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PART 1: INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

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ANNUAL REPORT TO THE COMMISION

PART1: INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

National Tuna Fisheries Report of Japan

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SUMMARY

This paper describes recent trends in the Japanese tuna and billfish fisheries, e.g., longline, pole-and-line, purse seine and other miscellaneous coastal fisheries in the WCPFC Convention Area (WCP-CA), including fleet size, catch and fishing effort statistics. During the 2019–2024, the number of Japanese commercial longline vessels shows a declining trend but slightly recovered in recent year and the total number of pole-and-line vessels (larger than 20 GRT) and has decreased, while the total number of purse seine vessels which are engaged in tuna fishery shows no clear trend. The total 2024 WCP- CA catch of tunas (Pacific bluefin, albacore, bigeye,

yellowfin and skipjack) by the Japanese fisheries (longline, pole-and-line, purse seine and miscellaneous fisheries) was still provisional and estimated to be 315,315 mt, and this is corresponding to 107% of 2023 total tunas catch (295,305 mt). In 2024, the total tuna catch by the purse seine fishery was 1565,114 mt (54% of the total), with 101,281 mt (30%) by the pole-and-line fishery, 37,261 mt (12%) by the longline fishery, and the remaining (4%) by the other gears. Japan has conducted several research activities in relation to biological and stock assessment studies on tunas, tuna-like species and other bycatch species in the WCP- CA in 2024 and early 2025 such as several research cruises on larvae/juvenile sampling for Pacific bluefin and tropical tunas, and mitigation studies for bycatch species.

1. Introduction

This paper describes recent trends in the Japanese tuna and billfish fisheries, e.g., longline, pole-and-line, purse seine and the other fisheries in the WCPFC Convention Area (WCP-CA), including fleet size, catch and fishing effort statistics. With respect to the recent research activities, a brief explanation was given in section 6 of this report. The catch statistics are given not only in WCP-CA but in the other areas, depending on species, according to the section on "Annual Catch Estimates" contained in the document "Scientific Data to be provided to the Commission". The catch estimates for bigeye, yellowfin, blue marlin, black marlin and skipjack in the portion of the WCP-CA east of the 150˚ meridian of west longitude, which is the duplicating area with IATTC, is shown in Appendix Table 1, which is requested by Attachment N of the report of the SC4. Note that there are some catches in the portion of the WCP-CA east of the 150˚ meridian of west longitude only by the distant water and offshore longline fisheries. The catch estimates for Pacific bluefin, albacore, swordfish and striped marlin in other broad ocean areas are shown in Appendix Table 2. In addition to this, tables which are requested by CMMs were given in Appendix Tables.

2. Data source

The Fisheries Research Institute (FRI) is responsible for compiling catch and effort statistics for major fisheries (pole-and-line vessels larger than 20 gross tonnage (GRT), longliners larger than 10 GRT, and tuna purse seiners). The other minor fisheries are referred to in the publication of the Statistics Department, Minister's Secretariat, Ministry of Agriculture, Forestry and Fisheries for 2019–2023 data (MAFFJ 2019–2023) and presented in this paper. The statistics for the last two years (2023 and 2024) are provisional in this report.

3. Trends in fleet size

Table 1 shows the number of Japanese tuna fishing vessels by fishery and vessel size class, which fished in the WCP-CA during the 2019–2024 period (coastal longline vessels were not included). As this number of active vessels is estimated based on logbooks submitted, some vessels which operated but did not submit logbooks yet were not included. The research and training vessels of longline and pole-and-line are not included. In addition, the vessel size class has changed to match those of WCPFC Annual Catch and Effort Estimates (ACE) Tables.

The number of Japanese commercial longline vessels in total shows a declining trend, from 311 vessels in 2019 to 245 in 2024. The number of vessels for each category, 10–50 GRT, 51–200 GRT, 201–500 GRT and over 500 GRT, generally decreased. The total number of pole-and-line vessels (larger than 20 GRT) decreased during 2019–2024. The number of vessels for category 20–50 GRT are stable. The number of vessels for 51-

150 GRT decreased from 36 in 2019 to 28 in 2024, corresponding to a 22% decrease. The number of vessels for category over 150 GRT ranged from 30 to 26 during the period. The total number of purse seine vessels which are engaged in tuna fishery ranged from 70 to 78 during the 2019–2024 period. The number of vessels of 48–500 GRT ranged from 63 to 70 during the period. The number of vessels of 501–1000 GRT are from 4 to 9 . Note that the number of distant water purse seiners which are allowed to operate in the tropical waters in the Pacific Ocean by government regulation was 28 in 2024.

4. Trends in catch and effort

The total 2024 WCP- CA catch of tunas (Pacific bluefin, albacore, bigeye, yellowfin and skipjack) by the Japanese fisheries (longline, pole-and-line, purse seine and miscellaneous fisheries) was still provisional and estimated to be 315,315 mt, and this is corresponding to 107% of 2023 total tunas catch (295,305 mt). In 2024, the total tuna catch by the purse seine fishery was 165,144 mt (54% of the total), with 101,281 mt (30%) by the pole-and-line fishery, 37,261 mt (12%) by the longline fishery, and the remaining (4%) by the other gears.(Tables 2– 6). The following is the description of each fishery in more detail including tables of their catch and effort in the WCP-CA.

4.1. Longline fishery

Japanese longline vessels are classified into three categories (coastal, offshore and distant water longline fisheries) according to the operation area and vessel size. The coastal longliners, whose size is less than 19 GRT, are allowed to fish only in Japan's EEZ. The offshore longline vessels are further divided into two categories, small offshore ones, 10–19 GRT, and offshore ones, 10–119 GRT, both of which can go beyond Japan's EEZ in the Pacific Ocean with some restricted areas in the eastern Pacific Ocean. Although the vessel size of two offshore categories is duplicated in the range of 10–19 GRT, most vessels of the latter category (10–119 GRT) are larger than 50 GRT. Distant water longliners are over 120 GRT and basically can fish in all oceans but need to follow the various domestic regulations that will ensure the management measures imposed by tuna RFMOs.

Catches in weight of tuna species (Pacific bluefin, albacore, yellowfin, bigeye and skipjack), swordfish and billfishes (striped marlin, blue marlin, black marlin, sailfish and shortbill spearfish) caught by the Japanese distant water and offshore (not including small offshore) longliners in the WCP-CA from 2019 to 2024 are shown in Table 2A. Historical changes in fishing effort and catch by species for this fishery are shown in Figs. 1 and 2, respectively, for the years 1971–2024. The total effort (in number of hooks) of distant water and offshore longline fisheries in all oceans decreased from 556 million hooks in 1981 to 495 million in 1983 and

increased again to 557 million in 1988 after which it decreased steadily to less than 400 million since 1999. The ratio of the fishing effort exerted in the Pacific Ocean to that of the total fishing effort was about 40–50% in the last decade. In the WCP-CA, around 60% of the total Pacific effort has been deployed since the middle of the 1980s. The fishing effort of distant water and offshore longlines in the WCP-CA was more than 200 million hooks during the 1971–1990 period, and then decreased to less than 100 million hooks in 2005, furthermore decreased to less than 50 million hooks after 2015 and decreased to 33 million hooks in 2024 (Table 2A). Primary target species for the longline catch are yellowfin and bigeye historically. The yellowfin catch was around 60,000 mt at a peak during the late 1970s and the early 1980s and has since declined continuously to about 5,000 mt or less in recent years. The yellowfin catch in 2024 was 4,210 mt, which is equal to the 5–year average (2019–2023) catch (Table 2, Fig. 2). The bigeye catch was relatively stable during the 1970s and 1980s ranging between 30,000 and 50,000 mt, and then decreased to between 20,000 and 30,000 mt during the mid–1990s to early 2000s. Further, the bigeye catch continued to decrease to 20,000 mt around 2005 and decreased to around 3,000 mt in recent years. The bigeye catch in 2024 was 3,327 mt which is 110% of the 5–year average catch of this species. The average quarterly effort distribution of distant water and offshore longline vessels during 2022–2024 is shown in Fig. 3. The fishing grounds are in the east–west direction off Japan to Hawaii, equatorial area between 10˚ S and 15˚ N and off Australia. Distribution patterns of the effort do not show remarkable seasonal changes, but in the overall area, the fishing effort appeared to decrease in the second quarter than in the other quarters. Distribution of the catch by species by this fleet is shown in Fig. 4. They are classified into several clear patterns, swordfish was dominant species near Japan, albacore was abundant in the middle latitudes between 15–30˚ N and 25–40˚ S, and tropical tunas (mostly bigeye and yellowfin) were caught in the equatorial waters.

As for the small offshore longline fishery, catch by species in the WCP-CA during the 2019–2024 period is shown in Table 2B. The total number of hooks deployed by the small offshore longline fishery fluctuated in recent years and it was 62,617 thousand hooks in 2024. The bigeye catch for the small offshore longline shows no apparent trend in this period. The bigeye catch was 5,276 mt in 2024, which is 107% of that in the average of the recent 5 years. The yellowfin catch of the fishery in the last five years was stable around 4,000 mt. The yellowfin catch in 2024 was 5,413 mt which is 133% of the recent 5-year average. Geographical distributions of fishing efforts and catches by species of the fishery are shown in Figs. 5 and 6, respectively. At the area between 130–150˚ E and north of 15˚ N, albacore is dominant in the catch while bigeye catch is dominant from 140˚–160˚ E and from 30˚–40˚ N. In the south of 15˚ N, bigeye and yellowfin tunas were primary target species.

4.2. Pole-and-line fishery

The catch and effort statistics in the WCP-CA by the Japanese pole-and-line fishery (larger than 20 GRT in vessel size) are shown in Table 3 during the 2019–2024. In addition to this, historical changes in catch by species and effort are shown in Fig. 7 for the period of 1972–2024. The data for 2024 are preliminary. Both the catch and effort which were at a peak around the late 1970s gradually decreased throughout the 1980s. After 1991, the total catch and effort had been relatively stable until the mid–2000s, though the catch showed some fluctuations. After that, the catch and effort show a decreasing trend with fluctuations. Total annual catches which ranged from 250,000 to 300,000 mt in the 1970s and early 1980s, decreased to around 150,000 mt in the 1990s and around 100,000 mt during 2008-2013. It decreased to around 80,000 mt during 2014-2024 except for 2022, when the catch was 46,000 mt.

Skipjack occupied a major part of catches followed by albacore and yellowfin. The number of fishing days exceeded 60,000 in the 1970s, but it is less than 18,000 days from 2006 onward and is more or less 10,000 days after 2020.

During the 2019–2024 period, the number of fishing days (including no catch days) for this fishery shows a decreasing trend. The number of fishing days was 8,845 in 2024 (preliminary) which is 82% of that in the average of the previous 5 years. (Table 3). The total catch of tunas (skipjack, bigeye, yellowfin and albacore) in 2024 (preliminary) was 73,873 mt, which is 104% of that in the average of the previous 5 years. The skipjack catch was 66,120 mt in 2024 which is 123% of that in the average of the previous 5 years.

Seasonal distributions of fishing effort (fishing days in 1x1 degree area) of the pole-and-line fishery are shown in Fig 8 as the average of 2022–2024. The fishing ground in the temperate waters (north of around 25˚ N) moved from southwest of Japan toward northeast as time progressed. In addition to these fishing grounds, in subtropical waters, north of the North Equatorial Current area was also the important fishing ground for this fishery in the first, second, and fourth quarters of the year. In the second quarter fishing grounds off northern Japan expanded to further east of 170˚ E. There were few operations in the tropical waters south of 15˚ N in the third quarter.

Typical seasonal fishing grounds by vessel type are as follows. The distant water vessels (larger than 300 GRT) fish skipjack in the tropical waters and the North Equatorial Current area from the late 4th quarter to the early 2nd quarter, and turn to north of around 35˚ N, east of 150˚ E where they target on albacore from June to October. The offshore vessels (smaller than 300 GRT) primarily catch skipjack, and its fishing starts at sub–tropical areas east of Northern Mariana Islands in February. This fishing ground gradually moves northward, and then reaches areas just close to Japan, south and/or east of Tokyo in May and June. The fishing ground of this fleet moves further northeastward to off northern Japan 35˚ N–42˚ N, west of 155˚ E, so–called the Tohoku

area. Other than these offshore vessels, some small sized offshore vessels operate around the Nansei Islands, southwest of Japan, with anchored FADs almost all year around. The other smaller size vessels in the offshore vessel category operate around the Izu Islands, south of Tokyo, almost all year round.

In most of the fishing grounds of the pole-and-line fishery, skipjack dominated among species, except for in some regions off north–east Japan, in which albacore dominated (Fig. 9). Most of the yellowfin catch was made in the waters around the Nansei Islands located in the southwestern part of Japan.

4.3. Purse seine fishery

The catch and effort statistics in the WCP-CA by the Japanese tuna purse seine fishery (larger than 48 GRT in vessel size) are shown in Table 4 from 2019 to 2024. In addition to this, historical changes in catch by species and effort are shown in Fig. 10 for the period of 1970–2024.The fishing effort was less than 5,000 days in the 1970s, rapidly increasing in the early 1980s, then the effort fluctuated between 7,500 to 9,500 days (Fig. 10). The total catch of this fishery showed rapid increase in the early 1980s, then gradually increased until the late 2000s. Skipjack occupied a major part of catches followed by yellowfin.

During the 2019–2024 period, the number of fishing days (including only searching) for this fishery shows a declining trend. The number of fishing days was 5,496 in 2024 which is 94% of that in the average of the previous 5 years (5,800 days, Table 4). While the total catch of the purse seine fishery fluctuated between 145,000 and 169,000 mt during the past 5 years. The total catch in 2024 (156,045 mt) is equal to the average of previous 5 years (156,650 mt). Skipjack catch for this fishery was 135,780 mt in 2024, which is 111% of that in the average of the previous 5 years (121,916 mt). Yellowfin catch for this fishery was 18,826mt in 2024, which is 57% of that in the average of the previous 5 years (32,746 mt).

The fishing effort (fishing and searching days) for the purse seine fishery distributed in two regions: tropical waters and northern waters. They are clearly separated by the border of 20˚ N (Fig. 11). The fishing grounds in the tropical waters were developed widely between 10˚ N, 130˚ E and 10˚ S, 180˚ with some seasonal fishing ground shifts. In the northern waters, the skipjack fishing season starts in April and continues until the third quarter in the vicinity of Japan in the Pacific Ocean. Geographical distributions of catches for skipjack, yellowfin and bigeye are shown in Fig. 12. In most regions, skipjack was the largest part of the catch among these three species in each 1˚ x 1˚ block as shown in Fig. 11.

This fishery utilizes tuna schools in association with FADs mainly in equatorial fishing grounds (Fig. 13). However, the operations for free swimming schools were dominant both in the equatorial waters and northern waters. The number of purse seines sets that encircled cetaceans in 2024 is currently being added up. To date, according to the reports of the master of a vessel/observer, the number of cases that Japanese tuna purse seine

encircled a cetacean unintentionally was 7 times.

