

Research Report 2022-2

3rd Fisheries Reform Committee
Interim Recommendations

(Provisional Translation)

August 2022

Japan Economic Research Institute

3rd Fisheries Reform Committee

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29 August 2022

Japan Economic Research institute
3rd Fisheries Reform Committee
Chairman, Dr Masayuki Komatsu

3rd Fisheries Reform Committee Interim Recommendations

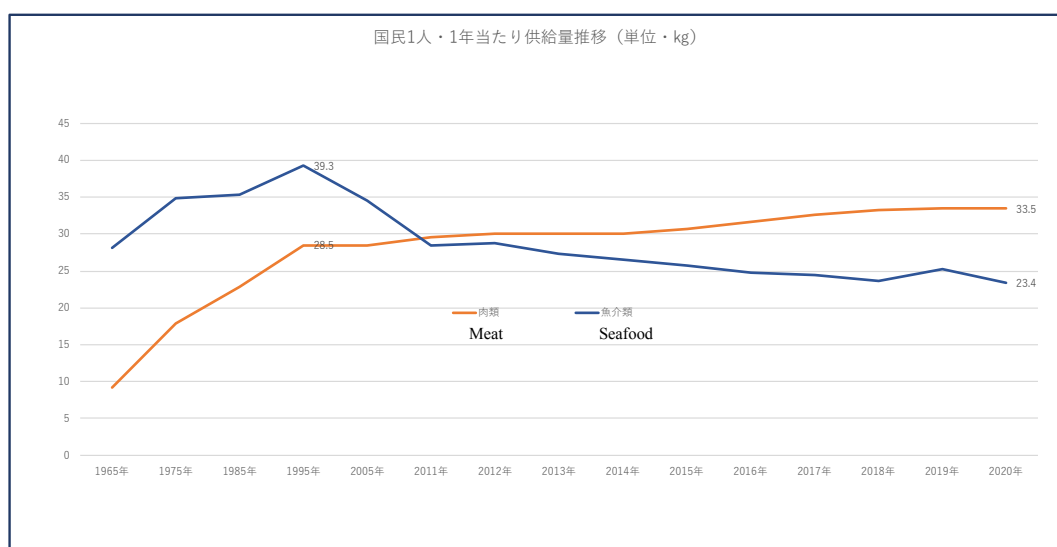
1. Establishment of the 3rd Fisheries Reform Committee based on the Basic Principle, “Food is the source of life”

Japan's capture fisheries and fisheries industry are in decline and are becoming unable to fulfill their responsibility to provide an adequate food supply to the people.

Surrounded on all sides by the sea, Japan is a nation of marine fisheries, and has been supplying its people with the bounty of the sea since the beginning of its recorded history until the present day. As a result, the supply of marine products is thought to have influenced not only the physical strength and nutritional condition of the Japanese people, but also their food culture, dietary habits, and spiritual culture.

In addition, fish and shellfish have always been at the center of the Japanese diet and have been the main source of animal protein, but due to the decline in their supply and the increasing supply of meat and other protein sources, the share of marine products in animal protein was replaced by meat in 2011 and has continued to decline since then (see Diagram 1). In contrast, as global demand for marine products is on the rise, Japan can revitalize its fisheries industry through a sustainable increase in catches and increasing its ability to supply the domestic market and expanding exports.

Diagram 1: Per Capita Supply of Meat and Seafood (unit: kg)



Source: Food Supply and Demand Table, prepared by Mr Tatsunobu Kawasaki, Fisheries Journalist

(1) Background and Objective of Establishing the 3rd Fisheries Reform Committee

The 3rd Fisheries Reform Committee was established on 18 June 2021, for a period of approximately one and a half years, and was initiated to examine the problems facing capture fisheries and the fisheries industry in Japan, identify challenges, and recommend solutions for the future.

The preceding 1st Fisheries Reform Committee (October 2006-July 2007; Chairman Mr Yuki Takagi, Leader Mr Hisao Kurokura) released its recommendations in July 2007. The recommendations were that "oceans and fishery resources shall be the common property of the people," and that management be based on scientific evidence, priorities for granting of fishery rights be eliminated, and individual fishing quotas (IQs) be introduced. These recommendations were reflected in the 2018 partial amendment of the Fisheries Act, among others. The 2nd Fisheries Industry Reform Committee (September 2017 to March 2019; Chairman Mr Yuki Takagi, Leader Dr Masayuki Komatsu) released seven recommendations in May 2019 (see reference on p. 4). In order to revive Japan's capture fisheries and fishery industry, early and drastic improvement of institutions and systems related to capture fisheries and the fishery industry is necessary, however the content of fisheries policy based on the amended Fisheries Act is fundamentally inadequate. It is therefore necessary to continue to

present recommendations for specific reform to the government.

Based on the seven recommendations of the 2nd Fisheries Reform Committee, the Committee focused on the most important contents and issues, and deepened discussions from both general and specific perspectives, and compiled its progress into interim recommendations.

(2) Directions and Contents of Interim Recommendations

The Committee aimed to recommend more concrete measures to realize the recommendations made by the 2nd Fisheries Reform Committee. Based on the seven recommendations of the 2nd Fisheries Reform Committee, the Committee's discussions focused on:

- Recommendation 1: It shall be specified in legislation that the seas and fishery resources are a common property of Japanese citizens.
- Recommendation 2: Fishery resources shall be thoroughly and sustainably utilized based on the scientific evidence to recover aggravating resources immediately. At the same time, the ocean and fishery resources shall be conserved and managed in an open manner to the general public.
- Recommendation 3: The existing “*Gyogyo-ken*” (fishery rights) or fishery licenses through fisheries cooperatives shall be abolished and direct licensing without involving fisheries cooperatives shall be introduced for all fisheries and aquaculture.
- Recommendation 4: Individual Transferable Quotas (ITQs) shall be introduced to eliminate excessive fishing capacity as soon as possible and entrepreneurial management of fisheries shall be made into a sustainable and independent one.

The Committee will, however, discuss the following in due course:

- Recommendation 5: Trends in the international society shall be reflected and consumer minds shall be established.
- Recommendation 6: The fisheries budget shall be rearranged and reallocated drastically.
- Recommendation 7: The existing Fisheries Act shall be abolished and a new act, laws and regulations shall be introduced.

(Reference) Recommendations by the 2nd Fisheries Reform Committee

Japan Economic Research Institute 2nd Fisheries Reform Committee Interim Recommendations
(May 2018)

- Recommendation 1: It shall be specified in legislation that the seas and fishery resources are a common property of Japanese citizens.
- Recommendation 2: Fishery resources shall be thoroughly and sustainably utilized based on the scientific evidence to recover aggravating resources immediately. At the same time, the ocean and fishery resources shall be conserved and managed in an open manner to the general public.
- Recommendation 3: The existing “*Gyogyo-ken*” (fishery rights) or fishery licenses through fisheries cooperatives shall be abolished and direct licensing without involving fisheries cooperatives shall be introduced for all fisheries and aquaculture.
- Recommendation 4: Individual Transferable Quotas (ITQs) shall be introduced to eliminate excessive fishing capacity as soon as possible and entrepreneurial management of fisheries shall be made into a sustainable and independent one.
- Recommendation 5: Trends in the international society shall be reflected and consumer minds shall be established.
- Recommendation 6: The fisheries budget shall be rearranged and reallocated drastically.
- Recommendation 7: The existing Fisheries Act shall be abolished and a new act, laws and regulations shall be introduced.

2. Recommendations

Starting with the first meeting on 18 June 2021, the Committee held extensive and in-depth discussions until the ninth meeting on topics such as resource management, fisheries policy, “*Gyogyo-ken*” (fishery rights) or fishery licenses through fisheries cooperatives, and actual conditions of fisheries production, as well as receiving lectures from academic experts, government agencies, and top management of fisheries companies, including those from Australia and other countries. At the 10th meeting, the Committee discussed the draft interim recommendations.

(1) Introduction and General Remarks on the Recommendations

In view of the situation where the long-term significant decline and stagnation of Japanese fisheries production has led to a significant decline in the fisheries industry and the exhaustion of local fishery communities and remote islands, the Committee believes that it is the responsibility for the Committee to guide fisheries policy in the appropriate direction. In particular, the recent string of scandals involving fisheries cooperatives (e.g. fraudulent weighing of skipjack tuna and place of origin mislabeling for clams) can be attributed to the fact that they do not have a system that can effectively prevent legal violations. A system to ensure compliance should be put in place and promoted as soon as possible.

Developed fisheries countries have reformed their legal systems for capture fisheries and the fisheries industry, introduced scientific fisheries resource management systems, and achieved recovery in their fisheries industry and local economies. The economic growth rate of capture fisheries and the fishery industry has been remarkable, and the popularization of fish consumption overseas is progressing rapidly in Norway, Iceland, Alaska, Australia and New Zealand, and Chile, etc. In addition, in the last decade, Japan has been a loser in buying competitions of fisheries products in the international markets, and domestic production has been declining rapidly, as mentioned earlier. This means that Japan cannot fulfill its responsibility to provide food for its citizens, and the supply and consumption of marine products will continue to decline. This means the weakening and decline of Japan’s position as a predominantly fish-eating nation.

Japan once raised its fisheries production within its 200 nautical mile exclusive economic zone to about 10 million tons, of which it has lost 7 million tons to date. However, this tells us that the country has the potential to revive vibrant capture

fisheries and the fisheries industry. Therefore, the legal system for capture fisheries and the fisheries industry should be fundamentally revised, and a shift to a strict resource management system based on the scientific evidence should be promptly implemented. At the same time, in order to realize the open and transparent capture fisheries and fisheries industry that includes aquaculture, distribution, processing, and consumption, it is imperative to establish fisheries operations in line with catch reporting and marine product purchase reporting rules and monitoring and control rules.

Non-sustainable fisheries subsidies and the fisheries budget need to be reformed drastically. The National Federation of Fisheries Co-operative Associations (JF Zengyoren), which is designated as the implementing agency for many subsidized projects, has so far failed to present a vision for the revival of the Japanese fisheries industry. We must fundamentally and urgently move away from a system that is unwilling to make fundamental political changes. We believe that a departure from the short-term profit-seeking relationship and a fundamental reform will lead to the restoration of Japan's capture fisheries and fisheries industry that have been declining for decades. To achieve this goal, it is also necessary to reform objectives and raise the awareness of all related organizations, including governments, politicians, the fisheries industry, and scientists, as well as the general public.

In order to achieve this, we will seek opinions not only from the Fisheries Agency but also from other ministries, such as the Ministry of the Environment, and will also refer to NGOs, experts in the field who are sharing their opinions for fisheries reform, and overseas examples from the governments, scientists, and industries of the United States, Australia, Norway, and Iceland, which are advanced countries in the fisheries systems. In addition, it is also necessary to reinforce the government and research institutions with human resources who have broad and deep expertise.

In particular, we expect the government to have the viewpoint of how much the capture fisheries and fisheries industry systems should be changed from the current status quo not from a short-term perspective, but how to get there with a clear goal point for reform, and to pass on what is good and to reform what is bad from the viewpoint of future generations of citizens and fishermen. In other words, instead of relying on fisheries subsidies to compensate for losses and to get by for the present, we should make every effort to establish institutions and systems related to fisheries to conserve marine fishery resources and marine ecosystems for future generations and to utilize

them in a planned and sustainable manner. The Committee firmly believes that Japan's fisheries industry should be made into a self-sustaining and internationally competitive industry.

Each of the following recommendations is expected to be implemented as quickly and comprehensively as possible. However, it always takes one to two years to revise the legal system. In the meantime, it is realistic to start with what is feasible and implement the following recommendations to the maximum extent feasible within the current fishery systems. For example, as the number of fisheries cooperative members who cannot exercise their fishery rights increases every year, the consolidation and incorporation of the fishery rights of fishermen who exercise their fishery rights in vacant fishing grounds should be promoted, and new entries of local fisheries companies should be promoted as well. In addition, there are many other possible reforms and amendments to the system that are in line with the realities of the situation.

(2) Specifics of Each Recommendation

Recommendation 1: (Marine fishery resources and marine ecosystems shall be regarded as a common property for citizens not as ownerless property or *vona vacancia*)

It is important to clearly stipulate by law that marine fishery resources and marine ecosystems shall be a common property of the people. It is necessary to mandate that marine and fishery policies be implemented under the principles of those laws (with basic principles of scientific basis and sustainable use). The interpretation of the Civil Code as "ownerless property" and the treatment of "unclaimed property preoccupation" as a provision on property rights should be stopped and ownerless property should be effectively managed by the government. The current fisheries legal system that drags the residue of the former Meiji Fisheries Act should be abolished, and a new Fisheries Act, a new Basic Fisheries Act, etc. should be enacted as soon as possible based on the basic principle that marine fishery resources and marine ecosystems are the common property of the people.

- ① Marine fishery resources and marine ecosystems, which are the common property of the people, should be managed by the national and prefectural governments under the entrustment of the people. Direct management of the ocean and marine fishery resources and marine ecosystems by the private sector, such as fishery cooperatives and general incorporated associations, is not appropriate, and what is appropriate for them is to assist the national and prefectural governments in their management duties.
- ② Users of marine fishery resources, which are the common property of the people, shall endeavor to utilize them sustainably and make profits from them, and those profits shall be widely returned to the people through public use, resource conservation, and other means.
- ③ The national and prefectural governments shall manage marine fishery resources scientifically and economically to eliminate overfishing and immediately restore depleted or degraded marine fishery resources to a level where sustainable use is possible (UN Sustainable Development Goal SDG 14.4 (Excerpt: Restore marine fishery resources to a maximum sustainable yield (MSY) determined by the biological characteristics of each resource.)
- ④ Marine fishery resources in Japan are under the provision of "preoccupation of

ownerless property" according to Article 239 of the Civil Code, but under this provision, fierce competition for preoccupation of fishery resources will progress, leading to the deterioration of fishery resources. Therefore, the national government shall manage them as the common property of the people. This is also consistent with the provisions of Articles 56 and 61 of the UNCLOS.

- ⑤ The United States does not have a provision that marine fishery resources are the common property of the people, but they are held in trust by the people and managed under the "Public Trust Doctrine" (PTD). The State of Alaska, according to its constitution, regards marine fishery resources as the common property of the people of the state. In Japan, it should be clearly stated in laws and regulations that the national government manages the common property of the people under the trust of the people, and this should be promptly reflected in fisheries policy.

Recommendation 2: (Quality and quantity of data shall be improved, an observer system shall be introduced and TAC shall be established based on scientific evidence with a view to minimizing uncertainty.)

A fisheries system for sustainable use of marine fishery resources and marine ecosystems based on scientific evidence shall be established. It is essential to calculate Maximum Sustainable Yield (MSY) and strict Allowable Biological Catch (ABC) and establish Total Allowable Catch (TAC) to minimize uncertainty. In Japan today, there is an urgent need for a much higher level of quantitative and qualitative provision (accuracy, on a real-time basis) of catch data provided by fishermen. It is necessary to analyze catch data provided directly by fishermen, such as catch, species, size and duration of operation, catch effort, etc., and to introduce a system of verification by scientific observers and collection of scientific survey data independent of the fisheries industry.

Recommendation 2-2: (Surveillance and enforcement systems and penalties for violations of fisheries laws and regulations shall be strengthened.)

