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Legislative Council
of the
Hong Kong Special Administrative Region

Delegation of the
Panel on Food Safety and
Environmental Hygiene

Report on the duty visit to study Japan's columbarium facilities and fisheries industry

8 to 11 September 2010

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Chapter 1 – Introduction

Purpose of report

1.1 A delegation of the Panel on Food Safety and Environmental Hygiene of the Legislative Council visited Tokyo on 8 September 2010 to obtain first-hand information on the operation and development of columbarium facilities and measures to ensure food safety in Japan, and visited Sapporo from 9 to 11 September 2010 to learn about the country's ways to sustain its fisheries industry. This report presents the main findings and observations of the delegation.

Background

1.2 The Panel on Food Safety and Environmental Hygiene is tasked to monitor and examine Government policies and issues of public concern relating to food safety, environmental hygiene and agriculture and fisheries.

Columbarium facilities

1.3 With a growing and aging population in Hong Kong, the number of deaths and the corresponding number of cremations have been rising gradually year on year. According to the Administration, the annual number of deaths is projected to increase from 43 700 in 2010 to 52 800 in 2020. The annual number of cremations will also rise from 39 200 in 2010 to 49 600 in 2020 correspondingly. With an increasing demand for cremation service, there is an increasing need for the supply of niches.

1.4 At present, in addition to the columbarium facilities run by non-government organisations (e.g. the Board of Management of Chinese Permanent Cemeteries), religious entities and the private sector, there are eight public columbaria managed by the Food and Environmental Hygiene Department providing a total of some 167 900 public niches. About 41 000 public niches will also be provided at the new columbarium at Kiu Tau Road within the Wo Hop Shek Cemetery by the end of 2011 or early 2012.

1.5 To address the growing need for niches, it is necessary for the Administration to, amongst others, identify suitable locations for the development of columbarium facilities in different areas in Hong Kong (including urban area), such as by the construction of or conversion into multi-storey columbarium blocks. These buildings only occupy a small

land area, and relieve people from travelling to remote places for paying tribute to their ancestors. The Panel notes that there have been successful experiences of overseas countries, such as Japan, in using high-rise buildings as columbarium blocks.

Sustainable development of the local fisheries industry

1.6 The fisheries industry has a long history in Hong Kong and can be categorised as capture fisheries and aquaculture fisheries. In capture fisheries, there are currently about 3 700 fishing vessels in Hong Kong, of which about 1 100 are trawlers while the remaining are mostly sampans and small fishing boats engaged in inshore fishing. Hong Kong's fishing fleet had a production of about 159 000 tonnes valued at approximately $2 billion in 2009, supplying about 30% of the local consumption of marine products. In aquaculture fisheries, there are about 1 000 holders of marine fish culture licence operating in 26 designated fish culture zones in Hong Kong. The production of marine fish culture in 2009 was about 1 400 tonnes, amounting to about $92 million in value. As for pond fish culture, the total area of fish ponds covers an area of about 1 000 hectares and are mainly located in Northeast New Territories. Pond fish culture produced about 2 100 tonnes in 2009 with a total value of approximately $35 million.

1.7 About 10 000 fishermen in Hong Kong are directly engaged in capture and aquaculture fisheries, while about 8 000 Mainland deckhands are employed to assist in operation in fishing vessels or fish farms.

1.8 As compared to the last century, the fisheries resources within the traditional fishing grounds of Hong Kong's fishing fleet, namely local waters and the South China Sea, have been beset with problems of excessive fishing effort, marine pollution and marine works, leading to a significant reduction in the quality and quantify of fish catch. Taking into account the rise in operating costs, the fishermen's business has become increasingly difficult, as is the case of capture fisheries around the globe. The Committee on Sustainable Fisheries established by the Government in 2006 to study the long-term direction and goals for the development of the territory's fisheries industry, as well as feasible strategies and options to promote its sustainable development, submitted its report to the Government in April 2010. The report recommended a number of proposals to take forward the following two major directions for promoting the sustainable development of fisheries -

(a) to assist fishermen to develop or switch to modernised and sustainable practices; and

(b) to protect, conserve and rehabilitate the marine ecosystem and fisheries resources.

1.9 To enable members to grasp the latest development on provision of columbarium facilities and promotion of sustainable fisheries and facilitate their deliberations on the issues concerned, the Panel found it worthwhile to make reference to overseas experience. The Panel asked the Research and Library Services Division ("RLSD") of the Legislative Council Secretariat to gather information on the columbarium facilities in Tokyo and the fisheries industry in Hokkaido.

1.10 Having regard to the research findings of RLSD, members consider it useful to visit Japan in early September 2010 to obtain first hand information on the operation and development of the country's columbarium facilities and ways to sustain its fisheries industry. While in Japan, visits will also be made to the relevant authorities to learn about the country's food traceability mechanism to safeguard food safety.

1.11 On 4 June 2010, the Panel on Food Safety and Environmental Hygiene obtained the House Committee's permission to undertake the visit to Japan.

1.12 The delegation also paid a visit to the Ministry of Health, Labour and Welfare during their stay in Tokyo to learn about the measures adopted in Japan to ensure food safety.

Membership of the delegation

1.13 The delegation comprised the following Members -

Hon Fred LI Wah-ming, SBS, JP
(Panel Chairman and leader of the delegation)
Hon WONG Yung-kan, SBS, JP (Deputy Panel Chairman)
Hon CHAN Kam-lam, SBS, JP
Hon LAU Kong-wah, JP
Hon TAM Yiu-chung, GBS, JP
Hon LI Fung-ying, SBS, JP
Dr Hon Joseph LEE Kok-long, SBS,
Hon CHAN Hak-kan
Dr Hon LEUNG Ka-lau

1.14 Mary SO, Chief Council Secretary (2)5, and Theresa CHEUNG, Senior Legislative Council Assistant (2)2, accompanied the delegation on the visit.

Visit programme

1.15 The delegation visited Japan from 8 to 11 September 2010. During the visit, the delegation received briefings by the Ministry of Health, Labour and Welfare, the Hokkaido Federation of Fisheries Cooperative Associations and the Hokkaido Fisheries Coordination Office, Fisheries Agency as well as the Otaru Shi Fisheries Cooperative Association. The delegation also visited the Tama Reien, Tokyo Gobyo, the Gyoren Sogo Food Processing Factory, Sato Suisan Salmon Factory and the Sapporo Central Wholesale Markets.

1.16 Further details of the visit programme are in **Appendix I**. A list of the Government officials and representatives with whom the delegation met is in **Appendix II**. A list of the reference materials obtained during the visit is in **Appendix III**.

Chapter 2 – Columbarium facilities in Japan

Visit programme

2.1 The delegation visited the Ministry of Health, Labour and Welfare ("MHLW") and received a briefing on the development of columbarium facilities in Japan. The delegation also visited Japan's first park-type cemetery built by the Tokyo Metropolitan Government, namely, the Tama Reien (多磨霊園), and a mechanised columbarium operated by a religious group, namely, the Tokyo Gobyo (東京御廟), and received briefings on their operation. Tours were taken after the briefings to observe the facilities at these cemetery and columbarium.

The delegation received a briefing from the Ministry of Health, Labour and Welfare on the Japanese Government's policy on columbarium development in meeting public demand for columbarium facilities

Overview

2.2 Coupled with land scarcity, a steadily growing death rate resulting from the aging of the baby-boom generation has led to a shortage of burial space all over Japan. In major Japanese cities such as Tokyo, the demand for grave plots is even higher as a result of the huge influx of people into such cities over the years.

2.3 Due in part to the difficulty in securing burial plots in Japan's densely populated urban areas, cremation has gained wide acceptance. At present, the nationwide cremation rate in Japan is almost 100%.

2.4 Being the third smallest prefecture among Japan's 47 prefectures, Tokyo is home to the largest population of around 13 million. As the most populated city in Japan, the need for new graves in Tokyo each year has far exceeded supply for the past two decades. For instance, in 2003, a public sale of 50 burial plots at a cemetery, located at the heart of Tokyo and operated by the Tokyo Metropolitan Government, attracted over 2 200 applicants. These burial plots varied in size from 1.6 to 3.65 sq m, with prices ranging from 4.5 million yen to over 10 million yen. The successful purchasers were winners of a lottery draw.

2.5 As described in a book published in 2005, only four out of the eight graveyards operated by the Tokyo Metropolitan Government had any openings. It also reported that the cremated remains (or ashes) of as many as 1 million deceased in Tokyo were kept at home by families who were unable to make suitable burial arrangements. Additionally, the results of a survey conducted by the Tokyo Metropolitan Government in 2009 revealed that among the Tokyo residents interviewed, 41% did not own a burial plot, and 61% would like to have one. In selecting a burial plot, 76% of the respondents said that they would take into consideration proximity and convenience of access.

Cremation and burial facilities in Japan

2.6 In Japan, the cremated remains of deceased persons may be buried in a cemetery plot or placed in a niche within a columbarium. According to law, only certain types of entities such as religious corporations (宗教法人), public corporations (公益法人) and local governments are allowed to operate burial and cremation services in Japan. In particular, profit-seeking enterprises are not allowed to run a graveyard. The following table shows the operators of graveyards and columbaria in Japan in 2008 -

	Individual	**Religious corporation**	**Local public entity**	**Others**	**Total**
Graveyard	686 107	58 127	33 065	107 402	884 701
Columbarium	Nil	7 302	893	3 562	11 757

Alternative burial arrangements

Multi-storey columbaria

2.7 In Tokyo, some multi-storey columbaria have recently been built within Buddhist temples or been converted from abandoned industrial buildings. These columbaria are primarily managed by religious corporations or private companies. A few of these multi-storey columbaria have made use of mechanised facilities to reduce the storage space per urn. In such a columbarium, instead of adhering to the conventional practice of displaying all columbarium niches permanently, ashes of the deceased are kept in urns on shelves in a vault. Visitors use smart cards and computer facilities (e.g. a touch screen) to activate a robotic arm to retrieve the correct urn and place it in one of the several viewing areas for remembrance ceremonies. The viewing area may come with a computer screen showing images of the deceased person and other decorations, such as a floral background.

Natural burial

2.8 In Japan, natural burial (also known as green burial) has been gaining popularity since the establishment of the Grave-Free Promotion Society ("GFPS") in 1991, a civic group for promoting the scattering of human ashes. In Japan, there is no law prohibiting the scattering of human ashes. While the Law concerning Graveyards and Burial (Article 4) states that remains of the deceased must be buried in a cemetery, such prohibition applies only to conventional burials.

2.9 Natural burial in Japan mainly consists of scattering ashes at sea or in the mountains. Natural burial services are offered by GFPS and a number of companies, such as the JASDAQ-listed Sun Life Group. Commercialised sea scattering services were first offered by the Tokyo-based funeral company, Koueisha (公営社), established in 1994.

2.10 Charges for sea or mountain scattering offered by GFPS range from 100,000 yen to 180,000 yen, plus a documentation fee of 2,000 yen. Sea scattering services offered by Koueisha cost 283,500 yen for individuals, and 105,000 yen per person for group ceremonies.

Legislation

2.11 Major legislation governing burial and cremation services and facilities in Japan are -

(a) City Planning Act (1968), which ensures that the establishment or demolition of graveyards, crematoria and columbaria is in accordance with the city development plan;

(b) Land Readjustment Act (1954), which ensures that the establishment or demolition of graveyards, crematoria and columbaria is in accordance with the land readjustment projects implemented in metropolitan regions; and

(c) Law concerning Graveyards and Burial (1948), which governs the management of graveyards, crematoria and columbaria, as well as issues concerning interment.

Relevant authorities

2.12 At the central level, MHLW is responsible for the implementation of the Law concerning Graveyards and Burial and the enforcement of policies concerning the management of graveyards and related facilities. MHLW also provides guidance to the heads of local governments to help them carry out their duties in relevant areas.

Visit to the Tama Reien

2.13 Opened in April 1923, Tama Reien was built by the Tokyo Metropolitan Government as Japan's first park-type cemetery. It was originally known as "Tama Bochi" before being renamed "Tama Reien" in 1935. In 1940, it was expanded from its original size of 1 million sq m to 1.28 million sq m. Since then, Tama Reien has become the largest metropolitan-operated cemetery in Japan and a model for the construction of other Japanese cemetery parks.

2.14 In Tama Reien, burial space is kept below 50% of the total area of the cemetery, so that the green coverage accounts for more than half of the entire area. The cemetery is divided into 26 sections. Around 400 000 deceased are buried in Tama Reien, with some of them being Japanese celebrities.

2.15 In 1993, a funnel-shaped columbarium was built within Tama Reien to help alleviate the shortage of burial ground. This columbarium provides 5 600 niches for the storage of 22 000 urns on a 30-year renewable term. The niches are available in three different types for storing two, four and six urns respectively. Further, some niche spaces for temporary storage of 7 500 urns can be leased for a period of one year. Such leases are renewable annually up to a maximum of five years. Family members of the deceased are only allowed to enter the storage area of the columbarium during the internment. Keys of the lockers storing the urns are kept by the management. Lockers are not to be seen from the central arena and no plaque is installed/displayed in front of the urn/niche. A common incense burning is provided at the entrance of the columbarium, as no incense burning is allowed inside the columbarium.

2.16 In 2010, 220 burial plots of 1.8 to 6 sq m are available for sale, with prices ranging from 1,625,400 yen to 5,418,000 yen and annual management fees from 1,200 yen to 3,600 yen. As regards niches, 60 niches are available in 2010 for a lease term of 30 years. Among these niches, 50 are for storing four urns and 10 for storing two urns. A niche for storing four urns costs 396,000 yen with an annual management fee of 4,200 yen, whereas a niche for storing two urn costs 297,000 yen with an annual management fee of 3,150 yen.

The delegation toured the facilities at the Tama Reien

Delegation leader Hon Fred LI Wah-ming presented a souvenir to
Mr Ryoji IWASAKI, Manager, Management Office of the Tama Reien

Visit to the Tokyo Gobyo

2.17 Tokyo Gobyo, opened in July 2009, is a five-storey mechanised columbarium operated by a religious corporation, the Machiya Komyoji Temple. It is located near a train station and is open daily from 10 am to 7 pm. Tokyo Gobyo provides storage for up to 7 000 urns, comparing to only 100 urns if these urns are placed in graveyards for the similar space. Visitors use smart cards to activate a robotic arm to lift the urn from a vault to one of the nine worship rooms. The shortest possible retrieval time is 40 seconds. For additional fees, photos of the deceased and/or videos showing the deceased can be displayed in the worship room.

2.18 Storage of urns at Tokyo Gobyo is permanent. An urn space for an individual costs 380,000 yen, with an annual management fee of 8,000 yen, whereas a family urn space (for two deceased persons) costs 750,000 yen, with an annual management fee of 10,000 yen.

The delegation toured the facilities at the Tokyo Gobyo

Delegation leader Hon Fred LI Wah-ming presented a souvenir
to Mr Ryutoku OHORA, Chief Priest of the Tokyo Gobyo

Chapter 3 – Food safety in Japan

Visit programme

3.1 The delegation received a briefing by the Department of Food Safety under the Pharmaceutical and Food Safety Bureau of MHLW on measures to safeguard food safety in Japan.

Administration of food safety in Japan

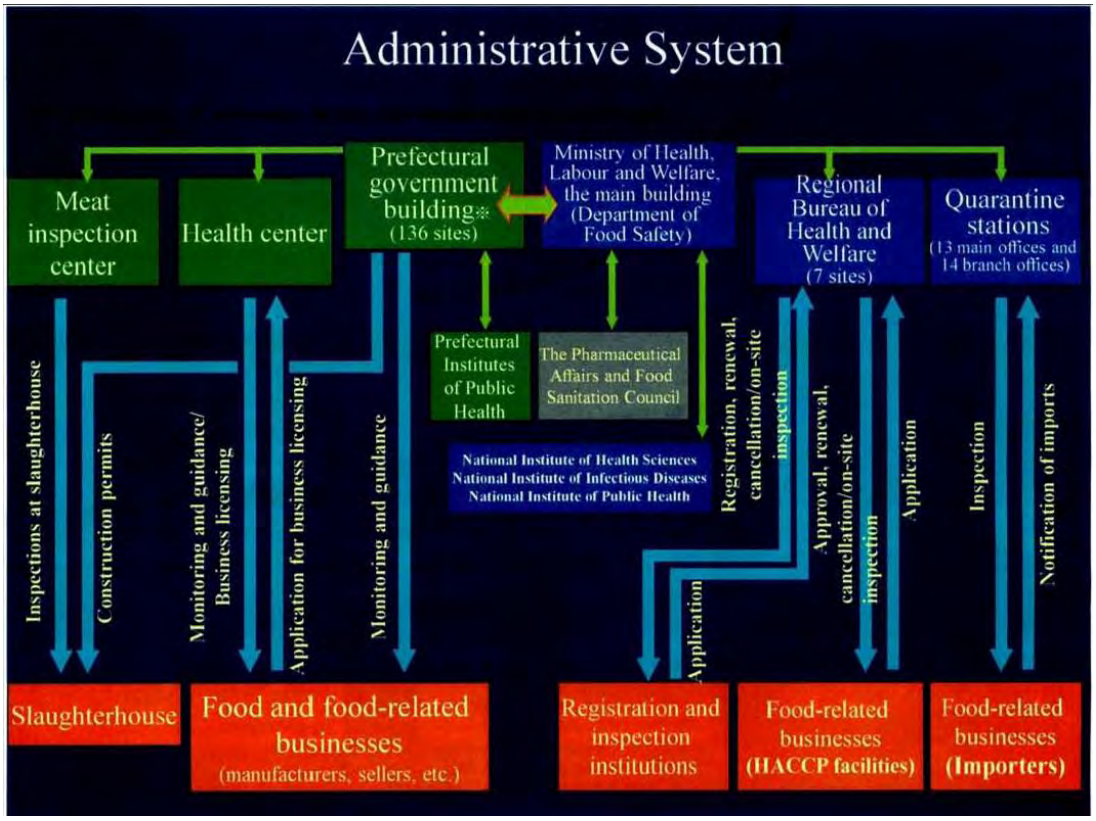
3.2 The management of food safety in Japan is based on the Food Safety Basic Law, the Food Sanitation Law, the Abattoir Law, the Poultry Slaughtering Business Control, the Poultry Inspection Law and other related laws.

3.3. The Food Safety Basic Law was enacted in 2003 in response to the increasing public concern about food safety due to a number of food incidents, such as outbreak of Bovine Spongiform Encephalopathy and the false labelling scandals. The Food Safety Basic Law is a comprehensive law to ensure food safety by establishing basic principles, clarifying the roles and responsibilities of national and local governments, food related businesses and consumers, as well as providing direction to the formulation of food safety policies. This legislation introduced a risk analysis approach to food safety, which consists of three key elements, namely, risk assessment, risk management and risk communication.

3.4 Specifically, risk assessment falls under the responsibility of the Food Safety Commission, an independent agency established in the Cabinet Office under the Food Safety Basic Law, whereas risk management is handled by MHLW and the Ministry of Agriculture, Forestry and Fisheries ("MAFF"). MHLW is responsible for setting general requirements and standards applicable to all types of food, whereas MAFF is involved in the risk management of agricultural, livestock and fishery products with the main focus areas on food labelling and protection of animal and plant health. Local government also plays an important part in implementing risk management. The health centres established under the health authorities in each jurisdiction are responsible for issuing licences to food businesses within the jurisdiction concerned, conducting inspection of food establishment and carrying out tests on food.

3.5 Risk communication is conducted by both the risk assessment and the risk management agencies. These agencies communicate with each other on food safety issues, and provide interested parties, such as consumers, with the relevant information.

3.6 The following table shows an outline of the administration of food safety in Japan -

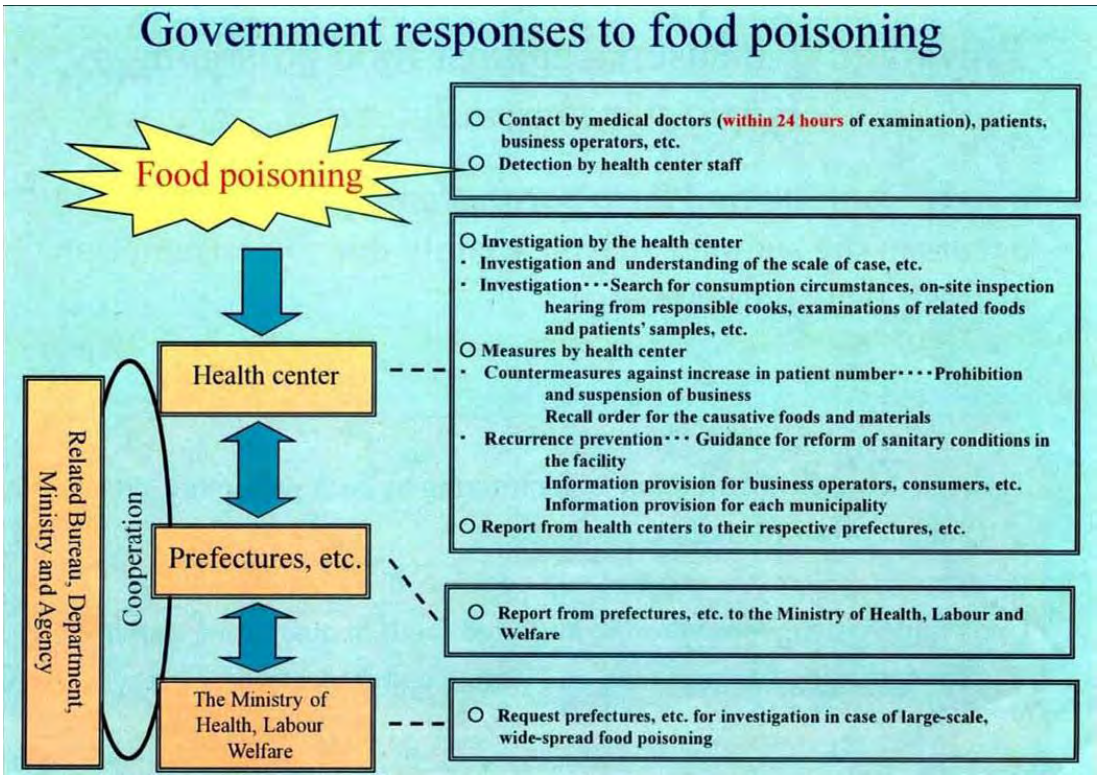


Handling of food poisoning in Japan

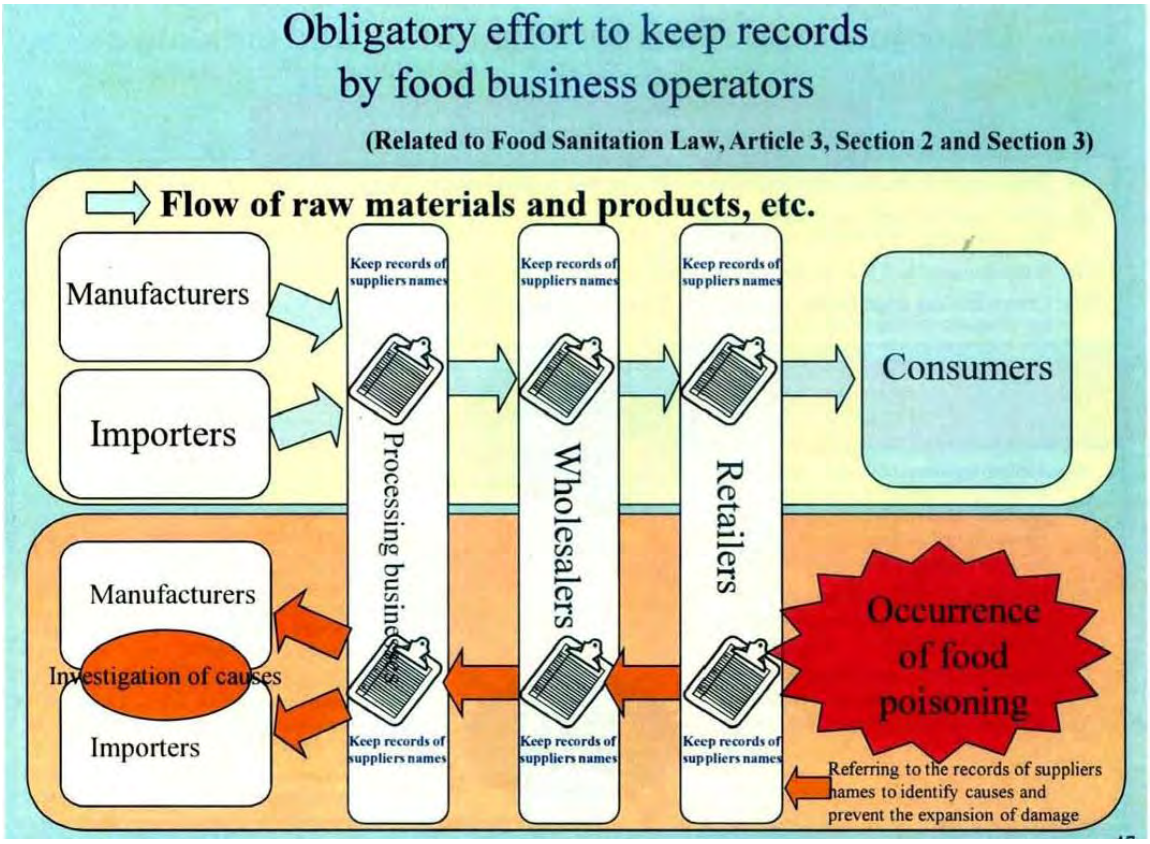
3.7 In 2009, there were 1 369 reported cases of food poisoning involving 24 303 patients, including 4 deaths. The following tables show the occurrence of food poisoning and the occurrence of food poisoning by cause in Japan -

Food type	2006		2007		2008	
	Cases	Rate(%)	Cases	Rate(%)	Cases	Rate(%)
Total	1,491	100	1,289	100	1,369	100
Fish and seafood	80	5.4	68	5.3	106	7.7
Processed fish and seafood	8	0.5	22	1.7	15	1.1
Raw and processed meat, etc.	71	4.8	83	6.4	96	7.0
Raw and processed eggs	7	0.5	8	0.6	10	0.7
Milk and processed milk	1	0.1	1	0.1	0	0.0
Cereal and processed cereal	26	1.7	22	1.7	23	1.7
Raw and processed vegetables	97	6.5	78	6.1	87	6.4
Confectionary	11	0.7	12	0.9	9	0.7
Composite cooked food	141	9.5	95	7.4	103	7.5
Others	582	39.0	547	42.4	531	38.8
Unknown	467	31.3	353	27.4	389	28.4

3.8 Government responses to food poisoning are depicted in the following table -



3.9 In Japan, food business operators have the responsibilities to ensure that the food they supply are fit for human consumption. Food business operators refer to people engaging in the manufacturing, importation, processing, marketing and selling of food. Under the Food Sanitation Law, food business operators should endeavour to maintain transaction records and implement measures, such as disposal of problem food, expeditiously in the event of the occurrence of food poisoning. No penalty will be imposed on food business operators for failing to carry out the aforesaid acts. The Japanese government will not rule out making it mandatory for food business operators to maintain transaction records if the problem of food poisoning becomes more serious in future. The following table shows the existing record-keeping by food business operators to enable traceability in the event of the occurrence of food poisoning -



Chapter 4 - Fisheries industry in Japan

Overview of the fisheries industry in Japan

4.1 In Japan, the fisheries industry contributed to less than 1% of the Gross Domestic Product in 2007. The primary role of the fisheries industry is to provide a stable supply of fishery products for domestic consumption. Domestic production supported 62% of Japan's national consumption of fishery products in 2007.

4.2 Fisheries production in Japan has dwindled since the late 1980s due to a decline in the resources level of the Japanese fishing grounds and Japan's withdrawal from the fishing grounds of neighbouring countries' 200-mile fishing zones. The total amount of fishery production was 5.59 million tons in 2008, comparing to 7.49 million tons in 1995. The total value of fishery production was 1,627.5 billion yen in 2008, with marine fisheries and marine aquaculture production accounting for 95% of the production value.

4.3 Statistics on the structure of the fisheries industry in Japan are summarised in the table below.

	Total in Japan
Number of fishing ports	2 917
Number of fishery establishments	115 196
Number of persons engaged in the fisheries industry	221 908
Number of powered fishing boats for marine fisheries	289 456
Number of fisheries cooperative associations along coastal areas	1 166

Fisheries policy

4.4 The Fisheries Agency, an affiliated agency under the Ministry of Agriculture, Forestry and Fisheries, is responsible for the development and implementation of the fishery policy in Japan. In order to address the issues encountered by the Japanese fishery industry such as the

declining domestic production and the aging workforce, the Japanese government enacted the Basic Law on Fisheries Policy in 2001 to provide the policy guidelines for developing and stimulating/re-energising the fishery industry. The major policy objectives are to secure a stable supply of fishery products and to establish a sustainable and strong fishery industry.

4.5 According to the Basic Law on Fisheries Policy, the government formulated the Basic Fisheries Plan in 2002 and updated it in 2007 to lay down the implementation programme of the policy. The Basic Fisheries Plan covers the following key development directions -

(a) promoting the recovery and sustainable management of fishery resources that are at a low level;

(b) enhancing competitiveness and productivity of the fishery operators through the adoption of energy-saving fishery operations and new business management approaches, and attracting prospective participants through the provision of information and training;

(c) improving the sales and distribution channels of fishery products to ensure the delivery of fresh and safe products to consumers, and enhancing the value-added processing of fishery products;

(d) developing and diffusing new technology such as energy conservation technology and technology to improve quality of fishery products;

(e) supporting the development of fishing ports and villages in terms of improving their production capacity, infrastructure, and living environment, and promoting ecosystem conservation; and

(f) promoting the re-organisation of fisheries cooperative associations and related organisations.

Regulatory framework

4.6 In Japan, the government regulates the fisheries industry through monitoring and controlling the total number and total gross tonnage of fishing vessels engaged in the fishery industry with a vessel registration

system established under the Fishing Vessels Law (1949). In addition, the government oversees the fishery operation by establishing the following licensing/control systems under the Fisheries Law (1949) -

(a) national licensing system for marine fishery operation on a nation-wide scale or in international waters;

(b) prefecture government licensing system for offshore marine fishery operation beyond the coastal areas on a regional/prefecture scale; and

(c) fishery rights system for marine fishery and aquaculture operation in coastal areas.

4.7 With regard to the fishery rights system, the prefecture governments grant fishery rights to local fisheries cooperative associations in coastal villages to conduct fishery operation at specified coastal sea areas. Each fisheries cooperative association is responsible for establishing regulations within the framework of national and prefecture legislation for the management of fishery operation among its members, and the rational exploitation and conservation of fishery resources within the specified sea area. Under the system, fisheries cooperative associations have high level of autonomy in determining the division of access rights among members and developing fishery management measures that are tailored to local conditions. In addition, fisheries cooperative associations perform functions such as providing credit facilities and equipment for members, and conducting marketing and education activities. The Fisheries Cooperative Association Law (1948) provides the legal framework for the organisation and administration of fisheries cooperative associations.

4.8 In order to control and preserve the fishery resources within Japan's exclusive economic zone, the government has introduced two control systems on fishery activities under the Law on Preservation and Control of Living Marine Resources (1996) -

(a) total allowable catch system - setting the upper limits of annual allowable catches for seven major fishery species, namely, sardine, mackerel, jack mackerel, saury, Alaska Pollock, common squid and snow crab; and

(b) total allowable effort system - setting the upper limits on the number of fishing days and the number of operating vessels in a specific area within the exclusive economic zone.

4.9 Other relevant legislation that governs the fishery industries in Japan includes -

(a) Law on the Protection of Fishery Resources (1951) - providing the legal framework for the conservation of fishery resources in the coastal waters of Japan;

(b) Law to Ensure Sustainable Aquaculture Production (1999) - aiming to prevent self-induced environmental deterioration around fish farms and the spread of fish diseases in order to ensure sound and sustainable aquaculture production; and

(c) Basic Law on Ocean Policy (2007) - aiming to promote the development and use of ocean resources as well as conservation of the marine environment.

Distribution and marketing of fisheries products

4.10 Fisheries products are distributed through a network of wholesale markets in landing areas and in consumption areas. Wholesale markets in consumption areas include central wholesale markets established by the local governments and other local markets. In these wholesale markets, fishery products from various landing areas are sold by auction from the wholesale dealers to the intermediate wholesalers who will then sell the products to stock purchasers for retail sales, or to the authorised buyers who are agents for restaurants, food processing companies and large retailers. There are over 50 central wholesale markets for fishery products in Japan, of which the Tokyo Metropolitan (Tsukiji) Central Wholesale Market is the largest.

4.11 As proposed in the Law Concerning Standardisation and Proper Labelling of Agricultural and Forestry Products revised in 1999, the government introduced a labelling system for fresh and processed food products, including fishery products, in 2000 to provide consumers with accurate product information for making informed choices. Under the system, information including product name and description of fishing area must be included on labels of fresh fishery products. For processed fishery products, information including product name, ingredients, net contents, use-by date, storage instruction and name and address of manufacturer must be included on the labels.

4.12 In order to enhance the competitiveness of local agricultural and fishery products, the government introduced a regional-based collective trademark system in 2006. Under the system, a local fisheries cooperative association can register a brand consisting of geographical and product names as a regional organisation trademark if the brand is known in multiple prefectures. As at March 2007, there were 18 registered regional organisation trademarks for fishery products in Japan.

Research and development

4.13 The Fisheries Research Agency ("FRA"), established in 2001 as an independent administrative agency by consolidating nine former national fisheries research institutes, is responsible for conducting a wide range of research and development activities to support the national fishery policy. FRA comprises the following research institutes and centres:

(a) nine research institutes - responsible for conducting comprehensive research on fisheries, among which the Hokkaido National Fisheries Research Institute is responsible for conducting research and development activities related to physical and biological oceanography, stock assessment of major fishery resources, and ecological and genetic studies of coastal organisms for stock enhancement at the subarctic region of the North Pacific Ocean and the sea area around Hokkaido;

(b) National Salmon Resources Center located in Hokkaido - responsible for salmon hatching and release, stock assessment and stock conservation of the salmon population;

(c) Marine Fisheries Research and Development Centre - responsible for developing technologies to improve efficiency of fishery operation and to enhance sustainable utilisation of marine fishery resources; and

(d) National Centre for Stock Enhancement - responsible for developing stable seed production techniques for fish and shellfish, and stock enhancement techniques.

Overview of the fisheries industry in Hokkaido

4.14 Hokkaido, with a land area of 83 457 sq km, is the largest prefecture of Japan. As at October 2008, Hokkaido had a population of 5.54 million, accounting for about 4% of the total population of Japan. Hokkaido is surrounded by the Pacific Ocean, Sea of Okhotsk and Sea of Japan with a coastline of 3 085 km, which is 9.1% of the country's coastline.

4.15 In 2008, 14 780 fishery establishments were engaged in marine fisheries and marine aquaculture in Hokkaido, down from 23 222 in 1988. The marine fisheries and marine aquaculture activities engaged 33 568 employees in 2008, and most of them were males (86%) aged 40 or above (74%). The following set out the statistics on the structure of the fishery industry in Hokkaido in 2008 -

	Hokkaido	**Total in Japan**	**Percentage of total in Japan**
Number of fishing ports	284	2 917	9.7%
Number of fisheries establishments	14 780	115 196	12.8%
Number of persons engaged in the fisheries industry	33 568	221 908	15.1%
Number of powered fishing boats for marine fisheries	30 062	289 456	10.4%
Number of fisheries cooperative associations along coastal areas	77	1 166	6.6%

4.16 In line with the overall trend in Japan, the fishery production of Hokkaido has declined since the late 1980s. In 2008, the fisheries production of Hokkaido was 1.474 million tons, contributing to around 26% of the total in Japan. The total value of fishery production, accounting for only marine fisheries and marine aquaculture production,

was 295.8 billion yen, accounting for about 19.2% of the total in Japan. The following table shows the statistics on the fisheries production of Hokkaido by types of fishery activities in 2008 -

	Production volume ('000 tons)	**Production value (¥ billion (HK$ billion))**
Marine fisheries	1 314	262.0 (19.80)
Marine aquaculture	151	33.8 (2.56)
Inland water fisheries and inland aquaculture	9	Not available
Total	**1 474**	**295.8 (22.36)**

4.17 The top three types of fisheries products in terms of production volume in 2008 were: scallop (30.4% of the total production volume), Alaska pollack (13.6%) and Hokke fish (11.7%). The top three types of fishery products in terms of production value were: salmon (21.2% of the total production value), scallop (19.3%) and seaweed (9.4%). Scallop was the main marine aquaculture product, accounting for 78% of the production volume.

4.18 Propagation of fishery resources by re-stocking of fish seedlings is commonly adopted by coastal fishery operators for management of the fishery resources. Such activities contributed to around 37% of the total fishery production in Hokkaido in 2008.

4.19 In 2008, 1 079 business establishments were engaged in the processing of fishery products in Hokkaido, employing 32 726 persons. The total production of processed fishery products in 2008 was 0.743 million tons, contributing to 19.1% of the total in Japan. The total value of shipments was 700.2 billion yen, accounting for 20.6% of the total in Japan.