4.4. Other coastal fisheries

Besides the major tuna fisheries described above, there are miscellaneous coastal fisheries, which also catch tuna and tuna-like species such as troll, setnet and gillnet fisheries. The catch by species and fishery during 2019–2024 is shown in Table 5. There used to be two kinds of large–scale gillnet (driftnet) fisheries. One is a large–mesh driftnet fishery, which fishes billfishes and tunas, and the other is a squid driftnet fishery, which fishes flying squid. Those fisheries used to operate in the wide area of high seas in the Pacific Ocean, however, stopped the operations on the high seas of the North Pacific in January 1993 due to a UN moratorium on the use of large–scale driftnets on the high seas. After 1993, the former gillnet fishery started operating within the Japanese EEZ targeting tunas and billfishes. Swordfish, striped marlin and skipjack are primary target species in the fishing ground. The annual catch by the fishery has been less than 1,500 mt since 1993. The troll fishery takes various pelagic species including tunas. The size of troll vessels is generally small, mostly less than 10 GRT, and they make one–day trips. All catches by troll gear are made within territorial seas. Skipjack is a very important resource for the troll fishermen in the local communities, but skipjack catch by troll along the Pacific coast in the western Japan has been very low in recent years. The setnet (also called as “trap net”) fishery also catches pelagic species including tunas.

4.5. Total catch for tropical tunas for all gears combined

The total catch of tropical tuna by all gears combined, including coastal fisheries (longline, pole-and-line, troll and other miscellaneous gears), are shown in Table 6 for 2019–2024. The total catch of skipjack during this period was from 206,372 mt in 2019 to 221,50 mt in 2024. The total catch of bigeye during this period was from 14,122 mt in 2019 to 12,563 mt in 2024. The total catch of yellowfin shows a decreasing trend during this period from 60,232 mt in 2019 to 37,767 mt in 2024.

5. Status of tuna fishery data collection systems

5.1. Logbook data collection and verification

For longline,

The owners of fishing vessels larger than or equal to 10 GRT are required to submit the log sheet on their operations and catch information to the Japanese government. Coastal, small offshore and offshore vessels must submit it by each cruise within 30 days after the end of cruise while distant water longliners are required to submit it every ten days. The log sheet of longline contains set by set data on catch number and weight in

each species, and other information such as fishing date and location, fishing effort (the number of baskets and hooks used), water temperature. Catch weight information was not included in the logbook till 1993. The number of hooks per basket is essential information as it suggests the depth of the gear and target species. As tuna and tuna-like fishes, six tunas (Pacific bluefin, southern bluefin, albacore, bigeye, yellowfin and skipjack), and six billfishes (swordfish, striped marlin, blue marlin, black marlin, sailfish and shortbill spearfish) are separately recorded in the log sheets. Additionally, information on the cruise (date and port of departure and arrival of the cruise), vessel (name, size, license number and call sign), the number of crew and the configurations of the fishing gear (material of main line and branch line) are asked to fill in on the top part of the sheet by each cruise.

Submitted log sheets are processed into electronic data files. Error checks for several types of information, such as date, location, range of weight, CPUE, are conducted before these data are finalized. Vessel characteristics (call sign, name, license number, etc.) are verified with the corresponding register.

Because the coverage rate of log sheets is not necessarily 100% for longline fisheries, it is necessary to raise the sample values to represent 100 %. The coverage rate for the combined both of distant water and offshore longline fisheries (20–120 GRT, excluding 10–20 GRT vessels that operate outside of the Japanese EEZ) has been about 90 – 95% of total operation since 1994, The coverage rate by fishery category for recent years is shown in Table 7. In the case of the distant water longline fishery, information on the total number of operations aggregated by subareas and month provided by the fishermen's association was used to raise the log sheet data to the total catch. For the offshore longline vessels larger than 20 GRT, the total number of operations by prefecture (which the vessel belongs to) by year given by MAFFJ has been used to raise the log sheet data to the total catch. Since 2008, Vessel Monitoring System (VMS) information has been utilized to raise the log sheet data. As for the small offshore longline, although reliable information of coverage rate had been available until 2007, it became possible to raise for the data of 2008 onward due to the utilization of VMS. But reliable information of coverage rate is not available for the coastal longline yet. Since the catch in weight in the log sheet is in processed weight, conversion factors by species are used to convert processed weight to whole weight.

For pole-and-line,

The license holders of the distant water pole-and-line or the offshore pole-and-line (mostly vessels larger than 20 GRT) are required to submit a log sheet on their operations and catch information to the Japanese government within 30 days after the end of cruise. The log sheets submitted to the government are forwarded to the FRI and are then compiled. Although the log sheet submission is mandated, the submission rate for the pole-and-line is not necessarily 100%. The coverage is likely to be around 80% in the beginning of the history of the pole-and-

line log sheet system (1970s), but the submission rate was improved after that, to nearly 100% in the 1990s. The coverage rate in Table 7 for the pole-and-line was calculated by (Number of the vessels which submitted log sheets at least once) / (Number of vessels which operated). Similar error check processes to the longline are also conducted. In case there is significant omission or errors, the FRI staff will contact the owner or other relevant person to obtain information to revise.

For purse seine,

The logbooks of 50–200 GRT class and greater than 200 GRT vessels were reported when fishermen caught tuna species. The coverage of the latter class was 100 % and the reported catch by species could be verified by comparing with the landing data, which were obtained from market receipts of three major unloading ports (Yaizu, Makurazaki, and Yamagawa). In 2011, the reporting system from fishermen to the government was changed for the cruises for which purse seine vessels operate in the Sea of Japan or the East China Sea. Such fishermen used to submit the log sheets designed for tunas when they operated targeting tunas or submit the log sheet designed for small pelagic, such as mackerel sardines and anchovies, when they operated targeting small pelagic. The FRI used to compile the logbook data only for the tuna caught operation. After implementation of the new system, fishermen submit a single kind of log sheets regardless of target species. As a result, the logbook data used for fishing operations in the Sea of Japan or the East China Sea now have a large quantity of zero catch records of tuna, so care should be given when interpreting the fishing effort for tuna using the data coming from the new log sheets.

An electronic logbook reporting system for the distant water longline fishery, the offshore and small offshore longline fishery, the pole-and-line fishery and the purse seine fishery mentioned above, have been available since November 2016, August 2022, August 2023 and 2023, respectively. These systems allow fishermen to fill out a logbook in an electronic file and submit the file through a web site to the server running by the Fishery Agency of Japan. Fishermen are moving to change from the traditional reporting system by paper logbook to the electronic system.

5.2. Size data collection and compilation

The FRI has collected size data for tuna and tuna-like species to use for biological study and stock assessments. There are several kinds of data source for the size data such as at–sea sampling and port sampling for the fish caught by commercial fisheries and onboard sampling by training and research vessels.

5.2.1. At–sea sampling on commercial fishing vessels

Length data had been voluntarily collected for all tunas and billfishes by fishermen who were on board

distant water longline vessels. Fishermen recorded the data in the field note which was provided by the FRI, and sent the field note back to the FRI after the completion of the cruise. The length data reported by the at–sea sampling was compiled daily as temporal resolution and 1˚ x 1˚ block basis as geographical resolution and is stored in a specific database for size data for tunas and billfish. In some cases, fishermen took measurement at an interval of 2 cm or 5 cm through the FRI encouraged measurement at an interval of 1 cm. The length data provide from fishermen in this way is available until 2014.

5.2.2. At–sea sampling on training and research vessels

Size data is collected for not only tunas and billfishes but also all animals caught by training and research vessels using longline gears. The crew and/or students measured the length and weight of the animals retrieved on board and reported the data to the FRI. Size data is collected for skipjack (and the other species sometimes) by training and research vessels using pole-and-line gears. The crew and/or students measured the length and weight of skipjack retrieved on board and reported the data to the FRI. Size data received from training/research vessels is compiled and stored in the same manner as the at–sea sampling on commercial fishing vessels.

5.2.3. Port sampling

Port sampling is an important way to collect size data and occupies the largest percentage of size sampling which the FRI has been conducting. Measurement is done at a timing between unloading from fishing vessels and starting of auction. Samplers randomly conduct measurement in general but conduct measurement for all individuals in some cases. In general, size data collected by port sampling is compiled monthly as temporal resolution and by specific blocks of 1˚ x 1˚, 5˚ x 5˚, 5˚ x 10˚ or 10˚ x 20˚ as geographical resolutions, depending on the width of the range of fishing position at the cruise. The temporal and geographical resolution is determined by the range of each cruise in which size sampling is done based on the information in the interview with the captain or fishing master of the fishing vessel at unloading sites and/or logbook data reported by fishermen.

As a special case, skipjack unloaded as unfrozen fish is recorded in a unique way from the above even in measurements by port sampling. In most cases of measurement of such skipjack, information of the fishing dates daily and fishing positions on a minute basis (finer than 1˚ x 1˚ block) are recorded on the size database for skipjack, since fishing dates and fine positions can be specified by the interview.

The following are the fish species, types of gear/fishery and locations of sampling site for port sampling conducted in 2024.

• Size data was collected for skipjack caught by offshore pole-and-line vessels which unload unfrozen fishes at Kesennuma by the FRI staff.

•Size data was collected for albacore, swordfish and striped marlin, and sharks caught by the offshore

longline and pole-and-line (only for albacore) vessels at Kesennuma.

•Size and sex data were collected for blue shark, shortfin mako, salmon shark and other species caught by offshore, small-scale offshore and coastal longline vessels and gillnet fishing vessels at Kesennuma. Regarding sharks, majority of measurements were for blue shark and shortfin mako (details are described in FRI 2025). For blue shark, subsampling (about 2–3 individuals) was conducted for each container and shortfin mako was landed by individuals and measurement was conducted as much as possible.

•Size data was collected for Pacific bluefin caught by the vessels of most fishing gears at most of prefectures where bluefin is unloaded under the nationwide port sampling project. Also, size data was collected for albacore, yellowfin, bigeye and swordfish and billfishes caught by offshore and small offshore and coastal longline vessels, for skipjack caught by mid–sized pole-and-line at major landing ports under the same project.

6. Research activities related to tuna and tuna-like species in the WCPFC Convention Area

6.1. Observer program

Purse seine

The observer program for purse seine boats has been implemented in the tropical Pacific Ocean since 1995. The details of time and position at each operation, type of association, and the length frequencies of samples were taken by scientific observers in each operation. After 2012, the observer program for tuna purse seiners in the vicinity of Japan's waters has been started. Six purse seine cruises were observed from Jun to Jul 2024 in the tropical Pacific Ocean and the vicinity of Japan. Days spent for these cruises ranged from 4 to 21 days. They returned to their port frequently without filling up their fish wells in one cruise.

Longline

The observer program for longliners in the WCP-CA was started in 2008. The information on fishing vessels, fishing operations, and all catches in each operation was collected, and most retrieved animals were measured as much as the observers could. The number of operations and catches by species and species groups is shown in Table 8.

Due to the COVID–19 pandemic, observer deployment for longline vessels was suspended in 2022 in the WCP-CA. However, since the longline cruise with observers on board began at the end of 2022, the reporting of observer data gradually resumed in 2023. Eight cruises, 462 operations in distant water and offshore vessels, and 67 cruises, 876 operations in small offshore vessels were recorded by the Japanese observer program in the 2024 calendar year.

6.2. Tagging

Skipjack tagging

The FRI has collaborated with Ajinomoto Co., Inc. to conduct skipjack tagging in coastal areas of southwestern Japan. A total of 464 skipjack tuna were released including 17 individuals with archival tags (Biologging solutions Inc., LoggLaw C7-250) in Octover 2024. Furthermore, two prefectural research and training vessels conducted skipjack tagging in 2024 and 2025. The tagging locations were off Wakayama and Kochi. A total of 136 skipjack tuna were released including 54 individuals with archival tags (37 LoggLaw C7-250 and 17 LAT2910 (Lotek Inc.)).

Swordfish, billfish, and shark tagging

For billfish and swordfish, popup satellite archival tag was attached to 8 striped marlin (five in the North Pacific and three in the East China Sea) and two swordfish (in the North Pacific) in 2024.

For sharks, conventional tags were attached to 11 blue sharks, one shortfin mako, and one bigeye thresher in the area around 30 degrees north and 171 degrees west during the research cruise of Japanese research and training vessel (JRTV), in 2024. The released blue sharks were subadult and adult.

6.3. Research cruise

PBF larval/juvenile sampling

Since 2011, larval and juvenile surveys have been conducted to estimate the current main spawning area and period of PBF. In 2024, research cruises were designed to focus on ecological studies of larval/juvenile PBF by a R/V of Fisheries Agency of Japan, Kaiyo-Maru, and R/Vs of Japan Fisheries Research and Education Agency (FRA), Shunyo-Maru and Yoko-Maru. In addition, five prefectural R/Vs also conducted larval survey of PBF. Surveys for larval/juvenile PBF were conducted in the south of Japan around the Nansei Islands area, where is a major spawning ground of PBF, from May to August and also in the Sea of Japan, which is another spawning ground of PBF, from July to August. In 2024, PBF larvae were captured by all cruises in the spawning grounds. Small juveniles of PBF around 2-5 cm FL were also captured in the Nansei Island area by s small surface-trawl net. Also, spawning behavior of adult PBF was observed and recorded during the cruise of Kaiyo-maru around Nansei Islands area.

Collected samples are being examined by a variety of approaches such as genetic identification, aging, growth analysis, stable isotope, microchemistry and stomach contents analyses to elucidate the survival processes of larval and juvenile PBF to biological and environmental factors, which should help to understand the recruitment mechanism to PBF fisheries around Japan. In addition, the yearly changes of the catch of larval PBF have been analyzed statistically to make a time-series larval index, which is expected to contribute to the future stock

assessment as the alternative index of spawning stock biomass (SSB).

Skipjack larval/juvenile sampling

In order to better understand the relationship between recruitment variability and growth during the early life stage of tropical tunas, survey cruises have been conducted to (1) describe the variations of the early life stage growth among areas and (2) describe the horizontal distribution of skipjack and the other tropical tunas. These survey cruise were conducted from 24 August to 30 September 2024, in the water off Japan areas by R/V Soyo-Maru and from 20 to 27 November 2024 by R/V Shunyo-Maru in the water off Japan areas. Both cruises included CTD (XCTD) observations, plankton net and NORPAC sampling, and trolling.

Pacific Tuna and Ecosystem Research Cruise Project

Since 2024, Pacific Tuna and Ecosystem Research Cruise Project has started to understand spawning habitat, larval ecology, and dynamics of tuna species in the tropical and subtropical regions of Pacific Ocean. This research project aims (1) to describe spatial and vertical distribution of larvae and juvenile skipjack, yellowfin and bigeye tuna and its relation to oceanographic features and biological environment, and (2) to understand early survival and recruitment process in the Pacific Ocean. The research cruise was conducted by R/V Kaiyo-maru in the west-central Pacific Ocean. The cruise was mainly composed by two legs in 2024. The first leg from Harumi, Tokyo to Pohnpei during September 4th–October 1st was set to survey in an area spanning 170°E–170°W along the equator, and the second leg from Pohnpei to Saipan during October 4th–21st surveying in a north-south line on the 150–160°E and 0–15°N. CTD and ADCP observations were conducted to obtain water-mass property. Tuna larvae and juveniles were sampled with ring net, bongo net, MOHT and midwater-trawl. NORPAC net and VMPS were also towed to clarify the abundance and species composition of zooplankton, which is the food of tuna larvae. Vertical distribution and densities of zooplankton and micronekton were measured acoustically by EK80, WBAT, AZFP and TAPS.