It is necessary to introduce and strengthen the monitoring and enforcement system into our country's fishing vessels and aquaculture industry and to strengthen penalties for violations of fishing laws and regulations. Japan shall introduce and strengthen surveillance and control systems for its own fishing vessels and aquaculture industry. In addition to chartered vessels, the enforcement and monitoring system by government vessels shall be strengthened. Penalties for violations of fisheries laws and regulations, such as unreported or false reporting of catches, exceeding catches, and violations of operating zones and periods, shall be strengthened.

- ① The common property for the people shall be managed by the national and prefectural government with the people's trust. The national government shall avoid overfishing and excessive fishing and shall have an obligation to explain to the people about the utilization of fishery resources by easy-to-understand language and expressions for the people instead of using the fisheries industry jargons.
- ② As the number of fish species subject to stock assessment in Japan is lower than that in the US and Europe, this needs to be increased. In addition, as the US uses 75% as the standard for calculating MSY, a probability of achieving 50% or more is not sufficient. It is, therefore, important to improve this further to reduce uncertainty in the ABC and the subsequent TAC to be set. The problems with Japan's stock

assessment were also pointed out by a US scientist, Dr Steven Teo of the National Oceanic and Atmospheric Administration (NOAA) Southwest Fisheries Research Center who attended the Japan Fisheries Research and Education Agency's October 2020 Stock Assessment Peer Review Committee meeting. (Source: Minato Shimbun electronic edition dated 9 February 2021) (see note below).

(Note)

- i) Lack of catch data from neighboring countries, which is important for accurate estimation of fish stocks
 - ii) As there is uncertainty in estimating fish age, numbers of fish school and mortality in the natural environment, drastic improvement is needed.
 - iii) The index of stock volume was also questioned. In the case of purse seining, an indicator is used to determine the number of tons of fish that can be caught per net hauled after finding schools of fish. However, the analysis does not take into account the size of the fish school (the number of fish schools) and ignores the technological progress of fishing vessels. The need for more research by scientists and others was requested.
 - iv) There is little cooperation between Japan and other countries regarding the management of mackerel. Dr Teo suggested that Japan alone could consider ways to manage mackerel without being influenced by other countries, such as by enhancing pre-fishing season surveys to estimate how much of the total resource will migrate to Japanese waters during the fishing season and analyze how much of it should be caught.
- ③ There is a need to establish a system whereby coastal fishermen and aquaculture operators submit catch reports directly to the prefectural governments, rather than through fisheries cooperatives. In addition, aquaculture operators should be required to submit aquaculture reports to the prefectural governments on the number of seedlings (juveniles and young fish, etc.) ponded, the number of dead and shipped fish, weight of fish, doses of medication, and water quality monitoring data.
- ④ Observers shall verify catch and aquaculture reports, and the Fisheries Agency shall strengthen penalties for false reports and non-reporting.
- ⑤ An observer system for the verification and collection of scientific and statistical information, including catch reports, shall be introduced immediately following the

lead of the US, Australia, and Norway. Guidance and support for fishermen to collect catch data by observers, as well as support for the completion of catch reports and their verification, are essential to improve the reliability and accuracy of catches and catch reports. For this reason, the necessary budget and personnel shall be secured for this purpose.

- ⑥ Fishing and aquaculture operators shall be required to have observers aboard their vessels or deployed at landing sites, and fishing vessels shall be equipped with video cameras to monitor fishing and aquaculture activities and verify catch status. GPS installation shall also be mandatory.
- ⑦ In coastal fisheries, there is no end to the number of violations in gill-net and other fisheries. In addition, there have been cases of improper or inappropriate labeling of origin for the purpose of primary storage of clams. Prefectural governments should strengthen traceability and monitoring and enforcement of coastal fisheries.
- ⑧ The reason why illegal fishing and inappropriate labelling such as falsifying the place of origin have not been eliminated is due to the fact that the markets (distributors), restaurants, and end consumers purchase such fish. Following the examples of Norway, New Zealand, the United Kingdom, the United States, and other countries, it is necessary to require wholesale markets and other distributors and processors, as well as restaurants and eateries, to prepare and submit purchase reports.
- ⑨ Tougher Penalties: Penalties in Japan are minor compared to the severe penalties in other countries, such as confiscation of vessels and revocation of permits. Penalties should be expected to be effective as a deterrent. It is essential to increase fines to 30 million yen or more for violations of the harvesting of aquatic plants and animals, as well as for violations of catch reports under the Fisheries Act, and to introduce a fine to confiscate all profits from illegal activities.

Diagram 2: Amended Fisheries Act and Penalties

- ✓ The amended Fisheries Act establishes the crimes of violating the prohibition of taking certain aquatic animals and plants, and the crime of transferring poached fish products, etc. The statutory penalty provides for a maximum fine (30 million yen) for an individual. The maximum fines for the offenses of unauthorized fishing and infringement of fishery rights were also increased, raising penalties overall.
- ✓ The revised Fisheries Act stipulates orders to anchor etc., and the penalties for violators of such orders have been increased.

Violation	Before amendment		After amendment	
	Imprisonment	Fine	Imprisonment	Fine
Harvesting of specific aquatic animals and plants (Article 189-1)	-	-	3 years	¥30 mil
Transfer etc. of illegally harvested specific aquatic animals and plants	-	-	3 years	¥30 mil
Fisheries by non-quota-holders (Article 190-1)	3 years	¥2 mil *1	3 years	¥3 mil
Fisheries by quota holders exceeding annual catch quota (Article 190-1)	3 years	¥2 mil *1	3 years	¥3 mil
Violation of order to suspend fisheries and order to anchor (Article 190-2)	3 years	¥2 mil *1	3 years	¥3 mil
Violation of order to anchor (Article 190-2)	2 years	¥0.5 mil *2	3 years	¥3 mil
Unapproved fisheries, violation of prohibited fishing (Article 190-3, 4, 8)	3 years	¥2 mil	3 years	¥3 mil
Operation of set-net fishery and demarcated fishery without fishery right and piscary (Article 190-7)	3 years	¥2 mil	3 years	¥3 mil
Violation of conditions attached to Minister-licensed fishery and fishery right (Article 190-5)	3 years	¥2 mil	3 years	¥3 mil
Violation of conditions attached to Prefectural Governor-licensed fishery (Article 193-2)	6 months	¥0.1 mil *3	6 months	¥0.3 mil
Violation of Prefectural Governor's order that instructions of Sea Area Fishery Adjustment Committee etc. (Article 191)	1 years	¥0.5 mil	1 years	¥0.5 mil

Violation of reporting obligation of catch volume (Article 193-1)	6 months	¥0.3 mil *1	6 months	¥0.3 mil
Rejection, interruption and avoidance of inspection (Article 193-4)	6 months	¥0.3 mil	6 months	¥0.3 mil
Infringement of fishery right or fisheries cooperative membership execution right (Article 195)	¥0.2 mil			¥1 mil

*1: Act on Preservation and Control of Living Marine Resources (TAC Act)

*2: Ministry of Agriculture, Forestry and Fisheries Ordinance

*3: Fisheries Coordination Regulation

Source: “Amendment to the Fisheries Act and Penalties”, Fisheries Agency
(<https://www.jfa.maff.go.jp/j/enoki/attach/pdf/mitsuryotaisaku-2.pdf>)

Diagram 3: Present Situation of Catch Reporting and Challenges

Challenges at present	Future measures
<p>1. Measurement of catch volume</p> <ul style="list-style-type: none"> - Standards for measurement of container capacity and package capacity - Method to calculate water content at the time of measuring weight - Digitalization of administrative works at fish markets <p>2. Reporting of catch volume</p> <ul style="list-style-type: none"> - Insufficient awareness of reporting obligation - Inaccurate self-reporting - Long hours for aggregation of catch volume - Understanding/determination of total consumption of aquaculture seeds and seedlings <p>3. Catch reporting fraud</p> <ul style="list-style-type: none"> - False reporting of landing volume by fisheries cooperative members (false reporting of Skipjack landing volume in Yaizu Fish Market) - False reporting by fisherman (false reporting of Tuna catch volume by Oma Fisheries Cooperative) 	<p>1. Management of catch volume</p> <ul style="list-style-type: none"> - Drafting of common national weight measurement guideline - Introduction of national real-time management system <p>2. Tighter control</p> <ul style="list-style-type: none"> - Auditing at unloading markets - Constant operation of fishing vessel positioning equipment - Observer on board for minister-licensed fisheries - Small vessels equipped with recording or live cameras - Observer present when seedlings are introduced - Mandatory catch management for recreational fishing organizations - Tougher penalties for non-compliance

Source: Mr Hiroshi Izumisawa, President, Ajiro Gyogyo Co., Ltd.

Recommendation 3: (Fishery rights shall be changed to a license system and property rights shall be changed to business rights.)

The handling of fishery rights as "property rights" (Article 77 of the Fisheries Act), to which the provisions of the Civil Code concerning land apply *mutatis mutandis*, will be further discussed in the future on the basis of the recognition that they are basically "business rights".

This is a matter of conservation, utilization and development of coastal areas, and requires a broad national discussion.

Recommendation 3-2: (Aquaculture shall be shifted to a license system that makes aquaculture business conditional on management capacity and environmental considerations.)

The "Aquaculture Permit System" should be based on a scientific overview of the marine environment and an overall plan based on market analysis, as well as on individual conditions such as 1) the degree of compliance with regulations regarding the carrying capacity of the aquaculture industry, seabed soil quality, marine environment, and fish diseases, and 2) management capacity. Management capacity 2) and other factors shall be considered as conditions for approval.

- ① Fisheries cooperatives have had two conflicting businesses: The private-sector economic business and the management of fishery rights, which has a nature of the public sector. This has caused problems for them as ambiguous organizations that are neither for-profit making nor a public sector. Fisheries cooperatives are private organizations, and their ability to interact with the outside world regarding science, technology, and fisheries management is limited, making them unsuitable as recipients of licenses for fishery rights that are in the public interest.
- ② For coastal fisheries (fisheries for common fishery rights) and set-net fisheries, prefectural governments set and permit catch quotas by species and by multiple species that are bycatch.
- ③ With regard to aquaculture, the objectives of the project, the area of the sea surface to be occupied and the maximum amount of aquaculture shall be set, and the management capacity and the conservation of the marine environment and bottom sediment shall be essential conditions for the permit.

- ④ By abolishing the fishery right system, the Committee is considering preserving the right to fish as a "business right" instead of complying with the provision (Article 77 of the Fisheries Act) that deems fishery rights as property rights, but further study and national-scale discussion are needed.

【Reference】

Fisheries Act 2018

(Nature of Fishery Right)

Article 77 (1) A fishery right is deemed to be a property, and the provisions concerning land applies mutatis mutandis.

(2) The provisions of Part II, Chapter IX, of the Civil Code (Act No. 89 of 1896) do not apply to individual fishery rights, and the provisions of Chapters VIII through X of the same Part do not apply to group fishery rights.

Article 78 (1) If a mortgage is established on an individual fishery right, the structures fixed on the fishing ground are deemed to be a property integrally added to the fishery right with respect to the mutatis mutandis application of the provisions of Article 370 of the Civil Code. The same applies to a case where a statutory lien covers an individual fishery right.

(2) The establishment of a mortgage covering an individual fishery right is not valid unless it is approved by the prefectural governor concerned.

(3) When the prefectural governor concerned is going to make the approval pursuant to the provisions of the preceding paragraph, the governor must hear the opinions of the Sea-area Fisheries Adjustment Commission concerned.

(Restriction of Transfer of Fishery Right)

Article 79 “Omitted”

Recommendation 4: (Stock volume and fisheries management shall be balanced and new ITQs etc. shall be introduced.)

A resource management system and control system that balances fishery resources and fishery management based on TAC shall be established as soon as possible.

Recommendation 4-2: (ITQs, IVQs, IFQs, etc. shall be introduced.)

Effective ITQs (including Individual Vessel Quotas (IVQs) and Individual Fishery Quotas (IFQs), the same below) shall be introduced to coastal fisheries (including aquaculture) as a means of sustainability and rationalization of management in addition to minister-licensed and prefectural governor-licensed fisheries. In doing so, consideration should be given to providing a mechanism to allocate more ITQs to coastal fisheries compared to licensed fisheries, in order to protect and promote declining coastal fisheries areas.

Recommendation 4-3: (ITQs shall be introduced through grouping and a quota allocation and review committee shall be established.)

An on-line system shall be introduced for management of Bluefin tuna ITQs and a management system beyond quota management based on fishery type shall be established.

Bluefin tuna catch management shall be grouped combining coastal fisheries, prefectural governor-licensed fisheries and minister-licensed fisheries, and a system shall be established in a manner that allows rapid and transparent ITQ accommodation among different types of fisheries.

The allocation of initial catch quotas for Bluefin tuna shall be fundamentally reworked again. To this end, for example, an "IQ/ITQ Allocation Review Committee" shall be established immediately, consisting of the third parties who are certified public accountants, lawyers, biologists, and statisticians (the Fisheries Agency shall serve as the secretariat).

- ① The establishment of Japan's resource management system and its effective implementation remain inadequate, and the problem of excess fishing capacity is particularly serious. However, there has been no calculation or optimization of the number of fishing vessels and capacity commensurate with the resources, nor has

there been any indication of a policy to do so. The introduction of an ITQ system is necessary to resolve the overcapacity situation (see note).

(Note) ITQ/Individual Transferable Quota: The system of allocating catches to individual fishermen within the TAC, based on past catch performance, etc., is called Individual Quota (IQ). ITQs are transferable, such as the ability to buy and sell IQs, and can help stabilize management.

- ② The key to effective implementation of ITQs is the prompt and transparent transfer of catch quota held by each company or individual. The revised Fisheries Act (Article 20; Transfer of Quota) does not allow for the prompt and transparent transfer of quotas during the fishing season. An ITQ system shall be established and managed online with timely access for qualified fishermen. In doing so, the Minister of Agriculture, Forestry and Fisheries shall receive accurate reports after the transfer of ITQs and a system for monitoring needs to be established.
- ③ It is appropriate for ITQs to collectively control the same or multiple species of fish across fishery categories. For this purpose, the Fisheries Agency shall stop management by fishery type and shift to management by species (e.g., for tuna, switch to an integrated management system in which purse seine and inshore longline fisheries are managed according to the distribution and ecology of each species caught).
- ④ Following the system in Norway and other countries, ITQ management shall go beyond the management by small-scale coastal fisheries (inshore small-scale fishing and set-net fishing categories) and by offshore fisheries (large and medium-sized purse seine and inshore tuna longline), and shall promote management and transfer of catch quota across fishery types.

