Japan's National Plan of Action for Conservation and Management of Sharks

February 2001

(Partly revised in March 2009)
(Partly revised in March 2016)

Fisheries Agency
Government of Japan

1. Introduction (Principle and objective)

(1) Japan, as a responsible fishing nation, confirms the recognition of the international community that "the significant role in providing food security for the world, both through food supplies and through economic and social well-being" (Kyoto Declaration and Plan of Action on Sustainable Contribution of Fisheries to Food Security). In addition, Japan duly respects the international agreement that "the States should commit themselves to the conservation and sustainable use of marine living resources (the United Nations Conference on Environment and Development (UNCED) and Chapter 17 of Agenda 21) and the Code of Conduct for Responsible Fishing of the United Nations Food and Agriculture Organization (FAO) that calls for promotion of contribution of fisheries to food security.

(2) Japan recognizes that sharks are important fishery resources and play an important role in the marine ecosystem as higher-level predators. Japan aims to achieve sustainable and effective utilization of sharks. As sharks are subjected to catch in various types of fisheries in many countries, Japan is aware of the need for appropriate management of shark fishing based on the results of stock assessment on a species by species and stock by stock basis so that negative impact on the resources can be averted. Furthermore, Japan shares the concern that sharks are made subject to illegal, unregulated and unreported (IUU) fishing activities.

(3) Under such circumstances, Japan adopted in 2001 an effective and practicable National Plan of Action (NPOA-Sharks) that would objectively and scientifically analyze the impact of Japanese fisheries on shark resources, taking into account the internationally agreed code of conduct in order to carry out appropriate conservation and management of sharks based on "the FAO's International Plan of Action for Conservation and Management of Sharks (IPOA-Sharks)" adopted in 1999.

(4) Since then, Japan has ensured collection of scientific knowledge and information regarding shark resources and ensured rational conservation and sustainable utilization of shark resources based on accurate knowledge and information through implementation of the plan. Further Japan has coped with the IUU fishing that would impair sustainable utilization of the resources and other activities that would hamper effective use of the resources through such means as international cooperation and provision of accurate information.

2. Fisheries and species subjected to NPOA-Sharks

(1) NPOA-Sharks covers fisheries targeting sharks or those with substantial by-catch of sharks and shark species caught by these fisheries. Regarding the

fisheries and species subjected to NPOA-Sharks, regular meetings of an expert group consisting of Japanese scientists, administrators and fishing industries are held to carry out analysis of shark fisheries and stock status based on updated information. Then, on the basis of the results of the analyses, the group discusses the need for management measures, and where necessary, makes recommendations to Regional Fisheries Management Organizations (RFMOs) and other bodies, and revises NPOA-Sharks. In considering the above, due attention is given to the following items:

(i) biological characteristics of the species covered in NPOA-Sharks,
(ii) characteristics of fisheries covered in NPOA-Sharks,
(iii) safety of fishers and reasonability of burden to fishers, and
(iv) socio-economic impacts of conservation and management measures

The state of the fisheries and species subjected to NPOA-Sharks is described in detail in the implementation reports of NPOA-Sharks, and is reported to the Committee on Fisheries (COFI) of the FAO, which is held every two years.

(2) In particular, the following data collection and research will be carried out in order to obtain necessary information to analyze the status of the species subjected to NPOA-Sharks.

(a) Catch and effort data reported from commercial fishing vessels,
(b) Scientific data from research vessels belonging to the national and prefectural governments and other organizations,
(c) Scientific data collected by on board observers,
(d) Data on shark landings at major fishing ports in Japan,
(e) Catch statistics compiled by the national and prefectural governments, and
(f) Data possessed independently by non-governmental organizations (universities, aquariums, etc.)

3. Management measures

(1) Many types of fisheries in Japan are placed under the jurisdiction of the national or prefectural governments pursuant to the Fisheries Law and Fisheries Resource Conservation Law. Entry into these fisheries is limited under the license system. Most of the fisheries targeting sharks or those in which substantial by-catches of sharks occur, are licensed by the Minister of Agriculture, Forestry and Fisheries or prefectural governors. Furthermore, it is not likely that fishing pressures on shark resources will increase in the future because Japan has no intention to expand the scale of these fisheries.