6.4. Biological sampling for swordfish, billfish and sharks

Samples of sagitta, reproductive organ, dorsal fin and anal fin were collected from a total of 207 swordfish, 286 striped marlin, and 11 blue marlin for the collaborative study within ISC billfish working group to estimate biological parameters of billfishes and swordfish (samples shared from US and Taiwan were not included here). For the study of genetic population structure and other ecological study, muscle tissue was collected from 163 swordfish, 185 striped marlin, and 16 blue marlins.

For sharks, samples of whole body were collected from shortfin mako and salmon shark for the biological

study of life history, genetic population structure, and other ecological study. Reproductive organ, muscle, and vertebrae were collected from three adult female shortfin mako to investigate the reproductive cycle, growth, and distribution pattern.

All the samples above were collected by the research cruise (including chartered vessel) and commercial/training longline operation, and sport-fishing conducted in the North Pacific Ocean in 2024.

6.5. Bycatch species related research

Mitigation studies for bycatch species

A research cruise was conducted from May to June 2025 using a longline fishing vessel of Den–Maru No. 37 (167 GRT), covering an area of 20º–35ºN and 137º–170ºE of the North Pacific Ocean. The objective of this research cruise was to investigate practical use of several alternative terminal gears for bycatch mitigation, satellite tagging for loggerhead sea turtles and collection of video footage for analyzing bycatch process during pelagic longline operation.

6.6. Experiments of growth for tropical tunas

We conducted the experiment at the Amami Field Station of the Fisheries Technology Institute, Japan Fisheries Research and Education Agency. Juvenile yellowfin tuna was collected by the local pole and line fishing and transferred to the offshore sea cage in the research station. A total of 248 fish were collected in October 2020, 165 in May 2021, and 77 in May 2022. We tracked the longitudinal changes in the body size of captive fish by repeatedly recapturing and measuring their fork length at irregular intervals (three to five months) for three years to examine how seasonal fluctuations in water temperatures impacted their growth rate. Using a linear mixed-effects model that accounted for the effects of water temperatures, food availability, and individual variations, we quantified the effects of water temperatures on the growth rates of these yellowfin tuna over 20 to 26 °C. For every 1 °C increase in water temperature, the growth rate increased by approximately 20%, resulting in a 120% increase in response to the 6 °C temperature range. Our findings demonstrate that, even within their typical environmental temperature range, yellowfin tuna can show significant plasticity in their growth rate in response to temperature variability.

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Table 1. Number of fishing vessels engaged in tuna fisheries in the WCPFC Convention Area by gear and size of vessel. Figures in the last two years indicate provisional data. In the number of longline vessels, coastal longliner and training/research vessels are not included. In the number of pole- and-line vessel, research and training vessels are not included.

Longline	**10–50 GRT**	**51–200 GRT**	**201-500 GRT**	**500+ GRT**	**Total**
2019	230	30	51	0	311
2020	228	26	42	0	296
2021	204	27	48	0	279
2022	215	22	41	0	278
2023	198	19	38	0	255
2024	190	18	37	0	245
Pole-and-line	**20–50 GRT**	**51–150 GRT**	**150+ GRT**	**Total**	
2019	8	36	30	74	
2020	8	32	28	68	
2021	7	30	28	65	
2022	7	27	28	62	
2023	7	28	27	62	
2024	7	28	26	61	
Purse Seine	**48–500 GRT**	**501-1000 GRT**	**1001-1500 GRT**	**1500+ GRT**	**Total**
2019	66	4	0	0	72
2020	67	5	0	0	72
2021	66	6	0	0	70
2022	63	7	0	0	78
2023	70	8	0	0	75
2024	66	9	0	0	76

Table 2. Fishing effort (in 1000 hooks) and catch (MT) in the WCPFC convention area by species for the Japanese distant and offshore (top table) and small offshore (bottom table) longline fisheries. Figures in the last two years indicate provisional data. OSHK; other sharks.

A. Distant water (120– GRT) and offshore (10–119 GRT) longlines

Year	hooks	PBF	ALB	BET	YFT	SWO	MLS	BUM	BLM	SFA	SSP	SKJ
2019	42,792	21	3,855	3,717	5,894	2,663	220	655	31	95	37	43
2020	35,844	66	3,475	3,118	2,863	3,889	218	371	23	33	26	41
2021	31,600	86	4,322	2,631	3,617	2,608	202	404	26	46	16	68
2022	28,796	86	3,554	2,014	5,011	2,022	172	407	28	69	19	98
2023	35,931	83	3,623	3,513	3,558	3,175	206	575	15	78	17	37
2024	33,697	129	4,398	3,327	4,210	3,244	296	720	10	89	34	162

Year	BSH	LMD	POR	SMA	OCS	THR	FAL	SPN	RHN	OSHK	Total
2019	31	95	37	43	8,589	150	0	668	0	35	26,671
2020	23	33	26	41	6,607	63	0	456	0	32	21,279
2021	26	46	16	68	8,017	171	0	377	0	24	22,613
2022	28	69	19	98	9,128	463	0	469	0	15	23,557
2023	15	78	17	37	11,834	171	0	615	0	3	27,554
2024	10	89	34	162	10,254	97	0	626	0	4	27,686

B. Small offshore longline (10–19 GRT)

Year	hooks	PBF	ALB	BET	YFT	SWO	MLS	BUM	BLM	SFA	SSP	SKJ
2019	58,445	–	–	7,210	6,100	1,136	659	738	13	40	0	1
2020	55,153	–	–	5,265	3,369	1,146	660	525	16	47	0	2
2021	43,103	–	–	4,118	3,203	727	382	515	12	10	0	2
2022	44,095	–	–	3,876	3,125	783	242	542	12	32	0	1
2023	52,056	–	–	4,178	4,421	955	314	505	14	66	1	4
2024	62,617	–	–	5,276	5,414	1,040	520	789	23	113	1	6

Year	BSH	LMD	POR	SMA	OCS	THR	FAL	SPN	RHN	OSHK	Total
2019	1,504	1,986	0	65	0	11	0	0	0	0	19,463
2020	814	1,638	0	27	0	9	0	0	0	10	13,528
2021	1,287	595	0	41	0	11	0	0	0	10	10,913
2022	2,022	934	0	20	0	1	0	0	0	11	11,601
2023	1,623	1,029	0	44	0	1	0	0	0	64	13,218
2024	2,705	1,977	0	108	0	1	0	0	0	84	18,057

*The catches for PBF and ALB are not appropriate to show here as the category "small offshore". See also Table 6 and Appendix Tables 2 for PBF and ALB catches by longline.

Table 3. Fishing effort (days fished and number of poles) and catch by species (mt) for the Japanese offshore and distant water pole-and-line fishery in the WCPFC convention area. Figures in the last two years indicate provisional data.

Year	#days	#pole	SKJ	YFT	BET	PBF	ALB	Total
2019	12,663	233,758	66,960	1,360	431	–	8,036	76,785
2020	11,273	204,436	39,663	1,283	947	–	36,063	77,957
2021	10,747	191,544	67,721	1,465	1,358	–	11,471	82,015
2022	9,733	180,684	40,366	1,040	1,178	–	3,540	46,124
2023	9,726	179,739	54,180	1,292	2,590	–	14,727	72,789
2024	8,845	163,553	66,200	1,451	1,684	–	4,539	73,873

* PBF catches for offshore and distant water pole-and-line were not estimated separately. See also Table 6 and Appendix Table 2 to see statistics for PBF catch.

Table 4. Fishing days including searching days and catch (mt) by species for the Japanese tuna purse seine fishery in the WCPFC Convention Area based on logbook data. Figures in the last two years indicate provisional data.

Year	days	SKJ	YFT	BET	PBF*	ALB	Total
2019	5,532	128,082	39,767	2,125	–	–	169,974
2020	5,947	119,047	33,640	2,404	–	–	155,091
2021	5,748	128,666	32,070	1,905	–	–	162,642
2022	5,390	116,972	27,357	1,277	–	–	145,605
2023	6,382	116,814	30,894	2,229			149,937
2024	5,496	135,780	18,826	1,439			156,045

* PBF and ALB catches for tuna purse seine were not estimated separately. See also Table 6 and Appendix Table 2 to see statistics for PBF and ALB catches.

Table 5. Fishery statistics reported in the annual MAFFJ report. Japanese catches (mt) for miscellaneous coastal fisheries by species and gear in the WCPFC Convention Area. SKJ: skipjack tuna, YFT: yellowfin tuna, BET: bigeye tuna, PBF: Pacific bluefin tuna, ALB: albacore. SWO: swordfish, MLS: striped marlin, BLZ: blue marlin, BLM: black marlin. Figures for the last two years are provisional.

Coastal longline (miscellaneous coastal longline in MAFFJ report)									
	SKJ	YFT	BET	PBF*	ALB*	SWO	MLS	BUM+BLM	Total
2019	3	1,987	298	–	–	54	222	114	2,678
2020	2	1,616	231	–	–	63	178	91	2,181
2021	9	1,778	190	–	–	80	115	100	2,272
2022	4	1,412	146	–	–	58	121	65	1,806
2023	5	1,784	213	–	–	56	125	65	2,248
2024	5	1,784	213	–	–	56	125	65	2,248
Coastal pole-and-line									
	SKJ	YFT	BET	PBF*	ALB	Total			
2019	9,343	1,583	118	–	177	11,221			
2020	10,356	1,798	178	–	254	12,586			
2021	18,252	2,265	218	–	224	20,959			
2022	13,374	1,480	185	–	86	15,125			
2023	15,893	1,713	328	–	181	18,115			
2024	15,893	1,713	328	–	181	18,115			
Coastal purse seine									
	SKJ	YFT	BET	PBF*	ALB	Total			
2019	102	482	0		274	858			
2020	146	1,014	0		10	1,170			
2021	400	702	22		6	1,130			
2022	222	314	13		15	564			
2023	798	584	5		37	1,424			
2024	798	584	5		37	1,424			
Gillnet									
	SKJ	YFT	BET	PBF*	ALB	Total			
2019	96	4	1		9	110			
2020	70	13	0		7	90			
2021	144	7	0		3	154			
2022	125	4	0		31	160			
2023	67	9	0		8	84			
2024	67	9	0		8	84			
Troll									
	SKJ	YFT	BET	PBF	ALB	Total			
2019	1,387	2,070	110		543	4,110			
2020	949	2,008	69		784	3,810			
2021	2,161	2,160	78		428	4,827			
2022	900	2,180	80		216	3,376			
2023	1,964	1,960	181		1,038	5,143			
2024	1,964	1,960	181		1,038	5,143			
Setnet									
	SKJ	YFT	BET	PBF	ALB	Total			

2019	246	208	0	27	481
2020	335	125	1	25	486
2021	580	206	3	11	800
2022	219	378	1	18	616
2023	545	766	2	34	1,347
2024	545	766	2	34	1,347

PBF catches for coastal longline, coastal pole-and-line, coastal purse seine and gillnet were not estimated separately. See also Table 6 and Appendix Table 2 to see statistics for PBF catch. ALB catches for coastal longline was not estimated separately. See also Appendix Table 2 to see statistics for ALB catch.

Table 6. Japanese catches (mt) for five tuna species by gear in the WCPFC Convention Area. LL: longline, PL: pole-and-line, PS: purse seine.

	2019	2020	2021	2022	2023	2024
Skipjack; subtotal	206,372	170,697	218,151	172,352	190,417	221,530
Distant water and Offshore LL	43	41	68	98	37	162
Distant water and Offshore PL	66,960	39,663	67,721	40,366	54,180	66,200
Tuna PS	128,082	119,047	128,666	116,972	116,814	135,780
Small offshore LL	1	2	2	1	4	6
Coastal LL	3	2	9	4	5	5
Coastal PL	9,343	10,356	18,252	13,374	15,893	15,893
Coastal PS	102	146	400	222	798	798
Gill net	96	70	144	125	67	67
Troll	1,387	949	2,161	900	1,964	1,964
Set net	246	335	580	219	545	545
Unclassified	110	86	148	71	110	110
Yellowfin; subtotal	60,232	48,575	48,240	43,119	48,031	37,767
Distant water and Offshore LL	5,894	2,863	3,617	5,011	3,558	4,210
Distant water and Offshore PL	1,360	1,283	1,465	1,040	1,292	1,451
Tuna PS	39,767	33,640	32,070	27,357	30,894	18,826
Small offshore LL	6,100	3,369	3,203	3,125	4,421	5,414
Coastal LL	1,987	1,616	1,778	1,412	1,784	1,784
Coastal PL	1,583	1,798	2,265	1,480	1,713	1,713
Coastal PS	482	1,014	702	314	584	584
Gill net	4	13	7	4	9	9
Troll	2,070	2,008	2,160	2,180	1,960	1,960
Set net	208	125	206	378	766	766
Unclassified	778	846	767	818	1,050	1,050
Bigeye; subtotal	14,122	12,348	10,605	8,869	13,346	12,563
Distant water and Offshore LL	3,717	3,118	2,631	2,014	3,513	3,327
Distant water and Offshore PL	431	947	1,358	1,178	2,590	1,684
Tuna PS	2,125	2,404	1,905	1,277	2,229	1,439
Small offshore LL	7,210	5,265	4,118	3,876	4,178	5,276
Coastal LL	298	231	190	146	213	213
Coastal PL	118	178	218	185	328	328
Coastal PS	0	0	22	13	5	5
Gill net	1	0	0	0	0	0
Troll	110	69	78	80	181	181
Set net	0	1	3	1	2	2
Unclassified	113	135	81	100	108	108
Pacific bluefin; subtotal	7,487	8,009	8,626	10,082	9,813	9,726
Coastal LL (less than 20 GRT)	977	1,341	1,432	1,519	1,477	1,470
Offshore and distant water LL	25	75	80	80	80	80
PL (unspecified)	0	1	0	13	24	6
PS (unspecified)	4,464	3,960	4,198	4,702	4,570	4,614
Troll	700	759	661	1,051	1,171	1,370
Setnet	951	1,342	1,742	2,126	1,889	1,537
Unclassified	370	531	513	591	602	649

Albacore; subtotal	23,709	57,554	31,610	17,573	33,697	33,729
Coastal LL (less than 20 GRT)	9,371	10,251	15,217	8,583	11,253	11,253
Offshore and distant water LL	4,085	3,722	4,162	3,702	4,029	4,061
Coastal PL	177	254	224	86	181	181
Distant water and Offshore PL	8,356	36,389	11,241	4,052	13,825	13,825
PS (unspecified)	1,046	5,963	92	726	3,098	3,098
Gillnet	9	7	3	31	8	8
Troll	543	784	428	216	1,038	1,038
Set net	27	25	11	18	34	34
Unclassified	95	159	232	159	231	231
PS; subtotal	176,068	166,174	168,055	151,583	158,992	165,144
LL; subtotal	39,711	31,896	36,507	29,571	34,552	37,261
PL; subtotal	88,328	90,869	102,744	61,774	90,026	101,281
Miscellaneous; subtotal	7,818	8,244	9,925	9,068	11,735	11,629
Total	311,925	297,183	317,231	251,996	295,305	315,315

Table 7. Coverage rate of logbook for longline, pole-and-line and Purse seine fisheries. The calculation methods among fishery are not the same. NA indicates not available.

Type of fishery	2022	2023	2024
Distant water longline	100%	>95%	>90%
Offshore longline	>95%	>95%	>90%
Small offshore longline	>95%	>95%	>90%
Coastal longline	NA	NA	NA
Offshore pole-and-line (20–120 GRT)	100%	>90%	>80%
Distant water pole-and-line (over 120 GRT)	100%	100%	>90%
Purse seine (>200GRT)	100%	100%	100%

Table 8. Number of operations and catch numbers for the longline observer program in the western central Pacific in 2024.