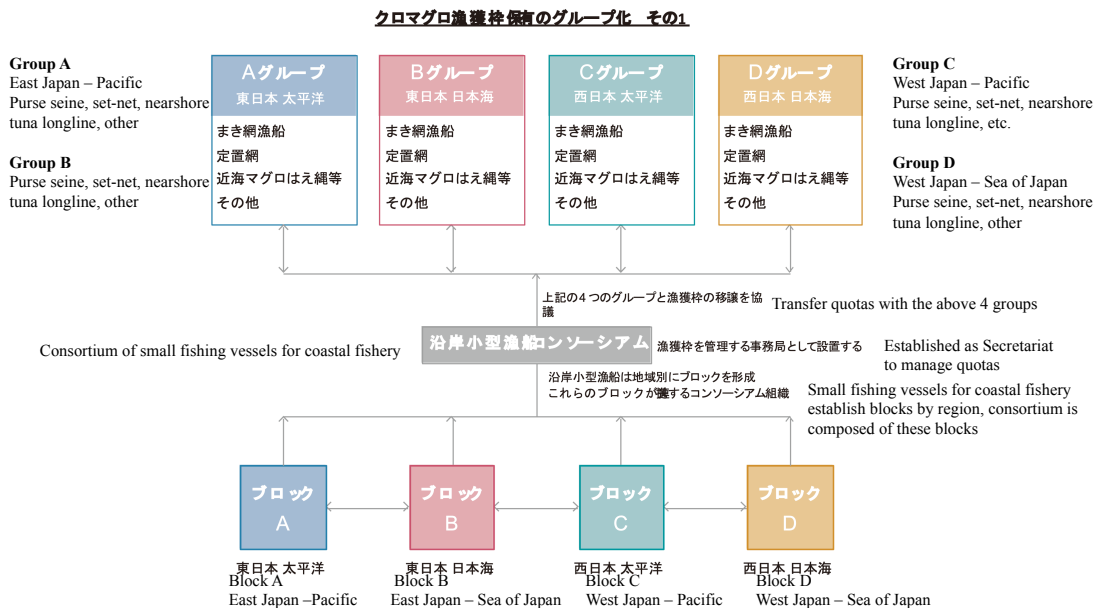
However, in the allocation of catch quotas between large-scale fisheries and coastal fisheries from the perspective of protecting and promoting coastal fisheries and coastal fishing areas, and integrating and expanding the scale of management, more allocation shall be given to coastal fisheries beyond the simple performance quota system.

- ⑤ Joint ownership of ITQs shall be promoted among multiple fishermen (group

quota). This will also facilitate information sharing, communication, and use of fishing grounds across the range of large and small fisheries, as well as flexibility and resilience in quota transfers. In addition, unnecessary competition will be eliminated, and information on fishing grounds and markets will be shared. In addition to modernizing the fishing industry and increasing profits, this could promote cooperation and trust between coastal fisheries and offshore large-scale fisheries, which have been in marked conflict (there are good examples in the Bering Sea and New England in the US).

- ⑥ Example of holding bluefin tuna quota by grouping across fishery types
- ⑦ Online transactions shall be conducted between fishermen, and the Minister of Agriculture, Forestry and Fisheries shall be able to monitor the online system. In principle, purchasers of fish such as the market and distribution people shall also be able to view the system (e.g. Norway).

Diagram 4: Example of Grouping of Bluefin Tuna Catch Quota Holders



Source: Dr Masayuki Komatsu, Chairman of the 3rd Fisheries Reform Committee

- i. Abolish the distinction between different types of fisheries (minister-licensed fisheries and coastal fisheries: angling fisheries and set-net fisheries)
Groups of different types of licensed fisheries shall be formed by region (4-6 regions), within which catch quotas shall be shared.
- ii. Catch quotas shall not be distributed to those who have no track record at all.
In the case of no track record, those who hold a quota shall be asked to return it (whether for a fee or free of charge is to be determined).
- iii. All quota transfers shall be conducted online. An online system shall be implemented in regional groups. The Fisheries Agency shall promote contracts, etc., with companies specializing in online systems that are familiar with the practicalities of such systems, in order to facilitate the smooth implementation of the online system in each regional group. When their own groups can handle it, they shall manage the online system themselves.
Regarding the online system, the Fisheries Agency shall learn from overseas cases.
- iv. A model catch report (see Diagram 5) that immediately shows the transfer of catch quotas shall be made.

Diagram 5: Model Catch Report (Log Book)

Example of Per Seine Fishery

Date (D/M/Y)	Vessel name	Vessel registration No.	Fisher's name	License No.	Log Book No.	
Date and time for commencement of operation : from hh:mm on Date/Month/Year						
Date and time for completion of operation : till hh:mm on Date/Month/Year						
Location of operation : Start East Longitude X'Y'' Finish East Longitude X'Y'' Start North Latitude X'Y'' Finish North Latitude X'Y''						
Number of casting nets/Time of casting nets within 24 hours: 1 st casting: hour/minute ~ hour/minute 2 nd casting: hour/minute ~ hour/minute 3 rd casting: hour/minute ~ hour/minute 4 th casting: hour/minute ~ hour/minute 5 th casting: hour/minute ~ hour/minute						
Catch volume by species (Weight/Number of boxes) Sardine (1 st , 2 nd , 3 rd , 4 th , 5 th) Mackerel (1 st , 2 nd , 3 rd , 4 th , 5 th) Horse mackerel (1 st , 2 nd , 3 rd , 4 th , 5 th) Bluefin tuna (1 st , 2 nd , 3 rd , 4 th , 5 th) Skipjack (1 st , 2 nd , 3 rd , 4 th , 5 th)					Total (Weight/Number of boxes) (C)	
Total catch volume (Weight/Number of boxes)						
Situation of quota allocation as of Date/Month/Year						
Species	Initial quota (A) (t)	Cumulative catch (B) (t)	Catch this time (C) (t)	Sales of quota (D) (t)	Purse of quota from other fisher (E) (t)	Current quota (F) F=A-B-C- D+E (t)
Sardine						
Mackerel						
Horse Mackerel						
Bluefin tuna						
Japanese common squid						

Source: Dr Masayuki Komatsu, Chairman of the 3rd Fisheries Reform Committee

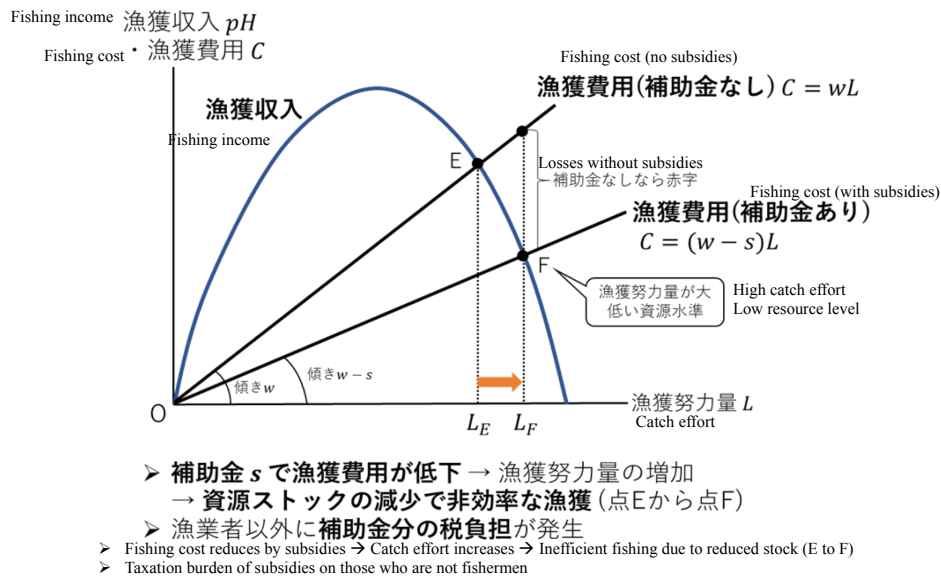
Recommendation 5: (Non-sustainable fishing subsidies shall be phased out, budgets shall be re-directed to innovation, etc., and self-sustaining capture fisheries and fishery industry shall be established.)

The World Trade Organization (WTO) has agreed in principle to abolish 1) direct compensation subsidies and 2) IUU fishing and subsidies to cover compensation for losses in management that allow overfishing. In Japan, fisheries subsidies such as fisheries mutual aid compensation intended to compensate for management losses should be phased out in the fisheries budget. Since these subsidies 1) and 2) accelerate the decline of the fisheries industry, Japan shall focus on innovation, scientific research, measures to enhance consumption and facilitate distribution, introduction of an observer system for smooth collection of catch data, implementation of training and strengthening of domestic monitoring and enforcement activities (replenishment and training of enforcement officers), and so forth. The aim is to establish an autonomous management of capture fisheries and the fisheries industry that is not dependent on subsidies mentioned in 1) and 2) above.

- ① WTO classifies "direct fishery compensation" and "subsidies to cover fishery expenses" as "non-sustainable subsidies" that reduce the profitability of the fisheries and aggravate their stocks from the perspective of the economy and fishery resource science. Therefore, "non-sustainable subsidies" (see Diagram 6) in the FY2022 fisheries budget shall be phased out, and a shift shall be made to fisheries that do not depend on subsidies.
- ② Fisheries mutual aid subsidies (compensation for losses in fisheries management) and safety net subsidies in the fisheries budget shall be eliminated over the next few years. These subsidies shall be converted to those for the development and deployment of new technologies that are necessary for the sustainable development of capture fisheries and the fisheries industry in the future.
- ③ Public works projects such as construction and restoration of fishing ports shall be reduced as the number of fishing vessels is decreasing and the need for construction and restoration of fishing ports is decreasing. In addition, fishing ports are built adjacent to good coastal fishing grounds such as seaweed beds, tidal flats, sandbars, wetlands, and estuarine areas, which are being reclaimed, resulting in the loss of good fishing and breeding grounds. Therefore, the construction of fishing ports shall be reduced in the future.

- ④ The WTO classification includes "other general subsidies" such as those for scientific research and innovation. Those subsidies shall be incentivized and directed in the Japanese fisheries budget as they contribute to the future development of the fisheries industry and the recovery of resources.
- ⑤ The government of Japan shall establish a scientific observer system, which does not exist in Japan at present, and shall provide a budget for recruiting the necessary personnel who have experienced biological and scientific training for the establishment of a new scientific observer system, as well as for overseas training costs and insurance coverage to ensure safety.
- ⑥ Since most of the patrol vessels are private chartered vessels, one supervising officer, who have authority for enforcement, and one interpreter are on board, thus limiting their enforcement capacity. For this reason, budgetary measures shall be taken to further enhance these capabilities. At the same time, as the chartered patrol vessel association, which is a government agency that licenses fisheries, is affiliated with the Fisheries Agency, they shall be made independent from the Fisheries Agency in order to perform independent enforcement functions to determine whether the licensed fishing vessels are truly operating in compliance with the law. Collaboration and the division of their roles with the Japan Coast Guard and where they belong shall also be examined in the future.
- ⑦ The budget for measures to investigate and prevent the impact of warm wastewater discharged from thermal and nuclear power plants on marine fisheries resources and marine ecosystems, as well as to prevent pollution of the oceans, shall be increased.
- ⑧ The budget for research on the decline of salmon and trout returns and the impact of aquaculture on the marine and seabed environments shall be enhanced.

Diagram 6: Impacts of Fisheries Subsidies on Fishery Resources and Fisheries Management



Suppose that profit is zero as fisheries revenues are the same as fisheries expenses as shown by point E in Diagram 6.

When the cost of fishing decreases due to subsidies, fishermen increase their fishing effort in an attempt to catch more fish (fishing effort increases from L_E to L_F). As a result, fishing pressure will become stronger and stock levels will deteriorate. This is the change from point E to point F. At point F, fisheries operations would be in the red if there were no subsidies, but because of the subsidies, the profit margin is zero.

Thus, if the deficit is supplemented with subsidies, the stock will deteriorate because the stock will be reduced to the low stock level that corresponds to point F when fishing effort is high even though the stock should remain at point E when fishing effort is low at L_E .

Source: Presentation material of Dr Yasuhiro Takarada on 21 January 2022 (partially amended)

Matters for future considerations:

Restoration of river and marine ecosystems and the shift from salmon and trout hatching and releases to natural spawning: There has been a significant decline in salmon return rates in Japan, Sakhalin, Southeast Alaska, British Columbia in Canada, Washington State, Oregon and California. These have been attributed to urbanization around rivers, habitat deterioration and environmental incompatibility of hatching and releasing. To address these issues, scientific, ecological, and socioeconomic studies shall be conducted on the use of natural spawning and the possibility of restoring river ecosystems for this purpose.

These are not recommendations, but are presented here for future consideration.

Artificial hatching of salmon and trout has reduced the genetic diversity of salmon. As a result, some believe that salmon have not been able to adapt to changes in coastal ecosystems due to rising sea temperatures caused by recent global warming. Reports from Southeast Alaska hatcheries, the Alaska state government, and the US government's NOAA have confirmed that after 10 or more years of salmon and trout hatching and release operations, there is a gradual empirical decline in return rates. (Komatsu Report on visit to the State of Alaska, USA; June 5, 2018: Report on the exchanges of views with Dr Keith Criddle and Dr Pete Hagen, Deputy Director, NOAA Auke Bay Research Institute, University of Alaska Fisheries Science Research Center (Note))

(Note)

Dr Criddle and Dr Hagen note: "A similar trend is occurring in the United States as in Japan. In Washington and Oregon, urbanization has led to fewer salmon returns. In Alaska, the number of chum and sockeye salmon and pink salmon hatched and released has been increasing for the last 20 to 30 years, which has led to an increase in returns. Although there have been annual fluctuations, there has been a consistent long-term trend of increases in all species. Recently, however, when new hatcheries are established in rivers and tributaries, returns increase for the first few years after they are established, but then quickly enter a downward trend."

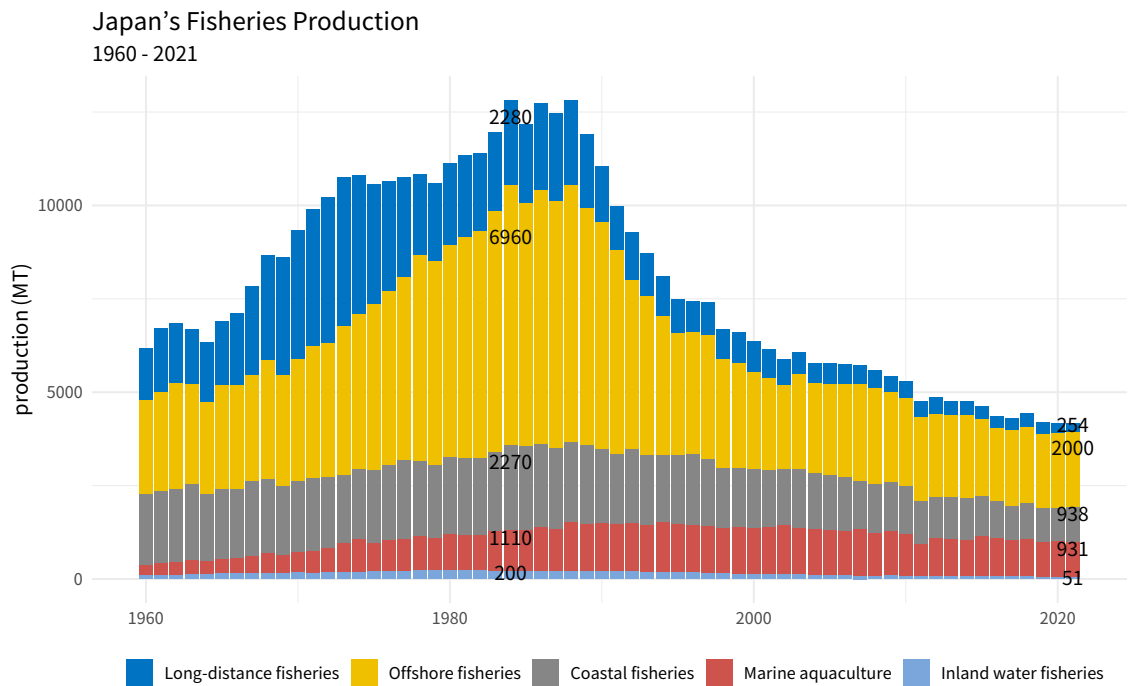
3. Background of Interim Recommendations

(1) Recent capture fisheries and the fisheries industry in Japan and international trends

Japan's fisheries industry is in a constant state of decline. Total production in 2020 was 4.23 million tons, a significant decrease of one-third from its peak. Capture fisheries and the fisheries industry are not only important as a food supply industry, but is also very important in terms of food security. On the other hand, imports of fishery products reached a record 3.82 million tons in 2001, and 2.2 million tons in 2021. Recently, Japan has been losing in competing with other countries in the purchase of seafood products due to a lack of purchasing power as income levels have remained flat. Competition to purchase seafood products from the fishing nations with sound resource management is intensifying in the world, and there is absolutely no guarantee that Japan will be able to import seafood products in the future.