4.20 As at March 2009, there were 1 530 registered establishments in the recreational fishing business in Hokkaido, operating 1 675 fishing boats. The government imposes control on the fishing areas, timing, tools and methods of recreational fishing to protect the fishery resources of Hokkaido.

Policy on promoting the fishery industry in Hokkaido

4.21 The recent downturn of the fishery industry in Hokkaido has been affected by a number of factors such as the declining level of fishery resources, decreasing domestic demand on fishery products, rising fuel costs, decreasing number and aging of fishery workers, competition from imported products and falling product prices.

4.22 In order to revive the fishery industry in Hokkaido, the Hokkaido government enacted the Hokkaido Fishery Industry Promotion Act in March 2002 and introduced the Fishery Industry Development Plan in March 2003. Under the administration of the Department of Fisheries and Forestry, the Development Plan aimed to revitalise the fishery industry and provide stable domestic supply of safe and quality fishery products. As specified in the Development Plan, the Hokkaido government has targeted to increase the annual fishery production from 1.474 million tons in 2008 to 1.72 million tons in 2017.

4.23 The following key development directions were set in the Fishery Industry Development Plan -

(a) promoting proper management and use of fishery resources;

(b) promoting aquaculture production by developing new technology, improving production efficiency, and strengthening facilities of the fisheries;

(c) improving the management of fishery establishments and enhancing their capital equipment to increase productivity;

(d) strengthening the distribution and food safety monitoring systems to ensure freshness and quality of fishery products;

(e) enhancing competitiveness of Hokkaido fishery products in the domestic and overseas markets;

(f) promoting preservation of the ecosystem when developing the fishery industry;

(g) improving the environment and infrastructure of the fishing villages;

(h) promoting technological development in the fishery industry;

(i) providing support to female and older workers in the fishery industry and attracting young prospective workers to join the industry; and

(j) educating the public about the fishery industry and stimulating their interest in fishery products.

The first phase of the Development Plan was introduced in March 2003 and the second phase in March 2008.

Visit programme

4.24 The delegation visited the Hokkaido Fisheries Coordination Office of the Fisheries Agency, the Hokkaido Federation of Fisheries Cooperative Associations and the Otaru shi Fisheries Cooperative Association, and received briefings on the fisheries industry in Japan. The delegation also visited the Gyoren Sogo Food Processing Factory and the Sato Suisan Salmon Factory to understand their operation. Tours were taken after the briefings to observe the facilities at these establishments. Opportunity was also taken to visit the Sapporo Central Wholesale Market to observe the auction of fisheries products.

Hokkaido Fisheries Coordination Office of the Fisheries Agency

4.25 The Fisheries Agency is an affiliated agency under the Ministry of Agriculture, Forestry and Fisheries responsible for developing and implementing fishery policies, regulating the fishery industry, and managing the fishery resources and infrastructure in Japan. The Fisheries Agency comprises the following departments -

(a) Fisheries Policy Planning Department;

(b) Resources Management Department;

(c) Resources Enhancement Promotion Department; and

(d) Fisheries Infrastructure Department.

The Hokkaido Fisheries Coordination Office is the local branch office of the Fisheries Agency in Hokkaido. The major roles of the Office are -

(a) ensuring smooth operation of the fishery industry in Hokkaido;

(b) regulating the operation of foreign fishing vessels in its waters; and

(c) promoting the conservation of fishery resources.

The Office comprises the following divisions -

(a) Fisheries Management Division - responsible for regulating fishery activities of the local and foreign fishing vessels;

(b) Resources Division - responsible for managing and conserving the marine fishery resources and authorising the operation of marine fishing vessels; and

(c) Administration Division - responsible for human resources, accounting and general administration management.

The delegation received a briefing from Mr Masahiro MORITA,
Director General of the Hokkaido Fisheries Coordination Office, Fisheries Agency

Delegation leader Hon Fred LI Wah-ming presented a souvenir to Mr Masahiro MORITA, Director General of the Hokkaido Fisheries Coordination Office, Fisheries Agency.

Hokkaido Federation of Fisheries Cooperative Associations

4.26 The Hokkaido Federation of Fisheries Cooperative Associations was established by fishermen in 1949 to promote the livelihood of fisheries in Hokkaido. As at 1 April 2010, the Federation had 82 members and was supported by 338 employees.

4.27 The Hokkaido Federation of Fisheries Cooperative Associations has 16 offices and 10 subsidiary companies. The major business activities of the Federation include -

(a) sales and marketing of fisheries products;

(b) sourcing fuels and materials for members to reduce their operating costs;

(c) operating fisheries product processing plants;

(d) advising members on conservation and management of fishery resources and issues related to their fishery operation; and

(e) conducting education activities for members and consumers.

The delegation received a briefing from Mr Takashi OGURA,
Executive Managing Director of the Hokkaido Federation of Fisheries Cooperative Associations

Delegation leader Hon Fred LI Wah-ming presented a souvenir to Mr Takashi OGURA,
Executive Managing Director of the Hokkaido Federation of Fisheries Cooperative Associations

Otaru shi Fisheries Cooperative Association

4.28 The Otaru shi Fisheries Cooperative Association was established by fishermen in 1949 to promote the livelihood of fishermen in Otaru shi. As at 2007, the Otaru shi Fisheries Cooperative Association had 219 members and was supported by 38 employees. The Otaru shi Fisheries Cooperative Association comprises the following divisions -

(a) Administration Division;

(b) Credit Division;

(c) Consulting and Mutual Aid Division;

(d) Marketing Division; and

(e) Refrigeration Division.

Key activities of the Otaru shi Fisheries Cooperative Association include -

(a) providing credit facilities and financial assistance to members;

(b) acquiring fishery equipment for members;

(c) operating a wholesale market;

(d) operating refrigeration business; and

(e) advising members on management of fishery resources and other issues related to their fishery operation.

The delegation met with the representatives of the Otaru shi Fisheries Cooperative Association

Delegation leader Hon Fred LI Wah-ming presented a souvenir to Mr Takeshi IWAKI, Representative Director cum Union Leader of the Otaru shi Fisheries Cooperative Association

Gyoren Sogo Food Processing Factory

4.29 The Gyoren Sogo Food Processing Factory was established in 1995. It is a subsidiary of the Hokkaido Federation of Fisheries Cooperative Associations. The company is primarily engaged in the manufacture and sale of seafood products. Major products include a wide range of frozen (uncooked, semi-cooked, fried and pickled in soy sauce) and dried seafood, such as salmon fillets, squid, octopus, scallops and various types of fish. At present, the company has a total of 220 employees. Its annual sales as at March 2010 were around 4.2 billion yen.

The delegation received a briefing from Mr Shoichi NARITA, President of Gyoren Sogo Food Processing Factory

Delegation leader Hon Fred LI Wah-ming presented a souvenir to Mr Shoichi NARITA, President of Gyoren Sogo Food Processing Factory

The delegation toured the Gyoren Sogo Food Processing Factory

Sato Suisan Company Limited

4.30 The Sato Suisan Company Limited was established in 1948. In 2010, it has 217 full-time employees and 53 part-time employees. The company is primarily engaged in the manufacture and sale of seafood products. It started in 1954 to operate the salmon processing plant in Ishikari, primarily producing frozen salmon products. The head office is located in Sapporo, with several branch offices established in other cities, such as Tokyo, Chitose and Ishikari. The Sato Suisan Company Limited has over 300 kinds of seafood products distributed through various channels, including direct sales channels, web sales and operation of restaurants. Its annual sales as at January 2010 were around 7 billion yen.

The delegation toured the Sato Suisan Salmon Factory

Delegation leader Hon Fred LI Wah-ming presented a souvenir to Mr Shouichi NAKASE, Acting Manager of Sato Suisan Salmon Factory

Group photo of the delegation at the Sato Suisan Salmon Factory

Sapporo Central Wholesale Market

4.31 The Sapporo Central Wholesale Market, a public wholesale market established by the City of Sapporo in 1959, has been the leading market for distribution of perishable goods in Hokkaido. The major functions of the Sapporo Central Wholesale Market are in -

(a) collecting and distributing perishable products efficiently and cost-effectively;

(b) ensuring that the products are sold at fair prices through the auction mechanism;

(c) providing accurate and updated market and pricing information; and

(d) conducting regular hygiene inspection of the goods by the Health Inspection Office of the Central Wholesale Market.

4.32 The Central Wholesale Market comprises the fruit and vegetable section and the marine product section. Fisheries products from various landing areas are sold by auction from wholesale dealers to intermediate wholesalers who will then sell the products to buyers or retailers for retail sales, or to authorised buyers who are agents for retailers or supermarkets. Wholesale dealers charge a commission on the value of products sold. In 2009, the Sapporo Central Wholesale Market handled a total volume of 122 176 tons of fisheries products, of which 39.6% were fresh fisheries products, 37.7% were frozen fishery products and 22.7% were processed products. The value of fisheries products handled was 101 billion yen. The value by product was fresh (38.3%), frozen (34.6%) and processed fishery products (27.1%) respectively.

Group photo of the delegation at the Sapporo Central Wholesale Market

The delegation received a briefing from the representative of Sapporo Central Wholesale Market

The delegation toured the Sapporo Central Wholesale Market

Chapter 5 – Observations

General

5.1 The delegation is of the view that the information obtained during the visit on columbarium facilities, food safety measures and sustainable fisheries has provided useful reference for Hong Kong. The observations of the delegation are given in the following paragraphs.

Columbarium facilities in Japan

5.2 The delegation notes that the cremation rate in Japan is close to 100%. The cremains of the deceased may be buried in a cemetery plot or placed in a niche within a columbarium. With a growing ageing population, Japan is facing shortage of burial space.

5.3 The delegation has noted that although there are legislation governing burial and cremation services and facilities in Japan, the Japanese government does not have a central policy on the provision of columbarium facilities to meet overall public demand in the country. The job of doing so, including issuance of licences, is under the purview of the local governments.

5.4 The delegation has observed that similar to Hong Kong and elsewhere, Japan has local community resistance and reluctance to have columbarium facilities in their districts. It is the usual practice of the local governments to first obtain the consent of the local people before giving the green light to the construction of columbarium facilities in the districts. The delegation has further observed that the Japanese government no longer issues licences to individuals for operating graveyards, albeit the transferability of the licence to the immediate family member of a deceased licensee.

5.5 The delegation has noted that the price of purchasing a niche in Japan is in general 30% to 40% less expensive than the price of purchasing a burial plot. The delegation has further noted that a burial plot, mainly bought for use by a family unit, can usually accommodate up to four urns.

5.6 Members are highly impressed by the mechanised multi-storey columbarium operated by the Tokyo Gobyo which not only saves space but can also have a retrieval time of as short as 40 seconds. Members are also impressed by the design of the Tokyo Gobyo which has minimal visual impact and nuisance to neighbouring residents.

5.7 Members are also highly impressed by the architecture of the columbarium at the Tama Reien which is very solemn on the one hand and peaceful on the other.

5.8 The delegation has noted that some non-governmental organisations in Japan are actively promoting alternative means of handling cremains. The Japanese government allows scattering of cremains at sea in designated areas chosen to minimise impact to the environment and people.

Food safety measures in Japan

5.9 The delegation has found the measures adopted by the Japanese government in safeguarding food safety to be very comprehensive and on par with standards adopted in other developed countries.

5.10 Members also find the legislation governing the supply of food intended for human consumption in Japan very comprehensive, although members note that at present there is no law requiring food traders to keep and maintain transaction records to enhance traceability in the event of a food incident.

5.11 Members have noted that with growing concern about food safety by the Japanese public, Japan has introduced a risk analysis approach to its food safety work. Apart from the central government, local governments also play an important role in safeguarding food safety. Notably, local governments conduct inspection of and give advice to food businesses, grant licences to food businesses that operate within the jurisdiction concerned and suspend/revoke licences for violation of the law, and conduct food testing. These activities are executed through health centres under the jurisdiction concerned. Imported foods are inspected by 31 quarantine stations placed across Japan under the central government.

Fisheries industry in Japan

5.12 The delegation notes that Japanese fisheries can be divided into three main types, namely, distant-water fisheries, offshore fisheries and coastal fisheries. Whilst capture from coastal fisheries has remained relatively stable, capture from distant-water and off-shore fisheries has been on the decline due to overfishing and more stringent international obligations on distant fisheries operation. Annual fisheries production, including marine aquaculture, reached its peak at 1 282 million tonnes in 1984 and dropped over the years to 559 million tonnes in 2008.

5.13 To tackle the declining fish stocks, the Japanese government has been implementing the Total Allowable Catch ("TAC") system since 1997 and the Total Allowable Effort ("TAE") system since 2002. Under the TAC system, fishing for specific fish species would be banned if an annual quota is exceeded. Under the TAE system, restrictions are set on the number of days for fishing certain fish species. Other resource recovery plans include reducing the sizes of offshore fishing fleets, implementing fishing moratorium, designating no trawl zones, encouraging coastal fishermen to switch to other operations, and conducting restocking programmes. As of March 2009, 49 resource recovery plans involving 74 fish species are being implemented or worked out. Fishermen were consulted in the formulation of the resource recovery plans.

5.14 The central and prefecture governments regulate fishing efforts in terms of fishing method, gear use, fishing seasons and other technical measures, whereas the basis for the management of coastal fisheries is through the implementation of a fishing right system. The right to fish is granted by the prefecture government to the local fishermen cooperative associations with responsibility for a particular geographical area and whose membership are fishermen from communities within the area. The rights granted to the fishermen cooperative associations are exclusive but the rights cannot be transferred to others and only members of the associations can fish in the area where the right is applicable.

5.15 Members have observed that fishermen cooperative associations play a pivotal role in promoting the sustainable development of fisheries industry in Japan. For instance, some of the major activities of the Hokkaido Federation of Fisheries Cooperative Associations are to promote local fisheries product trade, operate fisheries product processing plants, such as the Gyoren Sogo Food Processing Factory, to produce more high value-added products, and advising fishermen on conservation and management of marine resources. The Otaru shi Fisheries

Cooperative Association also provides credit facility to fishermen in financial needs.

5.16 Members have also observed that it is the established practice for members of the fishermen cooperative associations to sell their fisheries capture to the fishermen cooperative associations to which they belong. A fee would be levied by the fishermen cooperative associations on those fishermen who sold their fisheries capture to another party.

5.17 The delegation notes the following measures taken by the Japanese government to cope with the fuel costs which have risen 160% over the past five years -

(a) subsidising 90% of the increase in fuel costs if the fishermen can demonstrate that they have cut fuel consumption by 10% or more;

(b) offering interest-free loans to fishermen to switch to more energy saving fishing vessels; and

(c) encouraging group operations by fishermen.

A set of "New Management Stabilization Measures" has also been introduced in 2008 to mitigate relatively light revenue decreases not covered by the current fishery mutual aid insurance. In 2005, fishing income per coastal fishing household was 5.27 million yen, compared with 6.27 million yen for the national average.

5.18. Global warming has reduced the capture of fisheries products, for example, pacific saury in 2010. The Japanese government is assessing the effects of global warming on the fisheries industry and exploring measures to counter such effects.

5.19 The delegation notes that some 40% of the fisheries products in Japan are imported, due to the consumers' inclination for less expensive imported seafood, such as salmon fillet and tuna fillet, which are also easier to cook. Efforts are being made by the Japanese government to reduce imported fisheries products to 35% by 2019.

5.20 Members have found that as at 2007, the fishing population in Japan stood at 204 000, of whom those over 65 years old accounted for 37.4%. On the other hand, the number of newcomers was only 1 514 in 2003 and 1 784 in 2008. In order to attract more people to become fishermen, on-going efforts are made to attract and assist interested

parties to join the fisheries industry though job seminars, on-the-job training and subsidy.

5.21 Members note that the development of recreational fisheries in Japan has helped to offer greater opportunities for fishermen to switch to other modes of operation and/or boost their income.

5.22 Members have found the operation of the Gyoren Sogo Food Processing Factory and the Sato Suisan Salmon Factory very efficient and well-run. In particular, members are particularly impressed by the wide variety of food products processed from fisheries products. Members also find the hygiene standards of these factories to be of a very high standard.

5.23 Members are impressed by the large trade volume and wide range of foods and facilities in Sapporo Central Wholesale Market. Members have noted that while the Market is mainly financed by shop rental and auction commission, it also receives subsidies from local government.

Conclusion

5.24 The delegation has found the visit to Japan very enlightening and useful. The detailed briefings and exchange of views between the delegation and the officials and executives in Japan have provided useful reference when Members consider the Government's proposals for regulating columbarium facilities, promoting sustainable fisheries and safeguarding food safety in Hong Kong.

Council Business Division 2
Legislative Council Secretariat
16 December 2010

Appendix I

Panel on Food Safety and Environmental Hygiene

Duty visit to Japan
(8 to 11 September 2010)

Visit programme

Wednesday, 8 September 2010	
10:00 am – 12:00 noon	**Visit to the Ministry of Health, Labour and Welfare** - Briefing on food safety surveillance system and countermeasures against food poisoning by Mr Ryuusuke MATSUOKA, Deputy Director, Inspection and Safety Division, Department of Food Safety, Pharmaceutical and Food Safety Bureau - Briefing on Japanese Government's policy on columbarium development in meeting public demand for columbarium facilities by Mr. Yukio OKUDA, Deputy Director, Environmental Health Division, Health Service Bureau
2:00 pm – 3:30 pm	**Visit to the Tama Reien** - Briefing on columbaria facilities in Japan by Mr Ryoji IWASAKI, Manager, Management Office of the Tama Reien
4:30 pm – 5:30 pm	**Visit to the Tokyo Gobyo** - Briefing on private multi-storey columbaria in Japan by Mr Ryutoku OHORA, Chief Priest

Thursday, 9 September 2010	
1:30 pm – 2:00 pm	**Visit to the Hokkaido Federation of Fisheries Cooperative Associations** - Briefing on the establishment by Mr Takashi OGURA, Executive Managing Director and Mr Kazuharu IZAWA, Councilor
2:40 pm – 3:30 pm	**Visit to the Gyoren Sogo Food Processing Factory** - Briefing on the operation of the establishment by Mr Shoichi NARITA, President and Mr Takashi HARADA, Vice President
4:00 pm – 5:00 pm	**Visit to the Sato Suisan Salmon Factory** - Briefing on the operation of the establishment by Mr Shouichi NAKASE, Acting Manager
Friday, 10 September 2010	
9:30 am – 11:30 am	**Visit to the Hokkaido Fisheries Coordination Office, Fisheries Agency** - Briefing on supporting mechanism for fishing industries by Mr Masahiro MORITA, Director General
2:30 pm – 3:30 pm	**Otaru Shi Fisheries Cooperative Association** - Briefing on the operation of the establishment by Mr Takeshi IWAKI, Representative Director cum Union Leader

Saturday, 11 September 2010	
5:00 am – 7:00 am	**Visit to the Sapporo Central Wholesale Market** - Briefing on the set up and operation of a typical seafood market in Hokkaido by Mr Tetsuya SASAKI, Chief, Sapporo Central Wholesale Market Business Section, Economic Bureau, Sapporo City Government, Ms Masami TAKA and Ms Mayumi NOGAMI from The Corporation of Sapporo Central Wholesale Market Association

Appendix II

List of Government officials and representatives with whom the delegation met

Ministry of Health, Labour and Welfare

Mr Ryuusuke MATSUOKA, Deputy Director,
Inspection and Safety Division, Department of Food Safety,
Pharmaceutical and Food Safety Bureau
Mr. Yukio OKUDA, Deputy Director,
Environmental Health Division, Health Service Bureau

Tama Reien

Mr Ryoji IWASAKI, Manager, Management Office of the Tama Reien

Tokyo Gobyo

Mr Ryutoku OHORA, Chief Priest

Hokkaido Federation of Fisheries Cooperative Associations

Mr Takashi OGURA, Executive Managing Director
Mr Kazuharu IZAWA, Councilor

Gyoren Sogo Food Processing Factory

Mr Shoichi NARITA, President
Mr Takashi HARADA, Vice President

Sato Suisan Salmon Factory

Mr Shouichi NAKASE, Acting Manager

Hokkaido Fisheries Coordination Office, Fisheries Agency

Mr Masahiro MORITA, Director General
Mr Sei YAMASAKI, Director, General Affairs
Mr Ryuji SAWADA, Director Resource Management
Mr Masateru ITO, Enforcement Officer
Mr Kouji KUMAGAI, Chief, Resource Management

Otaru shi Fisheries Cooperative Association

Mr Takeshi IWAKI, Representative Director cum Union Leader
Mr Yasuo SAKAMOTO, Senior Executive Director
Mr Noboru NAKAYAMA, Councilor
Ms Hitomi KIMURA, Chief, Administration Division

Sapporo Central Wholesale Market

Mr Tetsuya SASAKI, Chief, Sapporo Central Wholesale Market Business Section, Economic Bureau, Sapporo City Government
Ms Masami TAKA, The Corporation of Sapporo Central Wholesale Market Association
Ms Mayumi NOGAMI, The Corporation of Sapporo Central Wholesale Market Association

Appendix III

Reference materials obtained during the visit

Information pamphlet entitled “Visual Japan's Fisheries” provided by the Fisheries Agency of the Ministry of Agriculture, Forestry and Fisheries

Information pamphlet entitled “Fisheries in Hokkaido 2010” published by the Department of Fisheries and Forestry, Hokkaido Government

Information pamphlet on Japanese seafood exports published by the Ministry of Agriculture, Forestry and Fisheries

Information sheets on the facilities of the Tokyo Gobyo

Powerpoint materials on food safety surveillance system and countermeasures against food poisoning provided by the Department of Food Safety of the Pharmaceutical and Food Safety Bureau of the Ministry of Health, Labour and Welfare

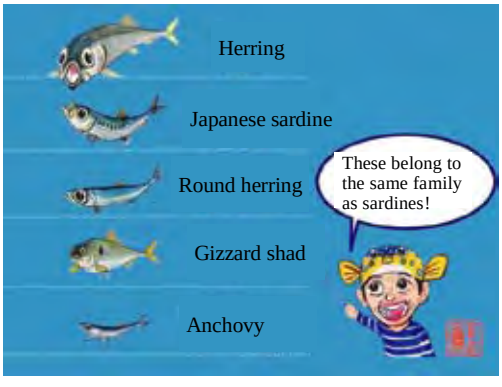
Information pamphlet on the Sapporo Central Wholesale Market

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)

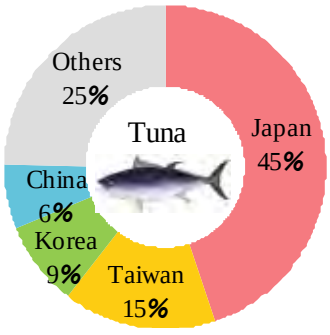
1 The State of Fisheries in Japan and the World

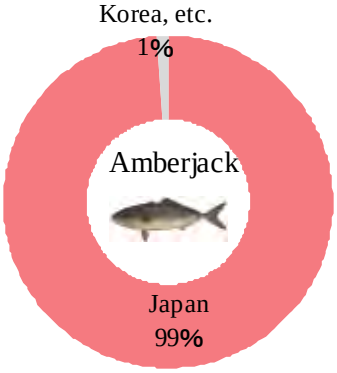
Where Does the Seafood in Sushi Come from?

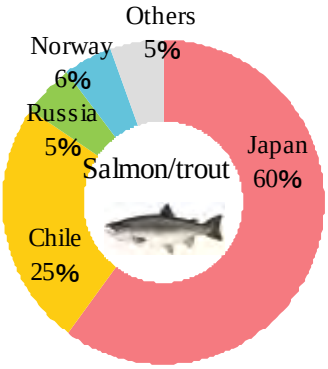
Seafood for sushi is imported from all around the world

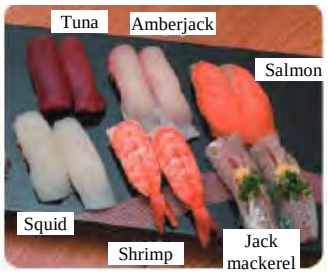
Let's look at imports of fish for nigiri sushi as a favorite for Japanese people. Seafood for sushi includes imports from abroad as well as domestic products.

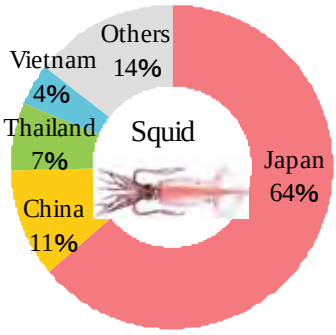
Percentages of Japan's Production and Imports (2007)

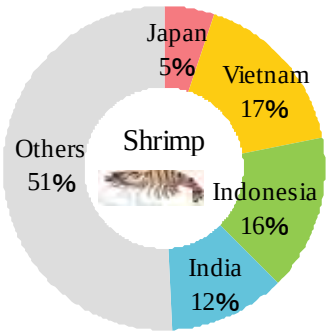


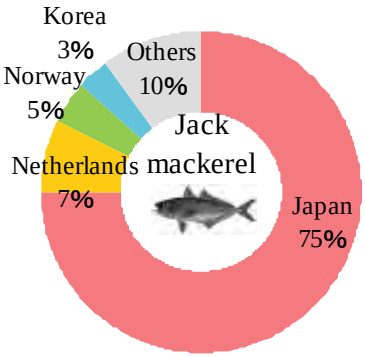












Source: Fisheries Agency

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.

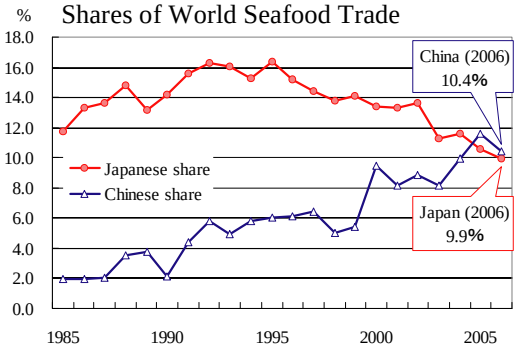
T O P I C !

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.

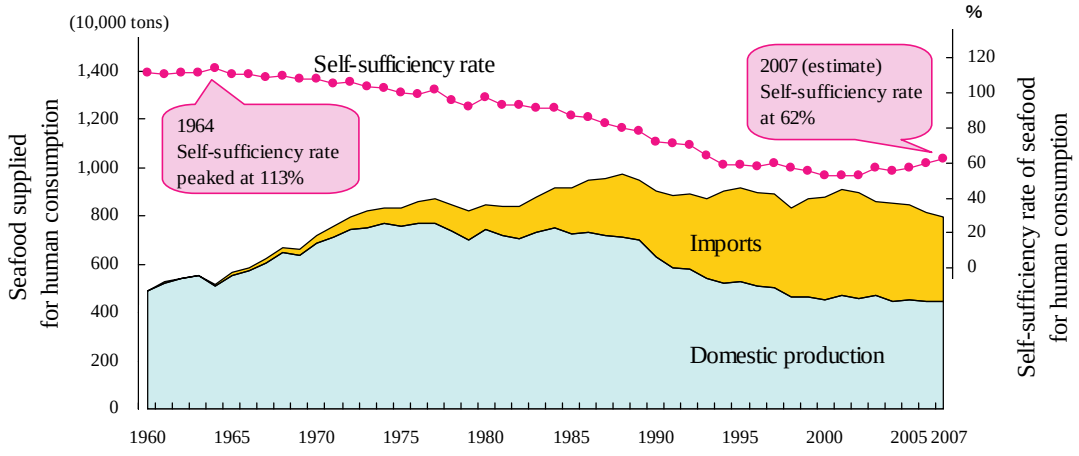
Source: "Fishstat," FAO (Fisheries Commodities production and trade 1976-2006)



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

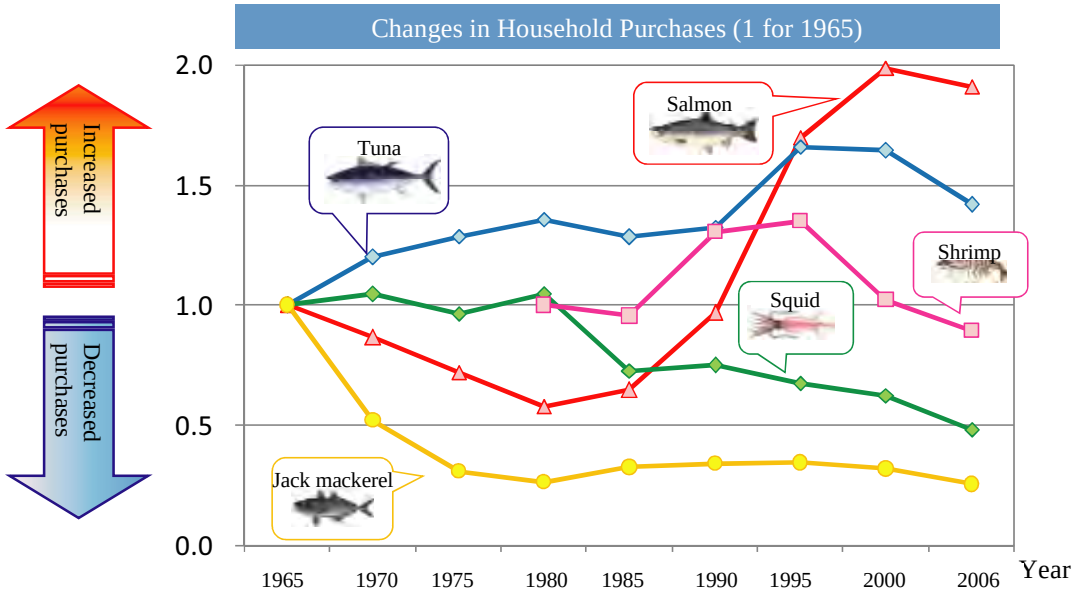


Source: "Food Balance Sheets," Ministry of Agriculture, Forestry and Fisheries

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.

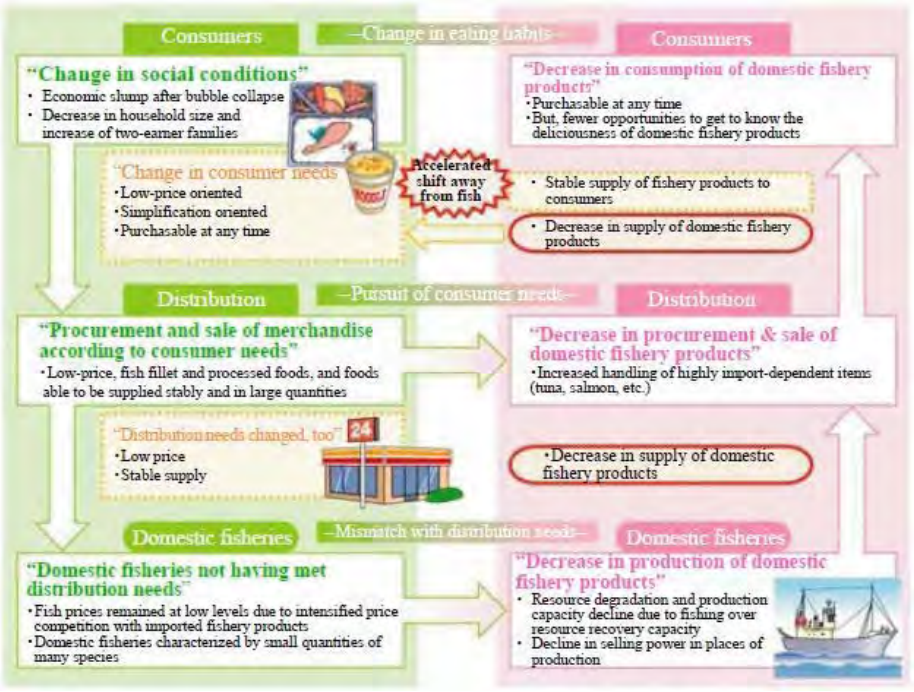
A dining table seen some 40 years ago

A recent dining table

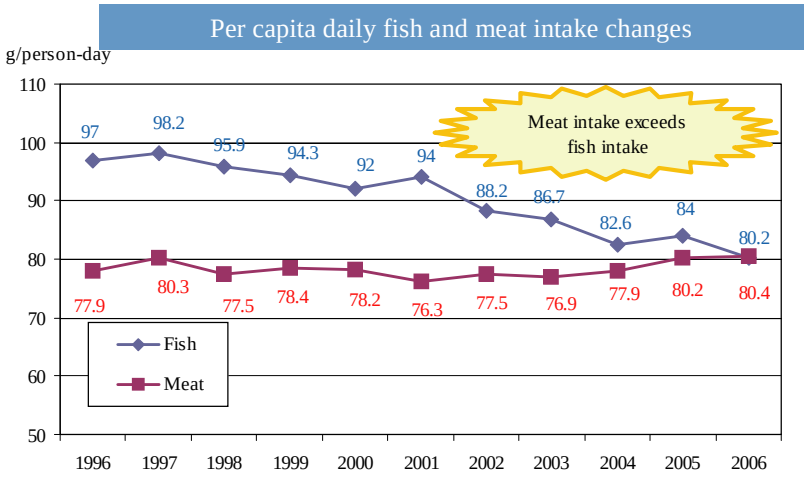
Easiness meeting consumer needs has accelerated changes

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

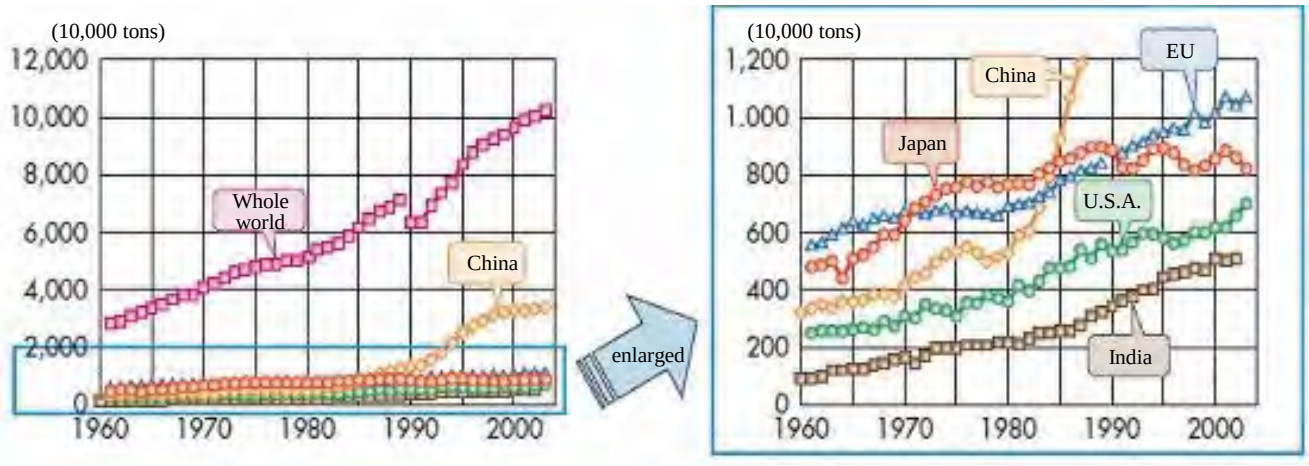
Japan has imported fishery products from throughout the world on dietary pattern changes. Consumers have accelerated their shift away from fish.

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

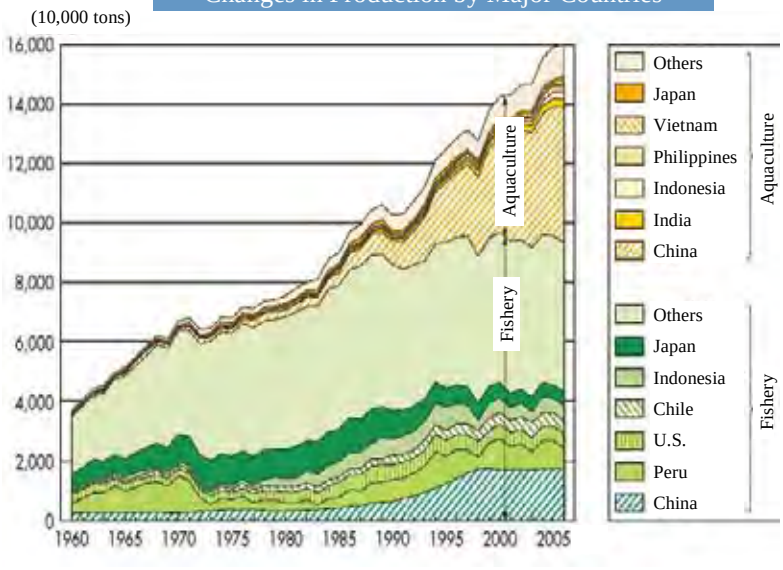
Sushi culture spreading throughout world

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.