	Small offshore longline	Distant water and offshore longline
Number of cruises	67	8
Number of operations	876	462
Number of catch observed	34,907	43,790
Catch by species		
Albacore	6,846	15,205
Yellowfin tuna	1,868	5,412
Southern bluefin tuna	0	9,835
Bigeye tuna	6,745	2,740
Pacific bluefin tuna	9	11
Skipjack tuna	808	1,546
Sailfish	47	103
Black marlin	3	5
Shortbill spearfish	46	128
Striped marlin	500	334
Swordfish	2,002	418
Blue marlin	445	441
Lancetfishes	2,513	881
Opah	389	420
Pomfrets	355	463
Dolphinfishes	458	378
Escolar	672	506
Other fish	615	1,079
Thresher sharks	120	35
Shortfin mako	844	43
Blue shark	8,071	3,044
Other sharks	145	365
Stingray	938	360
Other rays	9	2
Seabirds	259	14
Sea turtles	185	13
Mammals	10	5
Unidentified animals	5	4

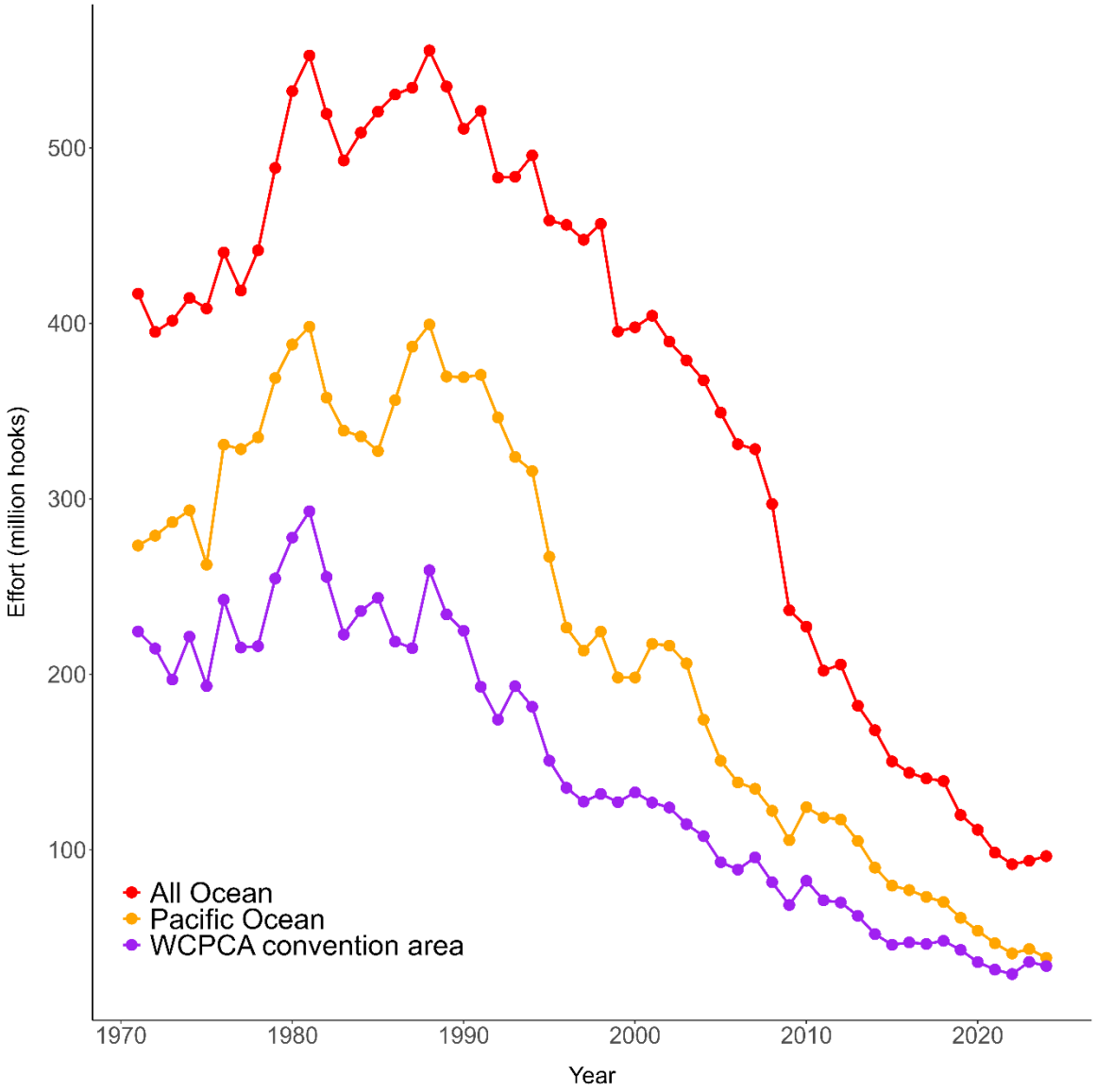

Fig. 1. Time series of fishing effort of the Japanese distant water and offshore longline fishery (not including small offshore) in the WCPFC Convention Area. Values in the last two years are provisional.

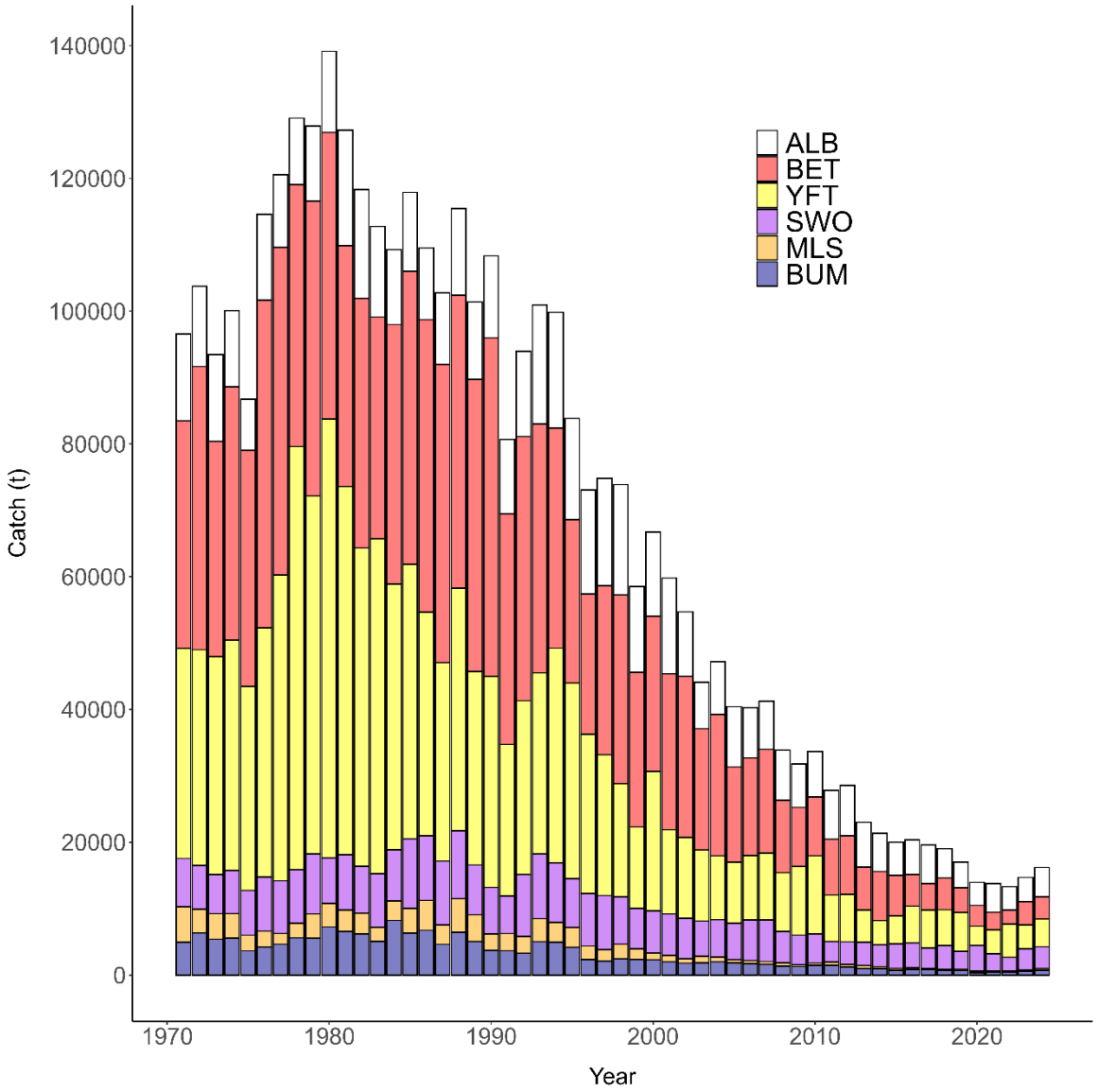

Fig. 2. Time series of catches for major species for the Japanese distant water and offshore longline fishery (not including small offshore) in the WCPFC Convention Area. ALB: albacore, BET: bigeye, YFT: yellowfin, SWO: sword fish, MLS: striped marlin, BUM: blue marlin. Values in the last two years are provisional.

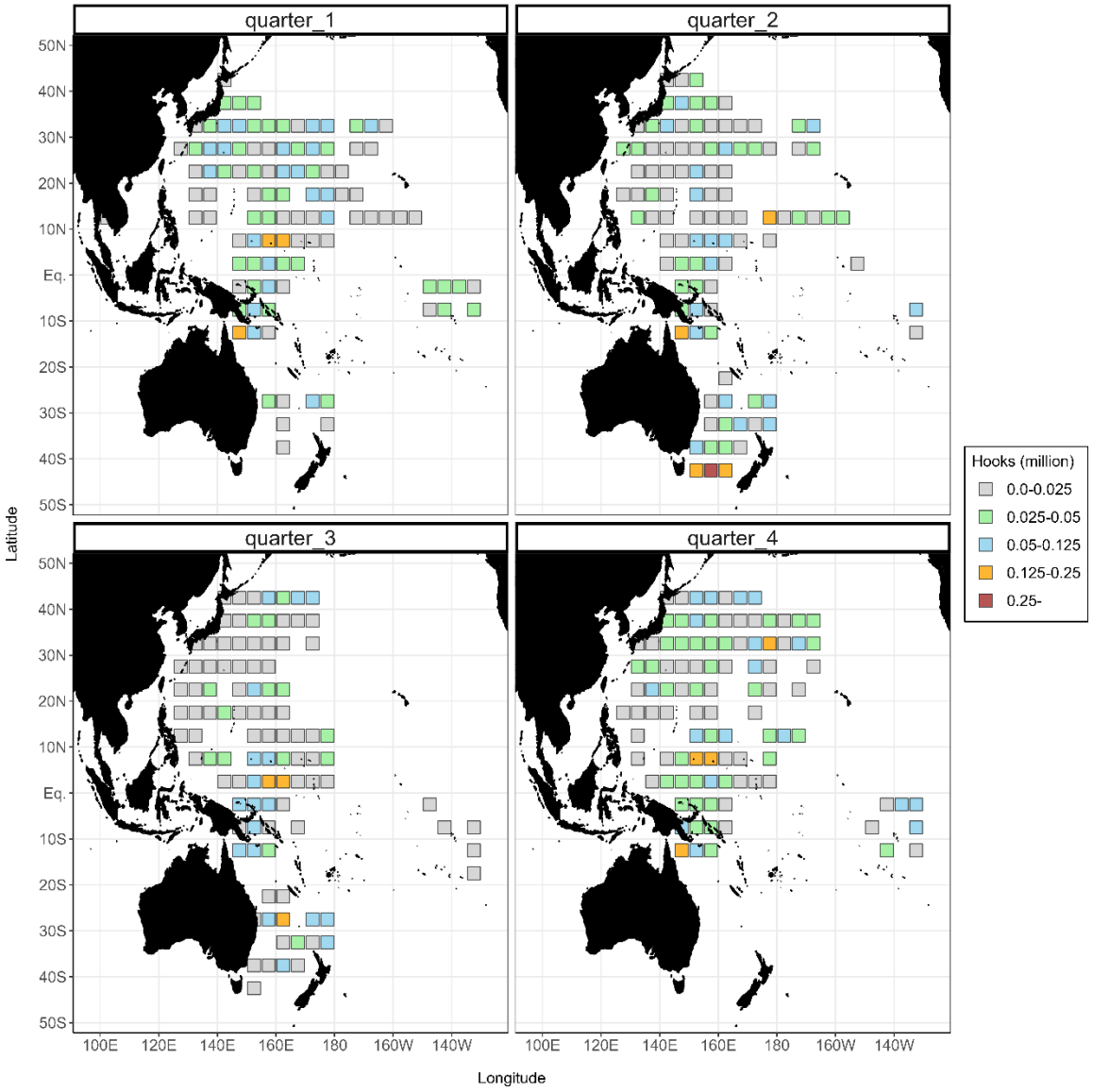

Fig. 3. Quarterly distribution of fishing effort for the Japanese offshore and distant water longline fisheries in the western and central Pacific Ocean in average of 2022–2024.

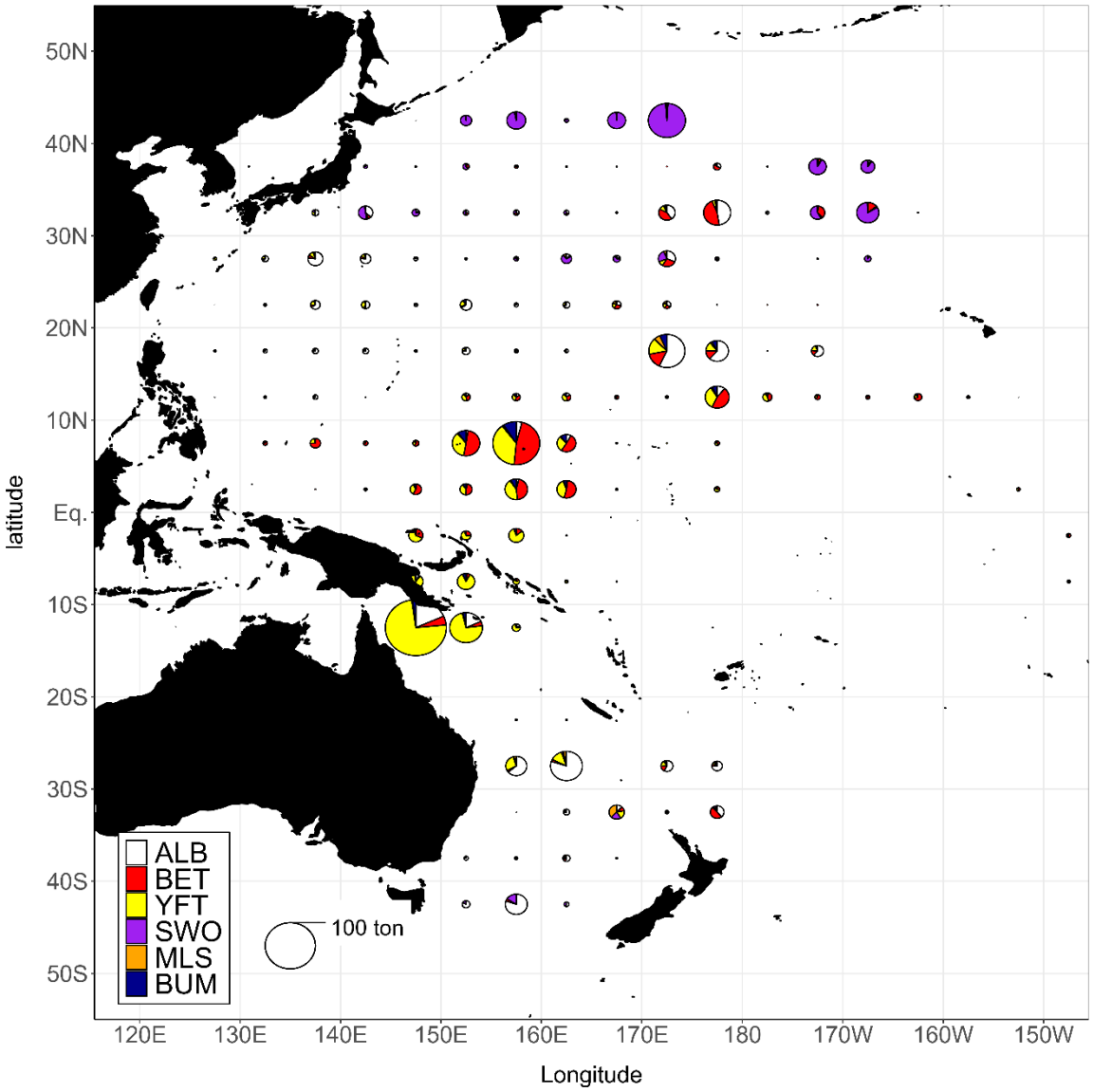

Fig. 4. Distributions of offshore and distant water longline catch (in weight) by species in average of 2022–2024 for six species (ALB: albacore, BET: bigeye tuna, YFT: yellowfin tuna, SWO: swordfish, MLS: striped marlin and BUM: blue marlin).