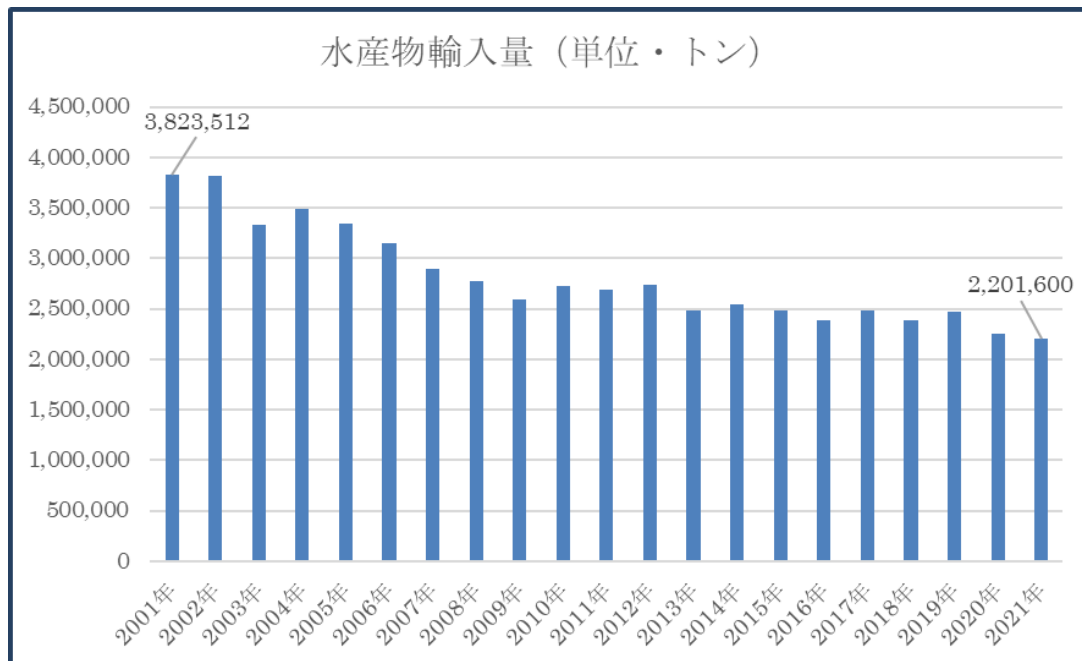
The number of fishermen in Japan also continues to decline. Overall, the position of the fishing industry remains in decline, and as a result of declining fishing income, fewer young people enter the industry. The number of fishery employees, which numbered 1.09 million in the postwar period, declined to 136,000 in 2020, and the economies of fisheries cities, fisheries villages, and remote islands, which depend on the fisheries industry for their livelihoods and production base, have declined significantly.

Diagram 7: Japan's Fisheries Production



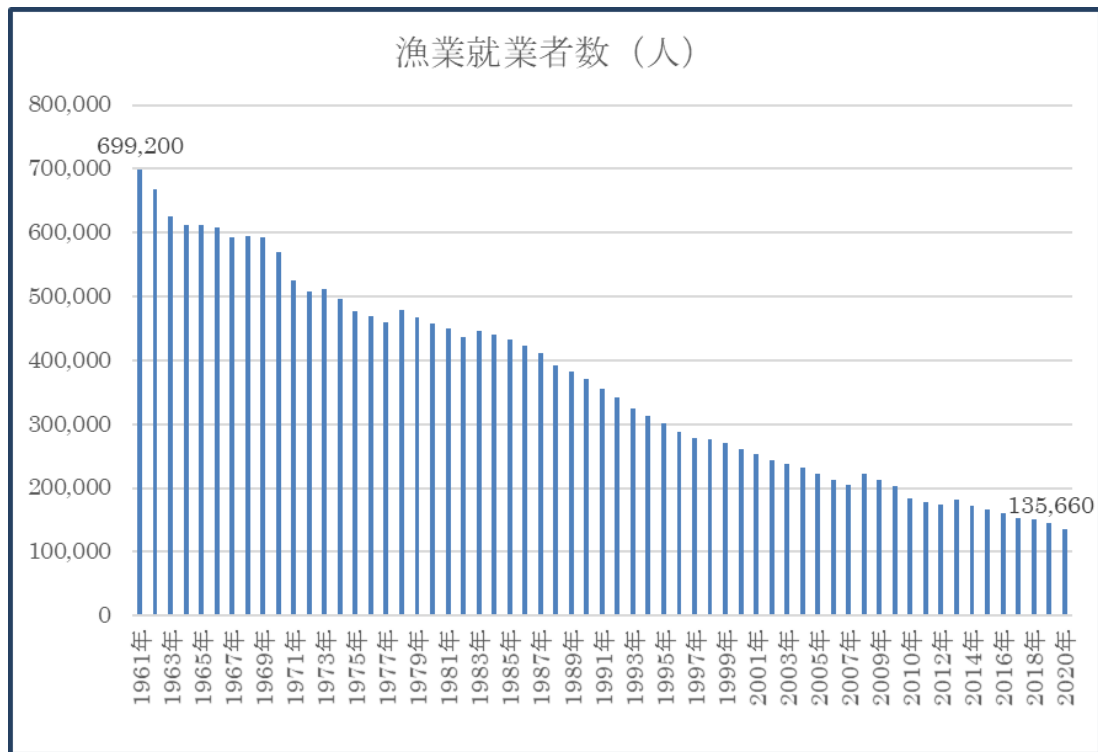
Source: MAFF Fisheries and Aquaculture Production Statistics

Diagram 8: Import Volume of Fisheries Products (Unit: ton)



Source: Fisheries White Paper, Export and Import Information of Agricultural, Forestry and Fisheries Products (Diagram prepared by Mr Tatsunobu Kawasaki, fisheries journalist)

Diagram 9: Number of Fishery Workers



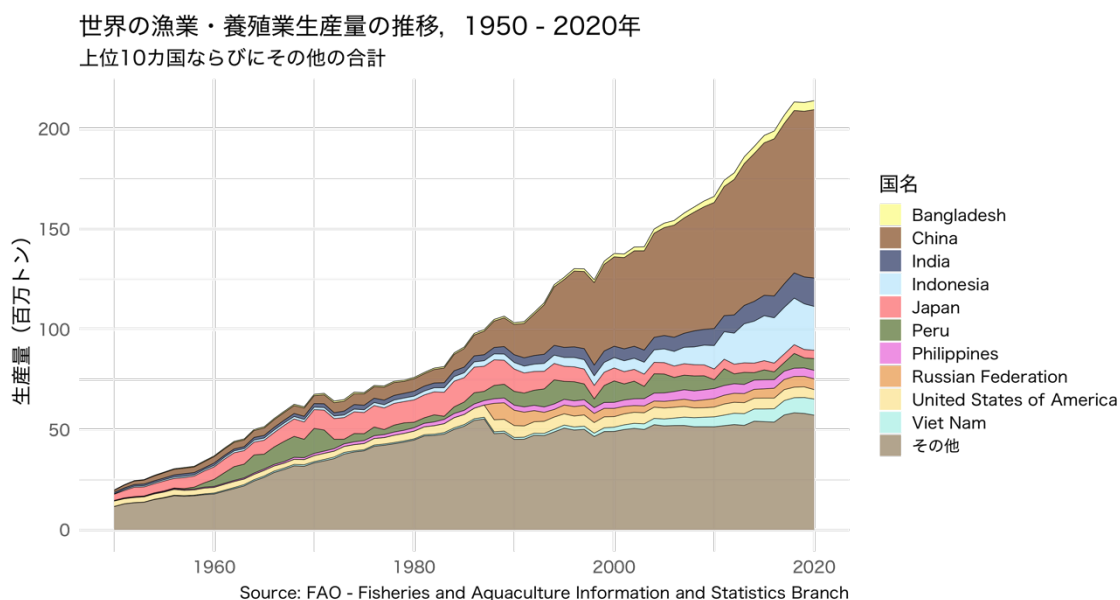
Source: Fishery Structure Dynamics Survey (diagram prepared by Mr Tatsunobu Kawasaki, fisheries journalist)

(2) Lack of and Delay in Complying with the UNCLOS

The United Nations Convention on the Law of the Sea (UNCLOS), adopted in 1982, established a 200 nautical mile exclusive economic zone and stipulated science-based management of marine living resources and their management by the sovereign jurisdiction of coastal states, and entered into force in 1994. Japan ratified the UNCLOS in 1996, two years after it entered into force.

In 1996, Japan also signed the UN High Seas Fisheries Agreement (UN Law of the Sea Implementation Agreement), which was agreed to in 1995 and entered into force in 2001.

Diagram 10: Fisheries and Aquaculture Production Volume in the World
1950-2020, Top 10 Countries and other countries
 (Unit: million tons)



Source: Presentation on 18 June 2021 by Dr Masayuki Komatsu, Chairman of the 3rd Fisheries Reform Committee (partially revised)

Japan also set a goal of using resources within its own 200 nautical miles. After being shut out of the pelagic fisheries, Japan promoted offshore and coastal fisheries and aquaculture as the pillars of its policy, but the successful results have not been realized due to the ineffectiveness of these policies.

The UNCLOS mandated the use of the best available scientific evidence of marine living resources within the nation's own 200 nautical mile area as a management guideline for coastal and offshore fisheries (Article 61 of the UNCLOS). The UN High Seas Fisheries Agreement then set forth two specific levels of catch, "target catch levels" and "marginal catch levels," for fisheries management on a scientific basis. However, Japan continued to give priority to voluntary fisheries regulations based on discussions among fishermen. These are not consistent with the content that output regulations stipulated under the UNCLOS. Consequently, Japan's fishery resources and fishery production have continued to decline to the present.

【Reference】 United Nations Convention on the Law of the Sea/UNCLOS

Article 61 Conservation of living resources

1. The coastal State shall determine the allowable catch of the living resources in its exclusive economic zone.
2. The coastal State, taking into account the best scientific evidence available to it, shall ensure through proper conservation and management measures that the maintenance of the living resources in the exclusive economic zone is not endangered by over-exploitation. As appropriate, the coastal State and competent international organizations, whether sub-regional, regional or global, shall cooperate to this end.
3. Such measures shall also be designed to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield, as qualified by relevant environmental and economic factors, including the economic needs of coastal fishing communities and the special requirements of developing States, and taking into account fishing patterns, the interdependence of stocks and any generally recommended international minimum standards, whether sub-regional, regional or global.
4. In taking such measures the coastal State shall take into consideration the effects on species associated with or dependent upon harvested species with a view to maintaining or restoring populations of such associated or dependent species above levels at which their reproduction may become seriously threatened.
5. Available scientific information, catch and fishing effort statistics, and other data relevant to the conservation of fish stocks shall be contributed and exchanged on a regular basis through competent international organizations, whether sub-regional, regional or global, where appropriate and with participation by all States concerned, including States whose nationals are allowed to fish in the exclusive economic zone.

(3) Private-sector-led Fisheries Reform

In October 2006, the Japan Economic Research Institute (JERI) initiated a reform initiative, calling for the need to reform the fisheries legislative system and fisheries industry for the future of Japan's capture fisheries and fisheries industry. However, by this time, Western countries had already completed reform of their fisheries legislative systems, restoring resources and fisheries production and achieving positive results. This is why the productivity of Japan's fisheries and aquaculture industry is significantly lower than that of Australia and New Zealand. Compared to Chile, Norway and Scotland, the amount and value of salmon and trout aquaculture production per unit

operation is significantly low, ranging from a few tenths to a few hundredths of that of Chile, Norway and Scotland. The Bluefin tuna aquaculture production index per unit of operation is also significantly low, ranging from one-sixth to one-fifteenth that of Australia and other countries (see Diagrams 11 and 12).

Diagram 11: Comparison of Salmon and Trout Aquaculture Production in Major Countries

Comparison of salmon/trout aquaculture production in major countries	2020 (estimate)			2005 (estimate)			2020
Country	Chile	Norway	Japan	Chile	Norway	Japan	Scotland
Production (t)	1,069,862	1,485,761	14,908	601,000	602,000	13,000	192,130
Number of companies	18	174	59	45	210	80	8
Production per company (t)	59,436.8	8,538.9	252.7	13,355.6	2,866.7	162.5	24,016.3
Production value (\$million)	4,418	7,786	76.45	1,721	1,957	44.60	1,167
Production per farm (\$million)	245.4	44.7	1.3	38.2	9.3	0.6	145.9
Number of licenses	1,355	1,087	59*	486	760	80	281
Number of pens	3,769	4,434	220	11,200	8,027	242	
Tonnage per pen (t)	284	335	68	54	75	54	
Number of workers engaged in aquaculture	19,720*	7,103	177*	4,800	4,500	240	1,764
Production per person (t)	54	209	84	125	134	54	109
Unit price of salmon/trout (\$/kg)	4.13	5.24	5.13	2.86	3.25	3.43	6.07

Nippon Suisan Kaisha, Ltd. internal document

Source:

- Norway: Directorate of Fisheries, Norway (fiskeridir.no)
- Chile: Aquabench, Aduanas, SUBPESCA *Of the approximately 34,000 aquaculture workers, approximately 58% are estimated to be engaged in aquaculture production.
- Japan: Prepared by Nissui's internal documents, but venture capitals and small-scale operators are excluded. 7,092 million yen in 2020 (average exchange rate in 2020: 107.08 yen/\$)

*It is assumed that the number of fishery rights is equal to the number of aquaculture farms.

*The number of workers engaged in aquaculture is assumed to be three persons per management.