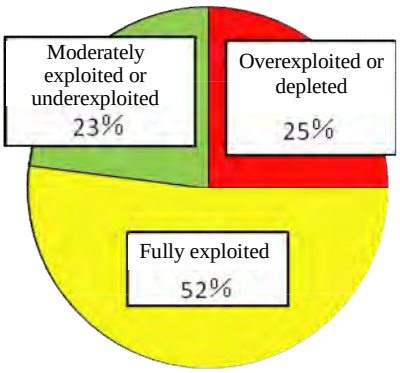
World Fishery Production Stagnant

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

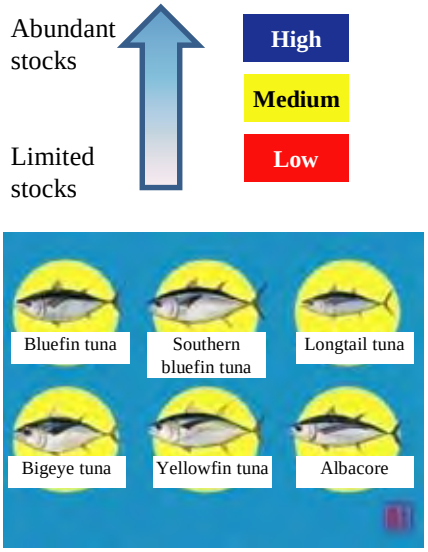


Source: “SOFIA 2006,” FAO

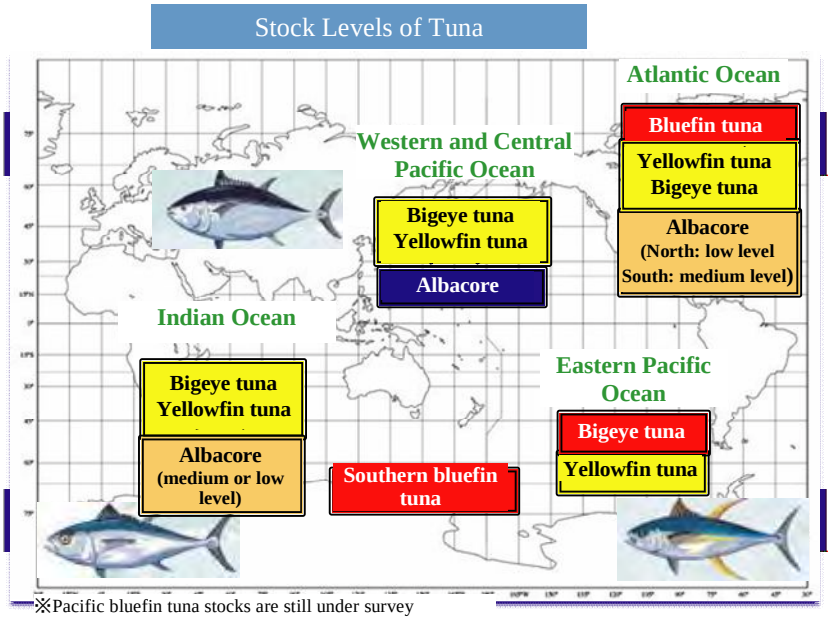
Sources: Prepared by the Fisheries Agency based on “Fishstat (Capture production 1950-2006)” and “Aquaculture production 1950-2006” (for countries other than Japan), FAO; “Annual Report on Fishery and Aquaculture Production Statistics” (for Japan), Ministry of Agriculture, Forestry and Fisheries.

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

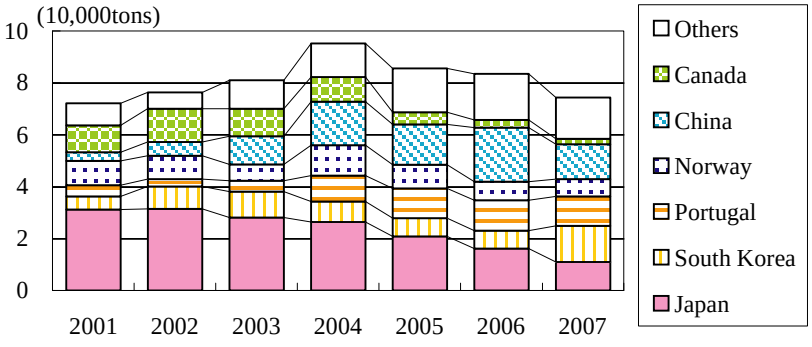
Source: Created based on "The state of world fisheries and aquaculture 2004," FAO
Note: Global demand or output includes noneligible products.

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.



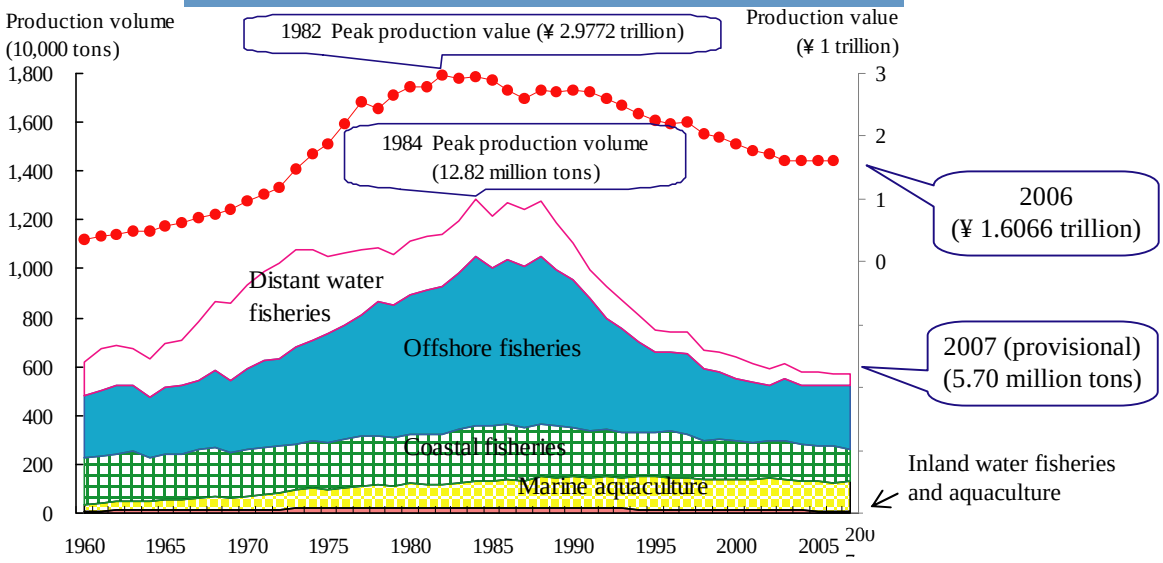
2 What's Going on in the Seas Around Japan Now?

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

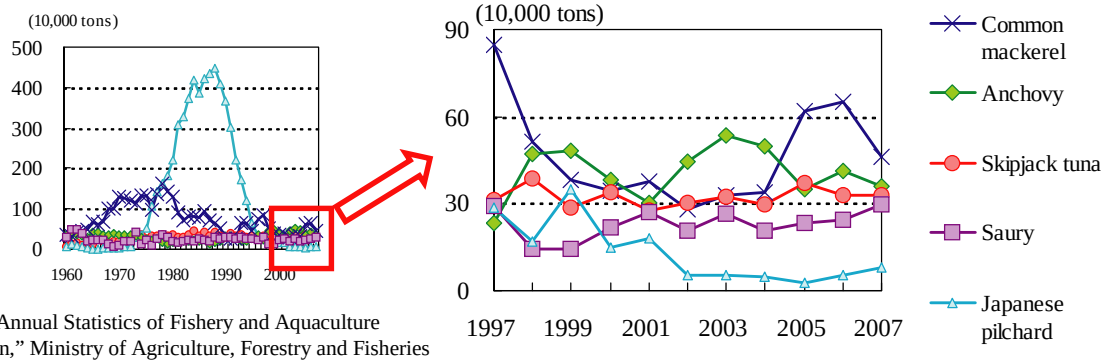
While Japan is one of the world's leading fishing countries, its fishery production has declined due to the tougher international regulations on distant water fishery operations, overfishing exceeding rebuilding capacity of stocks, and import growth emerging from dietary pattern changes.

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.

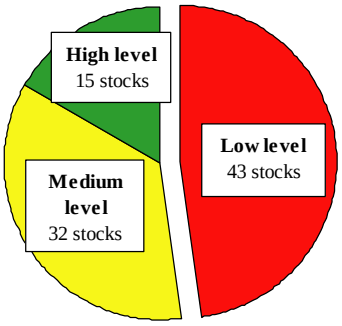
Changes in Catches by Species



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

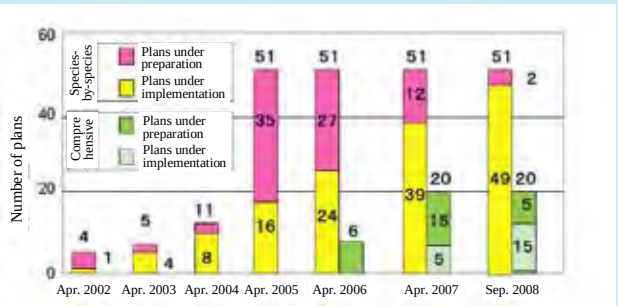
(Resource Recovery Plans by Species)

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.

An allowable catch quota for each boat

ITQ (Individual Transferable Quota)

Individual catch quotas are transferable to others.

C O L U M N

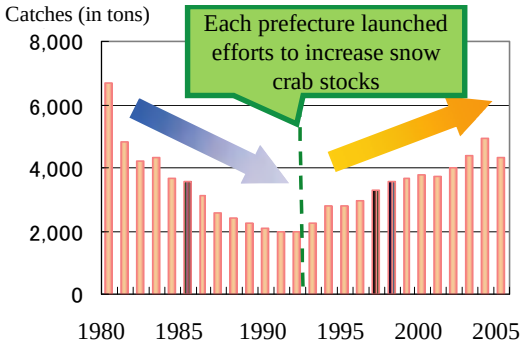
Snow crab stocks increased through appropriate control (Sea of Japan)

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.

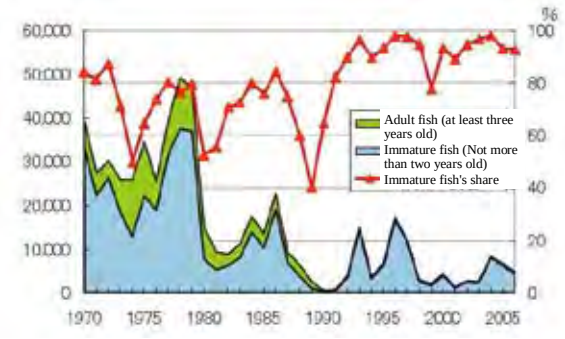
Snow Crab Catches in Sea of Japan



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.

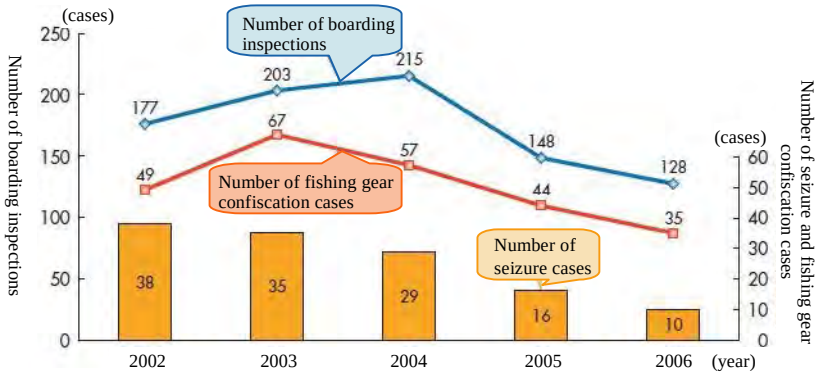
Source: "Fish Stock Assessment in Japanese Waters," Fisheries Agency and Fisheries Research Agency

(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

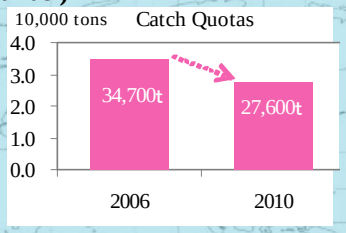
Responsible fisheries management is needed internationally

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

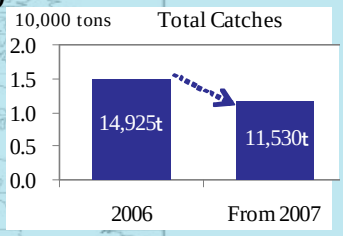
ICCAT (International Commission for the Conservation of Atlantic Tunas)

・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

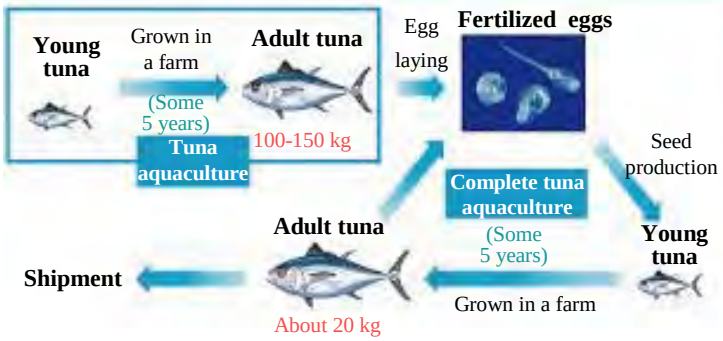
(HP) Tuna information http://www.jfa.maff.go.jp/j/tuna/index.html

TOPIC! 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.

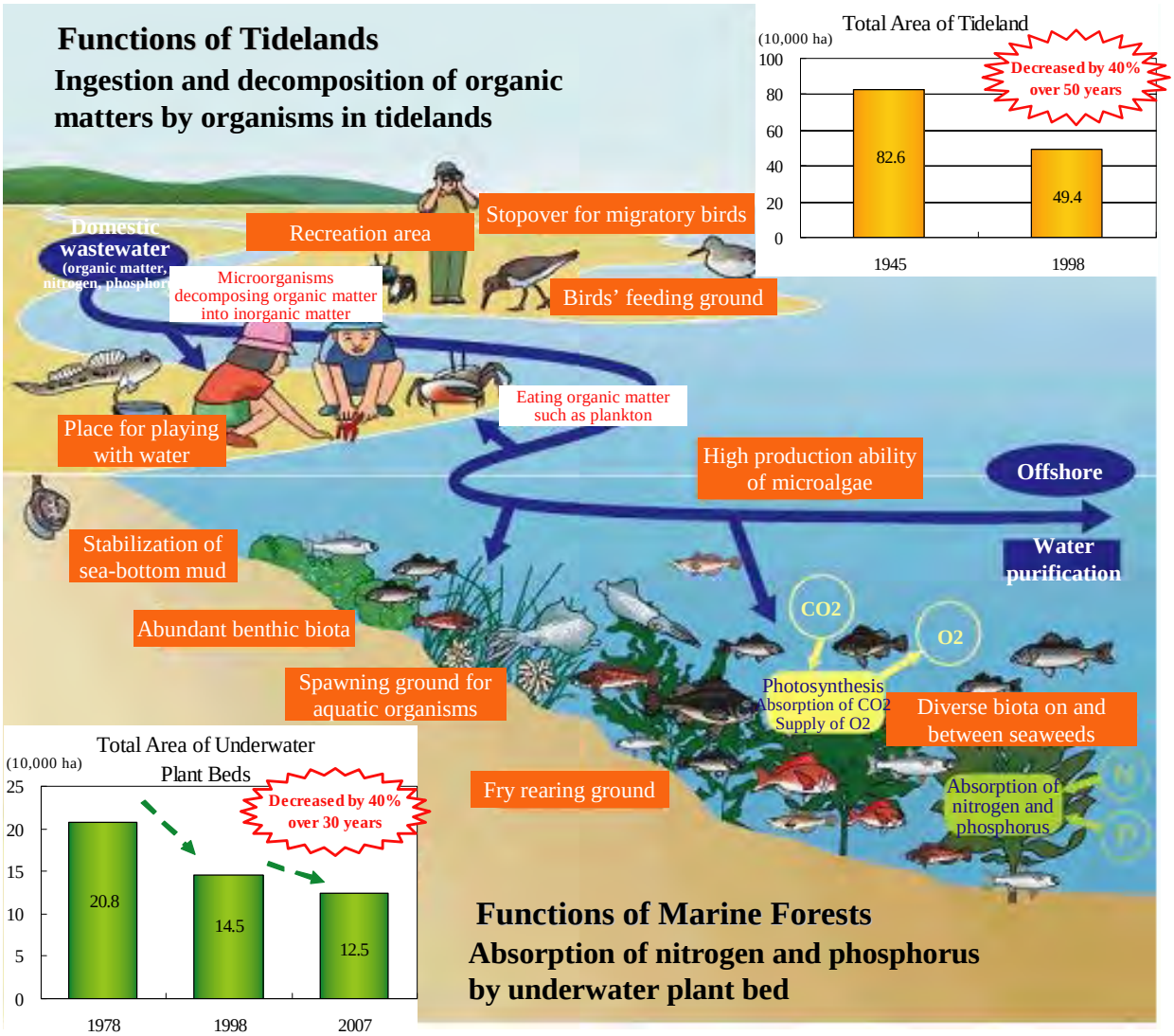
But seed supply has been unstable and assorted feed has yet to be developed. Given these problems, the government has been promoting development of artificial seed production technology and assorted feed in a bid to build infrastructure for stable bluefin tuna supply.

Hopes placed on progress in studies on complete tuna aquaculture



Marine forests and tidelands have declined

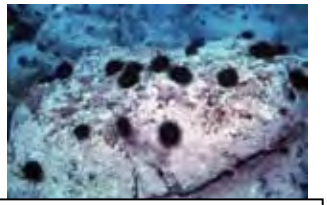
Japan's coastal areas have had marine forests and tidelands that are suitable for fish spawning and growth as well as purification of water. But their space has declined substantially.



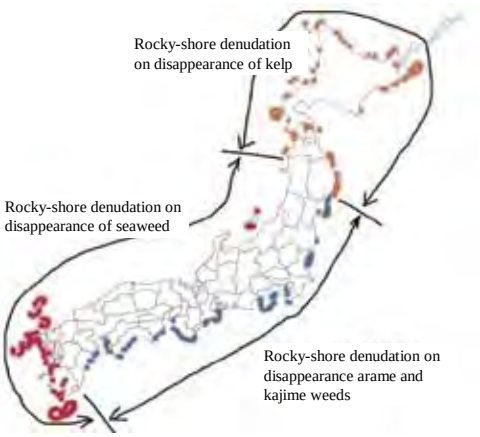
Sources: "Basic Survey on Natural Environment Conservation," Ministry of the Environment; Fisheries Agency

"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.

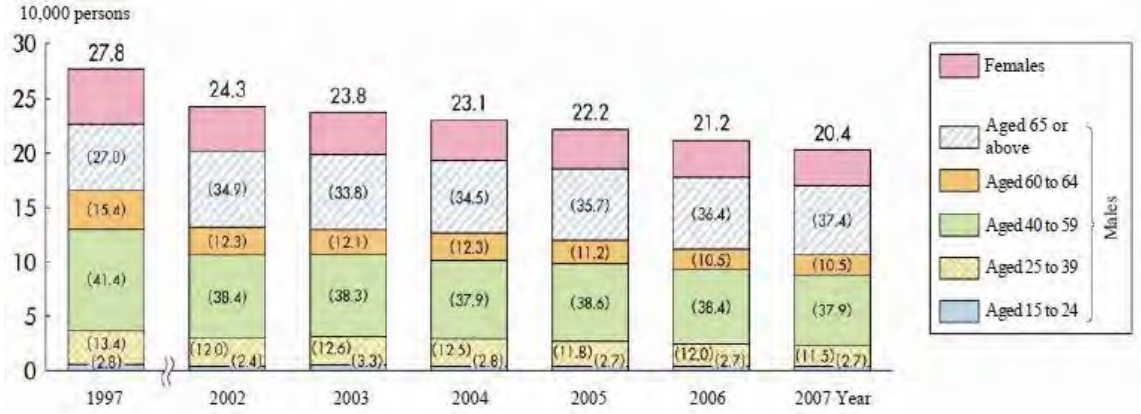
Japanese Spanish mackerel caught in fixed netting (off Misawa, Aomori Prefecture)
Source: Asahi Newspaper

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)

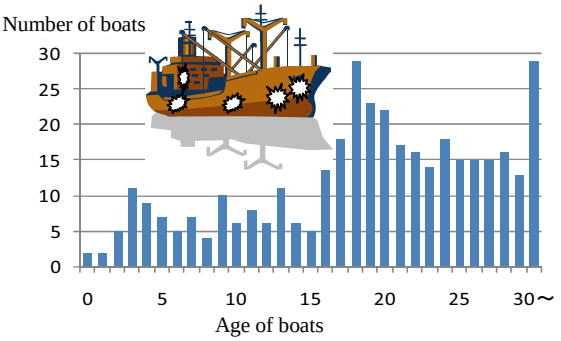
	2001	2002	2003	2004	2005	2006
Fishery earnings	2,257	2,267	2,156	2,153	2,143	2,466
Fishery income	5,160	5,153	5,002	4,943	4,908	6,321
Fishery expenditure	2,903	2,887	2,846	2,790	2,766	3,855
Fuel expenses	411	401	416	423	482	730
Proportion to the expenditure	(14.2)	(13.9)	(14.6)	(15.2)	(17.4)	(18.9)
Non-fishery 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.

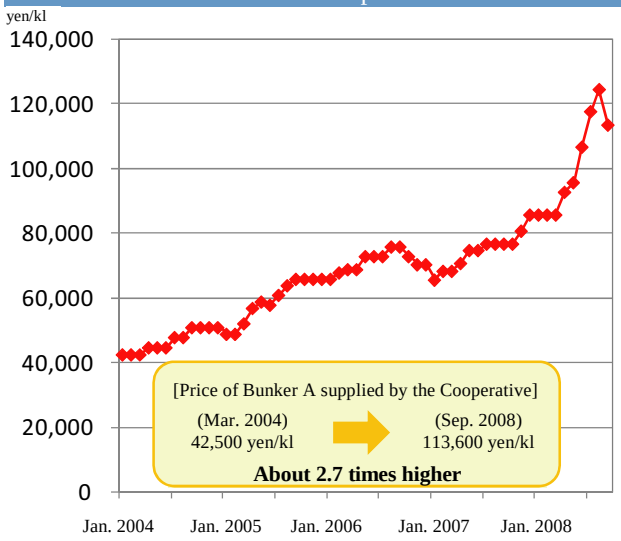
Although the lifespan of fishing boats is usually 15 years, about 40% of the boats used in offshore trawl net fishing have been in use for 20 years or longer (See the graph on the right). The aging of boats could decrease the productivity and safety while increasing the maintenance costs.



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

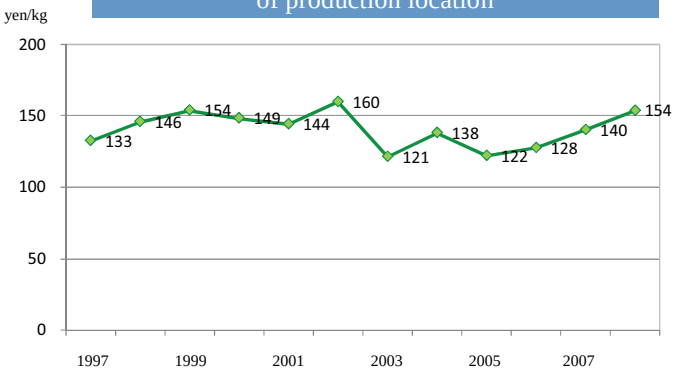
Catch and landing of fishes

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)”

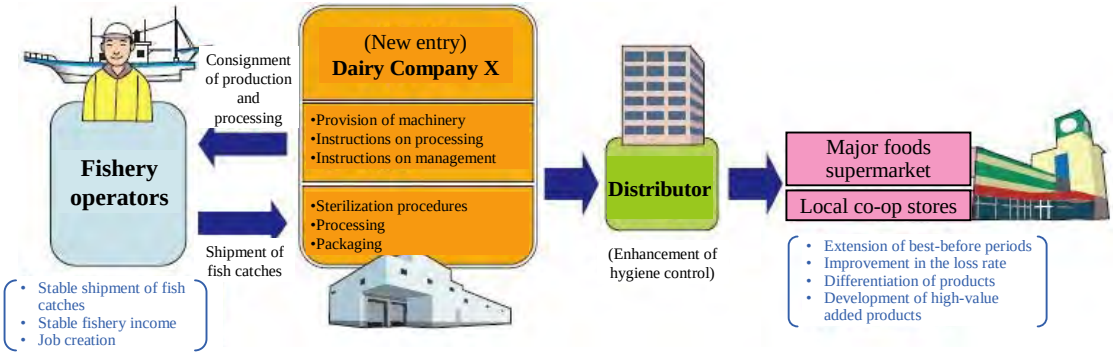
For the Fishery Job Placement Fair 2008, “The Ryoshi’s” was formed to convey the appeal of fishery and fishing villages.

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.

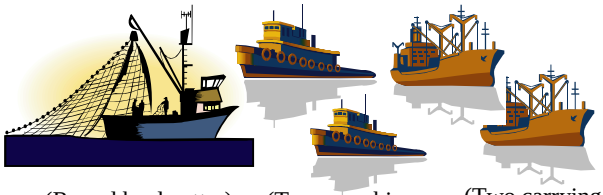


For example, in the case of Chirimen (boiled and dried baby sardines) and Kounago (boiled and dried baby sand lance), for extension of best-before periods, efforts have been made to enhance hygiene control and improve the loss rate through better bacterial control.

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.

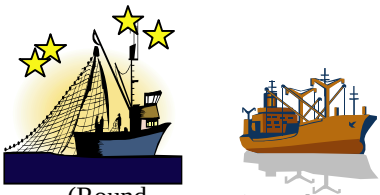
[Initiative 1: Smaller fleet of round haul netter]



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

Smaller fleet

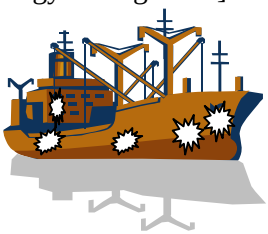
[Mini fleet]



(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

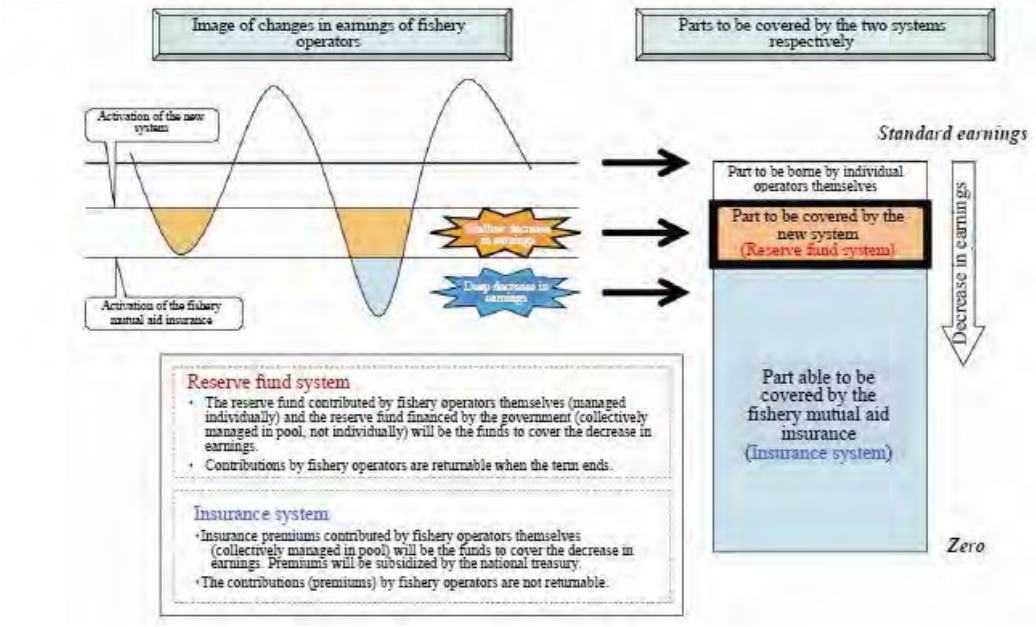
Use of human-resource-saving, energy-saving fishing boats

(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



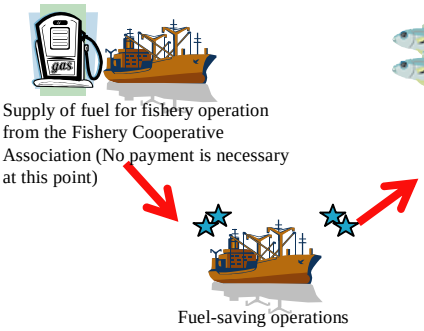
(HP) Fisheries Agency "*Tsumitate Purasu* (Reserve Plus)" http://www.jfa.maff.go.jp/j/hoken/keieiantei.html

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.



Supply of fuel for fishery operation from the Fishery Cooperative Association (No payment is necessary at this point)

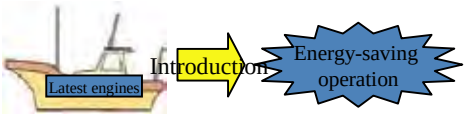
Fuel-saving operations (10% or larger reduction of fuel consumption)

After landing, the following payment must be made to the Association:
(1) Fuel costs at the level of 2007
(2) 10% of the increase in fuel costs
(90% of the increase in fuel cost is subsidized in practice)

○Interest-free loan system to promote energy saving

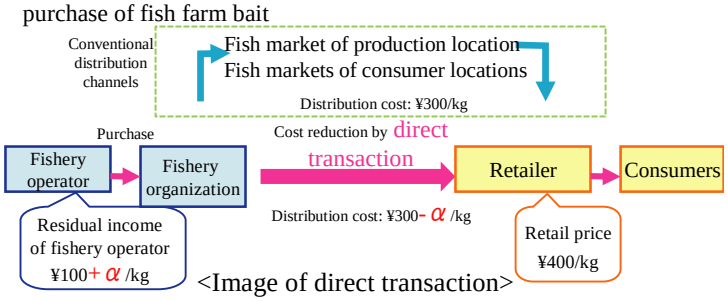
The criteria for receiving the Coastal Fishery Improvement Fund were modified in such a way that allows fishery operators to receive fund repeatedly for introduction of energy-saving facilities and equipment and provides them with interest-free loans for energy-saving fishery operations.

Introduction of the latest energy-saving engines by receiving an interest-free loan



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

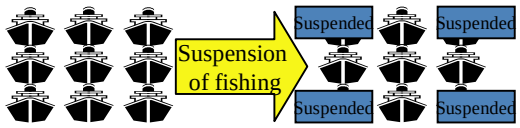
In order to increase the residual income of fishery operators, the following measures have been taken:
(1) Increase in the purchase size of fishery products, (2) Improvement of measures to support direct transactions, and (3) Promotion of direct purchase of fish farm bait



<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

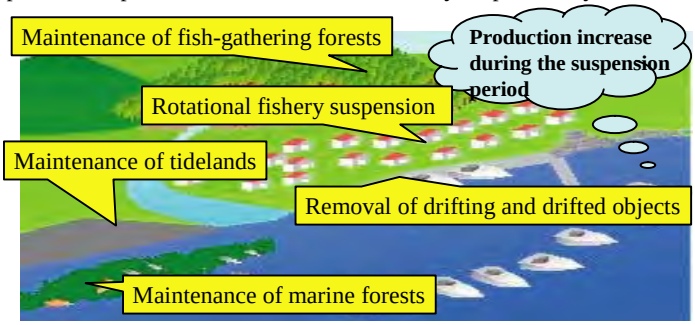
Burden on the Nation	(Conventional rule) 1/3→ (New rule) 1/3
Burden on prefectural and city governments	(Conventional rule) 1/3 → (New rule) No requirement
Burden on fishery operators	(Conventional rule) 1/3 → (New rule) No requirement

○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

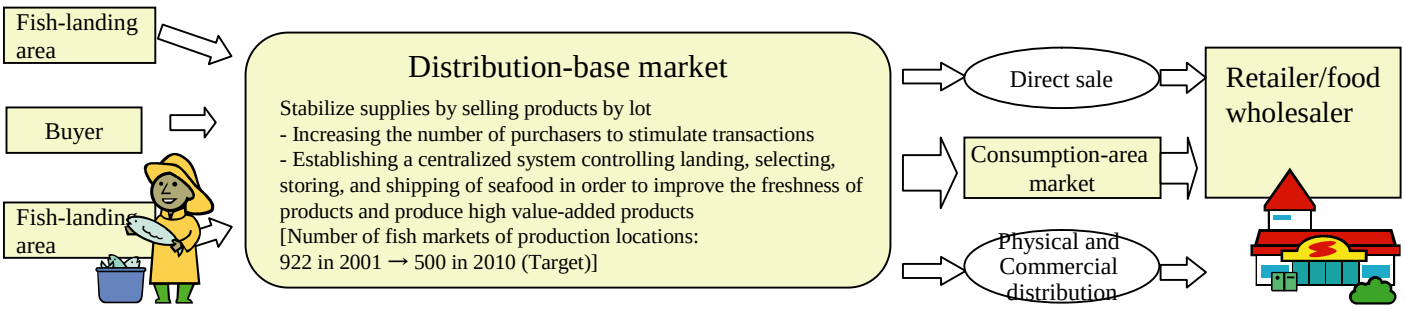
Initiatives by fishermen are indispensable for sustainable use of fishery resources for stable fishery business and conservation of marine ecosystem.

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.

Producer

- Landing various fishes
- Sales channels are not ready for fresh, delicious fish
- Fish prices slumping in absence of buyers

Matching

Consumer

- Willing to eat fresher, safer fish
- Willing to eat various fishes, while failing to know what fish to buy

Hygiene Control and Quality Control

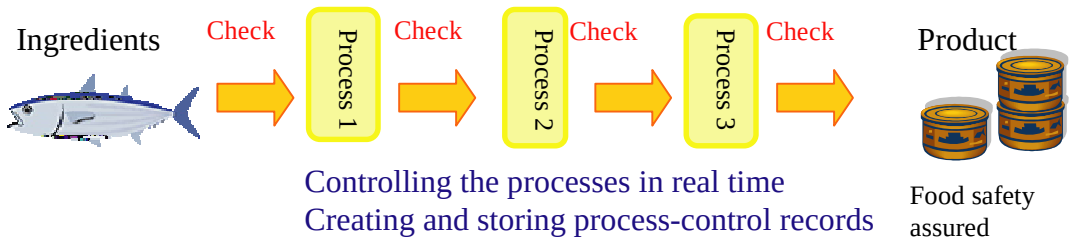
In order to provide consumers with safe, reliable seafood, fishery industry workers are improving quality control through such measures as introduction of the HACCP system at fishery processing plants and development of facilities at fish-landing area markets.

●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)

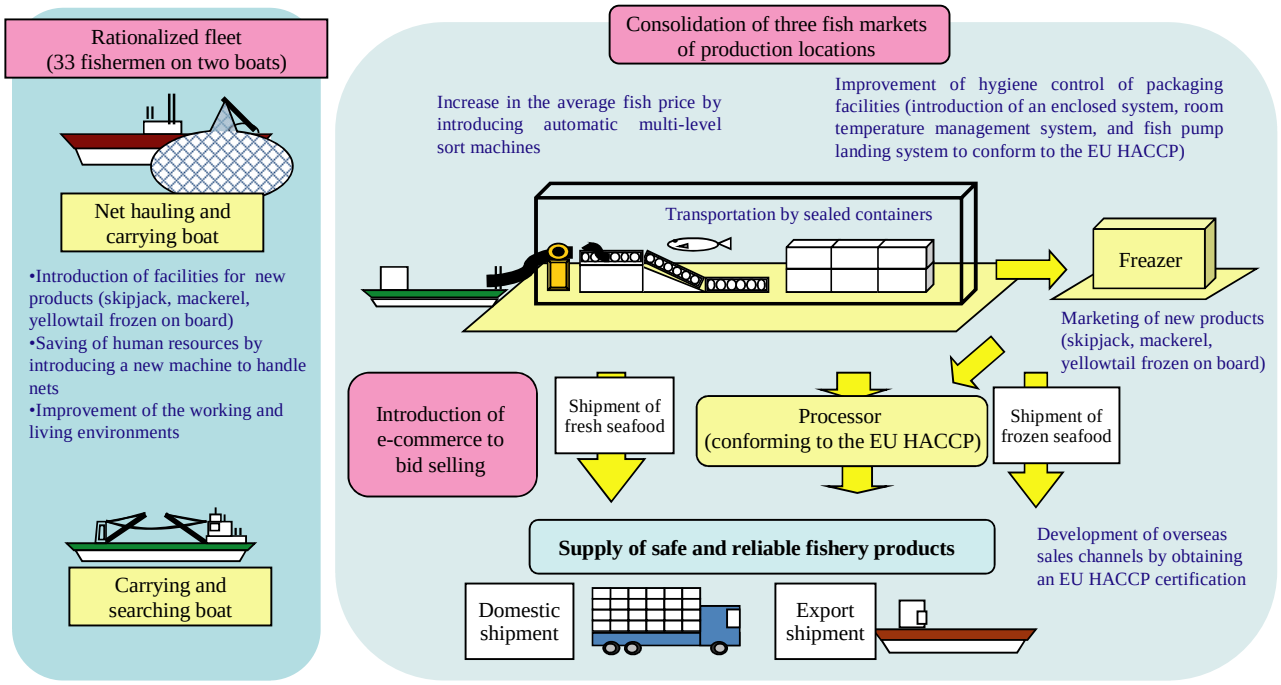


Controlling the processes in real time
Creating and storing process-control records

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.