(2) Japan is member to all the RFMOs for the areas where sharks are assumed to be targeted or caught incidentally by longline fishing. Japan is obliging its fishers to comply with all the management measures adopted by these RFMOs as conditions for granting the fishing license. The government of Japan will have fishers comply with any new measures when they are introduced in the future.

(3) Considering that waste of shark resources is perceived as an international issue because carcass of sharks are discarded and only the fins are landed at port, and in order to secure effective use of shark resources, the Ministerial Order was

amended in 2008 for distant-water tuna longline fisheries, offshore tuna longline fisheries, and coastal tuna longline fishing so as to oblige, in case the harvested sharks are possessed, possession of all parts of the shark excepting head, guts and skins, to the point of first landing, with the exception of cases where part of the shark was landed outside Japan. Also following the 2008 amendment of the Ministerial Order, reports of information on incidental catch were required even in case where the by-catch fish was not possessed on board in order to reinforce monitoring of shark resources.

(4) Seasonal operation mainly targeting sharks by offshore tuna longline fleets based in Kesennuma is the only shark targeting in Japan. The Management plan for longline fisheries targeting sharks (See Attachment 2) has been implemented since January 2016, in accordance with the conservation and management measures of the Western and Central Pacific Fisheries Commission (WCPFC)

(5) Regarding NDF (Non Detriment Finding) which is necessary in issuance of export certificate of sharks listed in CITES Appendix II (Attachment 3), NDF Guidelines for Aquatic Species in Japan was instituted in August 2014 (Attachment 4). NDFs are issued in accordance with the NDF Guideline.

4. Promotion of effective utilization of sharks

(1) In several regions in Japan where sharks are landed in a certain amount on a constant basis, shark products have been utilized effectively and properly. Specially, the shark meat is used as a common cooking ingredient, and some parts such as heart are valued as delicacies. Furthermore, skins are used as materials for high-grade leather products and cooking apparatus, and bones are used for pharmaceutical products. Thus, in comparison with other countries, sharks are used with little waste in Japan. As effective utilization of sharks is pursued around the world, Japan continues to encourage such practice.

(2) Efforts are made to grasp the actual state of catch and utilization also in the regions where sharks are not the main target of fisheries and are landed only as by-catch species on an irregular basis. Sustainable and effective use is promoted in such regions.

(3) In recent years, some environmental protection organizations obstruct sustainable and effective use of sharks. The government of Japan counter their arguments while providing accurate information.

(4) In some fisheries such as distant-water tuna longline fishing which operates in remote areas from the domestic market and for a long period of time without calling ports, only fins were often landed because of the limited fish hold capacity. However, since the amendment of the Ministerial Order in 2008, it has been secured that effective utilization of all usable parts of sharks by inspection at ports and other measures.

5. Educational and outreach activities

(1) Promoting social awareness on FAO IPOA-Sharks and Japan's NPOA-Sharks that was developed pursuant to IPOA-Sharks among not only fishers but also the

general public is very important in promoting sustainable utilization and conservation of shark resources in Japan. In particular, it is crucial to promote outreach and educational activities on NPOA-Sharks among fishers in order to enhance their awareness toward management of shark resources and collect accurate data for stock assessment.

(2) To this end, the following actions are taken:

- distribute Shark Species Identification Sheets, and organizing seminars for fishers regarding stock management;
- promote educational activities for the general public regarding how shark resources have been related to the Japanese culture;
- develop pamphlets, video presentation, posters, etc. regarding sustainable use and conservation of shark resources;
- provide information on international debate about shark resources to fishers, fisheries organizations and other targets; and
- promote educational and outreach activities to fisheries successors

6. Promotion of international cooperation

(1) As stated in 2(1) above, the implementation status of NPOA-Sharks is reported to FAO-COFI.