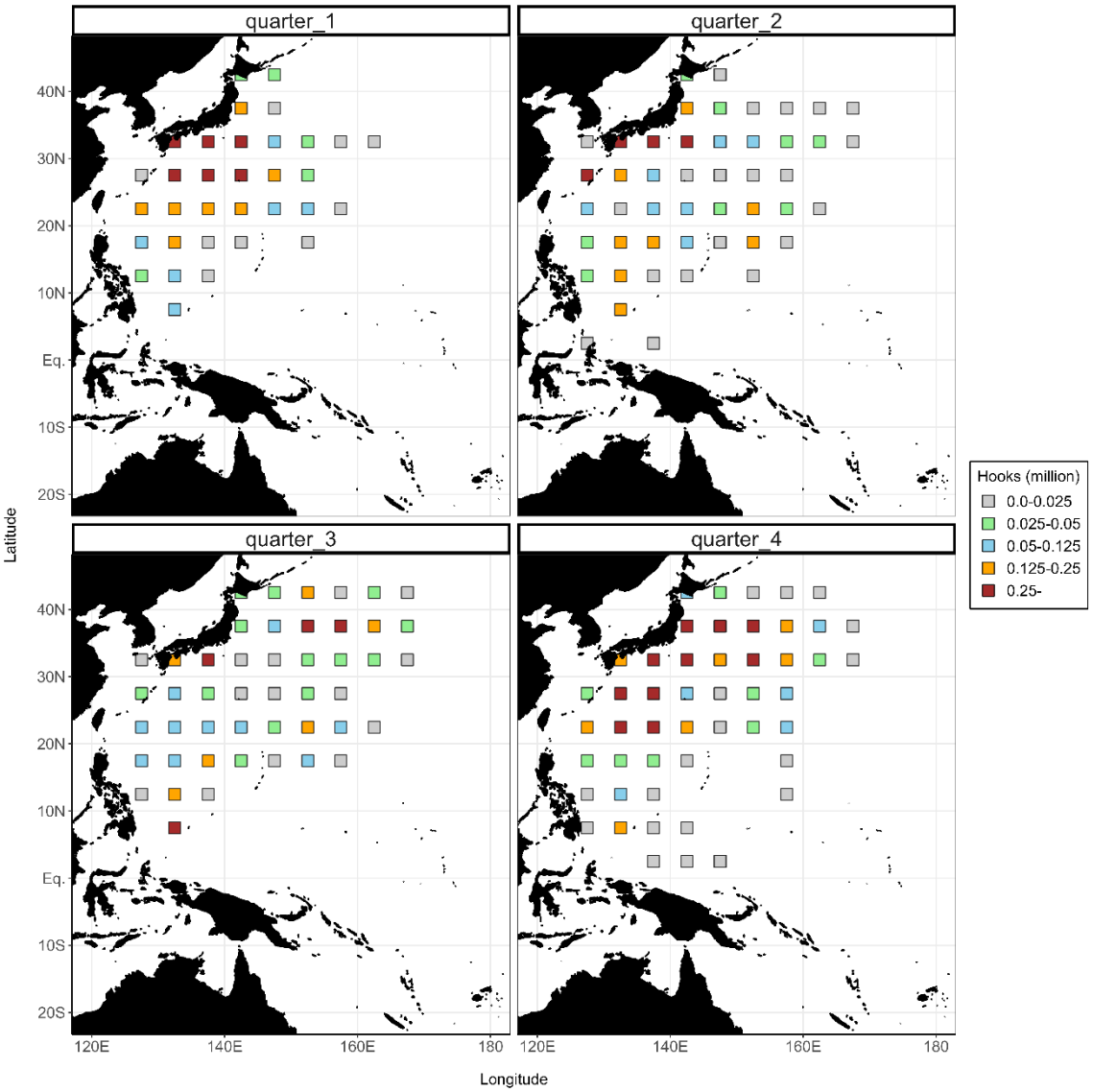

Fig. 5. Quarterly distribution of fishing effort for the Japanese small offshore longline fishery in the western and central Pacific Ocean in average of 2022-2024.

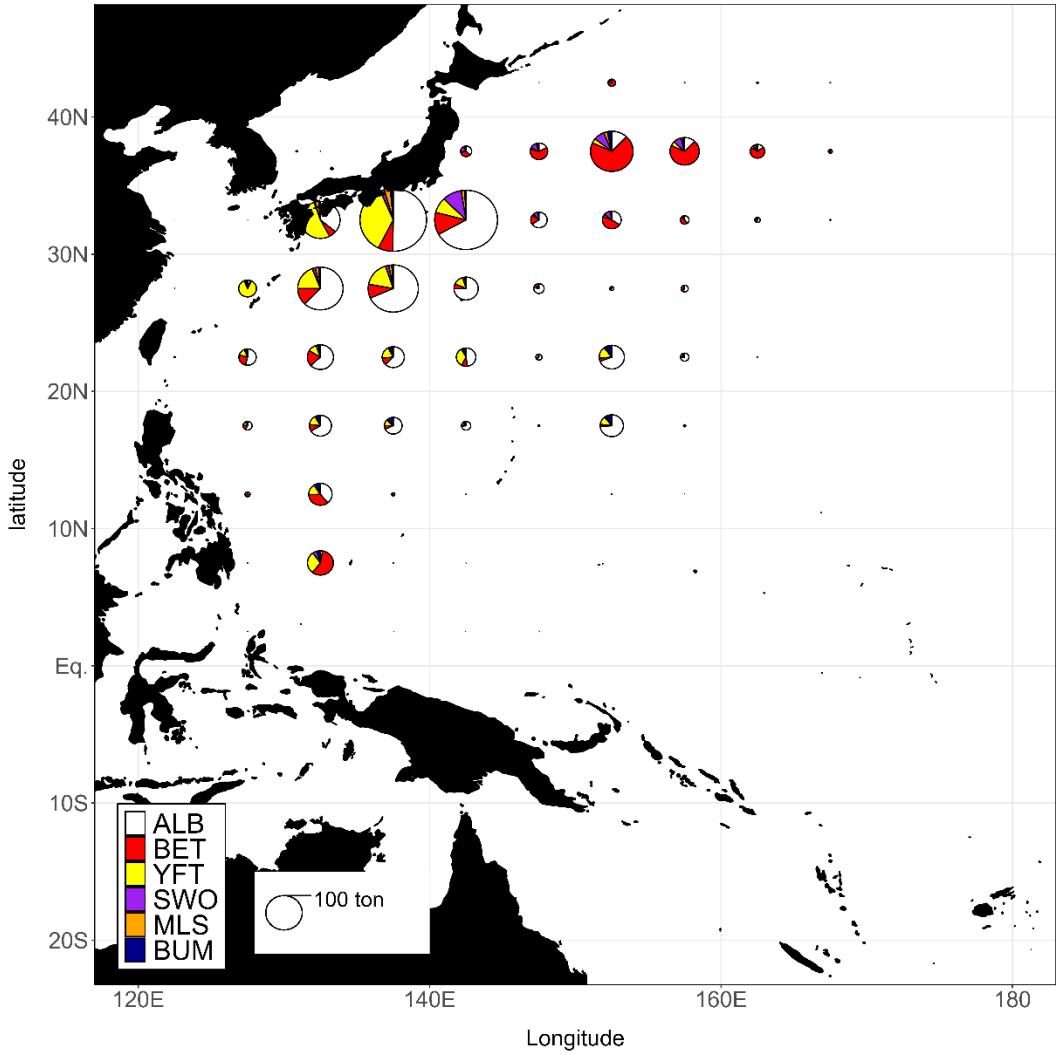

Fig. 6. Distributions of small offshore longline catch (in weight) by species in average of 2022–2024 for six species (ALB: albacore, BET: bigeye tuna, YFT: yellowfin tuna, SWO: swordfish, MLS: striped marlin and BUM: blue marlin).

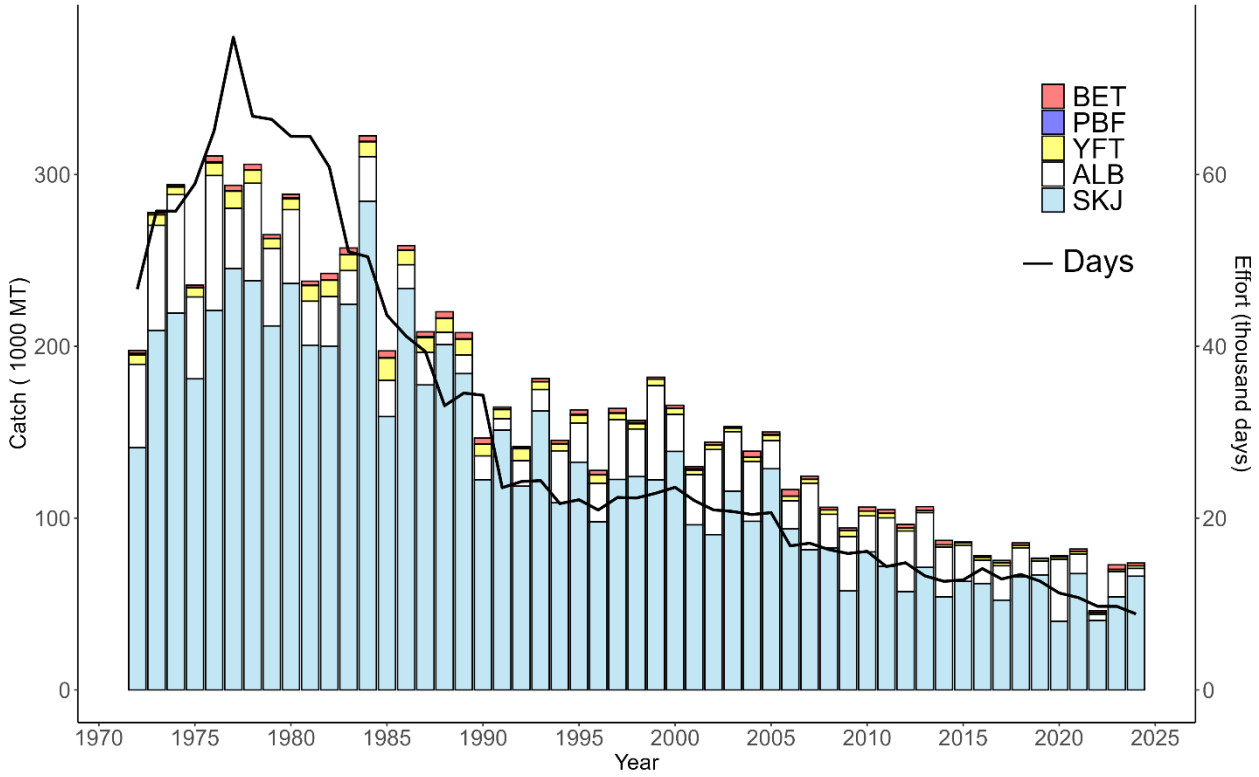

Fig. 7. Time series of fishing effort and catches by species for the Japanese pole-and-line fishery (> 20GRT) in the WCPFC Convention Area.

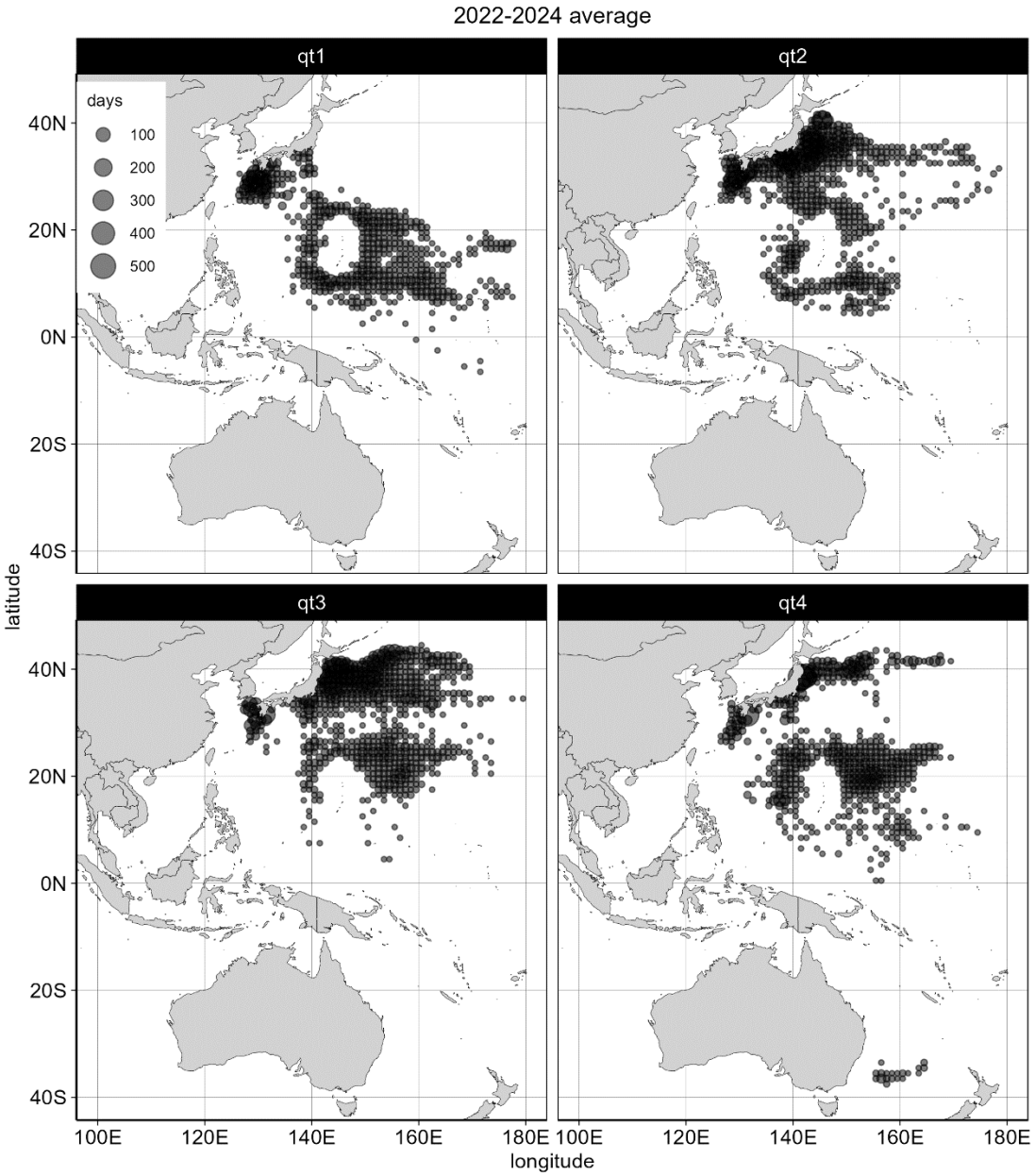

Fig. 8. Quarterly distribution of fishing effort (days) for the Japanese pole-and-line fishery (offshore and distant water licenses) in the Pacific Ocean averaged over the period from 2022 to 2024.