COLUMN 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

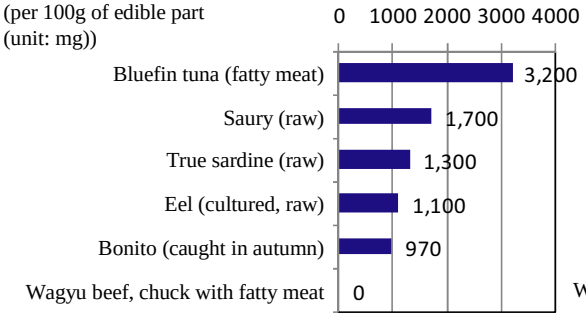
Illustration source: Institute of Cetacean Research

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.

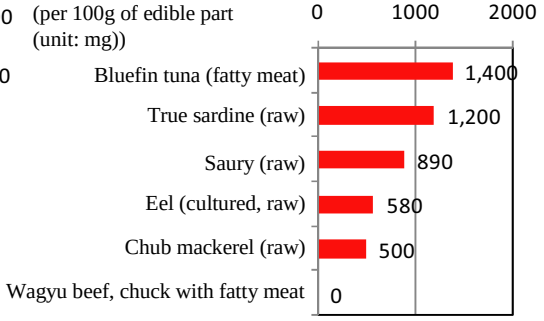
Docosahexaenoic acid (DHA)

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

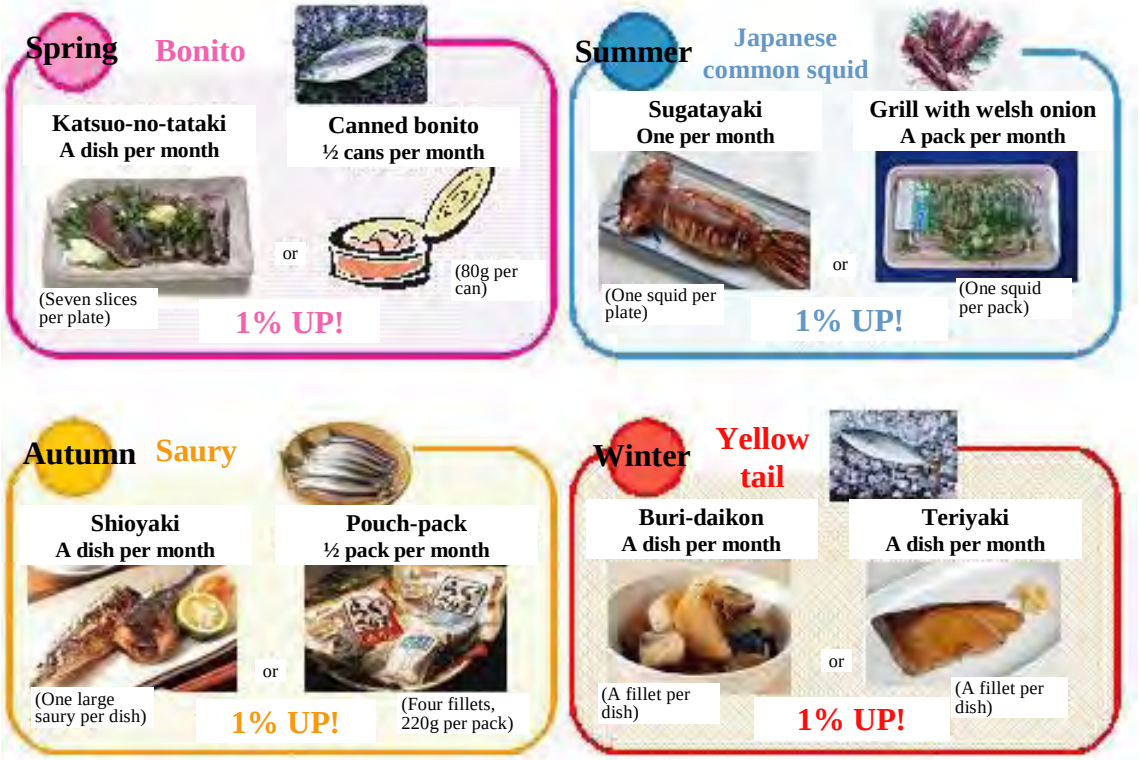
(HP) Ministry of Agriculture, Forestry and Fisheries, "Promotion of the export of agricultural and marine products": http://www.maff.go.jp/sogo_shokuryo/yusyutu.html

What Fish Are Good for Eating?

Let's eat seafood more ecologically

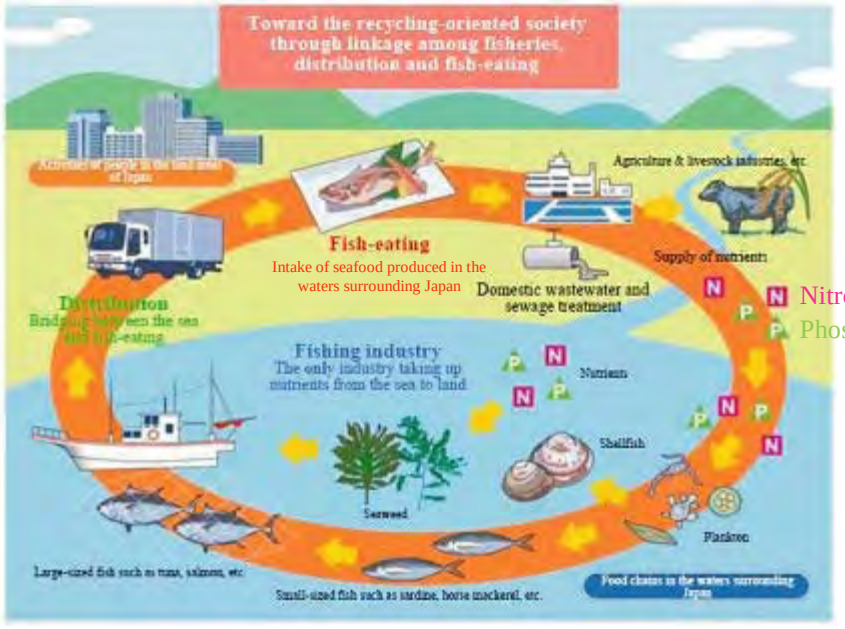
Fish resources such as saury and bonito found in waters near Japan are currently abundant. Moreover, they are relatively low-priced and rich in seasonal taste. Eating these fish in season will also raise the self-sufficiency rate and will result in conservation of the sustainable fisheries and food culture.

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.

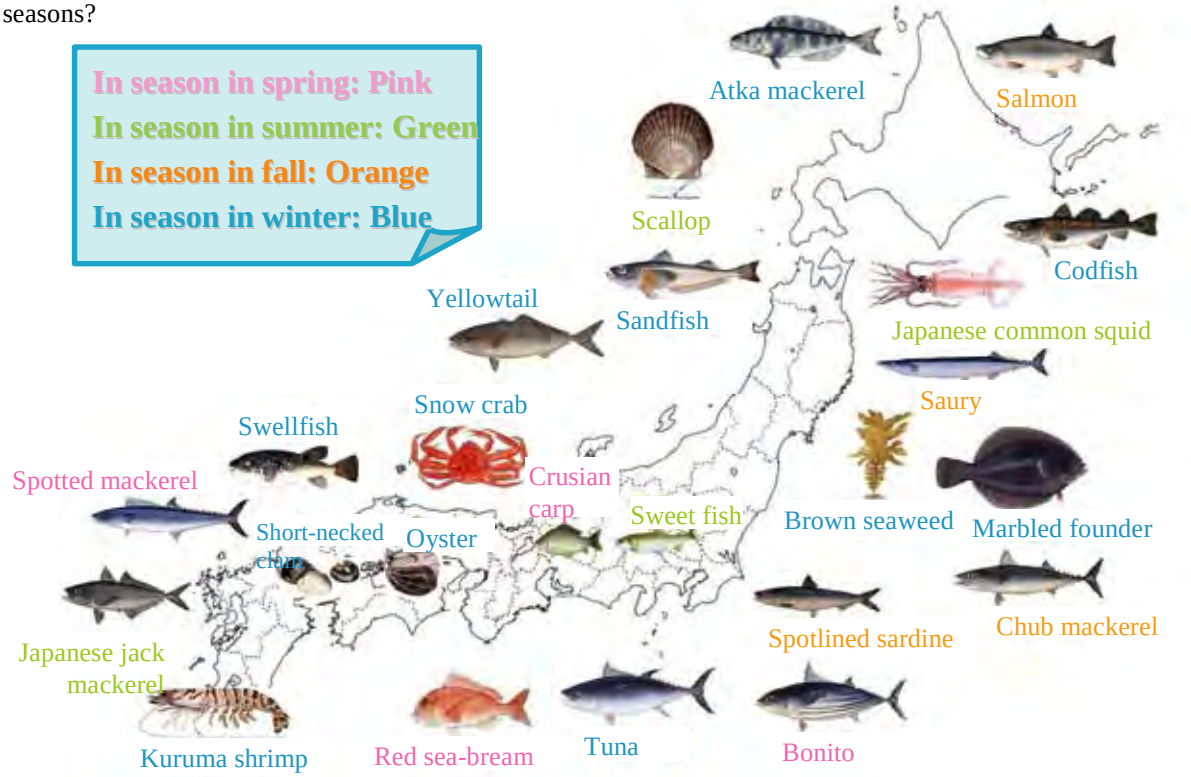
In December 2007, Japan's own eco-label system was established, reflecting the characteristics and advantages of the Japanese fisheries production and resource management. Products with this eco-label are scheduled to be on sale by the end of 2008. It is expected that purchasing fishery products with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

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

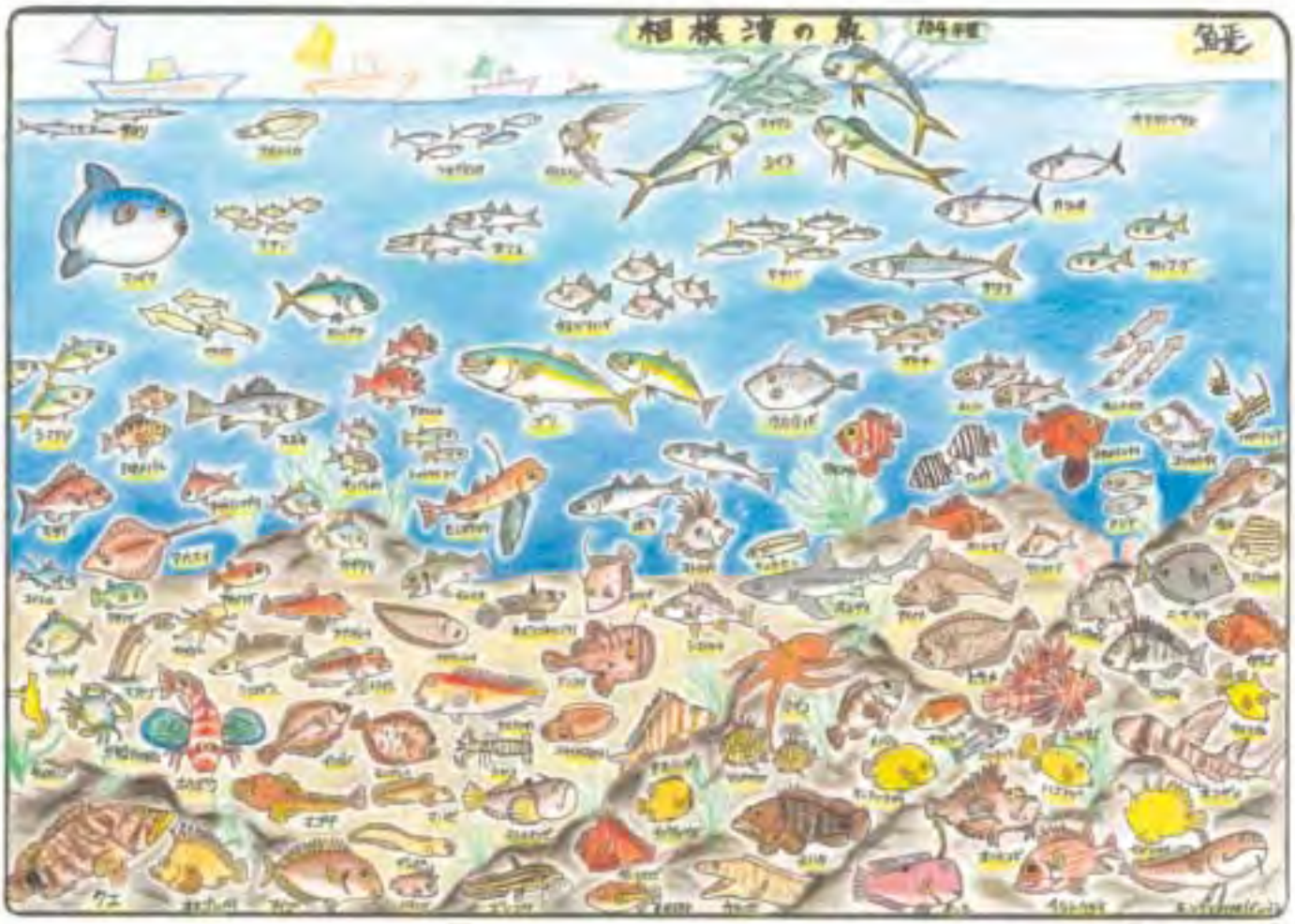
☆ Direction

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.



Fisheries Agency

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Website for the Fisheries Agency at
http://www.jfa.maff.go.jp/
(Contact for this material: Trend Analysis Section, Policy Planning Division, Fisheries Policy Planning Department, Fisheries Agency)

2010 北海道の水産

Fisheries in Hokkaido

北海道水産林務部
Department of Fisheries and Forestry, Hokkaido Government

はじめに

本道は太平洋、日本海、オホーツク海の３つの海に囲まれ、北方に広く展開する大陸棚や、黒潮から分かれて北上する暖流と北からの親潮（寒流）が交錯する道東太平洋沖などの好漁場を有しており、ホタテガイやスケトウダラ、サケ、ホッケ、コンブなど様々な水産資源に恵まれた我が国最大の水産基地となっています。

道では平成14年に「北海道水産業・漁村振興条例」を制定し、「将来にわたっての安全かつ良質な水産物の安定的な供給」、「地域を支える活力のある産業としての水産業の発展」、「水産業の基盤のみならず、自然とのふれあいなど多様な機能を発揮する漁村の発展」という水産業や漁村の振興を図るための基本理念を定めるとともに、15年から「北海道水産業・漁村振興推進計画」の基本方針のもとに、施策を展開してきました。

しかしながら、近年は漁業生産の減少や漁業就業者数の減少・高齢化がさらに進んでいるほか、若者を中心とした「魚離れ」が問題となっています。その反面、海外では欧米や中国等を中心に、水産物需要が高まっており、世界人口の増加と相まって、将来の水産物不足が危惧されています。

このため、道では、これら水産業をめぐる情勢の変化や、これまでの施策の効果に関する評価を踏まえ、20年３月に「北海道水産業・漁村振興推進計画（第２期）」を策定したところです。

本道水産業・漁村の振興のためには、条例や計画に基づき、道民の皆さんの声に耳を傾けながら、効率的・効果的な施策を展開することが重要です。

本書は、本道の漁業生産やこれに携わる人々の様子、栽培漁業や試験研究の状況などを写真、グラフ等によってわかりやすく紹介するために作成しました。本書が本道の水産業、漁村のすがたを理解していただく一助となれば幸いです。

Preface

Surrounded by the Pacific Ocean, the Sea of Japan and the Sea of Okhotsk, and with good fishing grounds that include a broad continental shelf to the north and an intersection in the Pacific Ocean off eastern Hokkaido between a warm current flowing northward separately from the Kuroshio current and the Oyashio Current (cold current) flowing from the north, Hokkaido is Japan’s largest fishery base and abounds in fishery resources such as scallop, Walleye pollock, Arabesque greenling, salmon and kombu.

In 2002, the Hokkaido Government enacted the "Hokkaido Fisheries and Fishing Villages Promotion Ordinance" in order to boost fisheries and fishing villages in Hokkaido. The Ordinance clarifies the basic principles of "ensuring a long-term stable supply of safe and high-quality marine products", "achieving sound development of fisheries that vigorously supports our local community" and "developing fishing villages that have various functions including a basis of the fisheries industry as well as a place where people can experience nature". Since then, measures have been taken to promote the industry, under the philosophy of the "Hokkaido Fisheries and Fishing Villages Promotion Plan" in 2003.

In recent years, however, fisheries have faced the difficult problems of the decline in fishery production, the decrease and aging of fishery workers, and the reduced consumption of fish, particularly by young people. At the same time, with an increase of global population, more concerns have arisen over a shortage of marine products, stemming from a higher demand in seafood across the world, especially the US, Europe and China.

Following these changes in fishery trend and evaluations of past measures, Hokkaido settled upon the second term of the "Hokkaido Fisheries and Fishing Villages Promotion Plan" in March 2008.

In order to promote Hokkaido's fisheries and fishing villages, it is vital to follow related ordinances and plans, to listen to our citizens and to build up efficient and effective measures.

This pamphlet is designed to clarify the current state of fishery production and workers involved with commercial fishing in Hokkaido as well as the actual conditions of aquiculture and fishery experiments and research through photographs and graphs. We would be grateful if this pamphlet could help enhance your understanding of the present situations of fisheries and fishing villages in Hokkaido.

王蝶（マツカワ）
"*Oucho*" (barfin flounder)

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1 北海道水産業の位置

本道の水産業の全国に占める割合をみると、漁業生産量（属人）は26.6%、漁業生産額（属人）は19.2%、水産加工品生産量（陸上加工）は19.1%で、また、漁業経営体数、漁業就業者数、漁船数（海水動力漁船）も１割を超えており、本道は我が国最大の水産基地となっています。

1 Hokkaido Fisheries Statistics

Hokkaido is Japan's largest fishery base as described in its various fishery ratios vis-a-vis the national totals:26.6% in quantity of catches (by Hokkaido fishermen only); 19.2% in the value of catches (by Hokkaido fishermen only); 19.1% in production of processed marine products (land processing); and over 10% in the number of fishery management units, people working in fisheries and motorized fishing boats.

海面漁業・養殖業生産量　平成20年

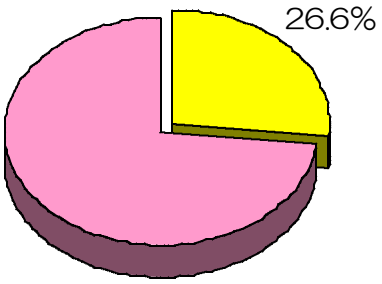
Production volume of marine fisheries and aquaculture 2008

- 全　国　5,515千トン
- 北海道　1,465千トン

（資料：農林水産省統計部「漁業・養殖業生産統計年報」）

- National　5,515,000 tons
- Hokkaido　1,465,000 tons

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



海面漁業・養殖業生産額　平成20年

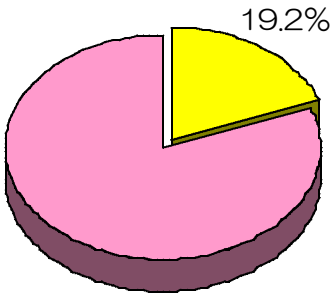
Production value of marine fisheries and aquaculture 2008

- 全　国　15,421億円
- 北海道　2,958億円

（資料：農林水産省統計部「漁業・養殖業生産統計年報」）

- National　1,542.1 billion
- Hokkaido　295.8 billion

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



水産加工品生産量（陸上加工）　平成20年

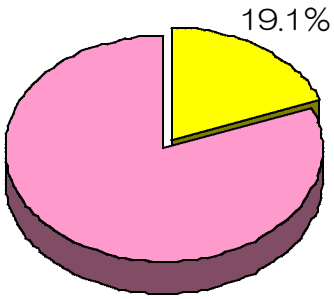
Production of processed marine products (land processing) 2008

- 全　国　3,890千トン
- 北海道　743千トン

（資料：農林水産省統計部「水産物流通統計年報」等）

- National　3,890,000 tons
- Hokkaido　743,000 tons

Source: "Annual Statistics on Marketing of Fishery Products"
by Statistics Department,Ministry of Agriculture, Forestry and Fisheries



漁協数（沿岸地区漁業協同組合）　平成20年

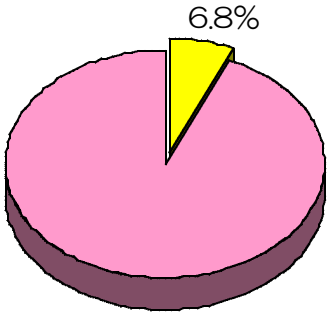
Number of coastal water fishery cooperatives 2008

- 全　国　1,094組合
- 北海道　74組合（平成22年4月1日現在は72組合）

（資料：水産庁「水産業協同組合年次報告」等）

- National　1,094
- Hokkaido　74(72as of April 1,2010)

Source: "Annual Report on Fishery Cooperatives" by Fisheries Agency



漁業経営体数　平成20年

Number of fishery management units 2008

■全　国　　115,196経営体

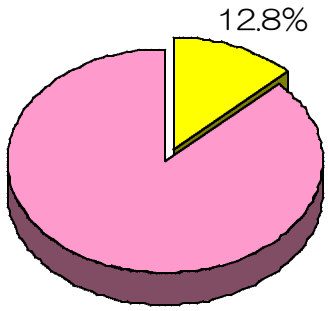
■北海道　　14,780経営体

（資料：農林水産省北海道農政事務所統計部「北海道農林水産統計年報」）

■ National　115,196

■ Hokkaido　14,780

Source: "Annual Report on Agricultural, Forestry and Fisheries Statistics in Hokkaido" by Statistics Department, Hokkaido District Agliculture Office, Ministry of Agriculture, Forestry and Fisheries



漁業就業者数　平成20年

Number of people working in fisheries 2008

■全　国　　221,908人

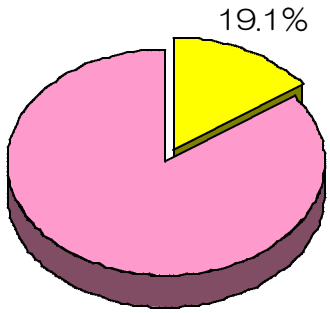
■北海道　　33,568人

（資料：農林水産省北海道暴政事務所統計部「北海道農林水産統計年報」）

■ National　221,908

■ Hokkaido　33,568

Source: "Annual Report on Agricultural, Forestry and Fisheries Statistics in Hokkaido" by Statistics Department,Hokkaido District Agliculture Office, Ministry of Agriculture, Forestry and Fisheries



漁港数　平成20年（平成20年4月1日現在）

Number of fishing ports 2008 (as of April 1, 2008)

■全　国　　2,921港

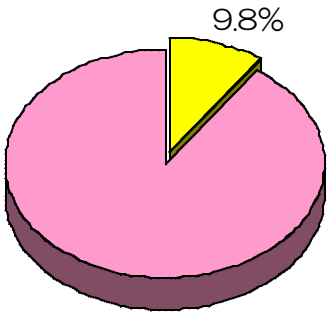
■北海道　　285港

（資料：水産庁漁港漁場整備部）

■ National　2,921

■ Hokkaido　285

Source: Fisheries Infrastructure Department, Fisheries Agency



漁船数（海水動力漁船）　平成20年（平成20年12月31日現在）

Number of motorized fishing boats 2008 (as of December 31, 2008)

■全　国　　289,456隻

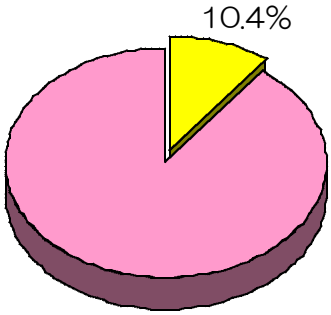
■北海道　　30,062隻

（資料：水産庁「漁船統計表」）

■ National　289,456

■ Hokkaido　30,062

Source: "Annual Statistics on Fishing Vesseles" by Fisheries Agency



※生産量・額は北海道水産林務部「北海道水産現勢」による属地統計
（属地統計：漁獲量・額を水揚げされた地域に計上したもの。水揚げした経営体の所在地域に計上したものは属人統計といい、農林水産省統計部「漁業・養殖業生産統計年報」はこれによる。）

※ Quantity and value of catches are based on statistics within territories as described in the "Annual Statistics on Fishery and Aquaculture Production in Hokkaido"by the Department of Fishries and Forestry,Hokkaido Government.
.(Statistics within territories:Statistics within territories refer to the quantity and value of catches added up to harvesting districts. Those added up to areas where harvesting fishery establishments are located are referred to as statistics by Hokkaido fishermen only,which is applicable to the " Annual Statistics on Fishery and Aquaculture Production "by the Statistics Department,Ministry of Aqriculture, Forestry and Fisheries.)

2 水産業の生産状況と生産構造

（1）漁業・養殖業生産量（属地）

平成20年の本道の海面漁業・養殖業生産量は141万トンで、前年に比べて2万1千トン（1.5%）減少しています。

本道の生産量は、昭和62年に過去最高の316万トンを記録しましたが、その後、国際的な漁業規制の強化やイワシの資源水準の大幅な低下などから急激に減少し、平成5年までの6年間で2分の1程度にまで落ち込みました。

それ以後、持ち直しの動きも見られましたが、ここ数年は、140万トン前後の低い水準で推移しています。

平成20年の海面漁業・養殖業生産量のベスト5は次のとおりです。

① ホタテガイ　42万9千トン
② スケトウダラ　19万1千トン
③ ホッケ　16万5千トン
④ サケ　13万トン
⑤ サンマ　13万トン

2 Current Status and Structure of Fisheries Production

(1) Quantities of fishery and aquaculture production (whitin territories)

Hokkaido's production volume by marine fisheries and aquaculture was 1.41 million tons in 2008, a decline of 21,000 tons (1.5%) from the previous year.

The catch reached an all-time high of 3.16 million tons in 1987, but has declined due to reinforced restrictions on international fishing operations and the drastic decline of the sardine resource level. It was almost halved over the six years until 1993.

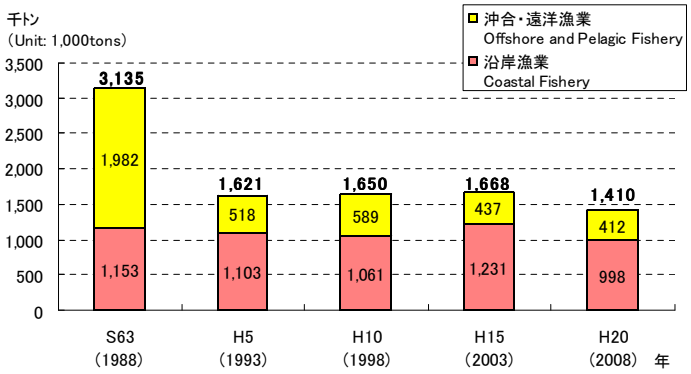
Although there were some signs of recovery, Hokkaido's production remains low with 1.4 million tons during the past few years.

The top five fish caught in 2008 were as follows:

①	Scallop	429	
②	Walleye pollock	191	
③	Arabesque greenling	165	
④	Salmon	130	
⑤	Saury	130	（Unit: 1,000tons）

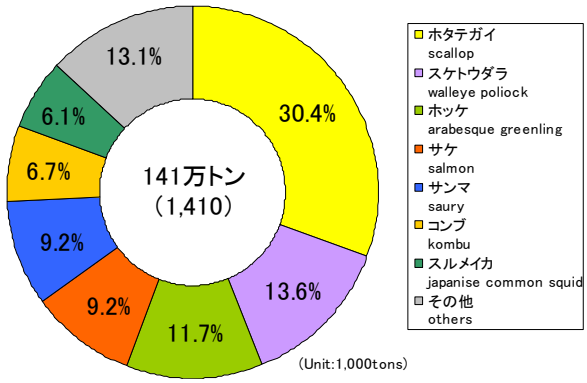
生産量の推移（属地）

Production volume in fishery (within territories)



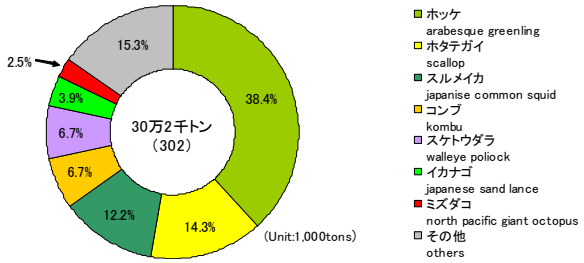
魚種別生産量（属地）

Production volume by fish species (within territories)

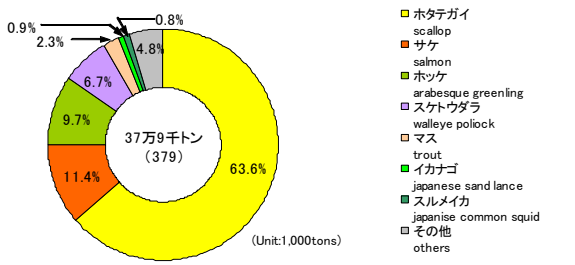


各海域の生産量（属地）

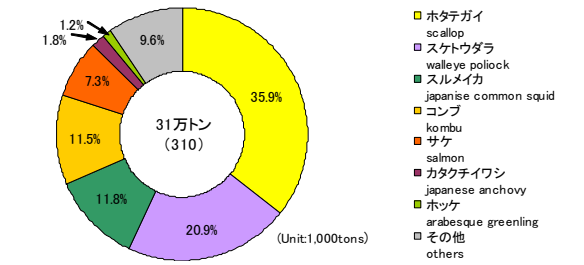
日本海海域（稚内市～函館市（旧檜法華村））
Sea of Japan Area (Wakkanai City ~ Hakodate City (former Todohokke))



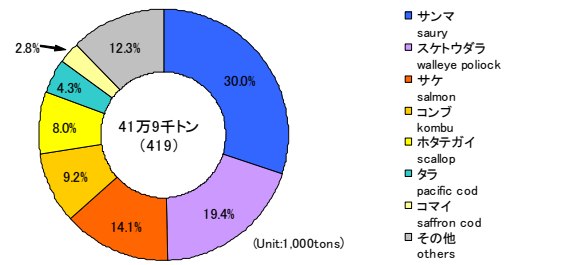
オホーツク海海域（斜里町～猿払村）
Sea of Okhotsk Area (Syari Town ~ Sarufutsu Village)



えりも以西太平洋海域（函館市（旧南茅部町）～えりも町）
Pacific Ocean Area West of Erimo (Hakodate City (former Minamikayabe Town)~Erimo Town)



えりも以東太平洋海域（広尾町～羅臼町）
Pacific Ocean Area East of Erimo (Hiroo Town ~ Rausu Town)



資料：北海道水産林務部「北海道水産現勢」　Source: "Annuall Statistics on Fishery and Aquaculture Production in Hokkaido" by Department of Fisheries and Forestry,Hokkaido Government

（2）漁業・養殖業生産額（属地）

平成20年の本道の海面漁業・養殖業生産額は2,806億円で前年に比べて95億円（3.3%）増加しています。

本道の生産額は、平成３年に過去最高の4,065億円を記録しました後、イワシやスケトウダラの生産量の減少、ホタテガイや秋サケの価格の低下などから減少しており、ここ数年は、秋サケの価格回復やナマコの価格向上などによりやや上向いたものの、3,000億円を下回る水準で推移しています。

平成20年の海面漁業・養殖業生産額のベスト５は次のとおりです。

①	サケ	549億円
②	ホタテ	540億円
③	コンブ	263億円
④	スケトウダラ	220億円
⑤	スルメイカ	157億円

(2) Value of fishery and aquaculture production (whitin territories)

Hokkaido's value of catch by marine fisheries and aquaculture was 280.6 billion JPY in 2008, a decline of 9.5 billion yen (3.3%) from the previous year.

After the peak of 406.5 billion yen in 1991, Hokkaido has suffered a slump in the value of catches. This is mainly due to the reduced production quantities of sardines and walleye pollock and the lower prices of scallops and autumn salmon.

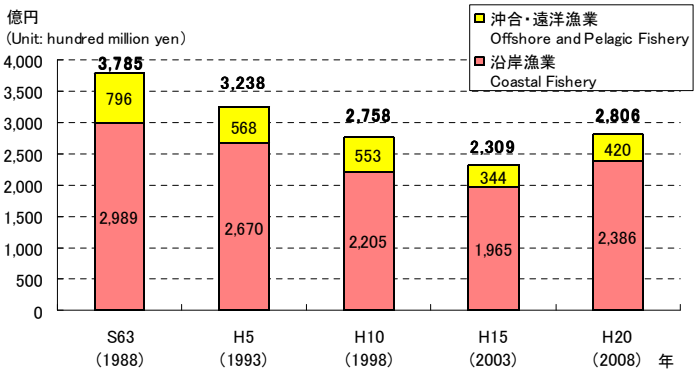
Values over the recent years remain less than 300 billion yen, though higher prices for autumn salmon and sea cucumber slightly increase the total figure.

The top five fish in production value of marine fisheries and aquaculture in 2008 are as follows:

①	Salmon	54.9	
②	Scallop	54.0	
③	Kombu	26.3	
④	Walleye pollock	22.0	
⑤	Japanese commom squid	15.7	(Unit: billion yen)

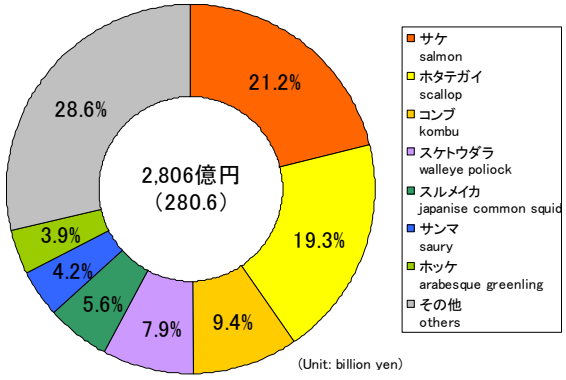
生産額の推移（属地）

Production value in fishery (within territories)



魚種別生産額（属地）

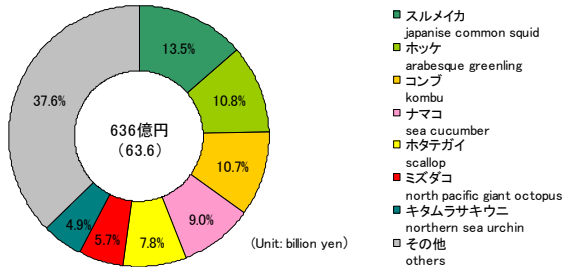
Production value by fish species (within territories)



各海域の生産額（属地）

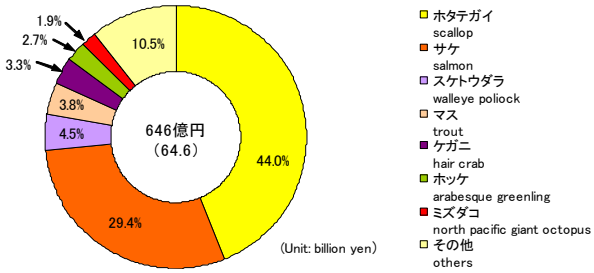
日本海海域（稚内市～函館市（旧椴法華村））

Sea of Japan Area (Wakkanai City ~ Hakodate City (former Todohokke Village))



オホーツク海海域（斜里町～猿払村）

Sea of Okhotsk Area (Syari Town ~ Sarufutsu Village)



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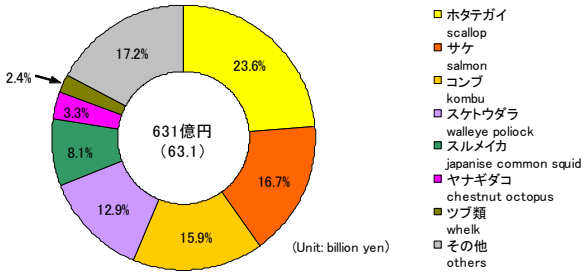

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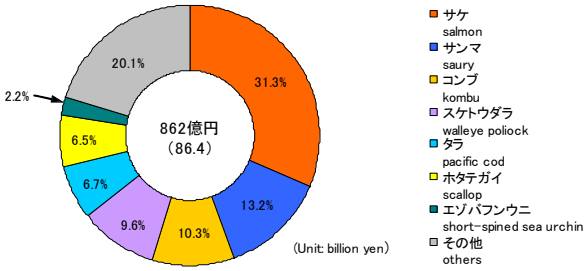


資料：北海道水産林務部「北海道水産現勢」 Source:"Annuall Statistics on Fishery and Aquaculture Production in Hokkaido" by Department of Fisheries and Forestry,Hokkaido Government

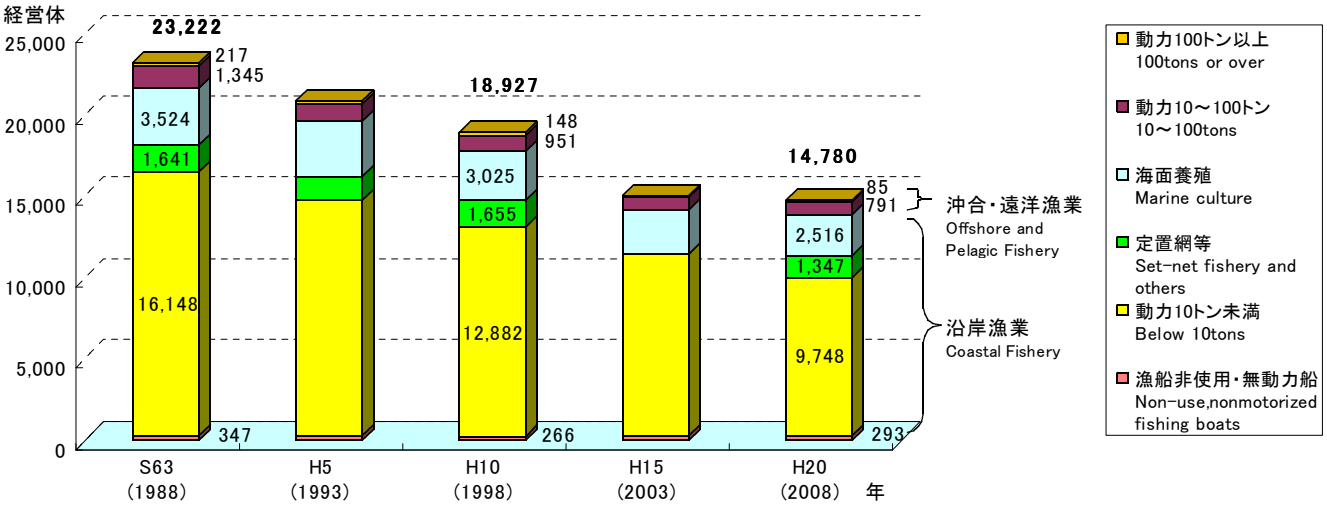
(3) 漁業経営体数

平成20年における本道の漁業経営体数は14,780で、このうち、沿岸漁業層経営体数は13,904で94.1%を占めています。
また、漁船規模別にみると、10トン未満の動力漁船を使用している経営体（無動力漁船を使用している経営体及び漁船非使用の経営体を含む。）が10,041で67.9%を占めています。
漁業経営体数は高齢化や後継者不足に伴う休廃業などから昭和60年以降減少しています。

(3) Number of fishery management units

There were 14,780 fishery management entities in 2008; of those, entities that engaged in coastal fishing numbered 13,904 (94.1%).
By size of fishing boat, those using motorized fishing boats under 10 tons (including fishery management units using non-motorized fishing boats and those without using fishing boats) accounted for 67.9% at 10,041.
Due to business suspension and discontinuance caused by the aging of the fishing population and lack of successors, the number of fishery management units has continued to decrease since 1985.