(2) The government of Japan contributes positively to the discussion at the FAO and RFMOs in order to promote conservation and management of sharks based on scientific evidence. Especially, given the fact that Japanese fisheries data are greatly contributing to stock assessment of sharks, Japan continues its effort to provide accurate information.

(3) In addition, Japan promotes cooperation with the countries concerned through the FAO and RFMOs for elimination of IUU fisheries since those activities are significantly undermining the international conservation scheme and the efforts of countries concerned regarding conservation and management of fishery resources including sharks.

(Attachment 1)

Conservation and management measures for sharks implemented by Japanese fishing vessels

1. Measures implemented in the entire fishing ground

With regard to retaining of caught sharks onboard, tuna longline fishers are required to retain all the parts of sharks excepting head, guts and skins on board up to the first point of landing when they retain harvested sharks on board, except the case when parts of the shark was landed in and outside of Japan.

2. Measures implemented in each fishing ground

(1) The area under jurisdiction of the Western and Central Pacific Fisheries Commission (WCPFC) (Central and western Pacific Ocean)

- Retention of Oceanic Whitetip Shark and Silky Shark on board is prohibited.
- Distant-water and offshore tuna longline fishing vessels are prohibited either to possess wire as branch lines and leaders or to use branch lines running directly off the longline floats or drop lines, known as shark line.

(2) The area under jurisdiction of the Inter-American Tropical Tuna Commission (IATTC) (Eastern Pacific Ocean)

Retention of Oceanic Whitetip Shark on board is prohibited.

(3) The area under jurisdiction of the Indian Ocean Tuna Commission (IOTC) (Indian Ocean)

Retention of Pelagic Thresher, Bigeye Thresher, Common Thresher, and Oceanic Whitetip Shark on board is prohibited.

(4) The area under jurisdiction of the International Commission for the Conservation of Atlantic Tunas (ICCAT) (Atlantic Ocean)

Retention of Bigeye Thresher, Oceanic Whitetip Shark, Hammerhead Shark, except Bonnethead Shark and Silky Shark on board is prohibited.

(Attachment 2)

Management plan for longline fisheries targeting sharks

1. Background

Offshore longline fishing fleet based on Kesennuma is one of the major offshore longline fleets in Japan. Their vessel size is in between 119 and 150 tons. They are mainly operating in the Oyashio-Kuroshio transition zonein the subtropical and temperate northwest Pacific where throughout year. Blue Shark is one of the primary target species, and they generally conduct blue shark targeting operation in the season between early summer to early autumn.

2. Management plan

In accordance with paragraph 2 of CMM2014-05 (Conservation and Management Measurefor Sharks), following shark management plan is addressed:

(1) Time period of the plan

Five years, starting in January 1st, 2016.

(2) Fleet conducting the plan

Offshore surface longline fishing fleets based at Kesennuma fishing port (List of fishing vessels is omitted)

(3) Operational area

Subtropical and temperate Northwest Pacific

(4) License for the pelagic longline operation

License of the offshore surface longline fleet for the pelagic longline operation is issued by Minister of Agriculture, Forestry and Fisheries of Japan.

(5) Total annual landing limit

Blue Shark: 7,000 tons
Shortfin Mako shark: 600 tons
Total landing limits are set to historical lowest level.)

(6) Measures to conserve stocks of depleted tropical sharks

- Prohibition of the use of shark line.
- Sharks landed to the port are limited to Blue Shark, Shortfin Mako shark, Salmon Shark, and Thresher Sharks. All other sharks will be released in a way to maximize their survival.

(7) Other measures

- Fin of sharks will be attached at the time of landing.
- Shortfin Mako sharks smaller than 1m PCL are released in a way to maximize their survival, except for retaining as scientific sample for biological study.

(8) Report on the management plan

Implementation of the management plan will be reported to the Commission by July 15 of the next year.

(9) Review of the conservation plan

The management plan will be reviewed in the third and fifth year of the plan, and revised if necessary.