Scotland: <https://www.salmonscotland.co.uk/>

Diagram 12: Production of Farmed Bluefin Tuna

Comparison of Tuna Aquaculture in Each Country (Unit: ton)

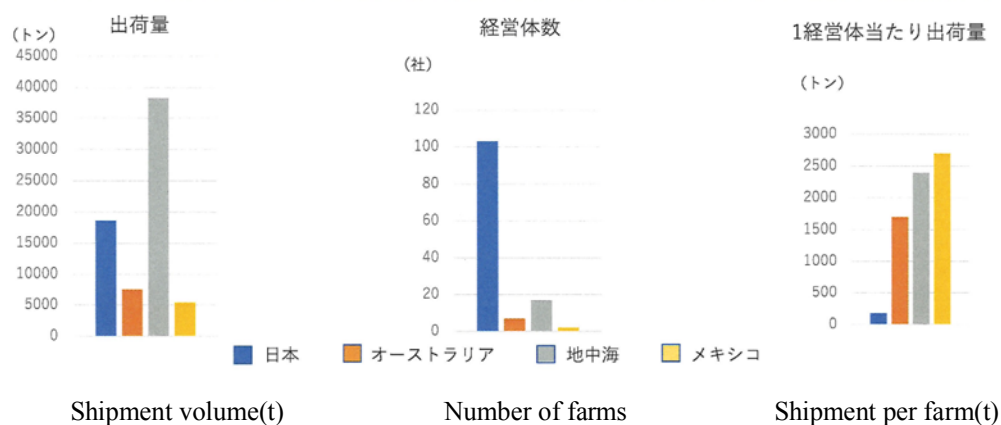
Country/Region	Number of farms	Shipment volume	Shipment per farm
Japan	103	18,609t (of which, artificial hatchery 3,000t)	180t
Australia	7	7,500t	1,071t
Mediterranean	19	38,300t	2,394 t
Mexico	2	5,400t	2,700t



各国マグロ養殖業の比較

5. 養殖会社の状況、各国・各地域の出荷量

国・地域	経営体数	出荷量	経営体あたり出荷量
日本	103社	18,609トン（うち人工ふ化3,000トン）	180トン
オーストラリア	7社	7,500トン	1,071トン
地中海	合計19社	38,300トン	2,394トン
メキシコ	2社	5,400トン	2,700トン



- Blue bar: Japan
- Orange bar: Australia
- Grey bar: Mediterranean
- Yellow bar: Mexico

Source: Presentation material of Mr Ken Sakai on 15 October 2021

In July 2007, the Fisheries Reform Committee of the Japan Economic Research Institute made recommendations for fisheries industry reform, which were composed of four pillars. In 2007, an "Expert Committee on Fisheries Industry" was established in the "Regulatory Reform Council of the Cabinet Office" to begin full-fledged reform discussions, and the government continued to reform the fisheries industry during the DPJ administration from 2010. However, its contents were described as effort goals and had no binding force.

In 2011, under the leadership of then Governor Hirohiko Izumida (now a member of the House of Representatives), an IQ-based fishery for northern shrimps (*Pandalus borealis*) was launched in Niigata Prefecture and proved effective. Subsequently, the Fisheries Agency launched a "Study Group on Resource Management" consisting of experts in 2014 and referred to the possibility of introducing IQs. The ruling Liberal Democratic Party also held a study group. The Fisheries Agency also clarified in the Fourth Basic Plan for Fisheries in 2017 that it would introduce an IQ system. Its progress, however, should be considerably accelerated.

(4) 2018 Amendments of the Fisheries Act, Far from Drastic Reform

In response to the lack of rapid progress, and because of the continued decline of the fisheries industry during this period, and the stagnation of reform efforts, the Japan Economic Research Institute's "2nd Fisheries Reform Committee" was launched in September 2017, and in September 2019, seven recommendations were released with specific and fundamental reform requests (see reference on page 3).

In the midst of these developments, in January 2018, then Prime Minister Shinzo Abe announced in his policy speech that he would introduce "management of resources by catch volume" and include "new entry into the aquaculture industry" in the fisheries industry reform.

However, more than three years have already passed since the partial amendment of the Fisheries Act in December 2018, and because of its inadequate content, effective policies to stop the decline and reduction of catches and decline of the Japanese fisheries industry have not been taken.

The shortcoming is that the institutional reforms have not been made from the perspective of reaching future target points.

(5) Needs for the 3rd Fisheries Reform Committee and its Objectives/Goal

In the meantime, the gap between Japan and the rest of the world continues to widen. In the world, developed countries are recovering their resources. This is because they have mandated fisheries and scientific data systems through reforms, established science-based fisheries legislative systems based on the data systems, and adopted resource management and regulatory laws and control systems under these legislative systems.

This partial revision has preserved fishery rights and voluntary restrictions on fisheries that have been in place since the Meiji era (1868-1912). The new scientific management based on MSY is also far from true scientific management, as it does not eliminate uncertainty (see note) due to lack of catch data and scientific survey data. As usual, the fisheries industry is declining due to policies centered on human relations among fishermen (coordination on fisheries among fishermen) and heavy use of fishery subsidies.

(Note) Uncertainty: ABC is set to the extent that overfishing does not occur based on the scientifically determined MSY and TAC is set below it. ABC also has its problems because lack of data makes it difficult to always accurately determine the stock of parent fish, natural mortality and parent-child relationships, etc., which causes scientific uncertainty.

ITQs have been effective in Europe and the United States. The introduction of this management method has lagged far behind in Japan. For this reason, the Committee intended to provide specific guidelines and measures for the introduction of ITQs to those concerned. In other words, the Committee has conducted a specific and detailed study of Japan's remaining important fisheries, namely bluefin tuna fisheries, which involve a wide range of fishermen from coastal fisheries and set net fisheries to large and medium sized purse seine fisheries, and which has attracted national interest due to its aquaculture industry and subsequent distribution and labeling issues. In Japan, in particular, a large number of small-scale fishermen (18,000 approved vessels) and purse seiners (approximately 20 vessels) that catch bluefin tuna seedlings, and, by global standards, the number of aquaculture operators (approximately 100 companies and operators) is also large. As a result, Japan's productivity is extremely low (see Diagram 12).

4. Key Issues Identified by the 3rd Fisheries Reform Committee

(1) Marine fishery resources shall be regarded as a “common property of nationals”, not as an “ownerless property” and shall be “managed by the national government etc.”

The provision that marine fishery resources are "ownerless property" dates back to the Meiji Era, when the Civil Code was enacted. The handling of natural and finite resources reflected liberalism and individualism at a time when the finite nature of fishery resources was not recognized. The provision states that movable property caught with the intention of ownership becomes the property of the person who caught the said property. The provision of Article 239 of the Civil Code is a "legal framework of clarifying ownership" and is a provision from an era when there was no concept and method of scientific management of natural finite resources. This is seen as having promoted the "race for fish," resulting in overfishing and the decline of resources. In addition, marine fishery resources are finite resources, and the so-called "tragedy of the commons" occurs in race for fish, resulting in a gradual decline in resources. In the Meiji Era, it was probably still recognized that the resources were not finite. With today's fishing vessels with improved fishing performance and capabilities, competition causes the "tragedy of the commons" to occur.

The United Nations Convention on the Law of the Sea recognizes the right of coastal states to establish 200 nautical miles as an exclusive economic zone. The UNCLOS stipulates that marine living resources within each country's exclusive economic zone shall be managed by the coastal state (UNCLOS, Article 61). In other words, it is the responsibility of the states to manage them. A provision which stipulates that the State shall be entrusted by the people to manage marine living resources based on the best scientific evidence was established.

In many countries, marine fishery resources, oil and mineral resources are defined as the "common property of the people" in their constitutions or fishery management laws, and the federal or state government is entrusted by the people to manage them. On the other hand, in the US, although marine fishery resources are defined as ownerless property, the "public trust doctrine" exists, which states that all citizens shall have an equal right to use natural blessings (natural public property) such as fishery resources, and that the management of such public property is originally entrusted by the people to the national and public entities. The federal government (or state government) manages the public property.

Natural resources are public property, and the "use of public property" is conceived of in terms of the form of use (three categories: "free use," "permitted use," and "patented use"). For example, "large-scale use" of resources is understood by some to be "patented use." Under the concept of "patented use," resource protection and sustainable use are to be realized through the active exercise of rational management rights by the state, which is the administrator of the resources.

Fishery resources are originally "everyone's property" and in that respect, they are "ownerless". It is necessary to regard fishery resources, one of the natural resources, as public property, and establish a system to manage and coordinate its use based on the legal principle of "public property".

Diagram 13: Fishery Resources

Natsuo Mihama's Fisheries Act public property management theory --- Focus on the coordination of the use of "sea surfaces" as public property ⇒ Fishery resources shall be recognized as public property.

The legal doctrine, that fishery resources are ownerless property and those who catch ownerless property become the owner of the said property, has been applied for a long time (i.e. preoccupation of ownerless property). However, this is applied to movable ownerless property. Are fishery resources that inhabit under the natural environment regarded as "property"?

The Civil Code Article 239-1 stipulates that ownership of movables without an owner are acquired by possessing the same with the intention to own.

Fishery resources are originally "everyone's property". ⇒ "ownerless"

Fishery resources, that are one of the natural resources, are regarded as "public property" = "public property" ⇒ A system to manage and utilize "public property" should be established in accordance with the legal doctrine of "public property".

*Fishery resources are freely used in the case of recreational fishery.

*Large-scale fisheries are operated by obtaining licenses. = The concept that licenses are equal to recovery of freedom is a classic understanding of the administration law.

(That's why regulations should be relaxed!) ⇒ However, is "freedom" a basic principle for such fisheries? "Patented use" of public property

Source: Presentation material by Dr Daisuke Miura, Professor of the Faculty of Law, Kanagawa University (partially revised)

In general, even if public property is owned by the state, it should be considered as common property of the people held in trust by the people. On the other hand, there is a view that objects other than those subject to ownership under the Civil Code (e.g., oceans, rivers, and running water) can be controlled by the state, and that the state's ownership rights over these objects are called "public ownership" and are the basis for the state's right to control these public objects. If marine resources in their natural state are also subject to public ownership, then they should be placed under state ownership = state control. However, "state ownership" in this context is nothing but the common property of the people, and should be understood as the property of all. (Daisuke Miura, Professor, Faculty of Law, Kanagawa University)

So far, the Committee has taken the view that fishery resources should be managed by the state, and it is appropriate to position their management as part of the management of public property. However, since fishery resources, unlike ocean and river water, can be bought and sold and are subject to ownership rights under the Civil Code (the same as agricultural products and mineral resources), it is necessary to change the interpretation of their treatment from "ownerless property" to "natural fruits" and clearly state in the New Fisheries Act and New Basic Fisheries Act that "the ocean and fishery resources shall be the common property of the people" (Japan Economic Research Institute, "2nd Fisheries Reform Committee Final Report (Recommendations)").

(2) "Resource management based on scientific grounds to avoid overfishing and make profits" under the UNCLOS

Fisheries adjustment, as stipulated in the Fisheries Act, is the rulemaking of people-to-people agreements that put the results of fishermen's discussions above the rules of management of marine living resources and fisheries. As a result, it has been able to control and mitigate conflicts and confrontations among fishermen, but it has failed to protect the quantity and diversity of marine living resources and has only made them worse.

The UNCLOS (Article 61, paragraph 5) defines what constitutes the "best available

scientific information" (i.e., statistics on catches and catch effort, etc.). It then provides for the determination of the amount that can be caught (UNCLOS, Article 61, paragraphs 1 and 2). It then states that MSY can be achieved by taking into account relevant environmental and economic factors (UNCLOS, Article 61, paragraph 3). The Fisheries Agency and the research institutes currently stipulate that there is a "50% chance of achieving MSY with a target of 10 years", which scientifically and statistically indicates that there is also a 50% chance that the stock will deteriorate without achieving MSY.

In addition, although the ABC is to be calculated based on MSY, it is still limited to 20 fish species and stock groups. In Europe and the US, ABCs are calculated for 50 to 200 fish species and stock groups and TACs are determined.

(3) From a fishery right system to the introduction of a fisheries license system which is managed directly by the national and prefectural governments.

The fishery rights system is a system under which prefectural governments license fishermen who belong to fisheries cooperatives (common fishery rights, set net fishery rights and demarcated fishery rights). In the past, there were as many as one million fishermen, and it was physically difficult for the government to manage them, so the fisheries cooperatives were entrusted with the management of these rights for the purpose of adjusting and arbitrating fishery disputes among their members. Today, however, the number of fishery workers has declined significantly. The number was 1 million immediately after World War II (said to have been 3 million in the Taisho Era), but is now about 136,000 (statistics from the Ministry of Agriculture, Forestry and Fisheries' Fishery Structure Survey in 2020), and it is declining further. In the first place, marine fishery resources should be managed responsibly by the national or prefectural (local) government.

It is legally appropriate and in line with actual conditions for coastal fisheries to be managed by local governments, which are public organizations, rather than entrusting the management of coastal fisheries to fisheries cooperatives, which are private organizations organized by fishermen. Therefore, the fishery rights system should be phased out and a license system should be introduced whereby prefectural governments directly grant licenses to fishermen.

Diagram 14: Present situation of utilization of marine fishery resources

Fishery resources
<ul style="list-style-type: none">• Caught under the basic principle of “preoccupation of ownerless property”• Licensed fisheries by the MAFF Minister or prefectural governor (Managed by TAC, partially by IQ)• Fisheries by fishery rights granted by prefectural governor (Managed by TAC partially: set-net fishery of Bluefin tuna)• Free fisheries without licenses
Coastal fishing grounds
<ul style="list-style-type: none">• Priority use of fishing grounds nationwide by only 136,000 coastal fishermen• Coastal fishermen jointly acquire fishery rights and use large coastal waters exclusively.• Local fisheries cooperatives are responsible for environmental conservation of fishing grounds and management of production.• Many fishery rights are granted to fisheries cooperatives as collective fishery rights.• Local fisheries cooperatives misunderstand that they own the sea areas which they manage.
Fishing port facilities
<ul style="list-style-type: none">• Only 136,000 coastal fishermen use the fishing port facilities exclusively.• Coastal fishermen exclude outsiders and recreational fishermen and do not allow mooring of recreational boats at fishing ports.• Local fisheries cooperatives are appointed as organizations that manage fishing ports.• Local fisheries cooperatives consider that they own the fishing port facilities.

Source: Mr Hiroshi Izumisawa, President, Ajiro Gyogyo Co., Ltd.

Fisheries cooperatives lack science and resource management experts, and are not equipped to conduct resource management in a scientific manner. Also, in light of the purpose and intent of international treaties, which state that coastal states have exclusive jurisdiction, it is not appropriate for fisheries cooperatives, which are organized by fishermen, to intervene in the management of marine fishery resources. The "management" of marine fishery resources also includes monitoring and policing those resources for the benefit of the public. In light of these functions, it is appropriate for the national and prefectural governments to manage marine fishery resources in the

same way as in Western countries, and to introduce a license system to directly give fishermen the right to catch fish.

Regarding aquaculture, the Chilean government (Ministry of Defense) grants licenses to fishermen and companies for aquaculture operations, approves the area of marine aquaculture, and the total amount of salmonids farmed by marine farm. In addition, there are strict environmental and sediment protection requirements. In addition, the license can be changed or revoked if fish diseases occur. In Norway, the Ministry of Trade, Fisheries and Coastal Affairs grants licenses to fishermen and companies on condition that the marine environment be protected.