漁業経営体数の推移
Number of fishery management units



資　料：農林水産省統計部「漁業センサス」
注：平成20年はデータの集計方法が異なっており、他の年と単純に比較できない

Source: "Fishery Census" by Statistics Department , Ministry of Agriculture, Forestry and Fisheries
Note: The method of collecting data used in 2008 was different from the method used in other years; therefore a simple comparison cannot be made between thefigures for 2008 and figures for other years.

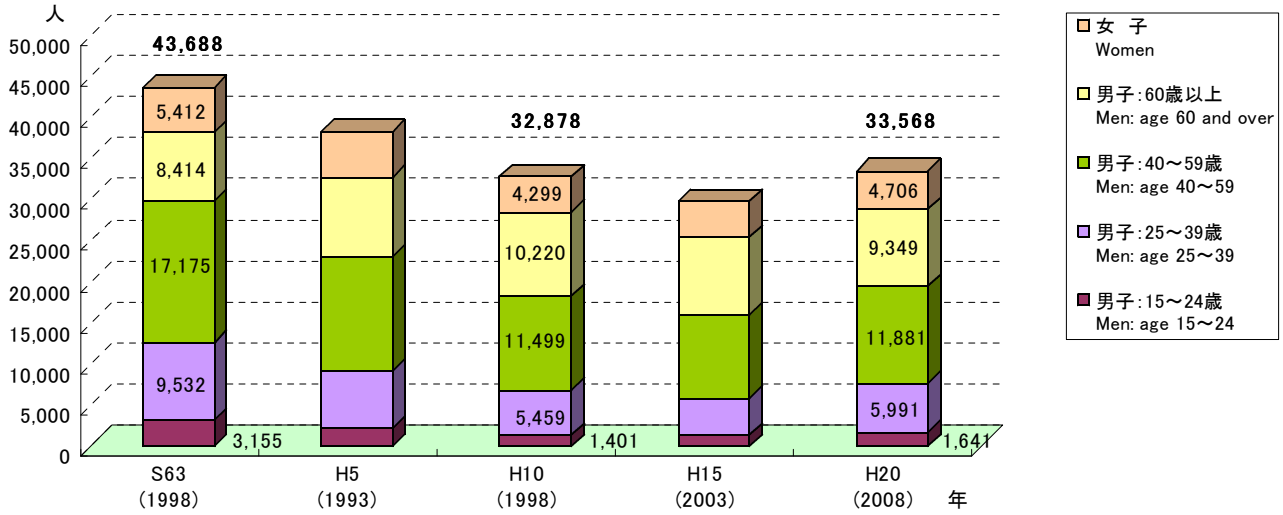
(4) 漁業就業者数

平成20年における本道の漁業就業者数は33,568人で、男女別にみると、男子が28,862人で86%を占めています。
また、男子就業者に占める60歳以上の割合は32.4%となっており、漁業者の高齢化が進んでいます。

(4) Number of people working in fisheries

The number of people working in fishery was 33,568 in 2008: 28,862 (86%) were male.
Out of all the male fishery workers, 32.4% were 60 years old or over, signalling that the industry continues to face an aging population.

漁業就業者数の推移
Number of people working in fisheries



資　料：農林水産省統計部「漁業センサス」
注：平成20年はデータの集計方法が異なっており、他の年と単純に比較できない

Source: "Fishery Census" by Statistics Department , Ministry of Agriculture, Forestry and Fisheries
Note: The method of collecting data used in 2008 was different from the method used in other years; therefore a simple comparison cannot be made between thefigures for 2008 and figures for other years.

（5）漁船数（海水動力漁船）

平成20年における海水動力漁船隻数は30,062隻で、前年に比べて686隻（2.2%）減少しており、昭和55年の51,138隻をピークとして減少傾向が続いています。

規模別にみると、採介藻漁業（浅海における海藻、貝類の採取及びその養殖業）や刺し網漁業に使用される３トン未満の漁船が22,294隻で全体の74.2%を占めています。

また、材質別にみると、FRP（繊維強化プラスチック）船が28,514隻で全体の94.9%を占めていますが、近年は軽合金船（アルミ船）の建造が増えています。

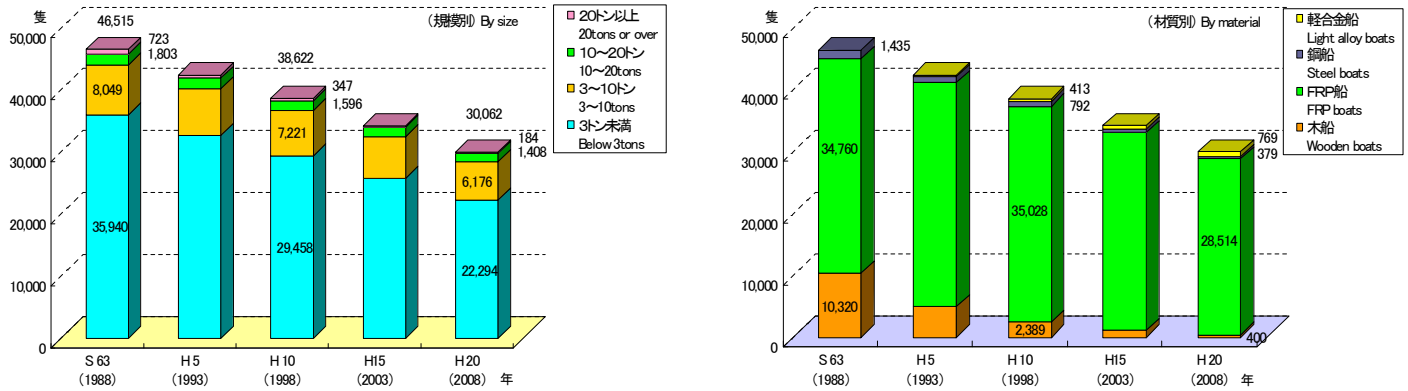
(5) Number of fishing boats (motorized fishing boats)

There were 30,062 registered shipping boats in Hokkaido in 2008,decreasing by 686 (2.2%) from the previous year. The number has declined annually after recording an all-time high of 51,138 in 1980.

By tonnage, fishing boats below 3 tons, which are used primarily for shellfish and seaweed gathering fishery (both shallow-water gathering fishery and aquaculture) and gill net fishery, accounted for 74.2% of the total at 22,294.

By material, FRP (fiber reinforced plastic) boats accounted for 94.9% at 28,514, and the construction of light alloy ships (aluminum boats) has increased recently.

漁船数の推移
Number of fishing boats



資　料：北海道水産林務部「北海道漁船統計表」　Source："Statistical Table for Fishing Boats in Hokkaido" by Department of Fisheries and Forestry, Hokkaido Government

（6）水産加工品生産（陸上加工）

平成20年の水産食品製造事業所数は1,079で、前年に比べて18（1.6%）減少しており、年々減少する傾向にあります。

また、平成20年における水産加工（陸上加工）品の生産量は74万3千トンとなっています。

このうち、冷凍水産物が43万１千トンで58.0%を占めており、これに続いて塩蔵品が８万３千トンで11.2%、飼肥料が４万１千トンで5.6%なっています。

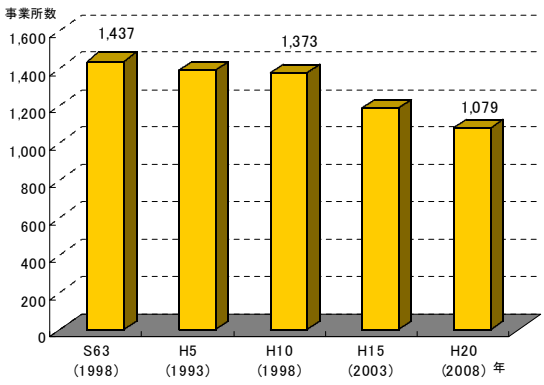
(6) Production of processed marine products (land processing)

There were 1,079 seafood manufacturers in 2008, a decline of 18（1.6%）from the previous year. The figure continues to drop.

The production of processed marine products (on land) in Hokkaido in 2008 was 743,000 tons.

The breakdown of processed marine products for the year showed that frozen marine products accounted for 58.0% of the total at 431,000 tons, followed by salted products (83,000 tons; 11.2%) and feed and fertilizer (41,000 tons; 5.6%).

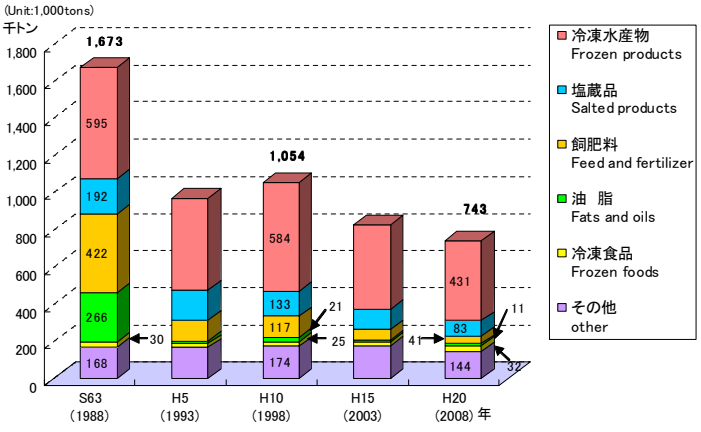
水産食品製造事業所数の推移
Number of seafood manufacturers



資　料：北海道総合政策部「工業統計調査結果」

Source: "Census of Manufacturers report" by Department of Policy Planning and Coordination, Hokkaido Government

水産加工品生産量の推移
Production of processed marine products



資　料：農林水産省北海道農政事務所「北海道農林水産統計年報」
（財）日本水産油脂協会「水産油脂統計年鑑」

注：平成15年以降はデータの集計方法が異なっており、他の年と単純に比較できない。

Source："Annual Report on Agricultural, Forestry and Fisheries Statistics in Hokkaido" by Statistics Department, Hokkaido District Agriculture Office, Ministry of Agriculture, Forestry and Fisheries
"Statistical Yearbook on Oil and Fat from Fishery Products" by Japan Marine Oil Association

Note : The method of collecting data used after 2003 was different from the method used in other year therefore a simple comparison cannot be made between the figures.

1 栽培漁業の推進

本道では、サケ・マスのふ化放流やホタテガイの地まき放流・養殖、コンブの養殖などが盛んに行われており、これらは本道の基幹漁業となっています。

また、各地でウニの種苗放流が行われているほか、日本海のヒラメ、ニシン、アワビ、えりも以西太平洋のマツカワ※の種苗生産・放流など、海域の特性に応じた栽培漁業が行われています。

さらに、近年急激に需要が高まっているナマコの資源を増やすため、道や漁協が協力し、栽培漁業技術の開発に取り組んでいます。

※マツカワ：ブランド名「王蝶（おうちょう）」で売り出し中の大型のカレイ

1 Promotion of Stock Enhancement and Farming Fishery

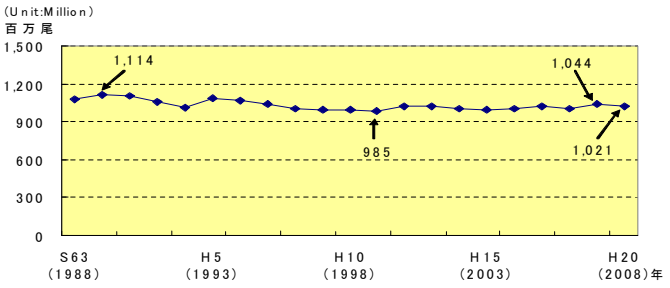
The hatching and releasing of salmon and trout, seabed releases and cultivation of scallops and kombu, etc. have been flourishing in Hokkaido, making up the key fishery of the prefecture.

Stock enhancement varies from seed release of sea urchins in many places to seed production and release of Japanese flounder, herring and abalone in the Sea of Japan, and of Barfin flounder in the Pacific Ocean area west of Erimo Town, respectively.

More recently, demand for sea cucumber has increased drastically. In order to increase the resource quantity, the Hokkaido Government, together with fishermen's cooperatives, works on the development of the technology in its enhancement.

* Barfin flounder: a large species of flounder, with the brand name of "Oucho (king flounder)"

種苗の放流実績（シロサケ）
Past record on seed releasing(Chum salmon)



資　料：独立行政法人水産総合研究センターさけますセンター
北海道立総合研究機構さけます・内水面水産試験場
Source: Incorporated Administrative Agency National Salmon Resources Center, Fisheries Research Agency; and Hokkaido Research Organization, Salmon and Freshwater Fisheries Reseach Institute

種苗放流一覧（主要魚種）
A list of seed releasing (major fish)

単位：千尾、千個(Unit:1000)

区　　分	H16 (2004)	H17 (2005)	H18 (2006)	H19 (2007)	H20 (2008)
ニシン herrung	4,014	4,737	5,540	4,809	6,453
ヒラメ japanese flounder	2,342	1,158	2,482	1,786	2,763
マツカワ barfin flounder	173	138	1,330	1,449	1,499
ホタテガイ scallop	2,943,673	2,895,425	3,074,998	3,186,453	3,191,539
エゾバフンウニ short-spined sea urchin	56,741	56,075	53,564	52,364	51,815

資　料：（社）全国豊かな海づくり推進協会「栽培漁業種苗生産、入手・放流実績」
Source: "Materials on the production and release of fingerlings for stock enhancement" by the National Association for the Promotion of Productive Seas

2 資源管理型漁業の展開

本道周辺水域の水産資源は総じて減少しており、今後、漁業経営や水産物供給の安定を図るためには、資源管理型漁業のより積極的な展開が必要です。

道では、行政・研究機関等で構成する「水産資源管理会議」において検討された主要23魚種の資源評価と管理方法などを「北海道水産資源管理マニュアル」として周知するなど、資源管理型漁業の促進に努めています。

2 Establishment of Resource Manegement-Oriented Fisheries

In recent years, fishery resources in the seas surrounding Hokkaido have been decreasing. Given such circumstances, further promotion of resource management-oriented fisheries will be required to ensure stable fishery management as well as a stable supply of marine products.

The Hokkaido Government has strived to promote resource management-oriented fisheries. As part of the efforts, government officials, researchers and other related members met at the Marine Resource Management Conference to define the methods of evaluating and managing 23 key fish species. Those methods are now available in the Manual for Management of Fishery Resources in Hokkaido.

北海道水産資源管理マニュアル（北海道水産林務部）
The Manual for Management of Fishery Resources in Hokkaido (Department of Fisheries and Forestry, Hokkaido Government)

資源管理（ケガニの検量）
Resource management by measurement of hair crab

3　漁業経営の安定と漁業経営体の育成・確保

本道の漁業経営は、漁獲量の減少や燃料価格の高騰による漁業経費の増大などから厳しい状況にあるほか、漁業就業者の減少・高齢化等が課題となっています。

道では、漁業経営の体質強化に向けた取組を促進するとともに、道立漁業研修所において漁業者や後継者の技術修得研修を行っています。また、道内各地では、担い手の確保や育成に向け、市町村や漁協の連携による様々な取組が行われています。

3 Stabilization of Fishery Management and Security in Fishery Management Entities

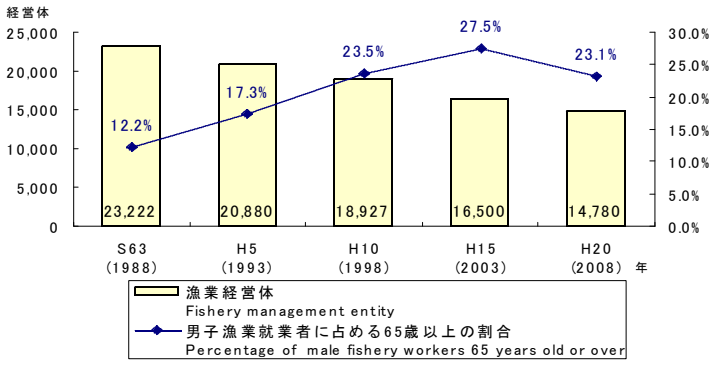
Fishery management in Hokkaido is experiencing severe hardships with the decline of catches, in addition to higher expenses followed by a rise in fuel prices. The fewer number and aging of fishery workers are also serious concerns.

In order to overcome these challenges, the Hokkaido Government promotes actions towards stronger fishery management, and provides both active and prospective fishery workers with training programs.

Various efforts are also conducted by municipal governments and fishermen's cooperatives, hoping to secure the workforce.

漁業経営体数及び高齢比率の推移

Number of fishery management entities and the rate of aging of fishery workers



漁業研修所の研修の様子

A training session at the fishery training institute

資　料：農林水産省統計部「漁業センサス」　注：平成20年はデータの集計方法が異なっており、他の年と単純に比較できない。

Source: "Fishery Census" by Statistics Department, Ministry of Agriculture, Forestry and Fisheries

Note: The method of collecting data used in 2008 was different from the method used in other years; therefore a simple comparison cannot be made between the figures for 2008 and figures for other years.

4　安全・安心な水産物の供給と競争力の強化

近年、国内では食の安全・安心に対する関心が高まる一方、全世代で「魚離れ」が進んでいることから、道内各地で衛生管理体制の整備等による水産物の高品質化の取組や漁業者等によるＰＲ活動、食育活動などを通じた愛食運動が行われています。

また、世界的に水産物需要が増大する中、国内消費の拡大や輸出増大に向けた取組が進められています。

4 Stabilization of Fishery Management and Improvement of Fishery Cooperatives Management Base

Today in Japan, a stronger interest in food safety and reliability does not result in larger fish consumption. There is a series of programs running in an effort to encourage people to eat safer and more tasty seafood: quality improvement of seafood with hygiene control systems, promotional activities by fishery workers, and diet education as well as other food campaigns.

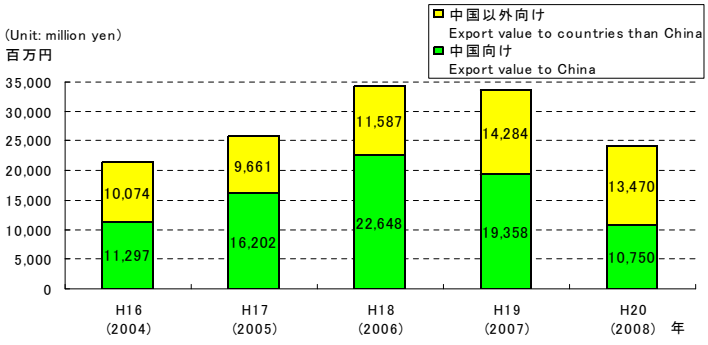
Looking at increasing worldwide demands for seafood, Hokkaido has strived to expand both domestic and international consumption of local marine products.

漁業者による出前事業の様子

A lecture on demand, given by a fisherman

「魚介類及び同調整品」の道内港からの輸出額

Change in export value of "seafood" and "prepared seafood" from Hokkaido ports



資　料：函館税関　Source: Hakodate Customs

5 環境と調和した水産業の展開と環境保全

水産資源を維持増大して持続的に漁業を行うためには、水産資源の生息環境を保全する取組や、漁業に大きな被害を与えているトド等の野生生物との共存対策が必要です。

道内各地で漁業者等が連携し、磯焼け解消に向けた取組や藻場・干潟の保全活動、植樹活動、外来魚の駆除等が進められています。

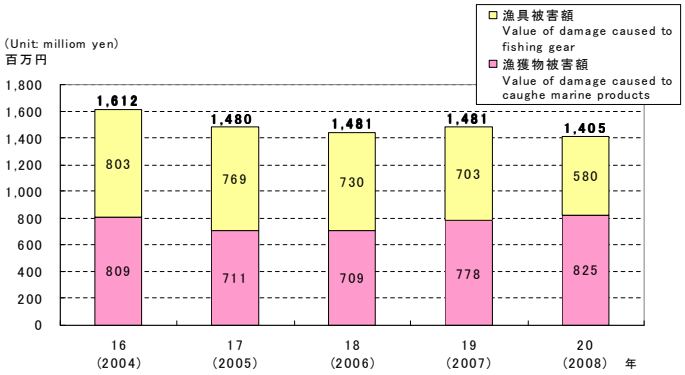
5 Development of Environmentally-Sustaining Fisheries and Environmental Conservation

It is essential for sustainable fishery with equivalent and larger resources to safeguard favourable habitats for marine resources. Measures must be introduced to make the industry coexist with wild animals: Steller's sea lions have thus far presented significant damages for the industry.

In cooperation with fishery workers across Hokkaido, the government is making countermeasures against rocky shore denudation, while taking actions to protect seaweed beds and tidal wetlands, planting trees, and exterminating introduced fish species.

トドによる漁業被害の推移

Change in the fishery damage caused by Steller's sea lion



藻場の保全活動（岩盤清掃）

Cleaning bedrock, as a part of seaweed bed maintenance

資　料：北海道水産林務部
注：トド来遊期の10月から６月までを集計

Source: Department of Fisheries and Forestry, Hokkaido Government
Note: The data was collected from October to June each year, when Steller's sea lions make their annual migration to Hokkaido.

6 快適で活力ある漁村地域の創出

快適で活力ある漁港・漁村づくりを進めるため、漁船の係留や水産物の陸揚に必要な漁港の基本施設の整備に加え、漁業集落排水施設や防風防除施設などの就労・生活環境の整備が進められています。

また、海洋性レクリエーションや体験漁業など、漁村に対するニーズの高まりから、道内では海を生かして地域を活性化させる取組が進められています。

6 Creation of Comfortable, Vital Fishing Villages

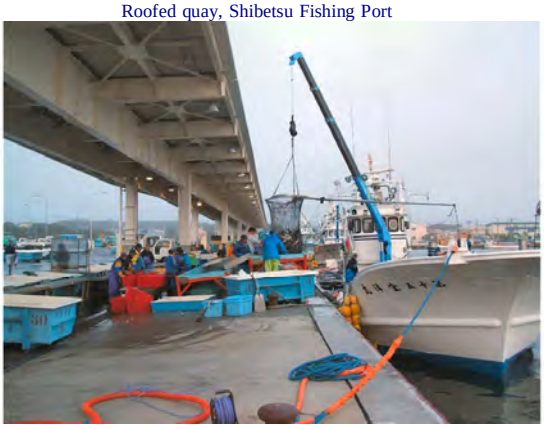
Infrastructure is under development to build better boat mooring and unloading facilities, in an effort to create comfortable, lively fishing ports and villages.

Drainage facilities, windbreaks and snowbreaks are also installed for better working and living environments in fishing communities.

Meanwhile, many sea-focused programs have been introduced to revitalize the community. They are backed by a higher need for fishing villages with marine recreation and hands-on fishery experience.

屋根付き岸壁（標津漁港）

Roofed quay, Shibetsu Fishing Port



体験漁業の取組

Hands-on fishing approach

7 試験研究の充実強化と技術普及

道では、本道水産業の持続的な発展にむけて、水産資源の増養殖・管理に関する技術開発や付加価値の高い製品づくり、環境保全のための調査・研究を推進するとともに、知識や技術の普及に取り組んでいます。

7 Enhancement of Research and Experimentation and Dissemination of Technologies

For sustainable development in local fisheries, Hokkaido has been upgrading marine resource enhancement and management technology: inventing value-added products, studying environment conservation, and disseminating new knowledge and technology across the prefecture.

アカガレイの耳石採取
Otolith picking from flathead flounder

船上での調査状況（プランクトン調査）
Research being conducted on the deck of a ship（Plankton research）

8 国際漁業の情勢

我が国は、平成８年の国連海洋法条約の発効に伴い「排他的経済水域及び大陸棚に関する法律」を制定し、排他的経済水域を設定しました。韓国や中国との間で漁業協定を発効しているほか、ロシアとの間では、毎年、政府間協定や民間協定による操業が行われています。また、北方四島周辺水域における日本漁船の操業については、平成10年に協定が締結され、スケトウダラやタコなどが漁獲されています。

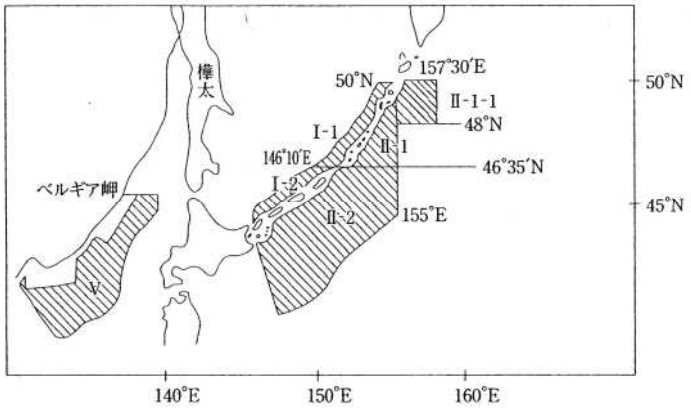
8 International Fishery Trends

With the enforcement of the United Nation's Convention on the Law of the Sea, the Japanese Government enacted the Law Concerning Exclusive Economic Zones and Continental Shelves in 1996, to establish an exclusive economic zone.

Japan has entered into fishery agreements with South Korea and China. Meanwhile, Japan and Russia renew governmental and private agreements about fisheries each year.

In 1998, an agreement concerning the operation of Japanese fishing boats around the northern territories was concluded for catching walleye pollock and octopus.

2010年の日本漁船の操業水域図 Fishing zone for japanese fishing boats in 2010



○相互入漁水域

第Ⅰ－１水域	**千島（オホーツク海側北部）**	底はえなわ
第Ⅰ－２水域	**千島（オホーツク海側南部）**	底はえなわ
第Ⅱ－１水域	**千島（太平洋側北部）**	中層及び着底トロール 底はえなわ
第Ⅱ－１－１水域	**千島（太平洋側北部）**	中層及び着底トロール 底はえなわ
第Ⅱ－２水域	**千島（太平洋側南部）**	底はえなわ、いかつり
第Ⅱ水域	**千島（太平洋側）**	棒受網
第Ⅴ水域	**日本海水域**	いかつり

○有償入漁水域

第Ⅱ－２水域	**千島（太平洋側南部）**	中層及び着底トロール

北海道の水産　（平成22年4月）
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Fax : 011-232-4140
Front cover : Sun-drying kombu on the ground（Urakawa Town）

Japanese
Seafood Exports;
The Secret Behind the Quality

日本水产品的出口　品质背后的秘密

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Seafood Exports;
The Secret Behind the Quality

日本水产品的出口　品质背后的秘密

おいしい
日本食品的质量

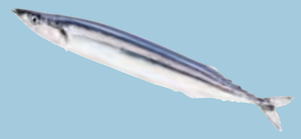
生活在大海的怀抱里，
日本人永远与渔业相伴。

日本四面环海，自古以来就出产丰富的水产品，
因此形成了独特的饮食文化。
源自日本的“SUSHI”现在正逐步被世界各国所接受，
可谓是基于独特饮食文化的典型日本饮食。
日本近海拥有大陆架、寒流与暖流相互交汇的“潮目”，
水产资源极为丰富，被誉为世界三大渔场之一。
目前为实现水产资源的可持续利用，
正在积极开展“创造养育型渔业”，
通过渔业管理、投放渔苗贝苗、
保护渔场环境来实现水产资源的增殖等。

刊登照片仅用于内容说明。根据季节与产地的不同，与实际情况会有一定出入。

领导世界料理市场的日本水产品

日本是一个四面环海的水产资源大国。
随着日本饮食在世界各地越来越受欢迎，
使得当今的水产品出口一直保持稳步增长。
下面介绍一下不断变化的日本水产品情况。



世界闻名的日本饮食及发展前景

日本饮食所处的环境正在发生着变化。日本料理店原来只是开设在日本人街区毫不显眼的角落里，现在则到处开设分店，当地的人们也开始越来越多地光顾。在有的国家里日本饮食甚至已经深深扎根于当地的日常生活之中。

据覆盖全球85个城市的美食指南透露，在美国被评为高等级的餐馆中，有20%是日本料理店。在英国伦敦，经营日本饮食的饭店得到最高评价也成为了人们议论的话题。伦敦的寿司店已经有50多家，由此可以看出欧美也越来越重视日本饮食。与此同时，在奥运景气刺激下的中国北京，预计将要接待来自世界各地的游客及寻求新奇美味的国内游客，相继开设了一些寿司店。

像这样，日本饮食现在已经随着日本文化扩大到世界各地，除“保健”功能外，还由于“高质美味”、“美观”、“吃日本料理更时尚”而大受欢迎。

在许许多多的国家都可以看到寿司店了

全球水产品消费量的增加与日本水产品出口的增长

一提起日本饮食就离不开水产品。作为岛国，日本自古以来就积极摄食水产品，形成了独特的饮食文化。日本是世界第一长寿国家，营养专家的调查结果显示，那是因为日本人将水产品作为蛋白质来源，并从水产品中摄取了充足的维生素与矿物质。

另外，由于发生BSE及人们健康意识的提高，世界各地的水产品消费量在最近10年间急剧增长了50%。其中拥有13亿人口的中国在最近10年间的消费量增长约1倍。因此，多年来一直发展鱼食文化与独特水产业的日本的水产品成了当今最受人们关注的焦点。

日本渔业人员及渔业协同组合的生产人员此前一直把主要精力放在国内需求上，但现在也开始将目光转向世界市场。

热闹的筑地市场

通过提高水产技术，可实现高品质、稳定供应

为了在将来能向市场持续不断地供应高品质的日本水产品，日本方面正在积极采取各种各样的措施。

为我们提供健康水产品的美丽大海

保护水产资源

为保护水产资源，日本近年来设立了MEL（Marine Eco-Label Japan，日本海洋生态标签），主要对保护资源与海洋的可持续发展型渔业所提供的水产品提供认证，以及向消费者提供可持续发展型渔业的公共宣传。

MEL 日本的标志

另外，国家和地方公共团体通过许可制度，除对渔业进行管理外，还实施对渔获总量进行限制的TAC制度，渔业人员、地方公共团体、国家共同开展休渔、种苗投放等，努力恢复渔业资源。

养殖鱼的风险管理与最先进的养殖技术

在养殖鱼的生产过程中，从风险管理和向消费者进行食品安全公共宣传的角度出发，正在积极致力于鱼苗、饵食、投药等生产记录的透明化。另外，还成功实现了原来一直属于世界性难题的金枪鱼的完全养殖等，确立了世界顶级养殖技术。

养殖情况

保鲜与质量管理

在日本加工工厂里按照HACCP开展食品管理，基于‘SUSHI’等对鱼进行生食的文化而确立了从捕捞一直到消费的低温运输体系，致力于从生产到消费的可追踪性等，从而开展新鲜而稳定的水产品及水产加工品供应。

此外，近年来，日本一些具有代表性的鱼市场如筑地等也开始引进最先进的冷冻技术。这种在冷冻过程中不破坏细胞的最新冷冻技术几乎不影响新鲜度与风味，因此不仅在日本国内备受关注，甚至还吸引了来自海外的考察团。通过这项具有划时代意义的技术可以实现常年稳定供应，今后有可能给全球水产业造成深远影响。

HACCP 对应加工工厂的情况

近年来日本的水产品开始大量出口。日本水产品出口额在近几年里保持约20%的年增长率，呈现出稳步增长的局面。各种日本水产品不断出口到亚洲、欧美、中东、非洲等世界各地。

请抓住这个机会体验一下来自日本的水产品。这扇大门正朝向世界打开。

并不仅仅是寿司

用日本水产品创造新菜谱！

充分发挥日本海产品的原料优势，轻松制作健康食品。请务必体验一下味道与品质。

香烧鰤鱼

【主要原料】
鰤鱼（4片）、粗黑胡椒面（少许）、辣椒（红、黄各1个）、蒜（2片）、橄榄油（2大匙）、意大利芹（适量）、红胡椒（适量）、柠檬汁（适量）

【做法】
（1） 在鰤鱼上撒少许盐与粗黑胡椒面，放上5～6分钟，入味后涂上适量小麦淀粉。
（2） 用铁丝篦将柿子椒烤黑，剥去薄皮，竖着切成2半，撒上少许盐、胡椒。
（3） 将蒜切成薄片，去除里面的芯。
（4） 在煎锅内放入橄榄油与蒜，小火加热，蒜焦黄后取出。
（5） 将（1）的鰤鱼放入（4）的煎锅内，中火加热，使两面着色。
（6） 把鰤鱼和柿子椒一起盛到盘内，撒上蒜与意大利芹，根据个人喜好放红胡椒、柠檬汁。

醋腌扇贝与生火腿　拌葡萄柚

【主要原料】
扇贝柱（8个）、菜豆（10根）、葡萄柚（1个）、生火腿（120g）、橄榄油（3大匙）、盐（少许）、胡椒（少许）

【做法】
（1） 将扇贝柱切成一半厚，菜豆放盐煮5分钟左右，斜着切成3段。挤出相当于1/4个葡萄柚的汁，与橄榄油、盐、胡椒混合。剩下部分分成小瓣，剥去薄皮。
（2） 将（1）一同放入大碗内，稍放一下，用手把火腿掰成容易吃的小块，放进去搅拌。

真鲷拌意大利细面条

【主要原料】
意大利细面条（320g）、真鲷（鱼块4段）、绿橄榄（30粒）、小番茄（12个）、蒜（4片）、橄榄油（90ml）、白葡萄酒（80ml）、水（300ml）、盐（少许）、胡椒（少许）

【做法】
（1） 往真鲷上撒盐、胡椒。橄榄去掉种子后切成块，大蒜切碎。去掉小番茄的蒂。
（2） 烧上满满一锅的水，加1%左右的盐，开始煮意大利细面条。
（3） 在煎锅内放上橄榄油、蒜，小火加热，炒至香味出来。
（4） 将真鲷放入（3）中，煎出颜色后翻过来，浇上白葡萄酒，淋上白酒。
（5） 在（4）中加入橄榄、小番茄、水，小火炖至无汤，在煎锅内将真鲷切成便于食用的小块。
（6） 煮好的意大利细面条控除水分，加入（5）内搅拌，用盐、胡椒调味。

西红柿炖茄子秋刀鱼

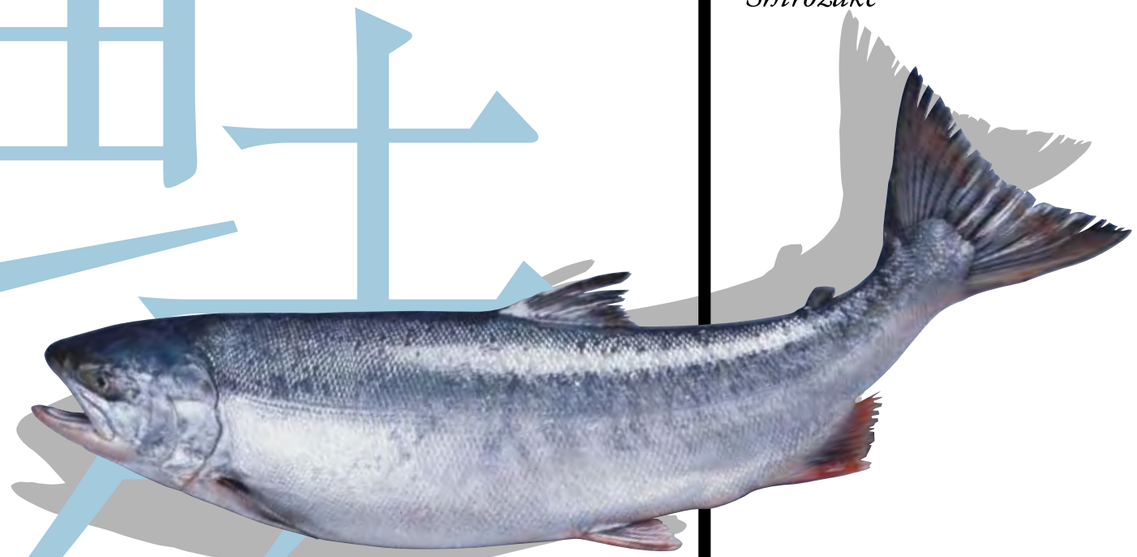
【主要原料】
秋刀鱼（4条）、茄子（2只）、野生芦笋（6只）、蒜（2片）、西红柿酱（罐装 800g/罐）、橄榄油（3大匙）、盐（1小匙）