(Attachment 3)

Sharks listed in Appendix II of CITES

Species	Date when Appendix II inclusion took effect	Remark
Whale Shark	Feb. 13, 2003	Japan made a reservation
Basking Shark	Feb. 13,2003	Japan made a reservation
Great White Shark	Jan. 12, 2005	Japan made a reservation
Oceanic Whitetip Shark	Sept. 14, 2014	Japan made a reservation
Scallopped Hammerhead, Great Hammerhead, Smooth Hammerhead	Sept. 14, 20014	Japan made a reservation
Porbeagle	Sept. 14, 2014	Japan made a reservation

(Attachment 4)

NDF Guidelines for Aquatic Species by the Fisheries Agency of Japan

COP16 of CITES adopted a resolution on Non Detriment Finding (NDF) including non-binding guidelines. NDF issued by a scientific authority is a requirement when issuing export permits or introducing specimen from the Sea for a species listed in CITES Appendix I or II. Accordingly, the Fisheries Agency of Japan has established NDF guidelines for aquatic species for which the Agency is a scientific authority. NDF will be made in accordance with these guidelines.

1. NDF should be made as much as possible by each genetically independent stock (hereinafter referred to as a species). Regarding look-alike species, when identification of species is clearly possible, NDF is unnecessary.

2. NDF can be made when the specimen is:
   - i) collected before the listing in Appendix
   - ii) not a nature origin such as:
     - a) Bred from parents collected before listing in Appendix
     - b) Bred from parents which were imported under the CITES procedures
     - c) Bred from parents which met the requirement of NDF
     - d) Others (Bred under a robust technique which was proved to be able to make F2.)
   - iii) collected from a part of an individual by a method without affecting the survival of the individual (such as a specimen of biopsy sampling, an embryo, spermatozoa and so on)
   - iv) collected from a dead individual and it is reasonably considered that the death is not attributable to the specimen collector, e.g., a stranded whale. A by-caught individual is excluded from this category.

3. When a specimen does not meet any criterion of paragraph 2 above, NDF should be basically considered, taking into account the following information:
   - i) Biological characteristic and life history of the species
   - ii) Distribution range of the species (historical and present)
   - iii) Stock structure, status and trend of the species
   - iv) Threats to the species
   - v) Historical and present fishing situation and mortality rate of the species
   - vi) Introduced and proposed management measures for the species
   - vii) Compliance situation of the management measures
   - viii) Monitoring of the species status
   - ix) Conservation of the species
   - x) Continuity of the role of the species in the ecosystem
   - xi) Effects of illegal trade on the survival of the species

4. In collecting the information of paragraph 3 above, the following items should be examined. An applicant may be requested to submit relevant information as necessary.
   - i) Relevant scientific papers
   - ii) Ecological risk assessment
   - iii) Results of surveys at fishing grounds and markets

iv) Knowledge and expertise of local people involved
v) Views of experts
vi) Trade data

5. When NDF is considered based on the information in paragraph 3 above, as a first step, items iii), v) and vi) of paragraph 3 should be considered in accordance with the following criteria in order. If these three items meet requirements in the criteria, the other items in paragraph 3 should be considered to judge whether NDF can be made.

i) When a TAC of the species is established or calculated on scientific bases, the present total catch of the species including the export is less than the amount of the TAC.

ii) In case that establishment or calculation of a TAC of the species on scientific bases is difficult, but the stock trend can be estimated for a certain period based on catch or other data, the stock does not show a decreasing trend and the present total catch of the species including the export is less than the average past catch amount of the species. (The length of the period depends on biological characteristic of the species.)

iii) In case that establishment or calculation of a TAC of the species on scientific bases is difficult and 5. ii) above is not applicable, the stock is considered to be maintained through the management measures which have been introduced or will be introduced in the near future. In making judgment of the effect of the management measures, the following information should be considered:
   a) Protected areas are effectively established.
   b) Time closure is effectively established.
   c) It is estimated that the fishing pressure has been decreased substantially because the number of fishermen to catch the species is regulated and the number has been substantially decreased over a long period.
   d) Regulation of fishing gear is effectively established.
   e) Individuals smaller than a certain size are protected.
   f) Other effective management measures (such as release of females, prohibition of bottom trawl, restriction of power of light and so on) are established.
   g) Combination of above mentioned measures brings the same conservation effect.

iv) In case that establishment or calculation of a TAC of the species on scientific bases is difficult and neither 5. ii) nor iii) is applicable, the annual catch amount of the species is considered negligible against the estimated stock size. In estimating the stock size, the minimum stock size should be estimated, taking into account, *inter alia*, the past catch record, the area of distribution, the stock size and productivity of look-alike species as well as the catch amount and the maximum fishing efficiency. The "negligible level" should in principle follow the table below, depending on the productivity of the species. When any parameter of the species falls under a less productivity category, the species shall be regarded as belonging to the category.