“The current fishery rights system is basically a local and closed system. Therefore, it is a system that cannot cope with today's open social economy. Idle fishing grounds that are subdivided and reserved for specific persons are one of the factors hindering the modernization and development of the fisheries industry and accelerating the decline of local fishing communities. A typical example of this is the phenomenon of Japan's stagnation of the marine aquaculture industry. Almost 100% of the aquaculture grounds are covered by common fishery rights. Even if the Committee insists on adjusting fisheries (in the idle fishing grounds) from a public interest standpoint, the fisheries cooperatives are the organization that manages the common fishery rights. Therefore, while there is an issue of the composition of the Sea Area Fisheries Adjustment Committee members, etc., even if there is a sea area suitable for aquaculture and a request is made to exercise new fishery rights there, if the fisheries cooperative expresses an objection, it will not be practically possible.” (Makoto Arizono, Fisheries Analyst)

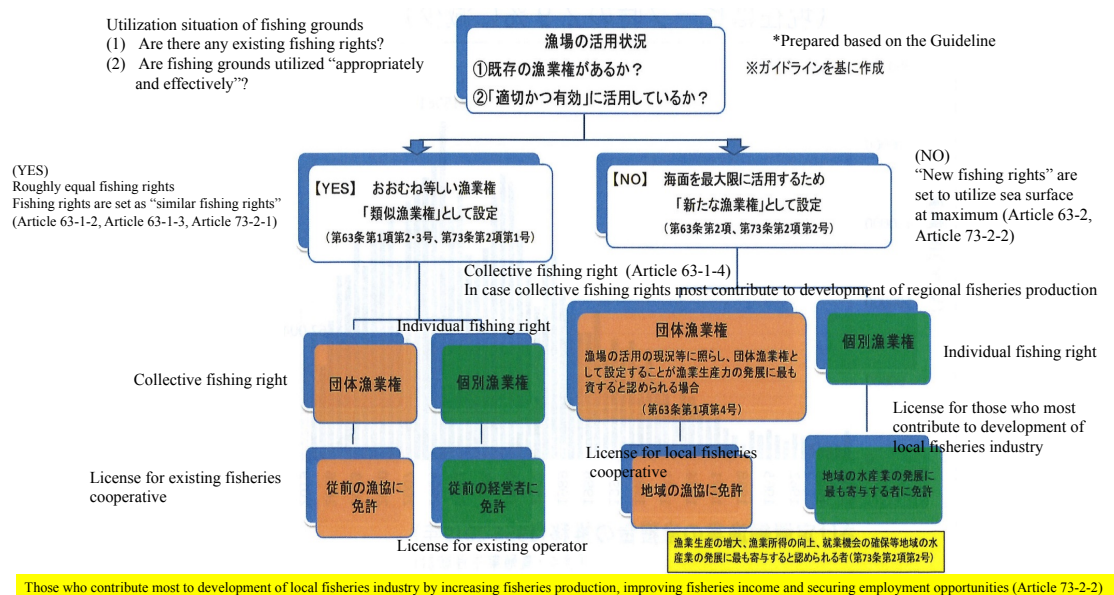
(4) Fishery right and Property Right

① Fishery right and limit of “appropriate and effective” use of fishing grounds

With regard to fishery rights, the Fisheries Act was amended to abolish the priority system of fishery rights and fishery rights are granted to those who use fishing grounds "appropriately and effectively" (it also institutionalized the "revocation of fishery rights" in case fishery rights are not used appropriately and effectively). The Fisheries Act states that "fishery rights shall be deemed as property rights, and the provisions concerning land shall apply mutatis mutandis", but the reality of the fishery right is the exclusive right to fish in the waters in question. Fishery rights are granted by administrative action of the administrative agency, and at the same time, they are

subject to various restrictions due to the institutionalization of the "appropriate and effective use" requirement. In the future, "the positioning of fishery rights as property rights may be a subject for discussion." (Dr Daisuke Miura, Professor, Faculty of Law, Kanagawa University).

**Diagram 15: Process of Setting Demarcated Fishery right
(Guideline concerning Sea Surface Utilization System etc. – Fisheries Agency)**



Source: Presentation Material by Mr Makoto Arizono, Fisheries Analyst, on 16 July 2021

② Shift of fishery rights to a license system and handling of property rights

Currently, fishery rights are regarded as "property rights" and the provisions of "land" under the Civil Code are applied mutatis mutandis to grant strong rights such as the "right to claim exclusion of disturbance," which has given fishermen the misconception that "the sea belongs to them". Fishery rights are not the right to own or control the sea, but should be regarded as "business rights" as the right to operate fishing and aquaculture businesses. In other words, the grant of a "Statutory Fishery right" under Australia's Fisheries Management Act 1991 is deemed appropriate. Therefore, even if coastal fisheries are replaced from the system of fishery rights to fishing under the license system (even under the "business rights"), compensation can be claimed for development and other obstructions, and it is considered possible to demand removal of obstructions based on the "business rights = possible future profits" when obstructions to business rights are anticipated.

A) Legal basis for fishing licenses learned from the Australian fisheries system and ITQs

At the fourth Committee meeting, Mr David Carter, CEO of Austral Fisheries Pty Ltd, explained "Property Right" (a concept used in economics to determine how resources and economic goods are used and owned) as follows:

“Property rights” can be regarded as attributes of economic goods, and these attributes include the following three rights:

- The right to use goods
- The right to obtain income from the goods
- The right to transfer, modify or abandon the above rights to any other person

These, powerful property rights underpin all of our activities. These rights are permanent, transferable, and related to both individual transferable fishing effort (ITE) and ITQs in various fisheries. Strong property rights allow operators and fishermen to align their self-interests with community expectations." This property right is interpreted as the very "business right (right to operate)."

B) License systems for aquaculture in Norway and Chile

The license systems in Norway and Chile were further discussed at the 2nd Fisheries Reform Commission. In both countries, aquaculture is practiced under a license system.

Norway's Ministry of Trade, Fisheries and Coastal Fisheries issues licenses to companies and fishermen. In such cases, the size of the farm and the quantity of farmed fish (780 tons per fishpond, or 980 tons in the northern region of Finnmark) are licensed, and the maximum licensed quantity is also set at around 10,000 tons.

In Chile, the licensing of aquaculture operations is done by the national government. The Ministry of Fisheries is responsible for business licensing, while the Ministry of Defense (Ministry of Military Affairs) is responsible for the space of aquaculture farms.

In both countries, licenses are issued on a state or regional basis, but because the national government is in charge of granting licenses, they are able to respond quickly to changes in the aquaculture environment and to supply and demand for aquaculture

production.

C) Additional conditions for permit system; Norway and Chile

In Norway and Chile, conditions are attached to the issuance of aquaculture licenses. In the case of Norway, when the aquaculture industry was first developed, its market was the EU, and the number of licenses was determined by assessing supply and demand, and then the overall number of licenses, i.e., the overall amount of aquaculture. In Chile, too, licenses have been issued while closely examining the environment in Regions No. 10, No. 11 and No. 12 in the southern region of Chile, but as a result of frequent outbreaks of fish diseases, strict regulations and environmental standards were imposed on the aquaculture volume. In particular, the most recent strict requirements are based on the pollution of the bottom sediment and oxygen content of the seabed. Norway has also been reducing or increasing the amount of aquaculture since 2017, by the degree of compliance, with the reduction of sea lice infections as an indicator.

In the case of Japan, there are no environmental protection regulations with respect to licenses for aquaculture. It has been pointed out by the Committee from an economic perspective that when aquaculture is operated on a small-scale egalitarian basis through fishery rights, external diseconomies to the environment, i.e., discharge and disposal of pollutants from the aquaculture farms, are likely to occur.

(4) Prompt introduction of transparent ITQs

- ① With the introduction of TACs and ITQs and their monitoring and enforcement systems, other countries have already transformed fisheries into a sustainable and promising industry. Norway was quick to stabilize mackerel stocks, which were overfished in Japan at that time, under the ITQ system, promote exports and sales in a way that meets the demands of the Japanese market and other markets, increase trade value, eliminate wasteful operations and costs, stabilize and sustain the stocks, and make the industry a viable one with management prospects into the future. As a result, there is a gap between Japan's stock level of mackerel and fishery management capability and Norway's. The Japanese Fisheries Agency contributes large amounts of fisheries subsidies to fund the building of fishing boats and to compensate for losses in fisheries operations, whereas in Norway, no subsidies are provided.

Diagram 16: Difference between mackerel prices in Japan and Norway

Increase fish prices: Comparison of mackerel prices between Japan and Norway in 2020				
	Production	Production value	Unit price	Remarks
Japan	380,000t	¥42 billion	¥110	Exported at half the imported price
Norway	210,000t	¥36 billion	¥170	

	Export volume	Export value	Unit price	Remarks
Japan	170,000t	¥20 billion	¥120	45% of production exported at low price
Norway (for Japan)	60,000t	¥13 billion	¥220	Imported at double the import* (sic) price
Norway (total)	290,000t	¥60 billion	¥210	
*Norway: Export volume includes production by EU vessels NK=¥13 The unit price for Japan's mackerel exports is half that of Norway. Japan imports mackerel from Norway at double the export price.				

Source: Export Statistics of Norway (Presentation material by Mr Ken Ikemi on 16 July 2021)

There are currently examples of IQs being implemented under private sector-based arrangements for the North Pacific Ocean purse seine fishery, which is part of the large- and medium-scale purse seine fishery that primarily catches Japanese pilchard and chub mackerel. This fishery has seen an increase in the size of vessels in recent years, leading to overcapacity and over-investment throughout the industry.

② Bluefin tuna ITQ and group holdings of ITQs

The bluefin tuna fishery is in a state of overfishing effort, with about 20,000 fishermen receiving an allocation of about 8,000 tons of catch quota (large and small fish). In order to integrate and rationalize the management of the fisheries, it is necessary to introduce and utilize ITQs. As a leading example, the

cooperative management system by groups in the Bering Sea and New England in the US and the southern bluefin tuna fishery and aquaculture industry in Australia, and the collaborative and vertical integration of fishing, aquaculture, marketing and bait catch through the integration of ITQs are instructive examples for reference. IQs are also implemented in the northern shrimp fishery in Niigata Prefecture under Niigata Prefecture regulations. As for the latter, under administrative guidance and supervision, the "transfer of surplus catch quota from one fisherman to another" has already taken place and the catch quota is being effectively utilized. The major issue for Japan is why we do not learn from successful examples and proposals for reform both overseas and in Japan. It would be desirable to learn from the above successful examples, but fishermen and fisheries cooperatives tend to be reluctant to take new initiatives under the small-scale equality system.

- ③ After the release of interim recommendations, the Committee will examine a method to manage the fishing of non-migratory abalone, sea urchin, and sea cucumber in the coast through ITQs by organizing and integrating a small number of fishermen who catch them.

(6) Various aspects of ITQs

- ① Large- and medium-scale purse seine and set-net fisheries and their relationship with coastal fisheries (special consideration for coastal fisheries in particular): From the viewpoint that the administration should focus on marine living resources (fish species, etc.) beyond the boundaries of fishery types, the Committee took seriously the reality that the management and allocation of resources have not been well managed and maintained by the administrative boundaries between large-scale and small-scale fishery types, and that a sense of distrust has been developed and maintained among fishermen. Recognizing that this should be resolved as soon as possible, the Committee is of the opinion that consideration should be given to small-scale coastal fisheries by the larger fisheries.
- ② In light of ① above, it is necessary to promptly implement administrative management that transcends boundaries, including a shift to fisheries and fishery administration that transcends the boundaries of fishery types and management of catch quotas beyond the scope of fishery types.
- ③ Benefits of group ownership of IFQs following the US:

To facilitate the exchange of information and to promote cooperation and trust, the IFQs set forth the relationship between i) cooperation by mother vessels and fishing vessels, ii) engineering trawlers, and iii) base-type fishing vessels and shore-based plants.

In the Bering Sea, base-type fishing vessels are able to know the status of their mother vessels' operations for the last two to three days. In other words, the name of the fishing vessel can be identified by the Automated Information System (AIS) and other means, and what the fishing vessel is doing can be tracked in "real time". In the US, it is an old-fashioned and outdated idea that fishermen do not want other fishing vessels to know their operations, and the level of awareness of individual fishermen has been improved and refined. Bycatch data is also maintained by both mothership and engineering vessel companies and base-type vessel companies. This transparency was brought about by the American Fisheries Act (AFA). The degree of transparency is so high that it is trustworthy and no one doubts its authenticity. Fishermen now believe that transparency of information is more efficient and more profitable than operating by concealing information.

What is the cooperative fishing system for the Bering Sea Alaska pollock fishery?
Key Regulations for Alaska pollock:

- Total catch limit: The annual catch limit for Alaska demersal fish as a whole is 2 million tons (a self-imposed limit set by the North Pacific Fishery Management Council (NPFMC), the conservation and management organization for the Alaska pollock fishery).
- Foreign ownership regulation: The maximum percentage of foreign equity ownership in US fishing vessels is 25%.
- Fishing regulations: Fishing by the vessel with 10% of more equity ratio is prohibited to exceed 17.5% of the total Alaska pollack quota on a company-by-company basis.
- Production restrictions: Production which exceeds 30% of Alaska pollack TAC on a company-by-company basis is prohibited.

Outline of cooperative fishery (catch share) of Alaska pollack in the Bering Sea:

- The US Fisheries Promotion Act 1998 was enacted to prohibit the transfer of foreign fishing vessels and promote the rational operation of the Alaska pollock fishery, and the Magnuson-Stevens Fishery Conservation and Management Act

(MSA) clearly stipulates science-based management of fisheries in the law.

- A cooperative fishery system, that jointly own fishing quotas, is introduced, whereby the Bering Sea pollock quota will be 86% of the total pollock quota, after subtracting 10% of the six Community Development Quotas (CDQs) for indigenous groups and regional development, and approximately 4% of the bycatch quota for other fisheries. The 86% of the quota is allocated to six companies in the onshore sector (50%), seven companies in the offshore sector (40%), and three companies in the mother vessel sector (10%).
- The companies (vessels) belonging to each sector form a cooperative to cooperate in the fishery.
- It eliminates the possibility of federal and state administrators and scientists making decisions on their own, leaving decisions to the Regional Council for Fisheries Management (Regional Council).
- It creates a situation where decisions cannot be made by representatives of specific interests, thus maintaining fairness.

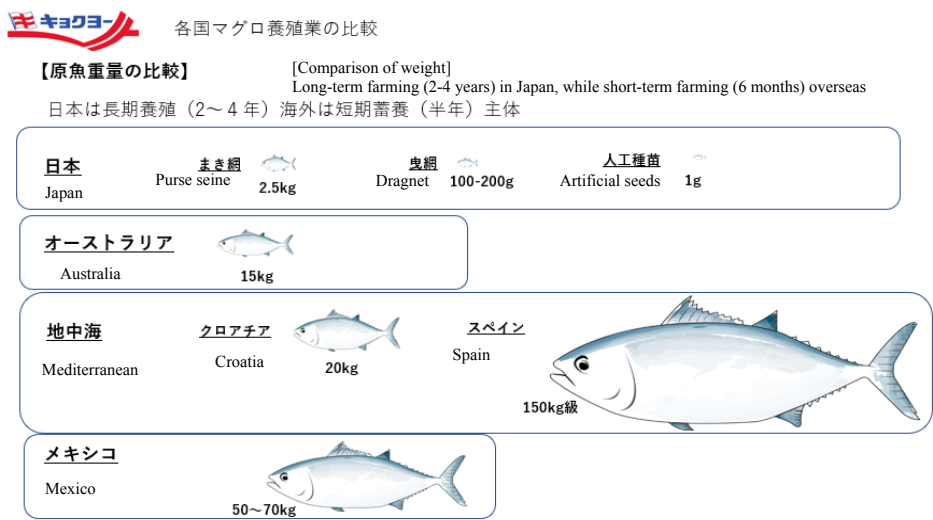
(Mr Shingo Hamada, member of the Committee)

④ Group catch quota holding and introduction of an on-line system:

A quick and transparent method of transferring quotas is possible by establishing and operating an online system that allows quick and universal access to the results. It is important that the online system be shared by all fishermen participating in the ITQ system, and if a group is formed, a company responsible for organizing the group should be designated. The status of transfers, quota utilization, and remaining quota should be reported to the Fisheries Agency and prefectural governments at set deadlines.