【做法】
（1） 茄子切成1.5cm见方，把野生芦笋根部的坚硬部分切除，切成3段左右。秋刀鱼去头、内脏，切成4段左右。
（2） 将蒜切碎，加入1小匙盐和橄榄油。
（3） 将（2）放入煎锅，把（1）加在上面，盖上盖子，中火炖10分钟左右。

鱼生 鲑鱼

CHUM SALMON

Shirozake



烤鲑鱼是日本最常见的家庭料理

被称为“红色鱼子酱”的鱼子就是鲑鱼卵。在欧盟各国的需求有望达到鱼子酱的水平

以健康著称、被誉为天然鲑鱼的日本白鲑

以欧美为中心，随着人们健康意识的提高，对日本白鲑的需求也不断增长。日本白鲑是在野生环境下生长的鲑鱼，经过长达120年的孵化放养，目前已经拥有很高的资源保有量。

现在日本产白鲑正按照HACCP开展食品管理，在海外工厂进行一次或二次加工，将其中的30% ～ 40%出口到欧盟国家。欧盟国家的水产品批发商按照鱼块或鱼片的方式分类，将其加工成炸鱼或冷冻食品，受到人们广泛喜爱。

在这种情况下，开始强化盐渍白鲑鱼子的出口。最近对白鲑在日本国内加工，然后出口到美国。通过在日本国内加工白鲑，确立“一次性冷冻（不进行二次冷冻）”，可以使原料比以往更加新鲜，从而使日本产白鲑受到各方面的广泛关注。在日本捕捞加工、优质安全的日本产白鲑走上世界各地的饭桌，这一天将不再遥远。

主要渔场

渔获量

229,279 吨
（2005年／还包括白鲑以外的鲑类）

主要捕捞地

北海道、岩手

生产者的声音

有利于保护资源与新鲜度的定置网捕捞成为主流

与北美的红鲑及北欧的大西洋鲑不同，日本鲑鱼被称为白鲑，是一种脂肪含量少的野生鲑鱼。除健康外，人们对野生的放心感，以及从捕捞上来开始就实施严格的温度管理，因而保持了良好的新鲜度，这些均受到了欧美国家的好评。目前在北海道捕捞的白鲑冷冻后通过中国的加工场销往全世界，今后将改为在日本国内加工，这样更有利于降低成本和保鲜，并以日本品牌开发出口产品，努力获取生态标签等。

真鯛

在日本具有悠久历史的高级鱼
因此养殖业也非常发达

闪着红光的身姿、晶莹剔透的身体、甜而有嚼头的口感——真鲷在日本自古以来就被视为“吉祥鱼”，是喜庆典礼等不可或缺的高级食物原料。与其他鱼类相比，真鲷没有太多的腥味与脂肪等，新鲜度保留得时间更长，被人们制成生鱼片、烤鱼、鱼汤、干烧鱼、火锅、鲷饭等各种各样的料理。

由于真鲷喜欢单独活动，不聚集成群，因此野生真鲷的捕捞量非常少，在经营中被列为高级鱼。但以前被视为不可能实现的人工养殖技术，现在已经形成了从种鱼身上采卵、饲养的人工孵化技术，人工养殖真鲷的成熟年限短于野生真鲷，味道很好，可以常年供应，已经走上了家庭餐桌。作为主要出口对象的韩国、中国也作为生鱼片或寿司来食用真鲷，近年来这方面需要不断扩大。除韩国、中国外，日本各地的养殖经营者、加工经营者还开始面向全球，积极开发新产品，在生鱼片、寿司之外的领域里展现真鲷的魅力。

主要产地
爱媛、熊本、三重、
长崎、高知、和歌山

养殖量
76,082吨（2005年）


真鲷的生鱼片


西式白汁红肉

RED SEA BREAM | 真鲷

Madai

生产者的声音


完整的真鲷。
一条鱼占满整个盘子的喜庆料理

真鲷以其美观、味道好而成为喜庆及日本料理的代表性鱼类。爱媛县的产量占整个人工养殖真鲷的约50%。真鲷养殖的兴起只是最近30年～40年的事，但是却取得了惊人的发展，成为日本水产养殖最成功的典范。目前养殖场、HACCP认证加工场遍及日本各地，人们已经可以常年品尝到新鲜美味的真鲷了。海外的朋友们肯定也想进一步了解日本养殖真鲷的品质吧。

鰤鱼

鰤魚

YELLOWTAIL

Hamachi · Buri

主要产地
鹿儿岛、爱媛、大分、
长崎、香川、宫崎、熊本

养殖量
159,741吨（2005年）

日本产量第一的养殖鱼。
在世界各地深受人们喜爱的养殖鱼之王

在日本，人们把各个成长阶段有不同叫法的鱼称为“发迹鱼”。这表明日本人非常了解鱼的大小不同会影响到口味和食感。鰤鱼就是一种“发迹鱼”，在各个不同阶段分别被称为TSUBASU→HAMACHI→MEJIRO→BURI等，深受日本人的喜爱。

鰤鱼的个头大、体形也便于做成切片，因此在日本国内无论是鲜鱼店还是超市、餐馆、酒吧等，可以通过各种各样的场合得到或食用。

另外，鰤鱼在各种料理中都非常出名，无论是日本料理还是西餐，从意大利菜到中国菜，都能看到鰤鱼的身影。由于营养价值高、食品原料健康，现在已经深受全世界的喜爱。

鰤鱼能受到人们如此喜爱，还在于高水平的养殖技术，以及从产地加工到供货可以开展一揽子生产的体制。从鱼苗时期就对饲料等开展严格的质量管理，以此来实现高品质与稳定供应。我们正是通过这些措施，把更加安全、新鲜的鰤鱼不断提供给全世界。


红烧鰤鱼


在美丽的大海里开展严格管理

生产者的声音

还在积极推行鰤鱼养殖的地区品牌化

日本的养殖鰤鱼由于美味与安全而赢得了美国与欧洲等海外市场的好评。我们首先在国内按照出口对象国家的进口规定进行加工、供货。从鱼苗到供货采用一揽子生产，这样便于产品追踪，加工场自然都已经获得HACCP认证。鰤鱼主要用于生鱼片与寿司，在海外通过食品集市等介绍烹制方法，希望以此来开辟新市场。

扇贝
SCALLOP
Hotate

生产者的声音

日本国内有2大扇贝生产基地，分别是北海道沿岸与青森县陆奥湾，近年来两处的产量分别稳定在35万吨以上与8万吨以上。北海道出产的扇贝以大个头为主，平均每千克约30个，而在陆奥湾出产的扇贝中，最近受欢迎的是名为“子扇贝”的小型贝柱，主要面向家庭。即使是L型，平均每千克也有80个～100个，容易烹调，可用于沙拉、海鲜饭、炖菜等受人欢迎的食谱，尽管价格便宜，但味道浓厚，深受好评。虽说扇贝一直被作为高级食品原料使用，但我们希望它也能成为家庭餐桌上的常客。

在家庭料理中深受欢迎的幼扇贝

浓缩了各种香味的干贝柱

实行按计划生产，产量高居全球第二

扇贝自古以来就不仅被生食消费，作为水产加工品也非常受欢迎。由于外观好看，经常出现在宫庭晚宴等盛大的场合。另外扇贝柱含有大量美味成分，还被用于XO酱与高级牡蛎调味汁。

日本扇贝产量每年约50万吨，位居世界第二。单就鱼贝类来讲，则产量世界最高。冷冻扇贝、扇贝肉、扇贝丁等是法国菜、中国菜的原料及家庭食品原料，被出口到法国、美国、中国、香港等地。

以出口兴旺为背景，通过提高种苗的中间培育技术及生产技术，保证了常年稳定供应。从而实现了种苗的量产化与按计划生产。

在西餐中也深受欢迎的日本扇贝

渔获量
287,486吨（2005年）

养殖量
203,352吨（2005年）

主要捕捞地
北海道、青森

狭鳕
ALASKA POLLOCK
Suketoudara

高蛋白低脂肪、适合各种烹饪法

狭鳕在日本不仅食用鱼身，就连卵巢也非常仔细地用盐腌起来，做成鳕鱼子或芥末鳕鱼子等，是日本人非常熟悉的鱼种。这种鱼不仅是日本，就连相邻的韩国也对它给予了很高评价。利用捕捞后直接用深层海水清洗来保持新鲜度等措施来进行鲜鱼出口，严格对每一条进行保鲜，赢得了用户好评。

现在已经被指定为TAC（允许捕捞量）对象鱼种，设定了可以捕捞的总量。水产试验场每年在捕捞期前及捕捞期后利用鱼群数量探测器开展调查，预测洄游资源量等，进行资源量的维持与管理。

由于狭鳕含高级蛋白质、脂肪非常少，因此非常适合油炸、裹上黄油烤等需要用油的烹调。因日本产的狭鳕口味好、品质好，因此在韩国作为传统料理“火锅”等的原料赢得了好评。

生产者的声音

韩国火锅料理在日本也深受欢迎

狭鳕出口在数年前还只是相邻的韩国，几乎完全在生鲜状态下流通。在韩国作为火锅（火锅料理）的材料，新鲜度好的日本产生鲜狭鳕非常受欢迎。尽管向韩国的出口量仍在不断增长，但最近向中国的出口量却已经超过了向韩国的出口。向中国出口是在日本国内冷冻后供货。狭鳕在中国经过加工出口到欧美，作为炸鱼等进行食用。

主要渔场

渔获量
194,049吨（2005年）

主要捕捞地
北海道

日本人非常熟悉的大众鱼
还在开发高鲜度加工品

秋刀鱼广泛分布于北太平洋，随着季节的变化进行大规模洄游。在秋季来日本产卵。因此对于日本人来说，秋刀鱼代表着“秋天的口味”，内心一直在盼望着这种味道。日本原来只是将秋刀鱼作为烤鱼食用，但近年来又进行了生鱼片等商业用途的开发，作为生鱼片与寿司的食用方式也逐步为人们所接受。

北太平洋地区秋刀鱼渔业除日本政府根据许可证制度进行渔业管理外，还通过TAC制度进行总捕捞量控制。现在每年生产25万吨以上，与韩国、中国、泰国、俄罗斯等进行频繁交易。

此外，（德国）水产综合研究中心等有计划地充分利用丰富的资源量，正在开发可在保持鲜度不变的情况下，生产无皮鱼片、鱼块、碎鱼肉等方面的技术。

秋刀鱼
PACIFIC SAURY
Sanma

主要渔场

渔获量
234,451吨（2005年）

主要捕捞地
北海道、宫城、岩手

盐烧做法最为流行

加工销售业界的声音

秋刀鱼的生鱼片

秋刀鱼出口到俄罗斯、泰国、中国等用于加工，出口到韩国、美国等用于销售。在人们的印象中这是一种日本（亚洲）鱼，但由于水产资源非常丰富，可供人们充分有效利用，在日本已经是最受欢迎的大众鱼，而在世界上也理应受到更多的关注。作为包含味道部分的纯日本原料，我们也在进行利用秋刀鱼的商品开发。

冷藏、贸易业界的声音

青花鱼捕捞量在日本也是屈指可数的千叶、铫子渔港

也许会有人觉得不可思议，日本产青花鱼会大量出口到尼日利亚、埃及等非洲国家，以及泰国、越南、中国等亚洲地区。原本是作为北大西洋产青花鱼的替代品进行销售的，但最近由于人们对新鲜度的评价很高，价格也开始逐步提高。由于日本人自古以来就食用青花鱼，形成了特有的文化，大概是这方面的技术与精致提升了品质。

烤与裹黄油烤也很相配

青花鱼的生鱼片用醋腌着吃

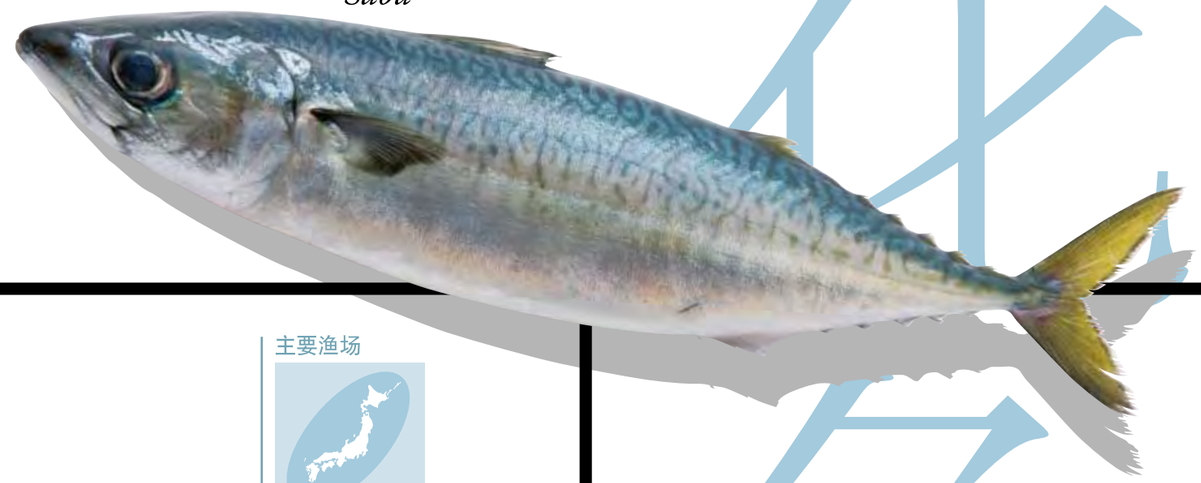
正因为新鲜度降低得很快，
与青花鱼共存之国日本的技术才得以发扬光大

青花鱼是日本捕捞量最大的鱼种。属于自古以来就是与日本人生活深切相关的大众鱼，有生鱼片、寿司、烤鱼、煮、炸、罐头等各种食用方法。这种鱼原本味美，但很难进行保鲜，因此在日本国内形成了独特的贮存、运输、烹饪法等。例如有一种制作方法就叫做“醋腌青花鱼”。这是将新鲜的青花鱼切片用盐腌过后，再放在醋里泡制。由于盐的脱水效果与醋的杀菌效果，使它更容易保存，也能作为寿司或生鱼片食用了。由于日本对青花鱼积累了大量知识与经验，因此在进行青花鱼出口时新鲜度和品质方面自然就会加分。

日本青花鱼原来出口到中国、韩国、泰国等地，即使与当地产的青花鱼相比，其新鲜度也仍旧受到好评，因此越来越多的国家开始进口日本青花鱼。

由于这种水产资源对日本人来说非常重要，因此正在加紧进行资源管理。近年来已经确立了养殖技术，各地正在积极努力，以实现更加稳定的质量和供应。

青花鱼
MACKEREL
Saba



主要渔场

渔获量
602,393吨（2005年）

主要捕捞地
千叶、茨城、长崎、宫城、青森

鰹魚

SKIPJACK TUNA

Katsuo

不亚于金枪鱼的美味红肉

既环保又不消耗资源的垂钓捕鱼法

从加工原料改为直接生食 出口方针发生变化

鲣鱼沿着太平洋一侧的暖流，春季北上、秋季南下，进行季节性的洄游，在初夏时被称为“初鲣”，秋季时被称为“归鲣”，属于季节性食品原料，同时也是日本料理中不可或缺的“木鱼汤汁”的原料，自古以来就在日本饮食文化中扮演着举足轻重的角色。现在作为生鱼片与拍松鲣鱼肉仍是日本最受欢迎的鱼类之一。

日本捕获鲣鱼的方法之一就是名为“垂钓”的豪迈捕鱼法。先是撒下诱饵吸引成群的鲣鱼，然后用钓鱼钩一条条地钓上来，这是日本独特而又古老的捕鱼方法，不仅能保持鲜度，从资源管理和生态学的角度来看也值得赞赏。在日本国内，汇聚了渔民经验智慧的垂钓鲣鱼被视为高级食品原料，已经成为名牌产品。

鲣鱼原来大都作为罐头原料供应泰国与越南等国家。随着日本饮食在全世界的流行，加上鲣鱼供应量也在下降，近年来不再仅仅作为加工原料出口，作为代替金枪鱼的健康食品原料的需求也越来越大，日本加工经营者也在面向欧美开发用于生食的鲣鱼加工品，积极开拓新市场。

加工销售业界的声音

拍松鲣鱼肉

鲣鱼在世界上主要用于加工成罐头，但在日本用作生食时，销售价格甚至与金枪鱼不相上下。由于这种鱼的资源可以得到充分有效利用，因此作为仅次于金枪鱼的食物原料，本身味道鲜美，希望这种美味能够被全世界所了解。

主要渔场

渔获量

399,465吨
（2005年）

主要捕捞地

静冈、宫城、鹿儿岛

Japanese Seafood Exports;

The Secret Behind the Quality

日本水产品的出口　品质背后的秘密

日本为保护美丽的大海，正在开展渔业管理和渔业的可持续发展，积极致力于向消费者提供安全、高品质的水产品。

日本水产品近年来越来越多地进入到世界各国市场。今后通过继续努力，日本水产品一定会有一天像“SUSHI”一样受到全世界的关注。

采访协助／北海道渔业协同组合联合会、北海道水产林务部水产局水产经营课、青森县渔业协同组合联合会、阿部长商店株式会社（宫城县气仙沼市）、金山株式会社（千叶县旭市）、爱媛县渔业协同组合联合会、鹿儿岛县东町渔业协同组合

摄影协助／宫城县观光课、气仙沼市观光课

料理摄影协助／铃木正美

料理协助／田口成子

Facilities

1st Floor - Haven of spiritual peace and comfort

Reception and lobby

Reception counter for visitors is located here.
If you present your membership card, we will direct you to the designated worship room.
Respects may be paid any time, 365 days a year, between 10 a.m. to 7 p.m.

Gallery

The gallery displays precious cultural assets for a limited time, such as Buddhist paintings and folding screens that have been entrusted to museums by Komyoji Temple.

Main Hall, Worship Hall

The Main Hall of Machiya Komyoji Temple.
In the inner chamber is enshrined the image of Amitabha Buddha, sculpted in the Genroku Period. It is the artwork of the great Buddhist sculptor Kouun, the 17th generation descendant of the great sculptor Unkei, renowned during the early Kamakura Period.
In addition, memorial services may be held in the outer chamber of the Worship Hall.

2nd Floor - Remembering the departed one with sanctity and solemnity

Special worship room

A spacious special worship room.
It is a private room separated by doors; therefore, without having to be self-conscious of others or being disturbed by surrounding noises, you can offer prayers unhurriedly and in tranquility.

Tombstone decorated by seasonal beauty

The mural painting by a rising female painter, depicting the beauty of the four seasons, gently embraces all viewers. The tombstones are made from the highest quality Swedish black granite. You can remember the departed one in dignity and tranquility, in a stately and noble atmosphere.

3rd and 4th floors - Eternal life filled with the joy of reunion

Worship room with an atmosphere full of grace and dignity

With regard to worship rooms, there are 2 booths on the 2nd floor, 3 booths on the 3rd floor,3 booths on the 4th floor, with a total of 8 booths. Each booth is separated by a glass partition, so prayers may be offered in solemnity without having to be self-conscious of others or being disturbed by surrounding noises.

Elegant tombstone and advanced technology

By putting the membership card on the touch panel located next to the booth, the mural painting depicting the beauty of nature and the elegant black granite tombstone containing the ashes appear. You may display a picture of the departed one on the front monitor and reunite with your loved one. You can even display an edited video or voice recording using the touch panel. This is truly a technologically-advanced grave.

Various points of unprecedented appeal compared to traditional graves.

1. Permanent commemoration even if the deceased has no relatives.

The permanent rights to the grave may be past onto other relatives even if the deceased one has no children. Even if the deceased ones' relatives pass away, the ashes are laid to rest in the resting place of the principal Buddha image on the 1st floor of the main hall, where the sutra is read in the morning and in the evening At Machiya Komyoji Temple, we will guarantee a permanent commemoration out of a sense of commitment and responsibility.

2. A noble black granite tombstone

With an indoor facility, a Buddhist altar-type or a locker-type cinerarium is common. However, at Tokyo Gobyo, prayers may be offered to an elegant tombstone made from stately, distinguished and highest quality black granite, located in a bright and clean worship room in a refined 5-story cinerarium.

3. A secure design including high earthquake resistance

The design and construction has been managed by Toyota Industries Corporation, the core of the Toyota Group companies. In addition, a computerized automatic transfer-type cineration system has been newly developed. With high earthquake resistance, along with the sturdy steel structure, we will protect the ashes of the deceased for many years to come.

4. 1 minute on foot from Machiya Station

Located in a convenient area, visits to the grave may be made when shopping or running other errands. What could be better than being able to pay respects whenever you can?

5. Affordable, low price

In comparison to the conventional cemetery or Buddhist altar-type or locker-type cinerariums, we offer exceptionally low prices. Loan payments are also available.

6. For all religions and denominations

People of all religions and denominations, including those who have no religious affiliations are welcome.

7. Granting of a posthumous Buddhist name free of charge

On request, a Buddhist name according to the teachings of Shin-Buddhism, are given from Komyoji Temple.
Safety and security in a comfortable setting

8. Fully maintained and managed

Unlike outdoor tombstones which are exposed to the elements, there is no need for maintenance and management such as weeding or cleaning. It is always clean and fully secure. Even in the extreme heat of summer or in the bitter cold of winter, you can pay your respects in a pleasant environment.

9. Can visit the departed one empty-handed

Flowers, incense and other necessary items for visiting the grave are prepared, so you can visit your loved one anytime, empty-handed.

10. Video system to recount precious memories

The monitor set up next to the black granite tombstone displays the photo of the departed one. In addition, on request, by pressing the touch panel of the worship room, you can play the images and voice recordings as well as edited videos showing the memorabilia of the departed one.
*Separate data entry fee required.

11. Multiple cineration possible

As a rule, with the personal type, one set of ashes is contained in one miniature shrine. However, if a married couple requests that their ashes be placed in one miniature shrine, it is possible to do so by storing both sets of ashes in smaller urns. Additionally, if a cineration for a family is desired, please use the family type.
*Separate fee required.

12. Memorial service in remembrance of the beloved one

Memorial service may be held on the 1st floor of the Machiya Komyoji Temple where the image of Amitabha Buddha, created by the great Buddhist sculptor Kouun, the 17th generation descendant of the renowned Buddhist sculptor Unkei of the Kamakura Period, is located.

13. Managed and operated by Machiya Komyoji Temple

The cinerarium is directly managed by the traditional Komyoji Temple. By just presenting your membership card, you may visit Rurikoin, Komyoji Temple's main temple in Kyoto, which is one of the top ten historical places of interest in Kyoto, as well as see the precious cultural assets owned by Komyoji Temple, free of charge.

14. You may contribute to the global eco-project and the preservation of a world heritage

Within the temple grounds (12,000 tsubo = approx. 40,000 ㎡) of Kyoto's main temple Rurikouin, a maple seedling will be planted in the name of the purchaser of Tokyo Gobyo, and that one will be able to participate in a global eco-project which spans over several hundred years. In addition, part of the purchase fee will be donated to Komyoji's restoration efforts for Dun Huang Mogao Caves in China; thus, the purchaser may also take part in the preservation of a world cultural heritage.
*No separate fee required.

Price List

Personal type (for individuals)
Complete set 380,000 yen
(annual maintenance and management fee 8,000 yen)

Family type (for families)
Complete set 750,000 yen
(annual maintenance and management fee 10,000 yen)

Customized type
Complete set 100,000 yen
(annual maintenance fee 12,000 yen)

Personal biography

Ohora Ryutoku

Born in Komyoji (Gifu City), in 1969.
Entered the priesthood at 9 years of age, and thereafter studied Buddhism at the Department of Buddhist Studies in Ryukoku University.
At the time of graduation, he acquired qualifications as a teacher at the Higashi Hongan-ji Branch of Shin-Buddhism.
After graduation, Ohora Ryutoku became a priest at the Muryoujyusan Komyoji Temple.
He contributed to the establishment of the Fukui Ren-nyo-shonin Memorial, and was proactively involved in the construction of the Kyoto Amagase Memorial Park and Chiba Inage-anagawa Cemetery. He also made tremendous contributions to the construction of the cinerarium "Tokyo Gobyo."
In 2009, at the completion of the above, he was appointed as the chief priest of the Machiya Komyoji Temple, where he serves in the same capacity to the present day.

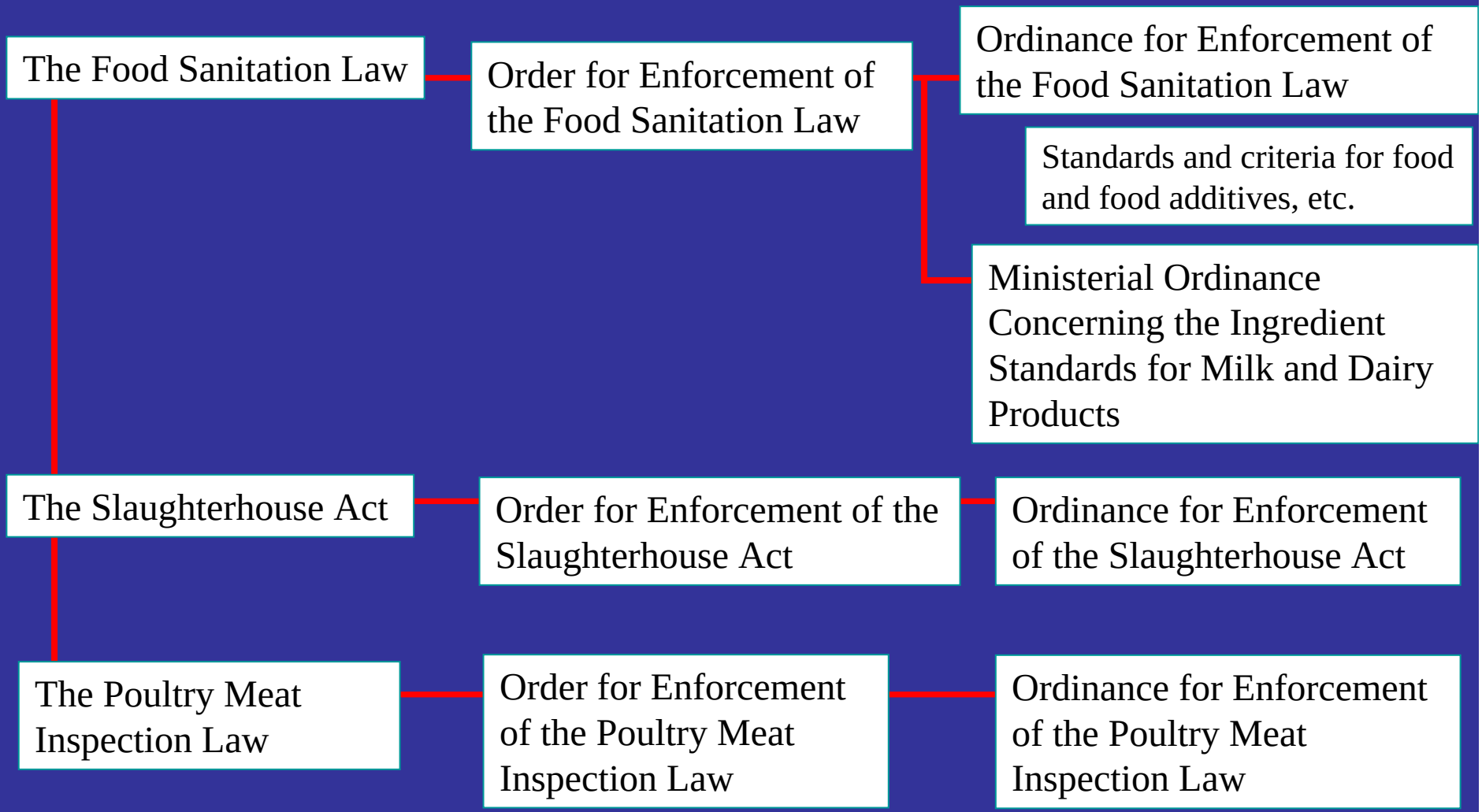
Food Safety Surveillance System and Countermeasures against Food Poisoning

September 8th, 2010

Ryuusuke Matsuoka
Deputy Director
Inspection and Safety Division
Department of Food Safety
Pharmaceutical and Food Safety Bureau

The Ministry of Health, Labour and Welfare

Food safety-related system of law



Sharing roles among businesses, consumers and the government

Food-related businesses

As providers of foods, etc., businesses are primarily responsible for securing food safety.

Consumers

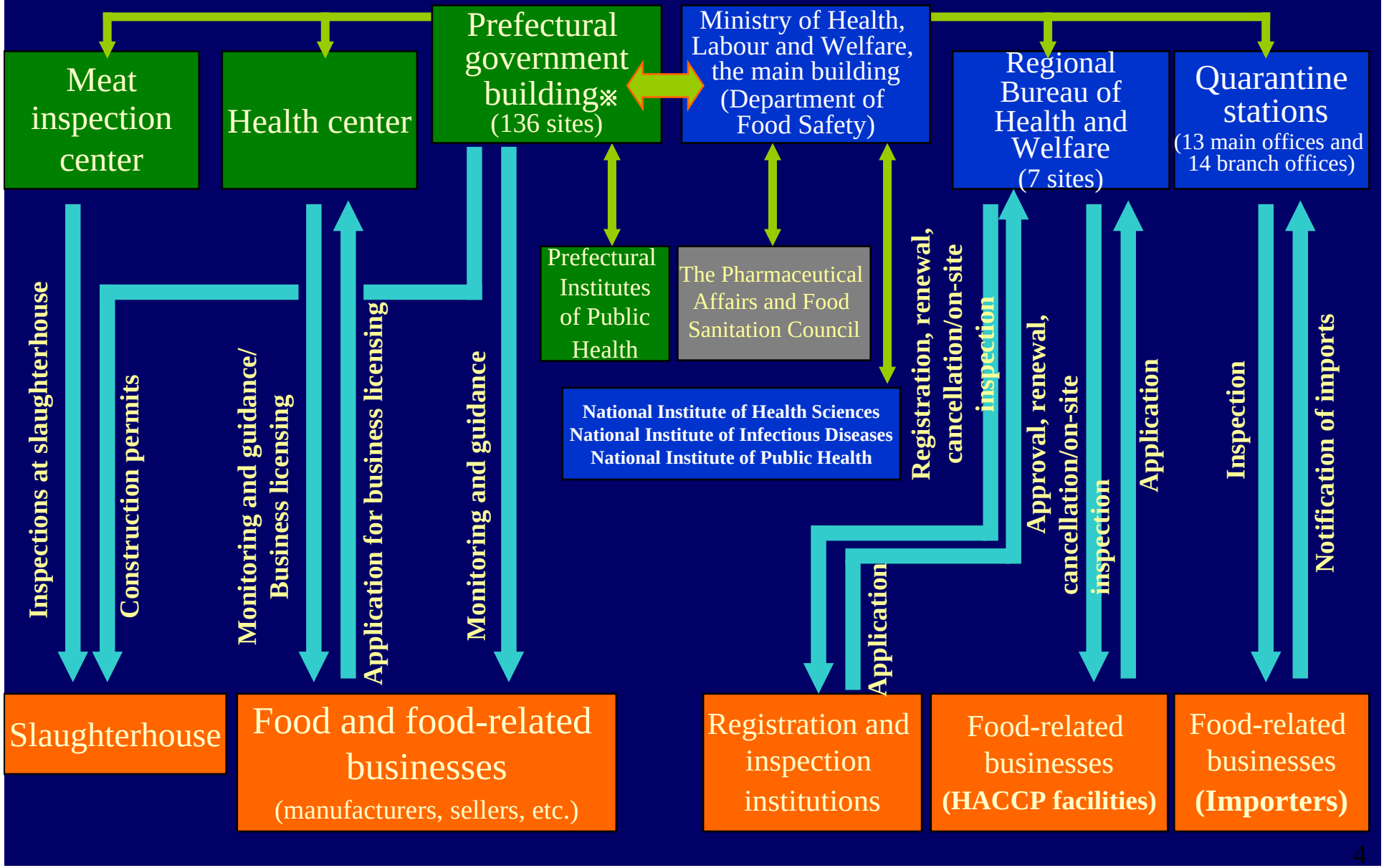
- **Deepening knowledge in securing food safety, etc.**
- **Striving to express opinions regarding policies to secure food safety**

The government

Conducting monitoring and guidance to make sure that food-related businesses are carrying out their responsibilities and providing safe foods.

Administrative System

※Prefectures, etc.: 47 prefectures, 66 cities with healthcare centers, and 23 wards



Food Sanitation Law
【Purpose】

Article 1

The purpose of this Act is to prevent sanitation hazards that result from food consumption and drinks, by enforcing regulations and other measures necessary from the standpoint of public health, to ensure food safety and thereby to protect citizens' good health.

- Foods not permitted for marketing 1

  (Food Sanitation Law, Article 6)

- Deteriorated, rotten, or immature foods

  (But exclude those that are determined to generally pose no risk to human health and recognized as edible.)

- Foods that contain or are covered with toxic or harmful substances, or are suspected of containing or being covered with such substances

  (But exclude cases where the Minister of Health, Labour and Welfare specifies that such items involve no health risk to humans.)

- Foods which are contaminated with pathogenic organisms or are suspected to be so, and involve a risk to human health.
- Items which involve a risk to human health due to uncleanliness and contamination or addition of foreign substances or on other grounds.

- Foods not permitted for marketing 2

・Foods that are consumed in extraordinary ways, and thus prohibited from marketing. (Article 7)

(Foods that are served in a manner extraordinarily different from regular manners, or foods that have not been generally consumed, etc.)

・Foods that are banned from importing and marketing due to their repeated violation of regulations. (Article 8)

・Meat of livestock that is suspected to have contracted with or died from specific diseases, etc. (Article 9)

・Unapproved additives or foods containing unapproved additives, etc. (Article 10)

- Foods not permitted for marketing 3

・Foods that are produced by any method not conforming to the stated criteria and standards (*1), etc. (Article 11)

・Foods without labeling that conforms to criteria (*2) (Article 19)

・Foods with false or exaggerated labeling, which may cause harm to public health (Article 20)

*1 Ministerial Ordinance concerning the Ingredient Standards for Milk and Dairy Products, Standards and Criteria for Foods, etc.

*2 Ministerial Ordinance concerning the Ingredient Standards for Milk and Dairy Products, Ordinance for Enforcement of the Food Sanitation Law

Standards and Criteria

Standards and criteria for food and food additives, etc.
(Ministry of Health and Welfare, Notification No. 370, 1959)

Ministerial Ordinance concerning the Ingredient Standards
for Milk and Dairy Products

Standards and criteria for manufacturing, processing, use, cooking and preservation of food, etc.

Example Standards and criteria for carbonated drinks

○ Ingredient standards for carbonated drinks

- Arsenic, lead and cadmium should not be detected
- Negative for coliform bacterium, etc.

○Manufacture standards for carbonated drinks

- Original water should be drinking-quality
- Drinks of pH 4.0 or over should be sanitized by heating (85 degrees C, 30min or longer, or equivalent methods), etc.

○Preservation standards for carbonated drinks

- Frozen fruit drinks, etc. should be preserved at -15 degrees C, etc.

○Cooking standards for carbonated drinks served by cup vending machines

- The liquid should be kept 10 degrees C or below, or 63 degrees C or above, etc.

Business approval

From the perspective of public health, prefectures, etc. shall establish an ordinance that set criteria for each type of business (*).

(Food Sanitation Law, Article 51)

*34 types of businesses including restaurants.
(Businesses with an extraordinary impact on public health, thus specified by the ordinance.