Parameters	Productivity		
	Low	Middle	High
Natural mortality rate （M）	M ＜ 0.2	0.2 ≦ M ≦ 0.5	0.5 ＜ M
Intrinsic rate of Natural increase （R）	R ＜ 0.14	0.14 ≦ R ≦ 0.35	0.35 ＜ R
von Bertalanffy growth rate （K）	K ＜ 0.15	0.15 ≦ K ≦ 0.33	0.33 ＜ K
Age at maturity （t mat）	8 ＜ T mat	3.3 ≦ t mat ≦ 8	t mat ＜ 3.3
Maximum age （t max）	25 ＜ T max	14 ≦ t max ≦ 25	t max ＜ 14
Generation interval （G）	10 ＜ G	5 ≦ G ≦10	G ＜ 5
Negligible level [1] （Recovery Index（Fr）=0.1）	0.7%	1.2.%[2]	1.8%[3]

v) The species is considered to be maintained under the present fishing activities because of the stock enhancement activities for the species

When the species does not meet any of the criteria above, NDF should not be made unless there are special reasons.

[1] ”negligible level” can be calculated as R*Fr/2 by the method of Wade 1998.
[2] Median value of R is used as there are ranges.
[3] 0.35 (lower limit) is used as R

Japan's National Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries

February 2001
(Partly revised in March 2005)
(Partly revised in March 2009)
(Partly revised in March 2016)

Fisheries Agency of Japan
Government of Japan

Japan's National Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries (NPOA-Seabirds)

1. Introduction (Principle and objective)

(1) Japan, as a responsible fishing nation, confirms the recognition of the international community that "the significant role in providing food sevurity for the world, both through food supplies and through economic and social well-being" (Kyoto Declaration and Plan of Action on Sustainable Contribution of Fisheries to Food Security). In addition, Japan duly respects the international agreement that the States should commit themselves to the conservation and sustainable use of marine living resources (United Nations Conference on Environment and Development (UNCED) and Chapter 17 of Agenda 21) and the Code of Conduct for Responsible Fishing of the United Nations Food and Agriculture Organization (FAO) that calls for promotion of contribution of fisheries to food security.

(2) Japan is concerned about the impact of incidental catch of seabirds by longline fisheries of many nations including Japan. Japan shares this concern with the international community. Regarding conservation of seabirds, Japan recognizes the necessity of, and is promoting the comprehensive approach which includes conservation of breeding environment and management of the impact of fisheries.

(3) With their voluntary willingness to avoid interactions of seabirds with fishing gear, Japanese fishers have contributed to develop streamer devices (Tori-pole and Tori-line) and practically improve weighted branch lines in pelagic longline fisheries. At present as well, Japan is encouraging fishers to develop innovative techniques for the solutions of this issue. Japan is developing and improving the technique to minimize incidental catch which satisfies with regional and biological characteristics of the species subject to NPOA-Seabirds, while alleviating burdens on fishers and ensuring their safety.

(4) Under these circumstances, Japan instituted in 2001 the effective and practical National Plan of Action for reducing incidental catch of seabirds in Japan's longline fishing (NPOA-Seabirds) in accordance with the FAO International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries (IPOA-Seabirds) adopted in 1999, by analyzing the impacts of Japanese longline fishing on seabirds objectively and scientifically in order to promote international cooperation toward reducing incidental catch of seabirds. After instituting NPOA-Seabirds, Japan has revised it with the aim to effectively cope with the changes of the situation surrounding this issue.