⑤ Regarding the comprehensive management of bluefin tuna catch quotas and structural reorganization of the fishing and aquaculture industries (possible horizontal and vertical integration) learning from the US and Australia, as shown in Diagrams 17-19, thousands of numerous small-scale fishermen and aquaculture companies are involved and administer large amounts of live bait in Japan. In Australia, on the other hand, only seven companies are involved in the management of the fishing and aquaculture industries, and these seven companies also own the rights to the majority of the catch in terms of feed procurement, resulting in efficient management.

Diagram 17: Difference in fish size when aquaculture started and at the time of shipment



Source: Presentation material of Mr Ken Sakai on 15 October 2021

Diagram 18: Comparison of tuna farming in different countries

Region	Method for procurement of fish (mainly purse seine)	Farming period	Weight at the time of shipment
Japan	<ul style="list-style-type: none"> - Purse seine, dragnet and artificial seeds (combined) - Mainly by purse seine as catches by dragnet fishery are not stable - Japan is the only country which procures artificial seeds. - Purse seine: approx. 2.5kg, 2-year old fish (West Kyushu area) - Dragnet: 100-200g fish (West Kyushu and off Shikoku) - Artificial seeds: 5cm, approx. 1g fish 	2-4 years (long-term farming)	40-100kg (some large-size fish)
Australia	<ul style="list-style-type: none"> - Purse seine - Approx. 15kg (Great Australian Bight area) 	6 months	25kg mainly
Mediterranean	<ul style="list-style-type: none"> - Purse seine - Large-size fish at 150kg during spawning season (off Spain, off Libya) - Medium-size fish at 25kg (Adriatic Sea, off Croatia) 	6 months 1.5 years in Croatia	220kg mainly 60kg in Croatia
Mexico	<ul style="list-style-type: none"> - Purse seine - 50-70kg off Mexico - Larger-size fish recently due to improved fishing methods - Weight of fish increased from 10kg to 70kg 	1 years	80-120kg

Source: Presentation material of Mr Ken Sakai on 15 October 2021

Diagram 19: Comparison between Japan and Australia

	Australia – SBT	Japan – Bluefin tuna
Comparison between Japan and Australia Vertical integration	<ul style="list-style-type: none"> • ITQ plays its role although the Australian Government does not recommend ITQ as policy. • Both capture fisheries and aquaculture introduce a license system and ITQs. • 7 company framework • 20kg tuna is raised to 38kg for shipment. • By feeding 38,500 tons of feed, weight is increased by 4,500 tons. (upper limit 10,500 tons) • Three companies cooperate in market development of SBT products. • These three companies share the use of fish searching equipment, aircraft and farming grounds. 	<ul style="list-style-type: none"> • Capture fisheries are conducted by fishery rights (permission system) and aquaculture is operated by licenses through fisheries cooperatives. The latter lacks flexibility. It is costly and requires time for procedures. Integration is impossible institutionally and practically. • Aquaculture is operated by fishery rights and there are many aquaculture operators. • 20 purse seiners operate capture fisheries and there are many coastal fishermen. • Approx 200,000-300,000 tons of feed is administered. → 19,584 tons (2019) • Some companies catch fish through affiliated companies. 60kg fish is raised to 100kg for shipment.

Source: Dr Masayuki Komatsu, Chairman of the Committee

[Reference]

Short-term tuna aquaculture, the securing of feed, and the vertical integration of capture fisheries and aquaculture businesses

Possibility of short-term farming of tuna and recommendations:

Short-term aquaculture of tuna is mainstream in other countries and is superior to long-term aquaculture in terms of resource conservation (tuna and feed fish species), production efficiency, and risk management. It is also easier to manage TAC accurately and may enhance sustainability of marine fishery resources based on scientific evidence (implications for MSY-based TAC management).

Short-term aquaculture from after spawning is ideal for maximizing tuna stocks, and catch share by regional sector fisheries such as purse seine and set-net fisheries by introducing ITQs could be an effective method of operation. If we consider collaboration with local coastal small-scale fishermen, the potential for short-term aquaculture will expand, and the effective use of ITQs will increase the possibility of contributing to the revitalization of local communities (planned production and high value-added production).

While strengthening and improving TAC management, which is output management, the carrying capacity of fishing grounds should be determined biologically. (Mr Shingo Hamada: excerpts)

(7) Fisheries policy and enlightenment of consumers by respecting international agreements and international treaties

It is necessary to adopt a domestic fisheries policy in Japan reflecting and respecting international agreements and treaties. To this end, it is also necessary to provide the general public and consumers with information to educate them and help them understand the certification system and labelling. This will be discussed by the Committee after the announcement of the interim recommendations and reflected in the final recommendations.

① SDGs

The UN Sustainable Development Goals, adopted in 2015, include 17 targets to be achieved by 2030 at the latest. SDG 14 (protect the abundance of oceans) is the one related to oceans and coastal zones, while other provisions include SDG 6 (safe water and toilets worldwide), which calls for "protection and restoration of ecosystems related to mountains, forests, rivers, aquifers and groundwater, lakes, etc." SDG 15 (protect the abundance of land as well) also calls for "the conservation, restoration and protection of ecosystems". Only when these are restored and protected can the marine living resources of coastal areas and oceans be protected and restored, and marine living resources can be used sustainably.

② Resilient marine ecosystems and measures to address global warming:

Sustainable use of marine living resources is also something that should be communicated to consumers. Japanese consumers tend to be particular about domestically produced products, and tend to judge that this equates to food safety and 'peace of mind'. Compared to consumers in other countries, Japanese consumers have a low level of understanding and awareness of the health and sustainable use of marine resources.

In addition, the degradation of coastal marine ecosystems, the impacts of global warming on marine ecosystems and fishery resources, and the understanding of aquaculture environments and carrying capacity of the environment have been

studied at an advanced level in Chile, Norway and the United States, and have been reflected in administrative policies or are being improved. In terms of the relationship between marine ecosystems and fisheries, elucidating the biological characteristics of seabirds and cetaceans, which are at the top of the food chain, from viruses to plankton, etc., is also important for understanding the structure of marine ecosystems and changes in the structure of the ocean. The SDGs also point out the importance of obtaining ecosystem data and information.

However, while interest in global warming and climate change has increased globally and in Japan, particularly with regard to carbon dioxide (CO₂) emission regulations, the awareness of the danger of ocean pollution and ocean warming and acidification is much lower than the interest in the atmosphere. In addition, while interest in forests has increased through CO₂ absorption, interest and scientific analysis and evaluation of the ocean's ability and function are low, even though the ocean also has such capabilities and functions.

Improvements in the marine environment and river ecosystems have a significant impact on the promotion of capture fisheries and the fisheries industry, so efforts to improve these must also be emphasized.

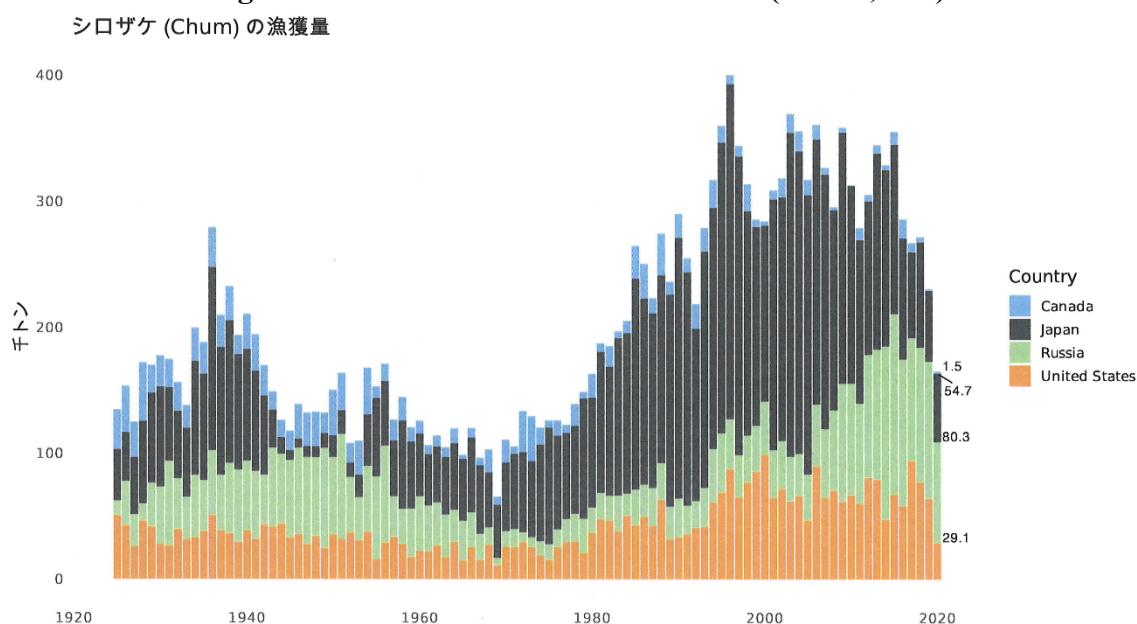
There has been no significant improvement in the stock status of bluefin tuna (4.1% of the initial abundance before the fishery began). The Western and Central Pacific Fisheries Commission (WCPFC) has adopted a management approach based on the probability of recovery of the parent fish. The North Pacific Fisheries Commission (NPFC) has seen a marked deterioration in Pacific saury resources, a species subject to management by the NPFC. Japan's catch in 2021 was at a record low of 18,291 tons (as announced by the National Pacific Saury Stick-held Dip Net Fishery Cooperative Association), but an excessive TAC (155,335 tons) was agreed to by the NPFC. The situation is observed that international organizations such as the NPFC are not functioning properly.

(8) Return to natural spawning under river ecosystems

For salmon migrating in the North Pacific Ocean, including Alaska, there has been a marked decline in recent years in the return of salmon to Japan and the continental coast of the United States. In Japan, the peak was reached in 1996 at 285,000 tons and recently declined to 55,900 tons (2020). Salmon returns have declined to about 40%

of their peak in the coast of Hokkaido facing the Sea of Okhotsk, and to less than 10% in Honshu. Such salmon return declines are significant in Japan, Canada and in Washington, Oregon and California in the US. These current situations and problems will be further discussed by the Committee after the announcement of the interim recommendations and beyond.

Diagram 20: Production of Chum Salmon (unit: 1,000t)



Source : North Pacific Anadromous Fish Commission (NPAFC) 2021

In Iwate Prefecture in 2021, only 11% of spawning numbers were achieved relative to the planned volume. This is a devastating phenomenon. On the other hand, Alaska is reported to have good catches of sockeye and pink salmon. The difference between the areas of stable and declining returns can be seen in the Bering Sea region of Alaska that relied on natural spawning, while others, such as the west coast of the United States and Japan, relied on hatchling and release, and urbanization made it impossible for the river ecosystems to maintain their natural environment.

(9) Impacts of subsidies on resource levels and economic efficiency and fisheries budget

The current fisheries policies and budgets based on the Fisheries Basic Plan under the Fisheries Basic Act and the Long-Term Plan for Fishing Port and Fishing Area Development under the Fishing Port and Fishing Area Development Act mainly focus on coastal fishery policies, income compensation for coastal fishermen, fisheries

cooperatives and construction of fisheries infrastructure such as fishing ports.

The initial "fisheries budget" is about 200 billion yen, but among the fisheries sectors, too much emphasis is placed on coastal fisheries and public works projects, while offshore fisheries and the seafood processing industry were not allocated adequate amounts of money. In particular, the seafood processing industry, whose production value is almost as much as that of the fisheries industry, received only about 1 billion yen in the budget. In addition, there is a lack of budgets for scientific research of fishery resources and scientific research vessels. The nine fisheries research institutes have been consolidated into two, the number of scientific research vessels has been reduced, and the subsidy for operation of the "Japan Fisheries Research and Education Agency" has been cut year by year, making basic research and the research on future challenges difficult to conduct. In addition, Japan lacks innovation to develop advanced technologies, closed-circulation land-based aquaculture (RAS; Recirculating Aquaculture System), and introduction of IT for fish catch reporting, etc., as well as seafood transportation and storage methods to reduce CO₂, a fish catch data collection system related to MCS, an observer system and a domestic monitoring and enforcement system.

The Committee has already pointed out in the 2nd Fisheries Reform Committee that this is a deviation from the policy and budget structure and content for fisheries for the benefit of all the people.

Both the LDP Fisheries Division and the national government should listen to the opinions of the public at large, consumers and scientists in order to quickly break away from the process of fisheries policy formation that places too much emphasis on coastal fisheries. As a result, budgetary resources can be allocated to other important matters.

(10) Non-sustainable subsidies

One of the most important challenges for Japan is to move away from non-sustainable subsidies (direct compensation and compensation payments for losses to share costs) such as the ¥60 billion fishery mutual aid compensation payment. Compensation payment for losses to fishermen (including direct payments from TEPCO to compensate for losses in offshore fishery and sea squirt aquaculture in Fukushima), while providing temporary management support, essentially promote the maintenance and increase of excessive fishing effort and further deterioration of fishery resources, and prevent

fishermen from making cost reduction efforts and becoming independent.

Regarding the economic effects of subsidies, under the absence of proper resource management centered upon output control, fishermen increase their fishing effort as the cost of fishing decreases due to subsidies, which temporarily increases their profits through increased catches, but the increase in catch leads to the deterioration of fishery resources, and the productivity of the fishery declines. In other words, the introduction of subsidies, which are compensation payments for deficits, will further deteriorate fishery resources and fishery management (see Diagram 6). Note that under proper resource management, fishery resources are abundant, fishery productivity is high, the fisheries industry can make profits, and there is no need for subsidies.

WTO and SDGs call for the "elimination of fisheries subsidies that promote non-sustainable fishing practices". Fisheries compensation payments, such as Japan's fisheries mutual aid compensation payments, are seen as falling under this category.

(11) Need for reform of political and governmental policy-making systems

Too much emphasis is placed on coastal fishermen and fishery organizations in policy making and budget allocation by politics and government. Therefore, it is necessary to change the system to the one that is widely understood by the public and incorporates a scientific perspective, reflecting the opinions of the seafood processing and distribution industries and general consumers, as well as the needs of scientific research institutions. A comprehensive and drastic budget restructuring and new legal system should be established. The limited amendments of the Fisheries Act in 2018 have not yet halted the decline of our nation's capture fisheries and fishery industry. Thus, the decline of Japan's capture fisheries and fishery industry is still ongoing. The Committee would like to make specific recommendations on what the fisheries budget and the new fisheries law system should look like by holding discussions from now on.