1 Restaurant businesses
2 Coffee shop businesses
3 Confectionery businesses (including bakery businesses)
4 Bean jam producing businesses
5 Ice cream producing businesses
6 Milk processing businesses
7 Special milking and processing businesses
8 Dairy product producing businesses
9 Milk collecting businesses
10 Milk sales businesses
11 Slaughtering businesses
12 Processed meat sales businesses
13 Processed meat product producing businesses (meaning businesses for producing ham, sausage, bacon and such like)
14 Fish and seafood sales businesses
15 Fish and seafood auction businesses
16 Fish jelly product producing businesses
17 Food freezer or cold storage businesses
18 Food irradiation businesses
19 Carbonated drink producing businesses
20 Lactic acid bacteria beverage producing businesses
21 Ice producing businesses
22 Ice sales businesses
23 Edible fat and oil producing businesses
24 Margarine or shortening producing businesses
25 Miso producing businesses
26 Soy sauce producing businesses
27 Sauce producing businesses
28 Alcoholic beverage producing businesses
29 Bean curd producing businesses
30 Fermented soybeans producing businesses
31 Noodles producing businesses
32 Daily dish producing businesses
33 Canned or bottled food producing businesses
34 Additive producing businesses

Business approval

A person who intends to conduct business prescribed in the preceding Article, shall obtain approval from the prefectural governor pursuant to an ordinance of the Ministry of Health, Labour and Welfare. (Food Sanitation Law, Article 52)

Slaughterhouse Act

Purpose

To protect national health by establishing necessary regulations and other measures, from the perspective of public health, to secure proper slaughterhouse operation and processing of livestock for human consumption

Subject (＝Livestock)

Cattle, horses, pigs, sheep and goats

Approval for slaughterhouse

Approval from the prefectural governor, etc. is required to establish a slaughterhouse.

If necessary from the public health perspective, the prefectural governor, etc. shall limit the number and kind of animals processed per day, in proportion to the scale of the facility.

Restriction on refusal of slaughterhouse use, etc.

Without justified grounds, slaughtering of livestock and use of slaughterhouse for slaughtering and dressing of livestock shall not be refused.

Slaughtering and dressing of livestock

No person shall slaughter livestock for the purpose of human consumption at a place other than a slaughterhouse.

Exceptions

- Instant slaughtering required due to the lethal injury of livestock by an accidental disaster.
- Instant slaughtering required in livestock due to dystocia, parturient paresis, acute bloat or other diseases that are stipulated by ordinance of the Ministry of Health, Labour and Welfare, etc.

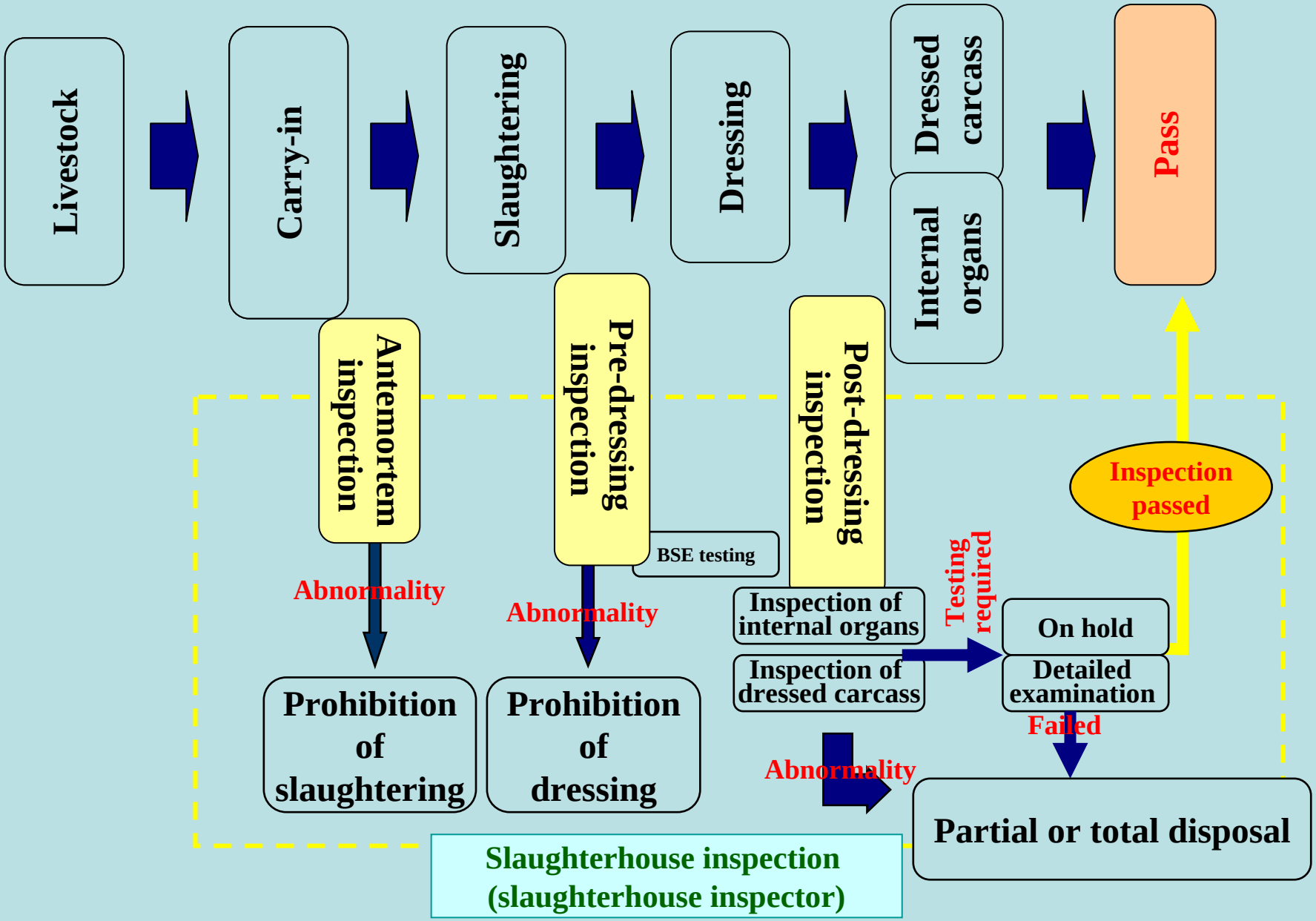
Slaughtering and dressing inspection of livestock

- Livestock, other than those inspected by the prefectural governor, shall not be slaughtered.
- Livestock, other than those inspected by the prefectural governor, shall not be dressed.
- Meat, internal organs, blood, bones, and skin shall not be taken outside of the slaughterhouse without inspection by the prefectural governor. (There are exceptions.)

Slaughterhouse inspectors

The prefectural governor shall appoint slaughterhouse inspectors (veterinarians) from the staff of the prefecture, in order to implement slaughtering and dressing inspections of livestock, or to take measures such as the prohibition of slaughtering and dressing.

Flow of slaughterhouse inspection



Diseases subject to slaughterhouse inspection

- Animal infectious diseases under provision of the Domestic Animal Infectious Diseases Control Act, Article 2, Paragraph 1, and notifiable infectious diseases under provision of the said act, Article4, Paragraph 1

Example: BSE, foot-and-mouth disease, anthrax, rabies, etc.

- Additional diseases designated by the Ministry of Health, Labour and Welfare

Example: Q-fever, malignant edema, leukemia, Listeriosis, etc.

- Abnormal conditions, such as those covered with lubricating oils, designated by the Ministry of Health, Labour and Welfare

Example: Trauma, inflammation, degeneration, contraction, deformation, etc.

Countermeasures against BSE at the slaughterhouse

Removal and incineration of Specific Risk Material (SRM) from all cattle

Removal based on the management method for slaughtering business

- Stored in designated containers
- Confirmation by slaughterhouse inspectors
- Washing and sanitizing of machinery and equipment, etc.
- Complete incineration (800 °C or above)

Head(includingtonsils)

- Tongue and cheek meat are used for human consumption
- Tongue should be removed with care not to touch tonsils

Spinal cord

- Removal of spinal cord before splitting

Decontamination by high-pressure washing

Distal ileum

- The distal 2m from the cecum, including the part for the sake of safety, is removed.

Vertebral column

- Prevention of contamination from dorsal root ganglion during vertebral column removal

Regulation for poultry slaughtering business and law for poultry slaughtering inspection

Purpose

To protect the national health in regard to the poultry slaughtering business, by preventing the occurrence of sanitary hazards due to poultry meat with measures such as setting regulations and other methods necessary from the perspective of public health and establishing the poultry slaughtering inspection system.

Subject (= poultry)

Chickens, ducks, turkeys or other commonly consumed poultry that are designated by Cabinet Order*)

*** Currently, no other poultry is designated by Cabinet Order.**

- Permission for poultry slaughtering business

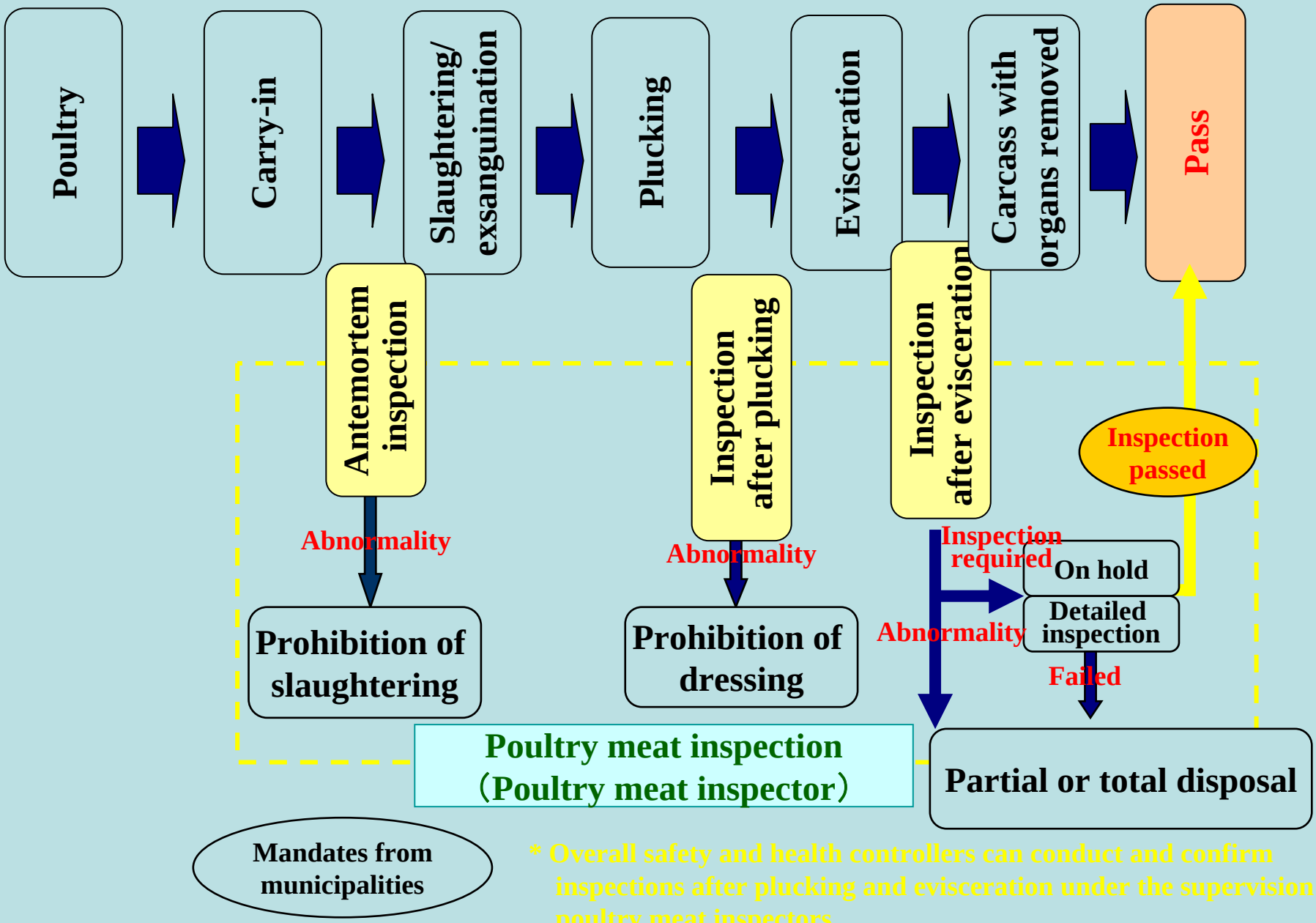
  Those who intend to conduct poultry slaughtering business need to acquire permission from their respective prefectural governor.

- Poultry Slaughtering inspection

  In order to conduct poultry slaughtering business, the poultry meat should be inspected as follows:

  1) Antemortem inspection, 2) Inspections after plucking, 3) Inspections after evisceration

Flow of poultry slaughtering inspection



Diseases subject to poultry meat inspection

- Animal infectious diseases under provision of the Domestic Animal Infectious Diseases Control Act, Article 2, Paragraph 1, and notifiable infectious diseases under provision of the said act, Article 4, Paragraph 1

Examples: highly-pathogenic avian influenza, New Castle disease, etc.

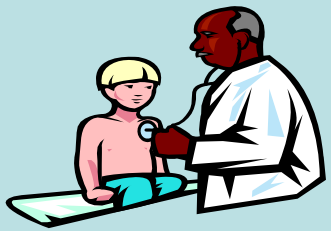
- Additional diseases designated by the Ministry of Health, Labour, and Welfare

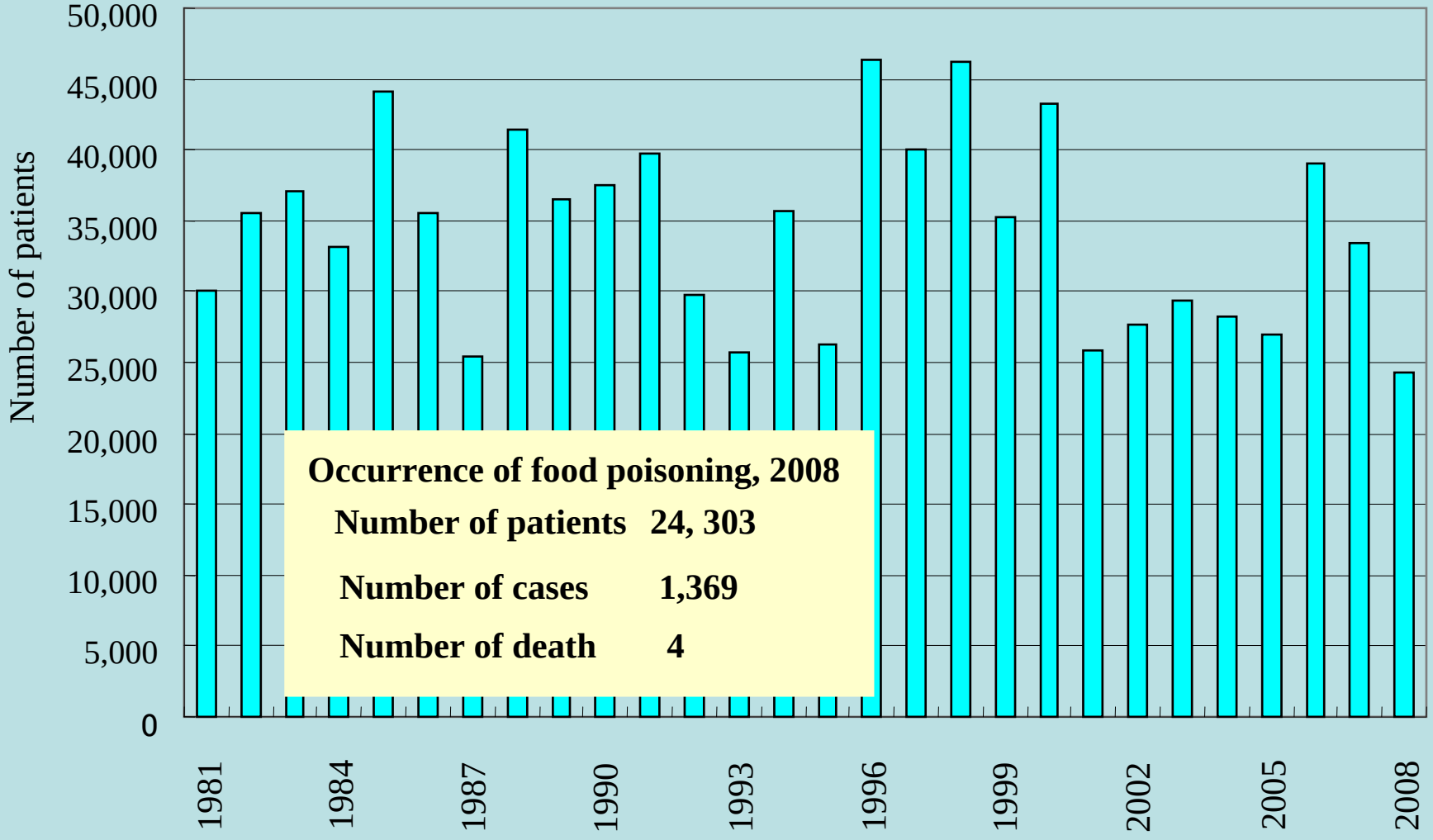
Examples: infectious coryza, salmonellosis, inclusion body hepatitis, etc.

- Abnormal conditions, such as covered with lubricating oils, designated by the Ministry of Health, Labour, and Welfare

Examples: trauma, inflammation, degeneration, contraction, deformation, etc.

Occurrence of food poisoning

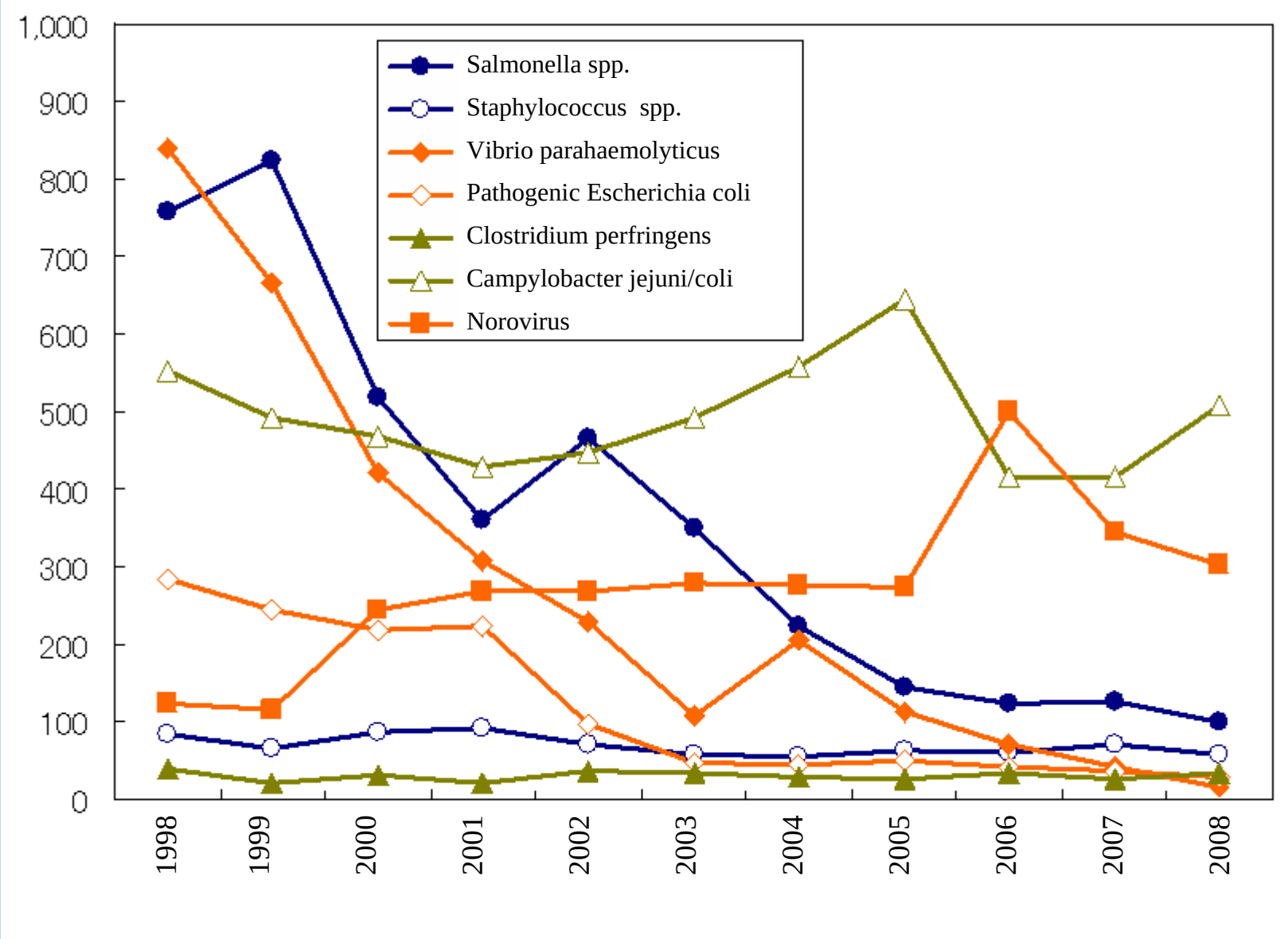




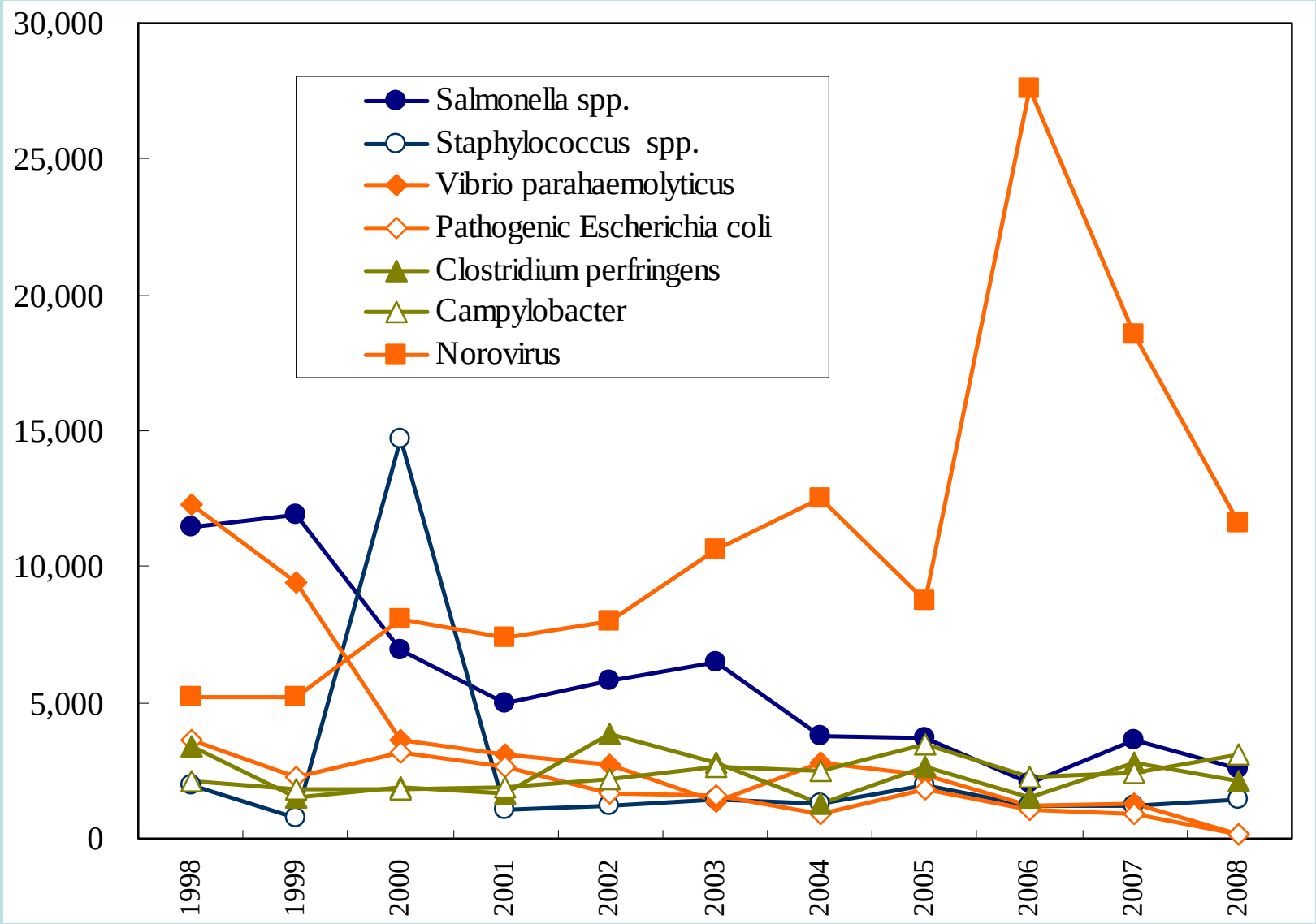
Occurrence of food poisoning by cause

Food type	2006		2007		2008	
	Cases	Rate (%)	Cases	Rate (%)	Cases	Rate (%)
Total	1,491	100	1,289	100	1,369	100
Fish and seafood	80	5.4	68	5.3	106	7.7
Processed fish and seafood	8	0.5	22	1.7	15	1.1
Raw and processed meat, etc.	71	4.8	83	6.4	96	7.0
Raw and processed eggs	7	0.5	8	0.6	10	0.7
Milk and processed milk	1	0.1	1	0.1	0	0.0
Cereal and processed cereal	26	1.7	22	1.7	23	1.7
Raw and processed vegetables	97	6.5	78	6.1	87	6.4
Confectionary	11	0.7	12	0.9	9	0.7
Composite cooked food	141	9.5	95	7.4	103	7.5
Others	582	39.0	547	42.4	531	38.8
Unknown	467	31.3	353	27.4	389	28.4

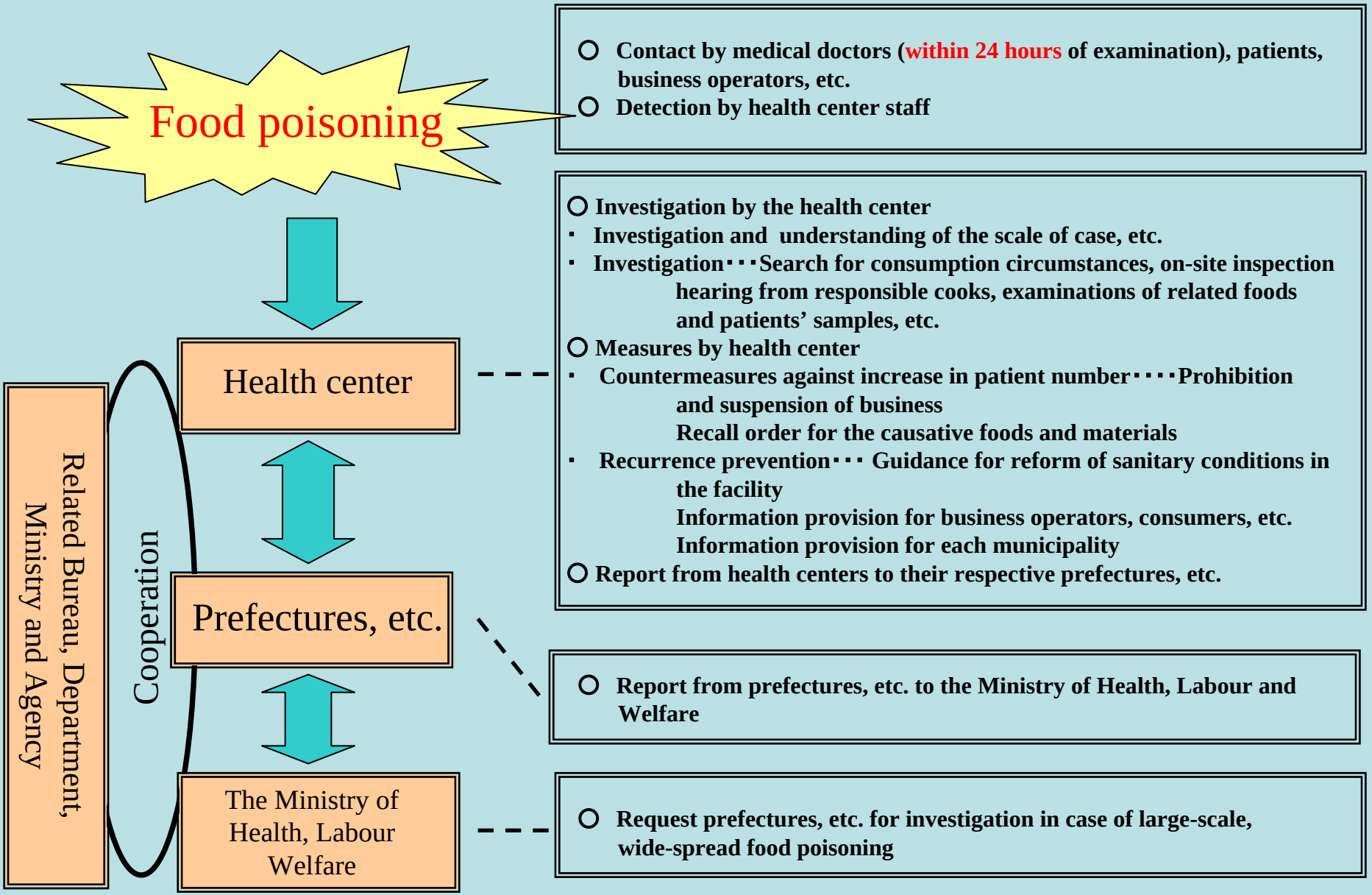
Year by year transition of case numbers by pathogens (mainly micro-organisms)



Year by year transition of patient numbers by pathogens (mainly microorganisms)



Government responses to food poisoning



Preventative measures against food poisoning by *Vibrio parahaemolyticus* 1

Year 2001

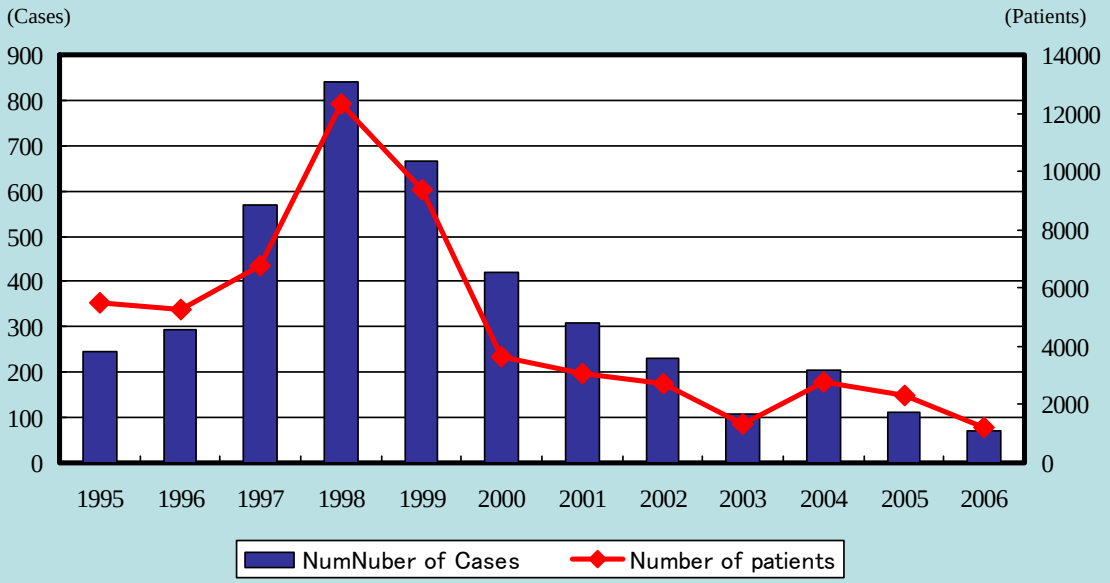
○ **Labeling criteria established for fresh fish and seafood, etc. to be eaten raw.**

Addition of fresh fish and seafood, etc. to the list of foods that require labeling.

○ **Standards and criteria established for fresh fish and seafood, etc. to be eaten raw.**

Establishment of ingredient standard, processing criteria, and preservation criteria for fresh fish and seafood, etc. to be eaten raw.

- **Ingredient standard:**
  Vibrio parahaemolyticus
  Boiled octopus and crabs: Negative
  Fresh fish and seafood to be eaten raw: 100g or less
- **Processing criteria:**
  Used for processing Water should be drinking-quality, etc.
- **Preservation criteria:**
  10 degrees C or below



Preventative measures against food poisoning by *Vibrio parahaemolyticus* 2

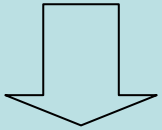
Food poisoning by *Vibrio parahaemolyticus* especially occurs in the summer season, mainly due to consumption of fresh fish and seafood.

Through domestic distribution･･･monitoring by each prefecture, etc.
(Summer-time overall check-up, etc.)

Upon importation･･･monitoring imported foods at quarantine stations
(Strengthening summer-time monitoring and inspections, etc.)

Vibrio vulnificus

Every year, cases of *Vibrio vulnificus* infection occur in summer time (June-October). This bacterium adheres to fish and seafood, especially crustaceans (shrimps, etc.) captured in brackish water area (where fresh and salt water intermingle with each other) and salt water fish and seafood captured at river mouths. When eaten raw or not cooked thoroughly, consumption of these foods can cause oral infection.



Recently, results were compiled from studies that were aided by grants for scientific research, financed by the Ministry of Health, Labour and Welfare. Consequently, the Ministry developed on May 31, 2006 'Q&A for *Vibrio Vulnificus*', aiming at providing correct information and deepening the understanding of preventative measures among the public.

Web Site of the Ministry of Health, Labour and Welfare
http://www.mhlw.go.jp/topics/bukyoku/iyaku/syoku-anzen/qa/060531-1.html

Measures to secure sanitation of raw oysters for consumption 1

- Partial amendment of Ordinance for Enforcement of the Food Sanitation Law,

  Released in December 28th, 1998, Sei-ei No. 1825

  In addition to establishing a system to enable emergency investigation through to the area of oyster fishing, names of the fished sea area should appear on the label in order to prevent further spreading of damage by food poisoning. (Applied on October 1st, 1999)

- ‘Q&A for preventing norovirus food poisoning’,

  Released in February 4th, 2004,

  by the Ministry of Health, Labour and Welfare

  (The final version was released on March 1st, 2005)

Year by year transition of norovirus food poisoning cases numbers by causative food types (Cases)

	2001	2002	2003	2004	2005	2006
Total	269	268	278	277	274	499
Fish and seafood	98	83	73	39	45	26
(Bivalves only)	94	81	70	38	42	22
Processed fish and seafood	1	3	0	1	3	0
Raw and processed meat, etc.	0	1	1	1	1	1
Raw and processed eggs	0	0	0	0	0	0
Milk and processed milk	0	0	0	0	0	0
Cereal and processed cereal	0	3	3	2	3	3
Raw and processed vegetables	0	2	1	1	1	2
Confectionary	1	0	2	2	3	3
Composite cooked food	9	11	15	21	19	77
Others	106	131	145	162	172	310
Food identified	6	3	6	4	5	11
Food unidentified	100	128	139	158	167	299
Unknown	54	34	38	48	27	77

Measures to secure sanitation of raw oysters for consumption 2

Safety management of oyster aquafarming, production and shipment

Web Site by Fisheries Agency

During production and shipment, oysters should be sufficiently washed with sanitary water at processing stages such as the removing of shells and packaging, or submerged in pasteurized salt water for a certain period of time.

http://www.jfa.maff.go.jp/norovirus/index.htm

Measures to secure sanitation of raw oysters for consumption

- Importation of raw oysters for consumption

  Importation of raw oysters is permitted after confirming that the condition of the raw oysters is equivalent or superior to the sanitary management standards stated by the processing standards, etc. of the Food Sanitation Law, provided that the mandatory sanitary certification, etc. attachment is fulfilled .

Currently permitted exporters

Total of 6 countries: Australia, New Zealand, US, Canada, Korea, and Ireland

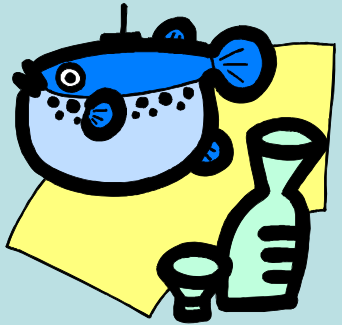
Measures against natural toxins

1) Countermeasures to prevent puffer toxin (tetrodotoxin) poisoning

December 2nd, 1983

Notification to secure sanitation of Fugu puffer fish

This notification established the types, parts and the sea area of captured puffer fish eligible for distribution. Operators, facilities, and methods of Fugu puffer fish processing were also stated.



Measures against natural toxins

2) Importation of Fugu puffer fish

March 3rd, 1984

Notification about imported Fugu puffer fish

- Limiting types and sea areas for capturing eligible Fugu puffer fish to be imported
- Fish should be either unprocessed or only eviscerated to make visual identification of fish types easy at the time of import
- Certificate issued by the exporting country's government should be attached

Year-by-year transition of food poisoning cases caused by Fugu puffer fish

	Total number of food poisoning			Number of food poisoning attributed to only Fugu puffer fish		
	Cases	Patients	Deaths	Cases	Patients	Deaths
1965	1,208	29,018	139	106	152	88
1970	1,133	32,516	63	46	73	33
1975	1,783	45,277	52	52	75	30
1980	1,001	32,737	23	46	90	15
1985	1,177	44,102	12	30	41	9
1990	926	37,561	5	32	52	1
1995	699	26,325	5	30	42	2
2001	1,928	25,862	4	31	52	3
2002	1,850	27,629	18	37	56	6
2003	1,585	29,355	6	38	50	3
2004	1,666	28,175	5	44	61	2
2005	1,545	27,019	7	40	49	2
2006	1,491	39,026	6	26	33	1
2007	1,289	33,477	7	29	44	3
2008	1,369	24,303	4	**40**	**56**	**3**

Measures against natural toxins

3) Shellfish poison

July 1st, 1980: Notification about handling of shellfish that became poisonous due to accumulation of paralytic shellfish toxins, etc.