In addition, Japan have fishers comply with any measureswhen new measures to reduce incidental catch of seabirds are introduced at regional fisheries management organizations (RFMOs), by revising regulations.

(5) NPOA-Seabirds is aimed at reducing incidental catch of seabirds by implementing it in cooperation with the international community. Specifically, NPOA-Seabirds is aimed at reducing incidental catch of seabirds impacted by longline fisheries in all fishing areas, by contributing to the development of mitigation measures for incidental catch of seabirds and steady implementation of such measures at each RFMOs that are compatible both with fishing activities and conservation of seabirds, taking into account the factors such as the regional differences in species composition of seabirds (e.g. presence/absence of deep diving species) and the size of fishing vessels.

2. Fisheries subjected to NPOA-Seabirds

(1) Types of fisheries subjected to NPOA-Seabirds

Pelagic longline fisheries are managed either by the national or prefectural governments depending on the size of fishing vessels and operation areas and other factors.

Of these, when considering the actual state of operation, the types of fisheries requiring actions with respect to incidental catch of seabirds are (i) distant-water tuna longline fishery, (ii) offshore tuna longline fishery, and (iii) coastal tuna longline fishery. Other longline fisheries operating in Japan's coastal and offshore areas using small-size fishing vessels which are managed by prefectural governors are not included in NPOA-Seabirds because it is reported that incidental catches of seabirds are rare for these fisheries.

(2) Status of fisheries subjected to NPOA-Seabirds

(i) Distant-water longline tuna fishery

This pelagic longline fishery uses fishing vessels of 120 tons or larger and is managed by the national government under the license system. Their fishing grounds are the Pacific Ocean, the Indian Ocean and the Atlantic Ocean.

(ii) Offshore tuna longline fishery

This pelagic longline fishery excluding coastal tuna longline fishery in (iii) uses fishing vessels between 10 and 120 tons, and is managed by the national government under the license system. Their fishing ground is the Western and Central Pacific Ocean including Japan's Exclusive Economic Zone (EEZ).

(iii) Coastal tuna longline fishery

This pelagic longline fishery operates primarily in Japan's EEZ using fishing vessels of 10-20 tons. They are managed by the national government under the registration system.

3. Species of seabirds relevant to Japanese longline fishing

Major seabirds with concern of being caught incidentally by Japanese longline fisheries are albatrosses and shearwaters. In the Southern Hemisphere, Japan promotes evaluation, improvement and dissemination of mitigation measures for incidental catch of seabirds which had been introduced at RFMOs, bearing in mind the compatibility of fishing activities with conservation of seabirds. In the North

Pacific, Japan promotes conservation of seabirds through comprehensive approach which includes fishery management and conservation of nesting environment, while monitoring the nesting grounds of Albatrosses inhabiting the Japanese territory.

4. Mitigation measures for incidental catch of seabirds

To implement appropriate mitigation measures thoroughly to minimize incidental catch of seabirds, Japan follows basic policy below, in cooperation with the international community and taking into consideration the migration patterns and breeding areas of seabirds.

(Basic policy)

(i) Mitigation measures shall be implemented thoroughly in the area under jurisdiction of the RFMOs and/or within EEZ of foreign country pursuant to their resolutions and/or the regulations imposed by the coastal state;
(ii) As far as possible, efforts shall be made to develop selective, environmentally safe and cost effective mitigation measures, and have them adopted at the RFMOs. When the measures are developed, creative efforts by fishers are highlighted and measures should be applicable; and
(iii) Due consideration shall be given to alleviate the burdens on fishers and to ensure their safety.

The measures taken by fisheries subjected to NPOA-Seabirds, taking the above factors into consideration, are given in the Attachment.

5.Guidance, outreach and educational activities

(1) For the outreach of NPOA-Seabirds, Japan will encourage and assist relevant organizations in developing and distributing materials such as booklets and water-proof pamphlets for use onboard regarding incidental catch of seabirds as well as holding of seminars on mitigation of incidental catch of seabirds for seamen and shipowners.

