www.jf-net.ne.jp/jf-net/syun/recipe_index.html

Summer

Squid saute with garlic

☆ Ingredients (for four servings)

Japanese common squid	1	White wine	½ cup
Garlic	1 clove	Salt	as needed
Red chili	1 husk	Pepper	as needed
Celery	1 stick	Olive oil	2 tablespoons
Bell peppers (red, yellow)	1 each		

☆ Direction

① Remove arms, insides and skin the squid. Cut the body in rings in widths of about 7-8mm. Cut fins and arms into adequate sizes.
② Finely chop the garlic. Remove fibers of celery and cut diagonally into widths of about 7-8mm. Chop bell peppers into pieces of about 1cm size.
③ Heat 2 tablespoons olive oil in a frying pan, and saute garlic and red chili. When it becomes aromatic, add squid and saute until covered evenly with oil. Add celery and bell pepper, pour white wine in and saute thoroughly. Season with salt and pepper.

Point!

Be careful to keep the garlic from burning.

Autumn

Rice bowl with lightly fried saury

☆ Ingredients (for four servings)

Saury	4 fish	A (seasoning)	
Flour	as needed	Soy sauce	3 tablespoons
Cooking oil	3 tablespoons	Sugar	3 tablespoons
Green pepper	6 husks	Japanese sake	3 tablespoons
Rice, white sesame	as needed	Mirin	3 tablespoons

☆ Direction

① Remove the head of saury. Cut the stomach diagonally to remove insides and wash thoroughly under running water. Fillet the saury and coat in flour. Poke a few holes into green pepper with bamboo skewer.
② Heat oil in a frying pan and saute the saury fillet with the skin down. When the surface is browned, turn over and saute the other side as well. Add green pepper and saute together.
③ Briefly wipe off excessive oil and pour in mixed A. Season the fillet evenly.
④ Fill the bowl with cooked rice, place ③ on top and sprinkle white sesame.

Point!

Remember to wipe off excessive oil in ③, which allows the seasoning cover the saury thoroughly.

Winter

Buri-daikon (yellowtail stewed with *daikon* radish)

☆ Ingredients (for four servings)

		(Mixed seasoning)	
Lean parts of yellowtail	800g	Water	6 cups
Daikon radish	1 stick	Japanese sake	1 cup
Konbu seaweed	10cm long	Mirin	½ cup
Some salt		Soy sauce	½ cup
		Some ginger	

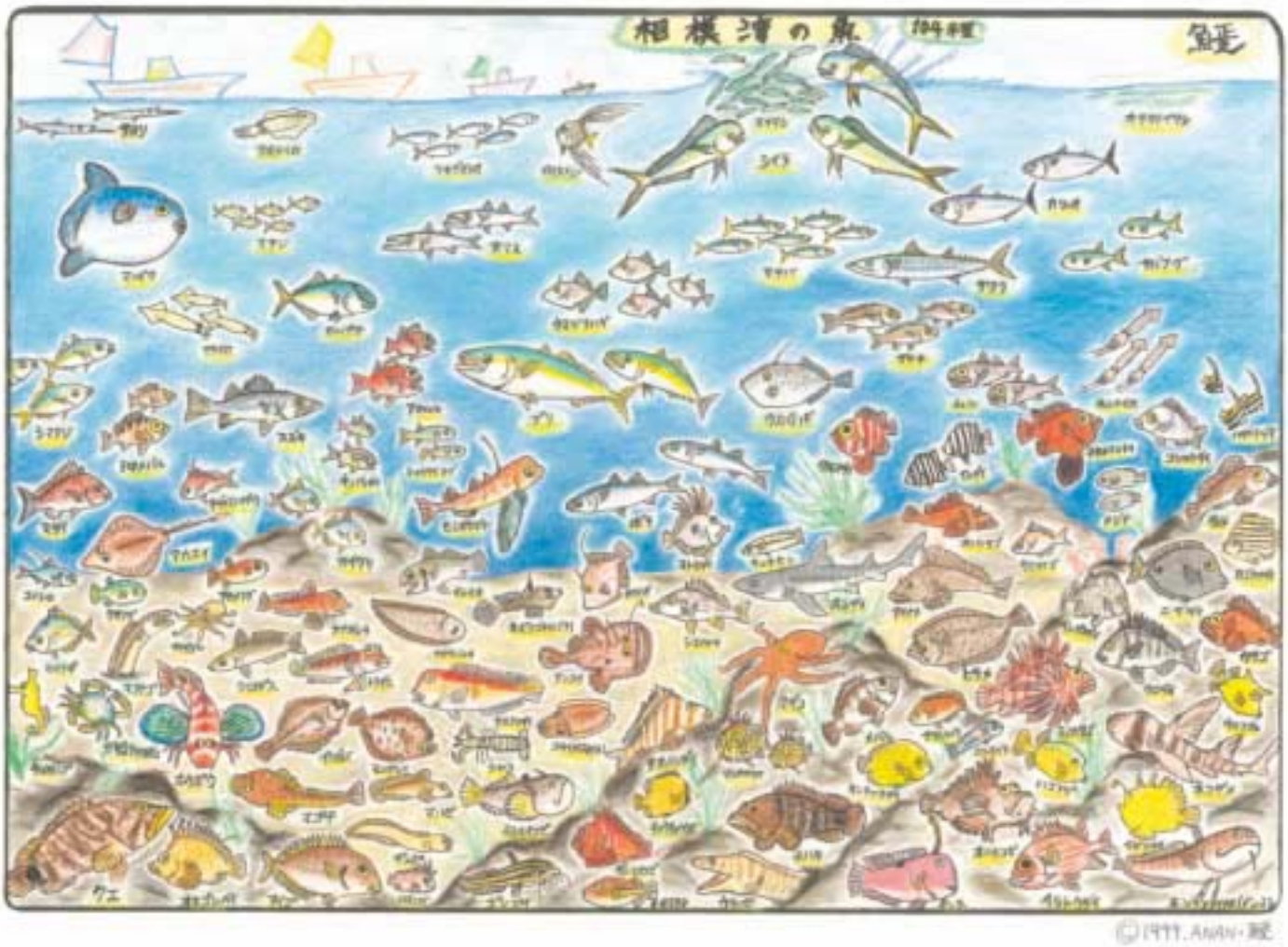
☆ Direction

① Cut lean meats of yellowtail into adequate size, sprinkle salt and leave for a while, and blanche to wash away blood and unclean parts.
② Cut daikon into large rounds. Peel the skin, plane off the corners and boil.
③ Cut ginger into fine strips.
④ Put konbu, ① and ② into a pot, add mixed seasoning, cover with drop lid and stew.
⑤ When the daikon becomes soft, add soy sauce and stew until the liquid is reduced to about 1/3 of the original amount.
⑥ Place konbu cooked in ⑤ in the dish, put daikon and yellowtail on it, and sprinkle ginger strips on top.

Point!

Sprinkling salt and blanching removes the unpleasant smell of lean meat. This process is very important!

To have interest in the sea and marine industry and to enjoy eating seafood in season results in protecting the fisheries industry and food culture.



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