Shellfish containing higher levels of toxins than the following concentrations will be handled as a violation against the Food Sanitation Law, Article 6

Paralytic shellfish toxin: 4MU

Diarrhetic shellfish toxin: 0.05MU

Food origins of Campylobacter food poisoning (including presumed cases)

Consumption of raw chicken meat and liver
48 cases, 438 patients

Consumption of raw beef liver
15 cases, 96 patients

Consumption of other types of raw meat (including cases with unknown animal species)
7 cases, 71 patients

Dishes of chicken meat that were not designated for raw consumption
18 cases, 230 patients

Secondary contamination
11 cases, 321 patients

Excerpt from Food Poisoning Status, 2005

In order to prevent Campylobacter food poisoning

○Countermeasures at farms

○ Countermeasure at poultry slaughterhouse

Sanitary management with HACCP method at poultry slaughterhouses

○ Countermeasures at trimming factory, during distribution and sales

Temperature management, sanitary handling of food

(Regarding guidelines about management and administration standards that food businesses, etc. have to implement – Guidelines)

○ Disseminating and raising awareness among food-related business persons and consumers

How to prevent Campylobacter food poisoning (Q&A)

6 points for preventing food poisoning, etc. at home

Measures against parasites

Investigation on amberjack imported from China since the fall of 2004 and chicken grunt originally captured wild in China and then aquafarmed in Japan, turned out to have anisakis larva at a high rate.

1) In addition to the high rate of parasitism, larva was even found in some fish meat.
2) Those meats are sold for human consumption.
3) The public was not generally aware of the high rate of anisakis infestation in those types of fish.

In conjunction with the Ministry of Agriculture, Forestry and Fisheries, our ministry has issued guidance for direct measures such as freezing (-20 degrees C or below for 24 hours or longer) for those fish originally captured wild and imported from China, then domestically aquafarmed. In addition, another guidance was issued for aquafarming businesses to halt importing amberjack and chicken grunt that were originally captured wild and raised in China.

Introduction of positive list system to the regulation of pesticide residues in food, etc. 1

Before the regulation

Pesticide, feed additives, and veterinary medicinal products

Items with criteria already established for their residual levels in foods (residual standards)

Residual standards stated for 250 pesticides and 33 veterinary medicinal products, etc.

When residual pesticide levels, etc. are found to be above residual standards, the food is banned from marketing.

Foods with no defined standards (residual standards) for their ingredients

Even with pesticide residues, etc. detected, there is basically no regulation to indicate prohibition of sales, etc.

Introduction of positive list system to the regulation of pesticide residues in food, etc. 2

After introduction of positive list system (Executed on May 29th, 2006)

Pesticide, feed additives, and veterinary medicinal products

Pesticides with already established standards (residual standard) as food ingredient

Based on Article 1, Section 1 of the current law, the ministry aimed to establish a harmonized standard with the Agricultural Chemicals Control Act, international standards, and American and European standards before the implementation of the positive list system

Promotion to establish residual standards, such as establishing residual standards coupled with a registration system of pesticide based on the Agricultural Chemicals Control Act, etc.

Prohibition of selling foods that contain pesticides above their residual standards, etc.

Pesticides with no established standards (residual standards)

The Minister of Health, Labour and Welfare publicly announces certain levels of pesticides as they are not likely to harm people's health.

(Across-the-board recommendation)

Prohibition of selling foods that contain pesticides above a certain level (0.01 ppm).

Substances designated by the Minister of Health, Labour and Welfare

Public announcement of chemicals that are clearly unlikely to harm people's health

(substances not subjected)

Outside the scope of the positive list system

Contamination of fish meat, the raw material for feed, with malachite green and leuco-malachite green

Past circumstances

(1) A survey was conducted on the actual contents of MG and LMG in corf aquafarming and aquafarming feed. The survey was initiated by “basic research on harmful chemicals’ risk management 2006” by the Ministry of Agriculture, Forestry and Fisheries.

(2) LMG was detected in a portion of corf-aquafarmed fish.

(3) Pursuit of the LMG positive cases of fish revealed that MG and LMG were also detected in their fed feed produced by certain feed manufacturers.

(4) The Fertilizer and Feed Inspection Station (an independent administrative agency) has confirmed the presence of MG/LMG contamination in fish meat that was imported from China as a raw material for feed by manufacturers (3).

Measures

(The Ministry of Agriculture, Forestry and Fisheries)

Handling of the aquafarmed fish that were fed feed possibly contaminated with malachite green and leuco-malachite green

(December 8th, 2006)

(The Ministry of Health, Labour and Welfare)

Handling of aquafarmed aquatic animals for human consumption that were fed feed possibly contaminated with malachite green and leuco-malachite green

(December 8th, 2006)

Guidelines and Plans for Monitoring and Guidance

(Related to Food Sanitation Law, Article 22-24)

Guidelines for Food Sanitation Monitoring and Guidance (Compiled by the government)

A) Basic direction such as roles related to monitoring and guidance by the government and prefectures, etc.

B) Basic items for monitoring and guidance, such as those that should be intensively monitored based on past violation record and hazard information, etc.

C) Basic items related to implementation system for monitoring and guidance, such as inspection facilities.

D) Others; the key items related to public disclosure of the outcomes, implementation of monitoring and guidance based on surveillance and research.

Plan for Imported Food Monitoring and Guidance (Compiled by the government)

A) Sanitary regulation of food in exporting countries, occurrence of food sanitary problems, items that require highly prioritized monitoring and guidance that are drawn up based on the past circumstances of violation.

B) Promotion of self-initiated sanitary management by importers, etc. through convening workshops.

C) Others; Necessary items for implementation of monitoring and guidance, such as public disclosure of monitoring/guidance outcomes

Call for public opinion from citizens and residents in regard to formulation and changes

Publicly disclose how the plan has been implemented

Plans for Food Sanitation Monitoring and Guidance by prefectures, etc. (Compiled by prefectures, etc.)

A) Items that require highly prioritized monitoring and guidance, drawn up based on the food production, distribution, circumstances of manufacturing and processing, occurrence of sanitary problem of food in the region.

B) Hosting workshops, etc. to promote education, in order to disseminate the concept of HACCP among businesses, etc., and to promote self-initiated sanitary management based on the mass cooking facility manual.

C) Items related to communication and adjustment with neighboring communities, and with national institutions for tests and inspections to accommodate investigations, on occasions of food poisoning.

D) Others: items necessary to implement monitoring guidance, such as public disclosure of monitoring/guidance outcomes.

Responsibilities of food business operators

(Related to Food Sanitation Law, Article 3)

1. Measures in ordinary times

- Gain knowledge and techniques
- Secure safety of raw materials
- Proactively exercise self-inspection, etc.

2. Making and keeping records

To the necessary extent, endeavor to make and keep records of suppliers names.

⇨ This can be used, during the occurrence of food poisoning, to expedite the investigation of causes and prevention of further expansion of damage

3. Measures during an emergency

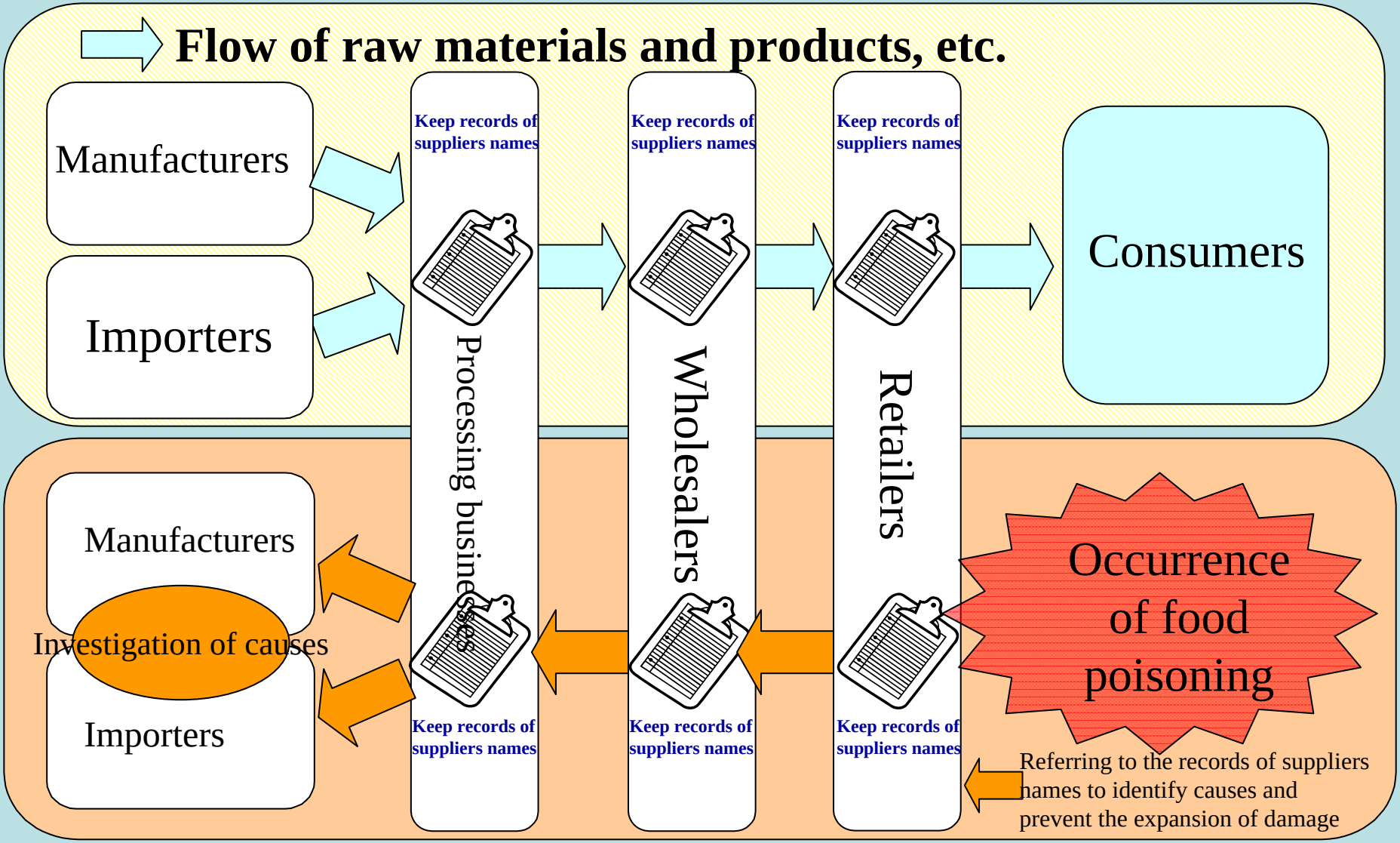
Endeavor to accurately and expediently,

- Provide government and municipalities with records mentioned in ‘2’ and
- Implement measures such as disposal, etc.

***”Food business operators” refers to businesses and mass food services that carry out collection, manufacturing, importation, processing, marketing, etc. of foods.**

Obligatory effort to keep records by food business operators

(Related to Food Sanitation Law, Article 3, Section 2 and Section 3)



Approval System for Comprehensive Sanitary Management and Manufacturing Process

HACCP method

Raw materials

Inspection and recording at acceptance

Mixing

Confirmation and recording of mixing ratio

Filling

Confirmation and recording of temperature and filling volume

Sealing

Confirmation and recording of sealing tightness

Heat treatment — **Critical control point (CCP)**

Continuous monitoring of pasteurizing temperature/time

Chilling

Confirmation and recording of water quality and temperature

Packaging

Confirmation and recording of impact and temperature

Shipment

HACCP is a sanitary management method to secure the safety of products by analyzing hazards such as contamination with microorganisms, which might occur at any stage of food manufacturing/processing (Hazard Analysis), establishing the CCP (critical control point) that indicates at which stage of processing and by what measures the safety of products can be more secured based on the hazard analysis and continuously monitoring the described points.

The Comprehensive Sanitary Management and Manufacturing Process is a manufacturing process that incorporates the concept of HACCP. It was established, after the amendment to the Food Sanitation Law, as an approval system by the Minister of Health, Labour and Welfare for the voluntary application of business operators.

Approval status of Comprehensive Sanitary Management for Manufacturing Process (End of December, 2006)

Milk	161 facilities (238 cases)
Milk products	178 facilities (258 cases)
Meat products	79 facilities (137 cases)
Fish jelly products	25 facilities (34 cases)
Retort pouch food	35 facilities (41 cases)
Carbonated drinks	107 facilities (155 cases)

Others

- Instructions to improve sanitary management by establishing ‘the mass cooking facility sanitary management manual’ for mass cooking facilities, etc.
- Offering financial and tax privileges, in order to promote the introduction of HACCP.
- Introduced in February 2004 and renewed in every 3 years, to ensure safety

The Ministry of Health, Labour and Welfare
Food Safety Information

- ◆ Emergency information
- ◆ Food Safety Qs & As
- ◆ Risk Communication in Food Safety
- ◆ Implemented policies by types of area
  - ➢ Food poisoning
  - ➢ Food additives
  - ➢ Residual pesticides, veterinary medical products, and feed additives in food
  - ➢ bovine spongiform encephalopathy（BSE）
  - ➢ Genetically modified foods
  - ➢ Health food products
  - ➢ Imported foods

http://www.mhlw.go.jp/topics/bukyoku/iyaku/syoku-anzen/index.html

札幌市中央卸売市場

札幌市中央批發市場

삿포로시 중앙도매시장

Sapporo Central Wholesale Market

Центральный оптовый рынок г.Саппоро

中央卸売市場の役割

中央批發市場的功能
중앙도매시장의 역할
The Role of the Central Wholesale Market
Центральный оптовый рынок и его функции

水産棟仲卸売場
水產棟中間批發市場
수산동 중도매장
Fisheries Building Wholesale Market
Оптовые посредники в отделе морской продукции

◀ 水産棟鮪売場
水產棟金槍魚市場
수산동 참치매장
Fisheries Building Tuna Market
Продажа тунца в отделе морской продукции

中央卸売市場は、地方公共団体が開設し、生産者と消費者の間にあって、卸売業者、仲卸業者の業務を通じて生鮮食料品などの円滑な流通を推進しています。

その具体的な役割としては、次のようなものがあります。①「集荷」国内外の各地から大量の産物を集め品ぞろえすること。②「価格形成」せり取引を基本に需給を反映した迅速で公正な価格をつくること。③「分荷」多数の小売業者などへ迅速に荷をさばくこと。④「取引の決済」販売代金の迅速で確実な支払いを行うこと。⑤「流通経費の節減」大量の荷を扱うことにより、流通にかかる運賃、その他の経費が節減できること。⑥「情報の提供」このような生鮮食料品などの流通の確実な情報を収集し伝達すること。⑦「衛生面のチェック」衛生検査所の随時の検査により衛生面のチェックが行われること。

本市では卸売市場法に基づき昭和34年12月5日に全国17番目の市場として開設の認可を受けて、同年12月10日青果部、35年4月4日に水産物部がそれぞれ業務を開始し、現在、北海道の生鮮食料品流通の拠点市場として重要な役割を担っています。

中央批發市場的功能
中央批發市場由地方公共團體開設，透過批發商、中間商順利推進生鮮食品在生產者和消費者之間的流通。

其具體功能如下：
①「集貨」從國內外各地集聚各式商品。
②「決定價格」以拍賣交易為基礎，反應供需狀況，迅速決定公正的價格。
③「分貨」將貨物迅速地出貨給眾多的零售商。
④「交易結帳」迅速確實地支付銷售貨款。
⑤「節省流通經費」因為是大量的貨物集散，可節省貨物流通中所需的運費和其他費用。
⑥「情報提供」收集並傳達確實的生鮮食品流通情報。
⑦「衛生檢查」由衛生檢查所隨時進行檢查，以確保生鮮食品的衛生。

本市場依據批發市場法，於1959年12月5日得到許可而設立，是日本全國第17個市場。同年12月10日青果部，1960年4月4日水產品部各自開始其營業。目前作為北海道生鮮食品流通的主要據點市場，擔負著重要的任務。

중앙도매시장은 지방공공단체가 개설하여 생산자와 소비자 사이에 도매업자와 중도매인 업무를 통해서 신선한 식품의 원활한 유통을 추진하고 있습니다.
구체적인 역할로는 다음과 같은 것이 있습니다. ①「집하」국내외의 각지로부터 대량의 농수산물을 모아 둡니다. ②「가격형성」경매 거래를 기본으로 하여, 수급을 반영한 신속하고 공정한 가격을 만듭니다. ③「분하」많은 소매상들에게 신속히 상품을 나누어 줍니다. ④「거래결제」판매 대금을 신속하고 정확하게 지불합니다. ⑤「유통경비 절감」대량의 상품을 취급하기 때문에 유통에 쓰이는 운임 및 그외의 경비를 절감 할 수 있습니다. ⑥「정보 제공」신선한 식품의 유통에 대하여 정확한 정보를 수집하여 전달합니다. ⑦「위생 체크」위생 검사기관에서 수시로 위생을 체크합니다.
삿포로시에서는 도매 시장법에 의거하여 1959년12월5일에 전국에서 17번째의 시장으로서 개설허가를 받아, 그 해 12월 10일에 청과물, 1960년4월4일에 수산물에 대하여 각각 업무를 시작하였습니다. 그리하여 현재 홋카이도의 신선한 식품유통의 거점 시장으로서 중요한 역할을 담당하고 있습니다.

▲食品衛生検査
食品衛生檢查
식품위생검사
Food hygiene inspection
Санитарная инспекция пищевых продуктов

Vegetables

▲青果移動せり
青果移動拍賣
청과이동경매
Mobile fruit and vegetable auction
Передвижной овощефруктовый аукцион

Fruits

◀ 青果卸売場
青果批發場
청과 도매장
Fruits and Vegetable Wholesale Market
Секция оптовой торговли овощами ифруктами

The Central Wholesale Market was established by local public organizations. Standing between the producer and the consumer, it promotes the smooth distribution of perishable foods through wholesalers and brokers.

The market plays a concrete role in the following ways: ①Concentration - A wide variety of produce is brought together in one place in vast quantities from all over the country and from abroad. ②Price formation - Fair prices reflecting supply and demand are set quickly on the basis of auction transactions. ③Distribution - Goods are speedily distributed to many retailers. ④Settlement of transactions - Payment of charges are made quickly and accurately. ⑤ Reduced distribution costs - Freight charges and other costs incurred in distribution can be reduced by handling goods in large quantities. ⑥Supply of information - Accurate information concerning distribution of perishable foods is collected and transmitted. ⑦Hygiene inspection - Hygiene checks are carried out from time to time by the Health Inspection Office.

The City of Sapporo obtained the authorization to open the 17th wholesale market of Japan, based on the Wholesale Market Law, on December 5, 1959. The Fruits and Vegetable Section started operation on December 10 of the same year, and the Marine Products Section on April 4, 1960. The Central Wholesale Market plays an important role as a leading market for distribution of perishable goods in Hokkaido.

Центральный оптовый рынок был создан местными общественными организациями. Занимая место между производителями и потребителями, он способствует нормальному товарообороту свежих продуктов питания через операции оптовиков и посредников.

Выполняет следующие конкретные функции:

①«Сбор товаров»-собирается большое количество продукции с богатым ассортиментом со всех концов страны и из-за рубежа. ②«Формирование цен» - на основании аукционных сделок оперативно устанавливаются справедливые цены, отражающие спрос. ③«Дифференциация товаров» - товары оперативно распределяются среди многочисленных розничных торговцев. ④«Расчет по сделкам» - ведется своевременный и надежный расчет за реализованные товары. ⑤«Сокращение издержек товарооборота» - крупномасштабный товарооборот позволяет сократить расходы на перевозки и другие виды операций, связанные с ним. ⑥«Обеспечение информацией» - ведется сбор и распространение достоверной информации об обороте свежих продуктов питания. ⑦«Санитарный контроль»-наличие пункта санитарного контроля позволяет вести соответствующую проверку в любое время.

Наше предприятие, на основании Закона об оптовом рынке, 5 декабря 1959 года получило разрешение на учреждение как 17-ый по счету рынок в стране. 10 декабря того же года и 4 апреля 1960 года соответственно были пущены в эксплуатацию овоще-фруктовая секция и морепродуктовая секция. Рынок и ныне выполняет важную функцию как центр сбора и перераспределения свежих продуктов на Хоккайдо.

市場の機構

市場的組織結構
시장의 기구
Organization of the Market
Структура рынка

出荷者・生産者

出貨者・生產者
출하자・생산자
Shippers・Producers
Отправители товаров・Производители

委　託
委　託
위　탁
Consignment
Консигнация

買　付
購　買
매　입
Purchase
Закупка

1 卸売業者
批發商
도매업자
Wholesalers
Оптовый торговец

せり売
拍　賣
경　매
Auction sale
Аукцион

2 仲卸業者
中間商
중도매인
Brokers
Посредники оптовой торговли

相対売
協商交易
협상거래
Negotiated transaction
Сделка один на один

4 関連事業者
關聯業務者
관련상인
Traders
Взаимосвязанные предприниматели

市場開設者＝札幌市
市場の整備および維持管理と業務の許可および取り引きが公正に行われるように見守っている。

1 卸売業者＝集荷販売代行機関
生産者から委託及び貸付した品物をセリ等で仲卸業者、売買参加者に販売し、一定のきめられた委託手数料等をもらう。

2 仲卸業者＝評価分荷機関
入荷品をセリ等で買取り、市場内の店舗にて適正な価格で、買出人（小売商）に分けて販売する。

3 売買参加者＝評価配給機関
仲卸業者と一緒にセリに参加して、卸売業者から品物を買えるよう札幌市から承認を受けている人。

4 関連事業者＝市場利用者のサービス機関
市場出入者が仕事をしやすいように、買受代金精算、運送、食堂、その他必需品販売の業務をする人。

5 買出人＝配給機関
一般の魚屋、八百屋、果実店などで、仲卸業者の店から仕入れる人。

市場開設者=札幌市
負責設施的整備及維持管理，業務准許和監督交易的公正進行。

1 批發商=代理收購銷售的部門
受生產者委託，將有價出售的貨物以拍賣等方式賣給中間商、交易商，並收取一定的委託手續費。

2 中間商=估價分售部門
以競標等方式買進貨物，並在市場內的店舖以合適的價格分售給零售商。

3 交易商=估價供給部門
經札幌市批准許可，可與中間商一起參加競標，從批發商處購得貨物的人員。

4 關聯業務者=市場服務部門
為使出入市場的人員工作方便，代辦諸如貨款結算、運輸、餐飲提供及從事其他必需品銷售的人員。

5 採購者=供應部門
一般的魚店、蔬菜店、水果店等從中間商處採購貨物的人員。

시장개설자=삿포로시
시설의 정비 및 유지 관리, 업무허가 및 거래 등이 공정하게 이루어지도록 관리하고 있습니다.

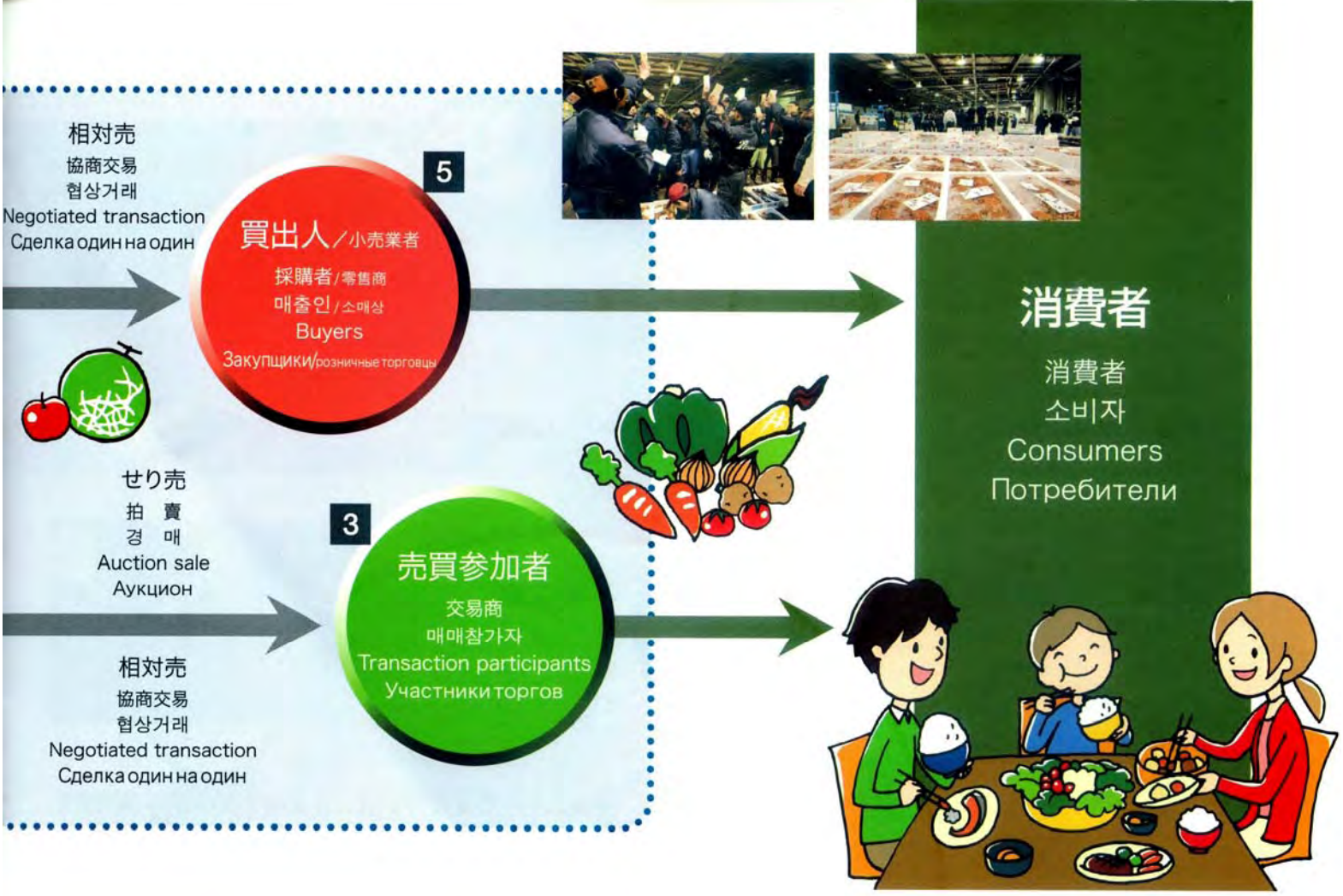
1 도매업자=집하 판매 대행기관
생산자로부터 위탁 또는 대부 받은 물건을 경매로 중도매인과 매매 참가자에게 판매하여 일정의 수수료를 받습니다.

2 중도매인=평가 분하기관
입하품을 경매 등으로 매입하여 시장내의 점포에서 적정가격으로 매출인(소매상)에게 나누어 판매합니다.

3 매매 참가자=평가 배급기관
중도매인과 함께 경매에 참가하여 도매업자로부터 물건을 살 수 있도록 삿포로시로부터 승인을 받은 사람입니다.

4 관련상인=시장 이용자의 서비스 기관
시장을 이용하는 사람들에게 편의를 제공하기 위해 매수대금 정산, 운송, 식당, 그 외 필수품을 판매하는 사람입니다.

5 매출인(소매상)=배급 기관
일반 생선가게, 야채가게, 과일가게 등을 말하며, 중도매인으로부터 매입하는 사람입니다.



Market Organizer = City of Sapporo

The City of Sapporo administers the market in order to improve and maintain facilities,authorize business,and ensure fair trade.

1 Wholesales = Agencies which collect and sell goods.

Wholesalers sell products on consignment and purchased from producers to brokers (transaction participants) at auction and obtain a certain commission from the producers.

2 Brokers = Individuals who evaluate and dispense goods.

Brokers buy transported goods at auction.They sell them to individual buyers (retailers) at reasonable prices reached through negotiation at their shops in the market.

3 Transaction Participants = Individuals who evaluate and distribute goods.

Transaction participants are those who are authorized by Sapporo to participate in auction along with brokers to buy goods from wholesalers.

4 Traders = Individuals who offer various services to those who utilize the market.

Traders are those who offer services such as settlement of payment for purchases,transportation of goods,management of dining facilities,and sale of necessities,in order to offer better working conditions for transaction participants.

5 Buyers = Individuals who distribute goods.

Buyers are those who buy goods from brokers, including fishmongers,grocers,and fruit sellers.

Муниципалитет города Саппоро-создатель рынка.

Муниципалитет контролирует, в каком состоянии находятся оборудование и помещения рынка, а также осуществляет надзор за правильным ведением работы по выдаче лицензий и проведением торговых сделок.

1 Оптовик-агент по сбору и реализации товаров.

За установленные комиссионные оптовики на аукционе и в другой форме продают посредникам и участникам торгов товары, закупленные у производителей или полученные на консигнацию.

2 Брокеры-орган оценки и дифференциации товаров.

Посредники покупают на аукционе и в другой форме товары, доставленные на рынок, и по приемлемым ценам продают их через магазины на рынке,распределяя между несколькими покупателями (розничными торговцами).

3 Участник торгов-орган оценки и сбыта

Участники торгов, имея лицензию, выданную муниципалитетом города Саппоро, могут участвовать вместе с посредниками в общем аукционе и покупать товары у оптовщиков.

4 Взаимосвязанные предприниматели-орган обслуживания клиентов рынка

Для удобства клиентов и посетителей рынка сервисные (обслуживающие) предприятия организуют работу по клиринговым расчётам, транспортировку, работу столовых, а также продажу товаров,необходимых для функционирования рынка.

5 Общие закупщики-дистрибьюторы.

Владельцы рыбных, овощных, фруктовых магазинов (розничные торговцы) закупают товары в магазинах посредников.

札幌市中央卸売市場
一日の流れ

札幌市中央批發市場的一天
삿포로시 중앙도매시장 하루의 일과
Sapporo Central Wholesale Market-Daily Schedule
Центральный оптовый рынок г.Саппоро Распорядок дня рынка

午後2時
下午2點
오후2시
2:00 p.m.
2:00 дня

買出人（小売業者）は、買った品物を消費者に売ります。
零售商將購入的貨物轉售給消費者。
매출인(소매상)은 매입한 상품을 소비자에게 판매합니다.
Buyers (retailers) sell goods to customers.
Розничные торговцы продают товары покупателям-потребителям.

午前5時～
清晨5點～
오전5시～
5:00 a.m.
5 утра-

水　産
水產品
수산물
Marine Products
Морская продукция

午前7時～
上午7點～
오전7시～
7:00 a.m.
7 утра-

青　果
青　果
청과물
Fruits and Vegetable
Овощи и фрукты

買出人（小売業者）が仲卸業者から品物を買います。
零售商從中間商處買入貨物。
매출인(소매상)이 중도매인으로부터 상품을 매입합니다.
Buyers (retailers) buy goods from brokers.
Розничные торговцы покупают у посредников товары.

午前2時

凌晨2點
오전2시
2:00 a.m.
2 часа ночи

生産地・出荷地から品物が市場に運ばれます。
從生產地、出貨地將貨物運到市場。
생산지·출하지에서 상품이 시장에 운송됩니다.
Goods are transported to market from producing districts and shipment places.
Товары доставляются с мест производства на рынок

水 産
水產品
수산물
Marine Products
Морская продукция с

午前3時30分～5時

凌晨3點30分～5點
오전3시30분～5시
3:30 - 5:00 a.m.
3:30 до 5 утра

青 果
青 果
청과물
Fruits and Vegetable
Овощи и фрукты с

午前4時30分～5時

凌晨4點30分～5點
오전4시30분～5시
4:30 - 5:00 a.m.
4:30 до 5 утра

品物が並べられ、セリの前に仲卸業者が品物を見て値段を考えます。
在進行拍賣前, 將貨物陳列於市場內, 讓中間商視貨並考慮價格。
상품이 진열됩니다. 중도매인은 경매하기 전에 상품을 보면서 가격을 검토합니다.
Before being auctioned,goods are inspected and evaluated by brokers.
Товары выставляются на обозрение.До начала аукциона посредники оптовой торговли знакомятся с ассортиментом и определяют для себя цены товаров.

水 産
水產品
수산물
Marine Products
Морская продукция с

午前5時～7時20分

清晨5點～7點20分
오전5시～7시20분
5:00 - 7:20 a.m.
5 до 7:20 утра

青 果
青 果
청과물
Fruits and Vegetable
Овощи и фрукты с

午前7時～8時30分

上午7點～8點30分
오전7시～8시30분
7:00 - 8:30 a.m.
7 до 8:30 утра

仲卸業者が競争で値段を決め、卸売業者から品物を買います。
中間商互相競價, 從批發商處標下貨物。
중도매인이 경매로 가격을 결정하여 도매업자로부터 물건을 매입합니다.
Brokers bid against each other for those goods they want to buy from wholesalers.
Посредники,соперничая друг с другом,определяют цены и покупают товары у оптовых торговцев.

札幌市中央卸売市場の環境問題への取組み

札幌市中央批發市場對於環境問題所作的努力
삿포로시 중앙도매시장의 환경문제 대처
Approach of Sapporo Central Wholesale Market to the Matter of the Environment
Подходы Центрального оптового рынка г.Саппоро к проблемам окружающей среды

衛生管理
商品の鮮度維持のための低温売場や、殺菌効果のあるオゾン水による洗浄施設を設けています。

クリーンエネルギーの使用
場内で使用する構内運搬車輌「ターレット」や「フォークリフト」を、天然ガス車輌へ転換しました。これにより、排気ガスのクリーン化や、CO_2の排出量の削減が図られました。

アイドリングストップ給電スタンドの導入
駐車・待機中のトラックの運転室の冷暖房や、荷室の冷蔵のための電源を、外部から供給して、アイドリングをストップするシステムを導入しました。

衛生管理
設有可保持商品新鮮度的低溫賣場，及具有殺菌效果的臭氧水洗淨設施。

使用綠色能源
為了減少排氣污染及二氧化碳產生，將場內所使用之貨物搬運車輛換成天然瓦斯燃料車。

導入待機熄火充電站
導入待機熄火系統，可由外部供給待機暫停時，貨車駕駛座內的冷暖氣，及儲藏室所需的冷藏電源等。

위생관리
상품의 신선도 유지를 위한 저온매장이나, 살균효과가 있는 오존수를 사용한 세정시설을 갖추고 있습니다.

클린에너지의 사용
장내에서 사용하는 구내운반차량 「터릿」이나 「포크리프트」를, 천연가스차량으로 전환하였습니다. 이에 따라, 배기가스의 클린화와, CO_2의 배출량의 절감을 도모했습니다.

아이들링스톱 급전 스탠드의 도입
주차·대기중인 트럭운전실의 냉난방이나, 짐칸의 냉방을 위한 전원을, 외부로부터 공급하여, 아이들링을 스톱하는 시스템을 도입하였습니다.

Hygiene control
The counters with low temperature where arranged at the market to retain the freshness of the products. Also the facilities to wash products were set up. This facilities use ozone water which has disinfection effect.

Using of Clean Energy
Turret trucks and forklifts which are used inside the market to carry the products were changed to the natural-gas vehicles. In such a way the making exhaust gas more clean and reducing of CO_2 was planned.

Introduction of Electricity Supplying Stands to Stop Idling
The idling stop system was introduced. Due to this system the electricity for the air-conditioning and heating of the rooms for drivers of the standby trucks and for the refrigerating of the storages is supplied from the outside.

Санитарный контроль
На рынке оборудованы торговые места с низкой температурой для сохранения свежести продукции, а также сооружения для промывания, где используется озонированная вода,имеющая свойства дезинфектора.

Использование чистой энергии
Тележки и вилочные погрузчики, которые используются для перевозок на территории рынка, были заменены на работающие на природном газу. Таким способом планировалось сделать выхлопные газы более чистыми и сократить выбросы углекислого газа.

Внедрение электроснабжающих станций,которые предотвращают айдлинг
Была введена система, недопускающая айдлинг, когда электричество для кондиционирования и отопления комнат водителей грузовиков, находящихся на отстое, а также для охлаждения складов поставляется извне.

交通機関	■JRバス 北11西20 徒歩1分 ■地下鉄 二十四軒駅から 徒歩10分 ■JR桑園駅から 徒歩15分
交通方式	■從JR巴士北11西20站 徒步1分 ■從地鐵二十四軒站 徒步10分 ■從JR桑園站 徒步15分
교통기관	■JR버스 北11西20 도보 1분 ■지하철 니쥬용캔(二十四軒)역에서 도보 10분 ■JR 서엔(桑園)역에서 도보 15분
Means of transportation	■1 minute walk from JR Bus Kita 11 Nishi 20 Bus stop ■10 minute walk from Nijyuyonken Subway Station ■15 minute walk from JR Soen Station
Виды транспорта	■Автобус«JRБасу»,ост.«Кита11Ниси20»,1мин.пешком ■Метро«Нидзюён кен»,10мин.пешком ■Ж/д станция«Соэн»,15мин.пешком

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