(2) After different types of mitigation measures for reducing incidental catch of seabirds were adopted in each RFMOs, the Ministerial Order was amended and pamphlets illustrating detailed specifications of the measures were developed in 2008. In the future, appropriate implementation of mitigation measures will be promoted through updating and improving the pamphlets and distribution of it to fishers via the longline fishing industry in a timely manner.

6. Research and development

Japan will take the following actions to ensure reduction of incidental catch of seabirds and help recovering the number of seabirds in a way compatible with the regional and biological characteristics of the species subjected to NPOA-Seabirds as well as to alleviate physical and monetary burdens on fishers and ensure their safety.

(1) Development of the methods to reduce incidental catch

Japan has developed a variety of methods to reduce incidental catch of seabirds. Further research/development and validation of effects will be advanced focusing

on (a)-(c) below. As a new technique, research and development on (d) will be advanced.

(a) Improvement of streamers (Tori-pole, Tori-line)

Improvement is underway to enhance the effectiveness of Tori-pole now being used and also to facilitate its use on small-size fishing vessels.

(b) Device to accelerate the sinking speed of baited hooks

This method is designed to shorten the time for baited hooks to be accessible to seabirds at the sea surface by accelerating the sinking speed of branch line and hooks

(e) Validation of effects of line setting at night-time

The technique to set lines during dark hours at night-time has been introduced or proposed as an optional approach to mitigate incidental catch because most seabirds search for food visually during the daytime. The effects of this technique and safety of crew, when this method is introduced, are validated.

(d) Seabird scaring device

Research and development are promoted to identify effective methods to scare seabirds and keep them away from fishing gear with using acoustic and visual stimuli.

(2) Assessment and improvement of mitigation technique for avoiding incidental catch of seabirds

Assessment are made on existing incidental catch mitigation measures and other possible techniques being developed by research institutions in Japan and overseas, through at-sea experiments using experimental vessels and commercial fishing vessels in order to improve mitigation measures.

(3) At-sea research of seabird habitats and actual state of incidental catch

Information on distribution, migration and feeding habits of seabirds in the area where there is possibility of incidental catch in order to improve mitigation measures.

7. Improvement of breeding habitats and promotion of reproduction

(1) Not only regulation of fisheries but also promotion of reproduction through improvement of breeding habitats is crucial for the conservation of seabirds. For example, in Torishima Island in Izu Islands, habitat improvement such as prevention of mud flows and promotion of revegetation were substantially contributed to the population recovery of seabirds. In Torishima Island, approaches to understand ecology and breeding conditions of albatross and diversify nesting grounds of albatross are being taken. Efforts will be continued in research and studies regarding promotion of seabird reproduction and improvement of habitats.

(2) Other than the incidental catches in fisheries, impacts on seabird stocks include deterioration of breeding habitat, (e.g. mud flows, introduction of hostile exotic species, etc.), global warming, marine pollution (e.g. lower hatching rates caused by organochlorine pollutants, ingestion of plastic debris, etc.). Exchanges of views

with stakeholders and scientists are held to find out ways to cope with this situation.

8. Information collection, research monitoring

In order to facilitate the implementation of the measures in 6 and 7 above, the following steps will be taken:

(a) Collection of scientific data by research vessels belonging to the national and prefectural governments and other organizations;
(b) Collection of scientific data by onboard observers;
(c) Keep logbook records of information regarding incidental catch of seabirds by distant-water and offshore tuna longline fishing vessels;
(d) Collection of information on the ecology and population status of seabirds (surveys of migration patterns and distribution by sighting, research on dietary habits of seabirds by means of stable isotope analysis, and development of databases on breeding habitats of seabirds.)

9. Promotion of international cooperation

(1) Japan, a traditional fishing nation, has accumulated substantial experience and knowledge regarding fishery stock management as well as a wealth of experience and knowledge regarding incidental catch of various marine living species. Much of Japan's experience and knowledge has already been used by other countries and RFMOs, including introduction of streamer devices (Tori-pole and Tori Line). Japan is committed to continue cooperation, as necessary, regarding reduction of incidental catch of seabirds through technical assistance mainly to developing countries and dialogue at the RFMOs.