(12) Catch reporting, observers, monitoring, compliance with laws and regulations, and surveillance (MCS)

- ① In other countries, for example, laws have been developed, catch reports, observer systems, and MCS have been enhanced, and monitoring and enforcement both at sea and on land have been strengthened, with stricter penalties. In addition, with the implementation of the catch share program, the US government is even collecting and analyzing economic data. Furthermore, the future challenge will be

to deal with marine products imported from overseas.

② Response to Domestic Catch Measurement Violations, Theft and Certification Violations:

Fishing vessels should measure their catch on board and record the weight and number of fish caught, as well as the species, sea area, and method of fishing. The general principle is that larger vessels should have a scientific observer on board (other vessels may convert to having more than one video camera on board if a certain rate is ensured). In addition, on smaller vessels where space is scarce, multiple video cameras (the video cameras should be installed by scientific observers or government officials, not the vessel owner, and the vessel owner should not be involved in their operation) should be installed on board.

Basically, the violations of weighing by specific fishery cooperatives, etc., should be addressed by making the submission of catch reports mandatory, strengthening the MCS and introducing an observer system and toughening penalties. Weighing at the time of catch landing should be carried out by government officials or persons appointed by government officials in accordance with the provisions of the law, as in Europe and the U.S., instead of fisheries cooperatives.

- The catch weighed on board the vessel and at the landing site should be cross-checked.
- A first purchase record should be submitted by the purchaser of the catch being hauled out after weighing.

③ Enhancement of MCS:

MCS stands for Monitoring, Control, and Surveillance, terms commonly used by regional fisheries management organizations and the Food and Agriculture Organization of the United Nations (FAO), and discussions are underway to implement and strengthen them (see Diagram 21).

Diagram 21: Monitoring, Control and Surveillance (MCS) of Fisheries

MCS=Mechanism to implement policy, plans and strategies for management of the ocean and fishery resources	
① Monitoring	<ul style="list-style-type: none"> • <u>Collect, measure, and analyze fishery information</u> such as catch, species composition, fishing effort, discards, and area of operation • Components: Offshore monitoring and on-site inspections, observers, VMS, satellite imagery, remote video, monitoring at ports, logbooks, inspections by aircraft, checking sales slips, etc.
② Control	<ul style="list-style-type: none"> • <u>Clarify the conditions and circumstances under which a stock is allowed to be fished and fishery operations are allowed</u> • Components: <u>Adequate and enforceable legislation</u> necessary to implement the Resource Management Plan (license, fishing vessel, fishing gear, mesh size, area for prohibition of fisheries, area for fisheries operations, TAC, IQ, ITQ, TAE, catch size, regulations for unloading ports, monitoring, regulations concerning <u>transfer of fish from one boat to the other, distribution and processing</u>, etc.) <p>* In Norway, buyers are also obliged to weigh and submit legal sales slips.</p>
③ Surveillance	<ul style="list-style-type: none"> • <u>National laws and conditions, access conditions, checking and monitoring of fishing activities, transport and markets to ensure compliance with management measures, law enforcement</u> (suspension of fisheries, order to call port, seizure of fishing gear and landings, temporary suspension or confiscation of fishing vessels, suspension or revocation of licenses) • Components: National headquarters for coordination, central operations office, communication systems, computer data systems, equipment (aircraft, ships, satellite imaging technology, radar, GIS), etc.

Source: Presentation material of Dr Isao Sakaguchi, member of the Committee, on 21 January 2022 (partially revised)

Diagram 22: Needs for Effective Improvement of MCS

- It is not possible to manage fishery resources by stipulating MSY for resource management in the amended Fisheries Act.
- As offshore monitoring is difficult, heavy penalties and a large budget are required for monitoring and enforcement.
- It is necessary to legislate legal obligations and penalties for buyers (processing and distribution industries).
- Transparency, fairness, thorough consultation, and opportunities for appeals are needed in the initial allocation of IQs, but the preceding bluefin tuna quota allocation process totally lacks these.
- For other TAC fish species, the administration unilaterally proposed a "historical catch" standard.
- Unilateral setting of IQs under weak penalties (C) and M, S will lead to a series of violations.
- It is difficult to introduce IQs while continuing the bulk subsidy policy that exacerbates the overfishing capacity problem. Sufficient budget should be allocated for vessel reduction.
- Important elements such as protection of dependent species/forage fish, precautionary approach, ecosystem conservation, and MCS for aquaculture are completely missing from the amended Fisheries Act.

Source: Presentation material of Dr Isao Sakaguchi on 21 January 2022

5. Status of Verification by the Committee

1st meeting: 15:00-17:00, 18 June 2021

Points for discussion:

- 1) The world has been reforming its fisheries and aquaculture industries, and in these advanced fishery countries, natural catches have recovered and aquaculture production has increased. However, Japan has experienced a decline in both fisheries and aquaculture over the past 30 years. Why is Japan unable to reform? In particular, the aquaculture industry has retreated from first place in the world (1980s) to 13th place in the world (2019) (FAO Fisheries and Aquaculture Production Statistics).
- 2) The world is moving rapidly. The G7 summit was held on 11-13 June in the UK; global warming is progressing and pandemic countermeasures are being taken; The World Environment Ministerial Meeting was held in May; Zero emission of greenhouse gases is aimed by 2050; and the World Trade Organization (WTO) announced a proposal to reduce non-sustainable fisheries subsidies. In the midst of these global developments, the 3rd Fisheries Reform Committee focused on what exactly should be done to revive Japan's capture fisheries and fishery industry, and how to act on it.

Agenda:

- (1) Opening address and explanation of prospectus (Dr Komatsu)
- (2) Consideration and adoption of matters to be referred to the Committee
- (3) Self-introduction of Committee members
- (4) Present situation of capture fisheries and the fisheries industry in the world and Japan (Dr Komatsu)
- (5) General discussion

2nd meeting: 15:00-17:00, 16 July 2021

Points for discussion:

- 1) UNCLOS stipulates that "coastal states have sovereign rights to and are responsible for managing natural resources within their exclusive economic zones". Under Japan's Civil Code, fisheries resources are considered to be ownerless property and their ownership belongs to the first occupier. What impact do you think this provision has had on Japan's policy of managing fisheries resources?
- 2) Since the Meiji Fisheries Act, the current Fisheries Act regards fishery rights as property rights. If the ocean and fishery resources are regarded as common property of the people, what do you think should be the status of fishery rights as property rights?

3) The amended Fisheries Act allows for very limited ITQs (transfer of fishing quotas), but what methods do you think would facilitate the introduction of ITQs on par with those in Europe and the US?

Agenda:

- (1) Explanation of points for discussion (Dr Komatsu)
- (2) Lecture by Mr Makoto Arizono, fisheries analyst, “History of fishery rights system and amended Fisheries Act (focusing on fishery rights)”
- (3) Amended Fisheries Act and voices and assessment from fishermen and fishery workers
 - ① “To increase the value of fish”, Mr Ikemi
 - ② “To introduce IQs for purse seine fisheries”, Mr Hamada
 - ③ “Present situation of tuna farming and challenges”, Mr Sakai
- (4) General discussion

3rd meeting: 20 August 2021, 15:00-17:00

Points for discussion:

- 1) In Japan, marine fisheries resources have been subject to "preoccupation of ownerless property". To what extent do you think this has contributed to the decline of our nation's fisheries?
- 2) When it comes to common property for the people, it is not appropriate for fishery rights to be held and managed by fisheries cooperatives, which are private-sector organizations and not public institutions. Instead of licensing fishery rights to fisheries cooperatives, the national and state (local) governments have adopted a system of direct licensing to fishermen in other countries. How should the transition to this system be facilitated in Japan?

Agenda:

- (1) Explanation of points for discussion and “Ownership and management of marine fishery resources in the world and the EU” (Dr Komatsu)
- (2) Explanation and presentation by members of the Committee
 - ① “Recognition of marine fishery resources as common property for the people and its effect on resource management”, Dr Takarada
 - ② “Fisheries resource management by the national government and Japan’s fisheries”, Mr Ikemi
- (3) Lecture by Dr Daisuke Miura, Professor, Faculty of Law, Kanagawa University,

“Natural Resources Public Property Theory”

(4) General discussion

4th meeting: 17 September 2021, 15:00-17:00

Points for discussion:

- 1) What questions do you have regarding Austral Fisheries' presentation on sustainable fisheries?
- 2) What is most useful in Austral Fisheries' presentation? Why was that?
- 3) Why do you think Australian companies can achieve sustainable fishing and many Japanese fishermen and companies cannot? What are the reasons?

Agenda:

- (1) Explanation of points for discussion and explanation of “property right of marine fishery resources”, a homework from the previous meeting (Dr Komatsu)
- (2) Lecture by Mr David Carter, CEO, Austral Fisheries Pty Ltd, “Sustainable Fisheries by Austral Fisheries Pty Ltd”
- (3) General discussion

5th meeting: 15 October 2021, 15:00-17:00

Points for discussion:

- 1) What are the benefits and problems of ITQs, cooperative fisheries and sector fisheries in the US and Australia?
- 2) The government has already announced the introduction of IQs (not ITQs) for the purse seine and bluefin tuna fisheries off Kushiro, Hokkaido. What are your thoughts on this?
- 3) What do you think about the use of cooperative and sector fisheries methods for the micro quotas in these fisheries (the tuna quota in coastal fisheries is equal to the micro quota)?
- 4) How should the management of bluefin tuna aquaculture be considered in relation to ITQs and cooperative fishery systems?

Agenda:

- (1) Explanation of points for discussion
- (2) “Sector fisheries in New England, US, WOC fisheries and AFA/American Fisheries Act”
- (3) Future Committee meetings

(4) Present situation of ITQs in other countries

- ① “Comparison of tuna aquaculture in several countries”, Mr Sakai
- ② “Catch share program in the US (Bering Sea)”, Mr Mamoru Kanabashira, General Manager, Marine Business Promotion Department, Nippon Suisan Kaisha, Ltd. on behalf of Mr Hamada
- ③ “Comparison between IQs and ITQs (responses to reduced catch quotas and by catches)”, Dr Takarada

(5) General discussion

6th meeting: 19 November 2021, 15:00-17:00

Points for discussion:

1) The government has already announced the introduction of IQs (not ITQs) for bluefin tuna catch in the nearshore tuna longline fishery. What are your thoughts on the use of cooperative and sector fishery systems for the management of the bluefin tuna quota in the purse seine, set-net, and small-scale coastal fisheries?

(2) What do you think about the current situation in Japan's fisheries with regard to improving the accuracy of catch reporting, enforcement, and verification of catch volume and farmed volume (with observers on board and video cameras on board)?

Agenda:

(1) Explanation of points for discussion and “Situation of small-scale coastal fishery, aquaculture and markets in Iki-Tsushima in Nagasaki Prefecture, and Fukuoka City” (Dr Komatsu)

(2) “Present situation of management of tuna resources including Pacific bluefin tuna”, Mr Takeshi Miwa, Deputy Director (Tuna and Skipjack Fisheries Section), International Affairs Division, Resource Management Department, Fisheries Agency

(3) General discussion

7th meeting: 17 December 2021, 15:00-17:00

Points for discussion:

1) How should a cooperative relationship between coastal fisheries and large-scale fisheries be established regarding the holding and use of bluefin tuna quotas?

2) The success or failure of ITQs is recognized in the world as being dependent on the credibility and verification of their catch reports. In the Yaizu Fisheries Cooperative Association, the fishing companies were totally dependent on the Fisheries Cooperative Association to determine the catch volume. What are the measures to be taken to

improve enforcement and verification of catch volume and aquaculture volume?

3) How can the problems of the Tsushima and Iki fisheries be resolved while utilizing ITQs, the subject of this committee's study?

Agenda:

- (1) Explanation of points for discussion (Dr Komatsu)
- (2) “Offshore purse seine fishery of Bluefin tuna and aquaculture”, Mr Ikemi
- (3) “Pacific Bluefin tuna resource management and present situation of fisheries in Kami-Tsushima”, Mr Kanta Kubo, President, Nissho Gyogyo Co., Ltd.
- (4) “Present situation and challenges of bluefin tuna single-line fishing in Iki”, Mr Minoru Nakamura, Chairman, Iki City Association for Tuna Resources
- (5) General discussion

8th meeting: 21 January 2022, 15:15-17:15

Points for discussion:

- 1) What do you think should be done to bring Japan's reporting of catches, verification of catches, and establishment of observers and VMS up to global standards in the future?
- 2) In order to modernize and improve the soundness of fisheries and aquaculture management, an obstacle to establishing a close and vertical relationship between fisheries and aquaculture would be the system of fishery rights (that are granted through fisheries cooperatives), which is unprecedented in the world, as was pointed out in the recommendations of the 2nd Fisheries Reform Committee. What advantages would be possible if the aquaculture industry were brought under a license system like in other countries?
- 3) What considerations and basic principles should be taken into account in the initial allocation of ITQs and IQs?

Agenda:

- (1) Explanation of points for discussion and “License system and monitoring and enforcement system for fisheries and aquaculture” (Dr Komatsu)
- (2) “Resource management by RFMOs and issues of IQ allocation”, Dr Sakaguchi
- (3) “Purse seine fishery and aquaculture of Bluefin tuna”, Mr Hamada
- (4) “Economic impacts of exceeding TAC/ITQ and subsidies on fishery resource management”, Dr Takarada
- (5) General discussion

9th meeting: 18 February 2022, 15:00-17:00

Points for discussion:

- 1) The aquaculture industry system between Japan and Australia, Chile, and Norway;
How do you think the difference between the license system and fishery rights has caused Japan's aquaculture industry to lag behind? How should improvements be made?
- 2) What should we learn from the enforcement system and observer system in the US and Norway?
- 3) What should we learn from Alaska's meticulous river-by-river management of salmon and Japan's declining salmon management (decline from 287,500 tons in 1996 to 50,000 tons in 2021)?

Agenda:

- (1) “Comparison of fisheries and aquaculture systems between Japan and Australia”, “Monitoring, control and observer system”, and explanation of points for discussion (Dr Komatsu)
- (2) “Salmon and trout resource management system and marine aquaculture of salmon in Alaska, US, demand for salmon and future”, Mr Yano
- (3) “Salmon and trout aquaculture business in Chile”, Mr Toshiya Yabuki, General Manager, CSR Department, Nippon Suisan Kaisha, Ltd.
- (4) General discussion
- (5) Gist of interim recommendations

10th meeting: 18 March 2022, 15:00-17:00

Agenda:

- (1) Discussion on the draft interim recommendations
- (2) Future schedule

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Disclaimer (Objection)

Mr Hiroyasu Ito, a member of the Committee, opposed the adoption of Recommendation 2 (Improve the quality of data, introduce an observer system, and set TACs based on scientific evidence to minimize uncertainty) in the above interim recommendations, proposing the deletion of ⑧ because it would place an excessive burden on fishermen, distributors, and restaurants. Therefore, these points are unrelated to Mr Hiroyasu Ito.

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**2nd Fisheries Reform Committee
Interim Recommendations**

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