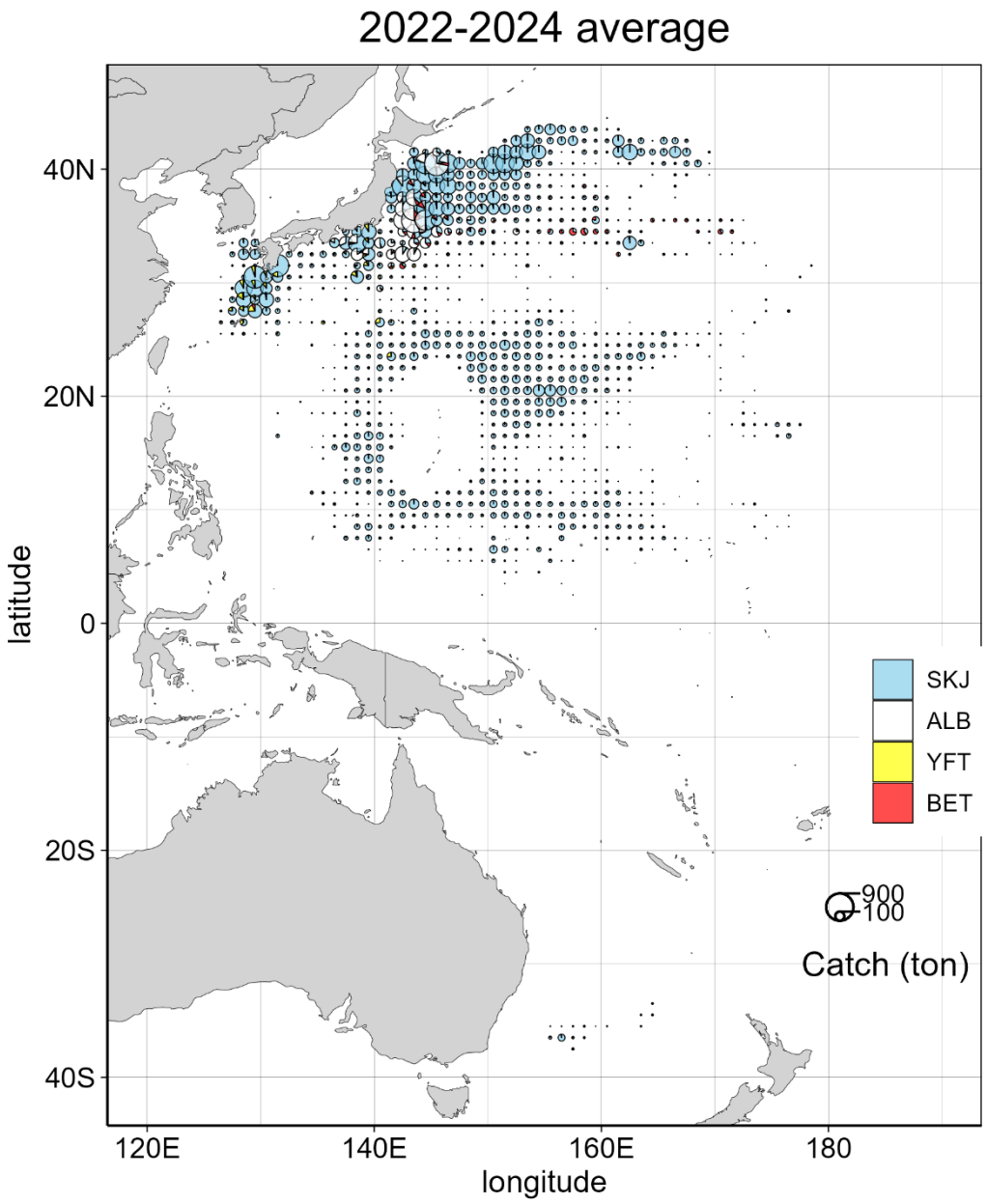

Fig. 9. Distribution of catch and its species composition for the Japanese offshore and distant water pole-and-line fishery averaged over the period from 2022 to 2024.

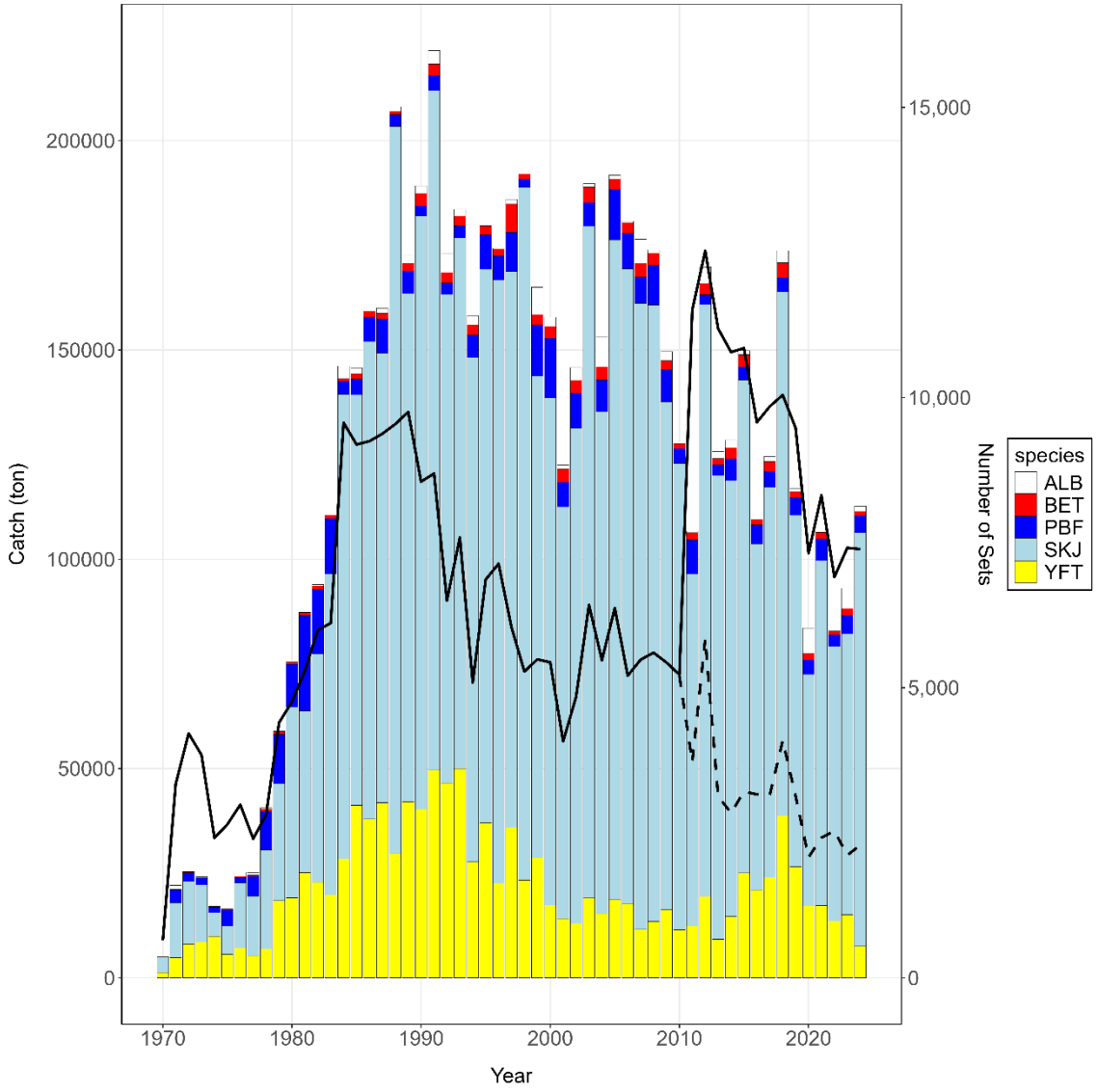

Fig. 10. Time series of fishing effort and catches by species for the Japanese tuna purse seine fishery in the WCPFC Convention Area. Since 2011, Japanese purse seine logbook data collecting system has changed and has included records of purse seine operations that do not specifically target tunas in vicinity of Japan. The solid line represents the overall number of sets by target and non-target tunas. The dashed line denotes the total number of sets by tuna targeting vessels after 2011.

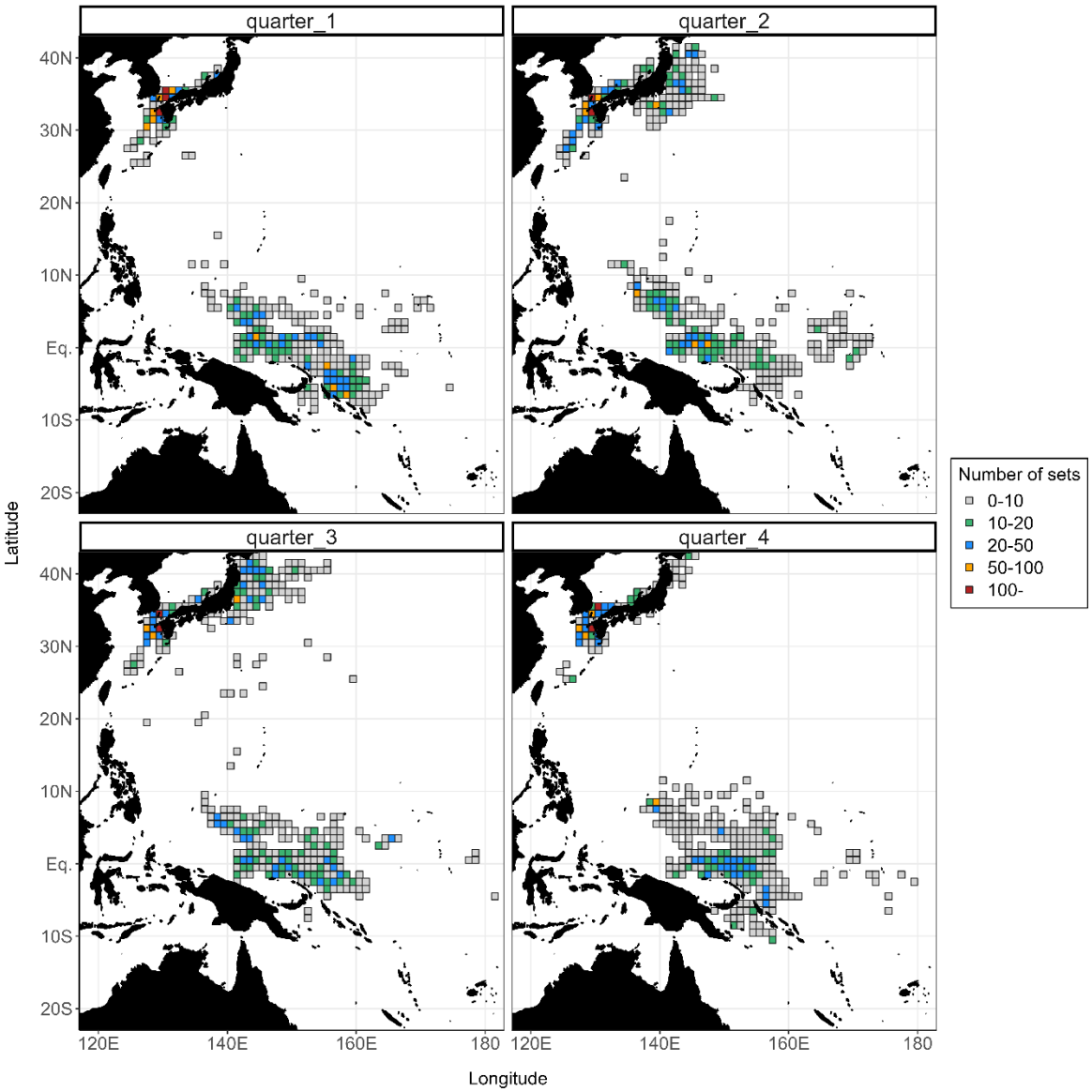

Fig. 11. Quarterly distributions of fishing effort (number of set) for the Japanese tuna purse seine fishery in the Pacific Ocean for 2022–2024.