(2) As many RFMOs have established international legally binding measures for reduction of incidental catch of seabirds, Japan revised its Ministerial Order in 2008 in order to ensure thorough compliance with those international regulatory measures. Japan continues efforts in this regard in the years ahead.

(3) In addition, Japan makes accurate assessment on the impact of illegal, unregulated and unreported (IUU) and continues cooperation through such fora as the FAO and RFMOs so that appropriate arrangement may be implemented.

(4) Furthermore, Japan continues to promote coordination and cooperation with countries concerned regarding collection of information on seabird distribution and habitats/ecology and implementation of research, and protective measures.

(Attachment)

Measures to mitigate incidental catch of seabirds by distant-water, offshore and coastal tuna longline fisheries

1. Measures implemented in the entire fishing ground

Every effort are made to remove hooks from seabirds captured onboard not to threaten their survival and to release alive them –as much as possible.

2. The area under jurisdiction of the Western and Central Pacific Fisheries Commission (WCPFC) (WCPFC Area)

(1) In case operation in the area north of 23 degrees N, it is required to use at least two of the mitigation measures below, including at least one from (i)-(iv) below. In case the mitigation measures in (i) is used, or the mitigation measure in (iii) is installed on both sides of the main line, it is regarded that two types of mitigation measures were implemented.

(i) Side setting with a bird curtain and weighted branch lines
(ii) Night setting with minimum deck lighting
(iii) Tori line(standard-type or light weight-type)
(iv) Weighted branch lines
(v) Blue-dyed bait
(vi) Line shooter
(vii) Management of offal discharges

(2) In case operation takes place in the area of south of 30 degrees S, it is required to use at least two mitigation measures of the following.

(i) Night setting with minimum deck lighting
(ii) Tori line (standard-type in case the vessel length is 35m or longer; light weight-type in case the vessel length is less than 35m)
(iii) Weighted branch lines

3. The area under jurisdiction of the Inter-American Tropical Tuna Commission (IATTC) (IATTC area)

In case operation in the south of the area consisting of the straight line from the convergence of north of 23 degrees N latitude (excluding the exclusive economic zone of Mexico) and the convergence of South American continent and 2 degrees N latitude to 2 degrees N latitude/95 degrees W longitude; the straight line from 2 degrees N latitude/95 degrees longitude to 15 degrees S latitude/95 degrees W longitude; the straight line from 15 degrees S latitude/95 degrees W longitude to 15 degrees S latitude/85 degrees W longitude; the straight line from 15 degrees S latitude/85 degrees W longitude to 30 degrees S latitude/85 degrees W longitude; and the straight line from 30 degrees S latitude/85 degrees W longitude to 30 degrees S latitude/150 degrees W longitude, at least two mitigation measures as given below including at least 1 from (i) - (iv) shall be used. However, when the fishing device in (i) is used, or the fishing device in (iii) is installed on both sides of the branch line (as the center), it is regarded that those two mitigation measures

are implemented.

(i) Side setting with a bird curtain and weighted branch lines(ii) Night setting with minimum deck lighting
(iii) Tori line (standard-type or light weight-type)
(iv) Weighted branch lines
(v) Blue-dyed bait
(vi) Line shooter
(vii) Deep setting line shooter
(viii) Management of offal discharge

4. The area under jurisdiction of the Indian Ocean Tuna Commission (IOTC) (Indian Ocean area)

In case operation in the area west of 141 degrees E and south of 25 degrees S, it is required to use at least two mitigation measures of the followings.

(i) Night setting with minimum deck lighting
(ii) Tori line
(iii) Weighted branch lines

5. The area under jurisdiction of the International Commission for the Conservation of Atlantic Tunas (ICCAT) (Atlantic area)

(1) In case operation in the area south of 20 degrees S and north of 25 degrees S, it is required to use Tori line.

(2) In case operation in the area south of 25 degrees S, it is required to use at least two mitigation measures of the followings.

(i) Night setting with minimum deck lighting
(ii) Tori line
(iii) Weighted branch lines