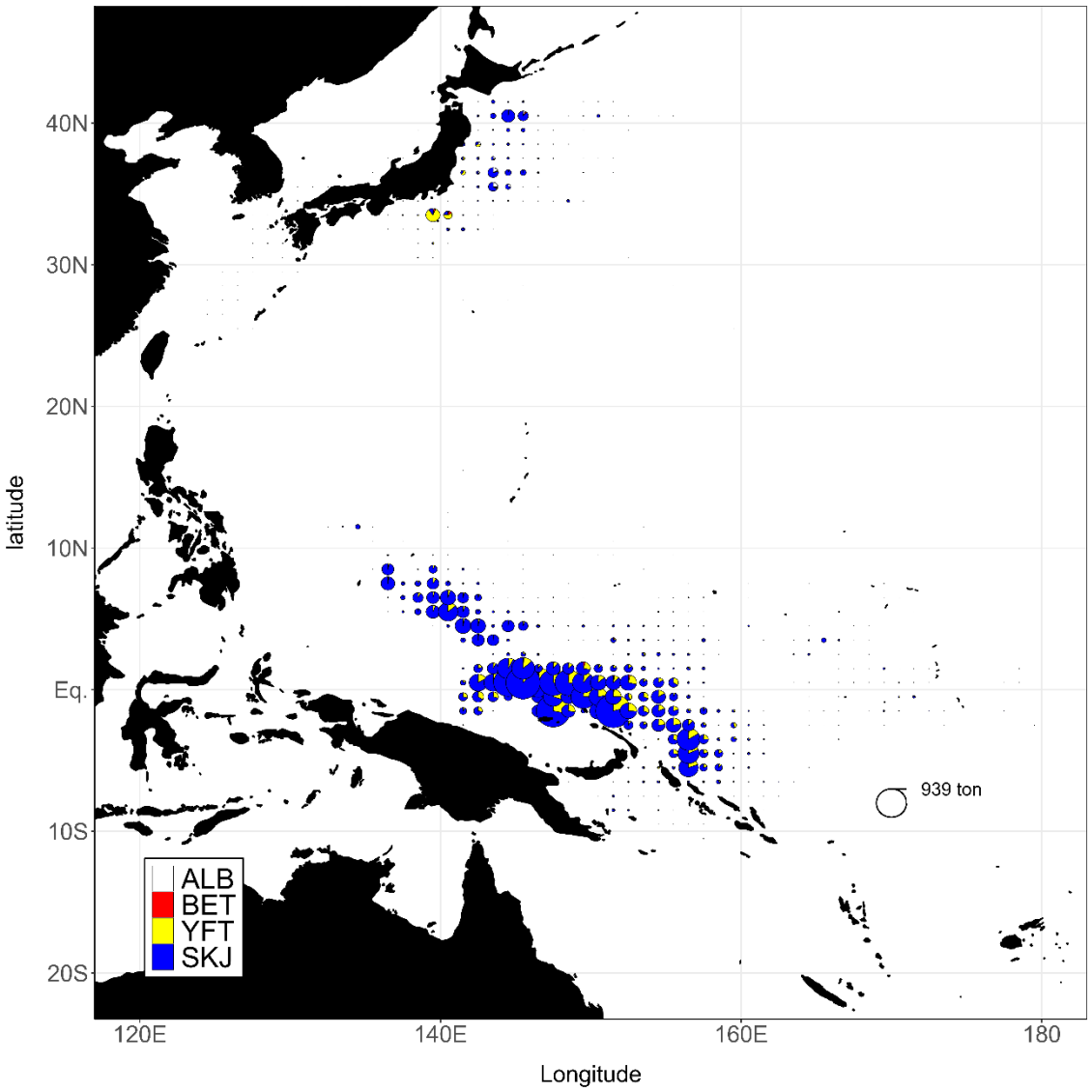

Fig. 12. Distribution of tuna purse seine catch (t) by species (skipjack, yellowfin, albacore and bigeye) combined for 2022–2024.

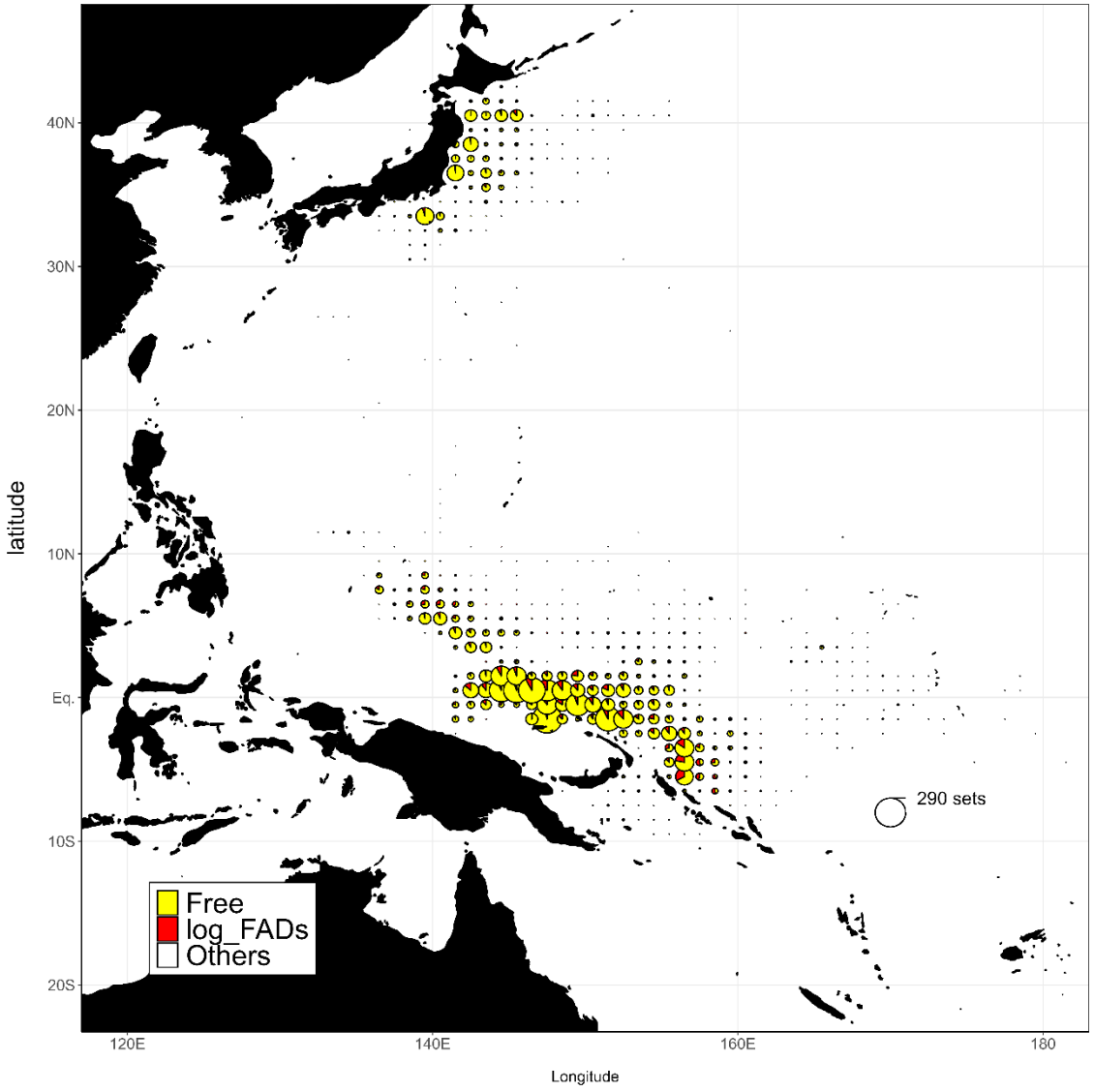

Fig. 13. Distribution of sets by type of school for 2022–2024 deployed by the tuna purse seine fishery by Japan.

Appendix Table 1. Catches (mt) for tunas, billfishes and sharks in the portion of the WCPFC Convention Area east of the 150˚ meridian of west longitude caught by distant water and offshore longline fisheries.

Year	BET	YFT	SKJ	BUM	BLM	BSH	LMD	POR	SMA	OCS	THR	FAL	SPN	RHN
2019	30	17	3	0	4	0	0	1	0	0	0	0	0	0
2020	9	7	4	0	2	0	0	1	0	0	0	0	0	0
2021	55	18	4	2	2	1	0	1	0	0	0	0	0	0
2022	66	16	22	1	4	1	0	1	1	0	0	0	0	0
2023	38	26	6	1	5	0	0	1	1	0	0	0	0	0
2024	66	142	12	2	14	0	0	0	3	0	0	0	0	0

Appendix Table 2. Catches (mt) for Pacific bluefin, albacore, swordfish and striped marlin in the Pacific Ocean north of the Equator, the Pacific Ocean south of the Equator, the WCPFC Convention Area north of the Equator and the WCPFC Convention Area south of the Equator. In this table, definition of "Coastal longline" is vessel size less than 20 GRT, which is different from that in Table 5. Values in the last two years are provisional.

Pacific bluefin tuna (1) in the Pacific Ocean north of the Equator

Year	LL Coastal less than 20 GRT	LL Offshore and distant water	PL (unspecified)	PS (unspecified)	Troll	Setnet	Others
2019	977	25	0	4,464	700	951	370
2020	1,341	75	1	3,960	759	1,342	531
2021	1,432	80	0	4,198	661	1,742	513
2022	1,519	80	13	4,702	1,051	2,126	591
2023	1,477	80	24	4,570	1,171	1,889	602
2024	1,470	80	6	4,614	1,370	1,537	649

Pacific bluefin tuna (2) in the Pacific Ocean south of the Equator

Year	LL Coastal less than 20 GRT	LL Offshore and distant water	PL (unspecified)	PS (unspecified)	Troll	Setnet	Others
2019	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0

Pacific bluefin tuna (3) in the WCPFC Statistical Area north of the Equator

Year	LL Coastal less than 20 GRT	LL Offshore and distant water	PL (unspecified)	PS (unspecified)	Troll	Setnet	Others
2019	977	25	0	4,464	700	951	370
2020	1,341	75	1	3,960	759	1,342	531
2021	1,432	80	0	4,198	661	1,742	513
2022	1,519	80	13	4,702	1,051	2,126	591
2023	1,477	80	24	4,570	1,171	1,889	602
2024	1,470	80	6	4,614	1,370	1,537	649

Pacific bluefin tuna (4) in the WCPFC Statistical Area south of the Equator

Year	LL Coastal less than 20 GRT	LL Offshore and distant water	PL (unspecified)	PS (unspecified)	Troll	Setnet	Others
2019	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0

2021	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0

Pacific bluefin tuna (5) the portion of the WCPFC Statistical Area east of the 150°meridian of west longitude

Year	LL	LL	PL	PS	Troll	Setnet	Others
	Coastal less than 20 GRT	Offshore and distant water	(unspecified)	(unspecified)			
2019	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0

Appendix Table 2. (Continued)

Albacore (1) the Pacific Ocean north of the Equator

Year	LL Coastal less than 20 GRT	LL Offshore and distant water	PL Coastal	PL Offshore and distant water	PS (unspecified)	Gillnet	Troll	Setnet	Others
2019	9,375	2,841	177	8,331	1,045	9	543	27	95
2020	10,241	2,415	254	36,380	5,961	7	784	25	159
2021	15,217	3,110	224	10,911	92	3	428	11	232
2022	8,583	2,451	86	4,004	711	31	216	18	159
2023	11,253	2,947	181	13,825	3,098	8	1,038	34	231
2024	11,253	2,947	181	13,825	3,098	8	1,038	34	231

Albacore (2) the Pacific Ocean south of the Equator

Year	LL Coastal less than 20 GRT	LL Offshore and distant water	PL Coastal	PL Offshore and distant water	PS (unspecified)	Gillnet	Troll	Setnet	Others
2019	0	2,242	0	25	1	0	0	0	0
2020	0	2,120	0	5	2	0	0	0	0
2021	0	1,956	0	329	0	0	0	0	0
2022	0	2,371	0	48	0	0	0	0	0
2023	0	1,380	0	0	0	0	0	0	0
2024	0	1,331	0	0	0	0	0	0	0

Albacore (3) the WCPFC Statistical Area north of the Equator

Year	LL Coastal less than 20 GRT	LL Offshore and distant water	PL Coastal	PL Offshore and distant water	PS (unspecified)	Gillnet	Troll	Setnet	Others
2019	9,371	2,845	177	8,331	1,045	9	543	27	95
2020	10,251	2,443	254	36,384	5,961	7	784	25	159
2021	15,217	3,110	224	10,912	92	3	428	11	232
2022	8,583	2,450	86	4,004	726	31	216	18	159
2023	11,253	2,948	181	13,825	3,098	8	1,038	34	231
2024	11,253	2,948	181	13,825	3,098	8	1,038	34	231

Albacore (4) the WCPFC Statistical Area south of the Equator

Year	LL Coastal less than 20 GRT	LL Offshore and distant water	PL Coastal	PL Offshore and distant water	PS (unspecified)	Gillnet	Troll	Setnet	Others
2019	0	1,244	0	25	1	0	0	0	0
2020	0	1,280	0	5	2	0	0	0	0
2021	0	1,061	0	329	0	0	0	0	0
2022	0	1,264	0	48	0	0	0	0	0
2023	0	1,086	0	0	0	0	0	0	0
2024	0	1,132	0	0	0	0	0	0	0

Albacore (5) the portion of the WCPFC Statistical Area east of the 150°meridian of west longitude

Year	LL	LL	PL	PL	PS	Gillnet	Troll	Setnet	Others
	Coastal less than 20 GRT	Offshore and distant water	Coastal	Offshore and distant water	(unspecified)				
2019	0	5	0	0	0	0	0	0	0
2020	0	1	0	0	0	0	0	0	0
2021	0	9	0	0	0	0	0	0	0
2022	0	12	0	0	0	0	0	0	0
2023	0	5	0	0	0	0	0	0	0
2024	0	19	0	0	0	0	0	0	0

Appendix Table 2. (Continued)

Swordfish (1) the Pacific Ocean north of the Equator

Year	LL			Gillnet	Setnet	Others
	Coastal less than 20 GRT	Offshore and distant water	Others			
2019	1,190	2,575	2	242	7	549
2020	1,209	3,803	4	290	7	484
2021	807	2,490	8	301	4	521
2022	841	1,958	4	459	4	596
2023	1,011	3,101	1	631	4	459
2024	1,096	3,165	1	631	4	459

Swordfish (2) the Pacific Ocean south of the Equator

Year	LL			Gillnet	Setnet	Others
	Coastal less than 20 GRT	Offshore and distant water	Others			
2019	0	1,325	0	0	0	0
2020	0	1,532	0	0	0	0
2021	0	1,290	0	0	0	0
2022	0	959	0	0	0	0
2023	0	1,015	0	0	0	0
2024	0	601	0	0	0	0

Swordfish (3) the WCPFC Statistical Area north of the Equator

Year	LL			Gillnet	Setnet	Others
	Coastal less than 20 GRT	Offshore and distant water	Others			
2019	1,190	2,514	2	242	7	549
2020	1,209	3,757	4	290	7	484
2021	807	2,443	8	301	4	521
2022	841	1,929	4	459	4	596
2023	1,011	3,029	1	631	4	459
2024	1,096	3,136	1	631	4	459

Swordfish (4) the WCPFC Statistical Area south of the Equator

Year	LL			Gillnet	Setnet	Others
	Coastal less than 20 GRT	Offshore and distant water	Others			
2019	0	149	0	0	0	0
2020	0	132	0	0	0	0
2021	0	165	0	0	0	0
2022	0	93	0	0	0	0
2023	0	146	0	0	0	0
2024	0	108	0	0	0	0

Swordfish (5) the portion of the WCPFC Statistical Area east of the 150°meridian of west longitude

Year	LL	Gillnet	Setnet	Others

	Coastal less than 20 GRT	Offshore and distant water	Others			
2019	0	3	0	0	0	0
2020	0	4	0	0	0	0
2021	0	4	0	0	0	0
2022	0	22	0	0	0	0
2023	0	6	0	0	0	0
2024	0	12	0	0	0	0

Appendix Table 2. (Continued)

striped marlin (1) the Pacific Ocean north of the Equator

Year	LL			Gillnet	Setnet	Others
	Coastal less than 20 GRT	Offshore and distant water	Others			
2019	881	245	29	241	32	100
2020	838	205	49	155	41	57
2021	497	166	17	95	33	77
2022	363	130	15	138	30	94
2023	439	131	18	77	36	54
2024	645	244	18	77	36	54

striped marlin (2) the Pacific Ocean south of the Equator

Year	LL			Gillnet	Setnet	Others
	Coastal less than 20 GRT	Offshore and distant water	Others			
2019	0	217	0	0	0	0
2020	0	228	0	0	0	0
2021	0	208	0	0	0	0
2022	0	138	0	0	0	0
2023	0	152	0	0	0	0
2024	0	90	0	0	0	0

striped marlin (3) the WCPFC Statistical Area north of the Equator

Year	LL			Gillnet	Setnet	Others
	Coastal less than 20 GRT	Offshore and distant water	Others			
2019	881	189	29	241	32	100
2020	838	189	49	155	41	57
2021	497	160	17	95	33	77
2022	363	127	15	138	30	94
2023	439	121	18	77	36	54
2024	645	244	18	77	36	54

striped marlin (4) the WCPFC Statistical Area south of the Equator

Year	LL			Gillnet	Setnet	Others
	Coastal less than 20 GRT	Offshore and distant water	Others			
2019	0	31	0	0	0	0
2020	0	29	0	0	0	0
2021	0	42	0	0	0	0
2022	0	45	0	0	0	0
2023	0	86	0	0	0	0
2024	0	52	0	0	0	0

striped marlin (5) the portion of the WCPFC Statistical Area east of the 150°meridian of west longitude

Year	LL			Gillnet	Setnet	Others
	Coastal less than 20 GRT	Offshore and distant water	Others			

2019	0	0	0	0	0	0
2020	0	0	0	0	0	0
2021	0	2	0	0	0	0
2022	0	1	0	0	0	0
2023	0	1	0	0	0	0
2024	0	2	0	0	0	0

Appendix Table 3. Catch in weight, of swordfish at south of 20˚ South of WCPFC statistical area by year with vessel statistics relate to **paragraph 8 of CMM 2009–03.** "Vessel number" means number of vessels who caught at least one fish in this area in each year. Values in the last two years are provisional.

	Japan–flagged vessels south of 20S		Chartered vessels			Other vessels fishing within the Japan's waters south of 20S	
Year	Catch (mt)	Vessel numbers	Catch (mt)	Vessel numbers	Flag	Catch (mt)	Vessel numbers
2019	100	27	0	0	—	—	—
2020	110	21	0	0	—	—	—
2021	143	23	0	0	—	—	—
2022	51	21	0	0	—	—	—
2023	128	24	0	0	—	—	—
2024	93	20	0	0	—	—	—

Appendix Table 4. Observer coverage for the Japanese longline fishery. This table was requested in WCPFC 11 decision – para 484(b). Ice/Fresh; short trip. Frozen; long–trip. Values in the last two years are provisional.

		No. of Hooks			Days Fished			Days at Sea			No. of Trips		
Year	Fishery	T.	O.	%	Total	Observer	%	T.	O.	%	T.	O.	%
2019	Ice / Fresh	**	**	**	21,840	1,473	6.74	**	**	**	**	**	**
	Frozen	**	**	**	7,987	888	11.1	**	**	**	**	**	**
2020	Ice / Fresh	**	**	**	18,299	51	0.28	**	**	**	**	**	**
	Frozen	**	**	**	6,077	232	3.82	**	**	**	**	**	**
2021	Ice / Fresh	**	**	**	14,985	20	0.13	**	**	**	**	**	**
	Frozen	**	**	**	6,096	0	0	**	**	**	**	**	**
2022	Ice / Fresh	**	**	**	14,332	0	0	**	**	**	**	**	**
	Frozen	**	**	**	5,480	0	0	**	**	**	**	**	**
2023	Ice / Fresh	**	**	**	16,296	1,041	6.39	**	**	**	**	**	**
	Frozen	**	**	**	7,182	446	6.21	**	**	**	**	**	**
2024	Ice / Fresh	**	**	**	18,726	878	4.69	**	**	**	**	**	**
	Frozen	**	**	**	6,470	556	8.59	**	**	**	**	**	**

Appendix Table 5-1. The total quantity (mt) of highly migratory fish stocks transshipped by fishing vessels related to **paragraph 11 of CMM 2009-06**.

(1) The total quantities in 2024, by weight, of highly migratory fish stocks covered by this measure that were transhipped by fishing vessels the CCM is responsible for reporting against, with those quantities broken down by:

a) offloaded and received;	b) transhipped in port, transhipped at sea in areas of national jurisdiction, and transhipped beyond areas of national jurisdiction	c) transhipped inside the Convention Area and transshipped outside the Convention Area;	d) caught inside the Convention Area and caught outside the Convention Area;	e) Species	f) Product Form	g) Fishing gear	Quantity (mt)
Offloaded							446.611
	At sea beyond NJ						446.611
		Inside CA					446.611
			Outside CA				0
				BET			204.943
					GG	Longline	204.943
				YFT			131.855
					GG	Longline	131.855
				SWO			37.262
					FL	Longline	34.702
					DR	Longline	2.560
				MLS	GG	Longline	3.079
				BUM	DR	Longline	6.641
				ALB	RD	Longline	34.966
				Other	DR	Longline	27.865
Received							0

Appendix Table 5-2. The number of transshipments involving highly migratory fish stocks related to **paragraph 11 of CMM 2009-06**.

(1) The number of transhipments in 2024 involving highly migratory fish stocks covered by this measure by fishing vessels that is responsible for reporting against, broken down by:

a) offloaded and received;	b) transhipped in port, transhipped at sea in areas of national jurisdiction, and transhipped beyond areas of national jurisdiction	c) transhipped inside the Convention Area and transshipped outside the Convention Area;	d) caught inside the Convention Area and caught outside the Convention Area;	e) Species	f) Product Form
Offloaded					3

	At sea beyond NJ			3
		Inside CA	Longline	3
			Outside CA	0
Received				0

Appendix Table 6-1. Effort observed and estimated seabird captures by the longliners larger than 20 GRT (approximately >= 24m) by fishing year for Japan [South of 30˚ S, 25˚ S – 30˚ S, 23˚ N – 25˚ S, or North of 23˚ N] related to **paragraph 13 of CMM 2018–03**. For each year, the table gives the total number of hooks; the number of observed hooks; observer coverage (the percentage of hooks that were observed); the number of observed captures (both dead and alive); the capture rate (captures per thousand hooks).

Year	Fishing effort				Observed seabird captures	
	Number of vessels	Number of hooks	Observed hooks	% hooks observed	Number	Rate
North of 23˚N						
2020	42	13,724,221	0	0.0	0	0.000
2021	37	11,624,250	0	0.0	0	0.000
2022	33	9,669,011	0	0.0	0	0.000
2023	24	11,401,675	607,846	5.3	150	0.247
2024	25	10,409,288	207,494	2.0	17	0.082
23˚N – 25˚S						
2020	49	11,408,298	0	0.0	0	0.000
2021	49	9,916,932	38,073	0.4	0	0.000
2022	41	10,719,721	0	0.0	0	0.000
2023	39	13,613,249	502,203	3.7	0	0.000
2024	41	11,745,792	450,914	3.8	1	0.002
25˚N – 30˚S						
2020	14	1,562,742	132,871	8.5	0	0.000
2021	12	937,647	0	0.0	0	0.000
2022	9	701,765	0	0.0	0	0.000
2023	11	994,989	148,106	14.9	1	0.007
2024	10	1,308,320	341,884	26.1	0	0.000
South of 30˚S						
2020	21	3,704,810	205,451	5.5	13	0.063
2021	23	4,036,450	0	0.0	0	0.000
2022	22	2,475,867	0	0.0	0	0.000
2023	24	3,674,873	532,643	14.5	46	0.086
2024	20	3,017,264	505,718	16.8	13	0.026

Appendix Table 6-2. Effort observed and estimated seabird captures by the longliners less than 20 GRT (approximately < 24m) by fishing year for Japan [South of 30˚ S, 25˚ S – 30˚ S, 23˚ N – 25˚ S, or North of 23˚ N] related to **paragraph 13 of CMM 2018–03**. For each year, the table gives the total number of hooks; the number of observed hooks; observer coverage (the percentage of hooks that were observed); the number of observed captures (both dead and alive); the capture rate (captures per thousand hooks).

Year	Fishing effort				Observed seabird captures	
	Number of vessels	Number of hooks	Observed hooks	% hooks observed	Number	Rate
North of 23˚N						
2020	216	46,725,660	39,835	0.1	28	0.703
2021	189	34,349,537	0	0.0	0	0.000
2022	212	35,657,950	0	0.0	0	0.000
2023	196	43,311,464	964,808	2.2	208	0.216
2024	195	53,946,935	1,096,777	2.0	242	0.221
23˚N – 25˚S						
2020	130	13,940,200	51,456	0.4	2	0.039
2021	114	13,848,500	0	0.0	0	0.000
2022	124	13,846,607	0	0.0	0	0.000
2023	114	15,083,299	543,682	3.6	3	0.006
2024	105	15,890,588	333,546	2.1	0	0.000

Appendix Table 7-1. Proportion of mitigation types[1] used by the fleet in 2020–2024 related to **paragraph 13 of CMM 2018–03**.

2020	Combination of mitigation measures	Proportion of observed effort using mitigation measures		
		South of 30^0S	25^0S to 23^0N	North of 23^0N
Options required south of 30^0S	TL + NS + MOD	0.0%	0.0%	0.2%
	TL + WB + MOD	23.5%	0.0%	0.0%
	WB + NS + MOD	5.9%	0.0%	0.0%
	TL + WB + NS + MOD	47.0%	0.0%	0.0%
Other options 25^0S – 30^0S	TL + MOD	0.0%	0.0%	4.6%
	WB + MOD	23.5%	0.0%	0.0%
Other options north of 23^0N	NS + MOD	0.0%	0.3%	0.6%
	MOD	0.0%	99.7%	94.6%
Total		100.0%	100.0%	100.0%

2021	Combination of mitigation measures	Proportion of observed effort using mitigation measures			
		South of 30^0S	25^0S – 30^0S	25^0S to 23^0N	North of 23^0N
Other options north of 23^0N	MOD	NA	NA	100.0%	NA
Total		NA	NA	100.0%	NA

2022	Combination of mitigation measures	Proportion of observed effort using mitigation measures			
		South of 30^0S	25^0S – 30^0S	25^0S to 23^0N	North of 23^0N
Total		NA			

2023	Combination of mitigation measures	Proportion of observed effort using mitigation measures			
		South of 30^{0}S	25^{0}S – 30^{0}S	25^{0}S to 23^{0}N	North of 23^{0}N
Options required south of 30^{0}S	TL+NS+MOD	9.5%	13.9%	0.0%	6.3%
	TL+WB+MOD	45.9%	0.9%	0.9%	1.3%
	WB+NS+MOD	0.0%	0.5%	2.1%	0.1%
	TL+WB+NS_MOD	21.5%	0.4%	0.0%	0.1%
Other options 25^{0}S – 30^{0}S	TL+MOD	21.8%	44.3%	3.2%	75.8%
	WB+MOD	0.0%	4.9%	29.4%	2.0%
Other options north of 23^{0}N	NS+MOD	0.4%	4.8%	4.4%	1.3%
	MOD	0.9%	30.4%	59.9%	13.0%
Total		100.0%	100.0%	100.0%	100.0%

2024	Combination of mitigation measures	Proportion of observed effort using mitigation measures			
		South of 30^{0}S	25^{0}S – 30^{0}S	25^{0}S to 23^{0}N	North of 23^{0}N
Options required south of 30^{0}S	TL+NS	0.30%	0.00%	0.00%	0.00%
	TL+NS+MOD	7.77%	6.85%	0.00%	5.71%
	TL+WB	14.47%	0.00%	0.00%	0.00%
	TL+WB+MOD	30.15%	30.68%	0.01%	1.97%
	WB+NS+MOD	0.00%	12.15%	6.17%	0.00%
	TL + WB + NS	8.37%	0.00%	0.00%	0.00%
	TL+WB+NS_MOD	34.96%	10.22%	0.00%	0.17%
Other options 25^{0}S – 30^{0}S	TL	0.05%	0.00%	0.00%	0.00%
	TL+MOD	3.93%	8.62%	0.25%	85.60%
	WB+MOD	0.00%	22.52%	23.38%	0.50%
Other options north of 23^{0}N	NS+MOD	0.00%	1.18%	7.31%	0.28%
	MOD	0.00%	7.79%	62.89%	5.77%
Total		100.00%	100.00%	100.00%	100.00%

[1]TL = tori line, NS=night setting, WB = weighted branch line, SS = side setting, BC = bird curtain, BDB = blue dyed bait, DSLS = deep setting line shooter, MOD = management of offal discharge, HS=hook-shielding device.

Appendix Table 8-1. Number of observed seabird captures in Japan longline fisheries in the longliners larger than 20 GRT (approximately >=24m, by year species and area related to **paragraph 13 of CMM 2018–03**.

Species	South of 30S	25S-30S	23N-25S	North of 23N	Total
2020					
Buller's albatross group	2	0	0	0	2
Parkinson's petrel	6	0	0	0	6
Shy-type albatrosses	4	0	0	0	4
Wandering albatross	1	0	0	0	1
Total	13	0	0	0	13
2021					
Total	NA	NA	0	NA	0
2022					
Total	NA	NA	NA	NA	0
2023					
Black-browed albatross	2	0	0	0	2
Black-browed albatross group	1	0	0	0	1
Black-footed albatross	0	0	0	28	28
Buller's albatross group	6	0	0	0	6
Campbell albatross	2	0	0	0	2
Grey petrel	1	0	0	0	1
Grey-headed albatross	1	0	0	0	1
Large albatrosses	1	0	0	0	1
Laysan albatross	0	0	0	100	100
North Pacific albatrosses	0	0	0	22	22
Other albatrosses	3	0	0	0	3
Parkinson's petrel	1	0	0	0	1
Short-tailed shearwater	0	1	0	0	1
Shy-type albatrosses	6	0	0	0	6
Sooty shearwater	1	0	0	0	1
Southern giant petrel	1	0	0	0	1
Unidentified albatrosses	1	0	0	0	1
Unidentified petrels	2	0	0	0	2
Wandering albatross group5	9	0	0	0	9
White-chinned petrel	8	0	0	0	8
Total	46	1	0	150	197
2024					
Black-browed albatross group	2	0	0	0	2
Black-footed albatross	0	0	0	4	4
Brown booby	0	0	1	0	1
Campbell albatross	2	0	0	0	2
Laysan albatross	0	0	0	13	13
Other albatrosses	1	0	0	0	1
Shy-type albatrosses	6	0	0	0	6
Unidentified albatrosses	1	0	0	0	1
Wandering albatross	1	0	0	0	1
Total	13	0	1	17	31

Appendix Table 8-2. Number of observed seabird captures in the longliners less than 20 GRT (approximately < 24m), by year species and area related to **paragraph 9 of CMM 2018–03**.

Species	23N-25S	North of 23N	Total
2020			
Laysan albatross	0	28	28
Streaked shearwater	2	0	2
Total	2	28	30
2021			
Total	NA	NA	NA
2022			
Total	NA	NA	NA
2023			
Black-footed albatross	0	93	93
Brown booby	1	0	1
Laysan albatross	0	107	107
North Pacific albatrosses	0	6	6
Streaked shearwater	2	1	3
Wedge-tailed shearwater	0	1	1
Total	3	208	211
2024			
Black-footed albatross	0	92	92
Laysan albatross	0	131	131
North Pacific albatrosses	0	18	18
Streaked shearwater	0	1	1
Total	0	242	242

Appendix Table 9-1. Striped marlin catch data for the Japanese offshore and distant water longline fishery in the WCP-CA south of 15˚S relate to **paragraph 4 of CMM 2006-04.**

Year	Striped marlin catch (t)
2019	20
2020	25
2021	35
2022	32
2023	79
2024	48

Appendix Table 9-2. Number of vessels that have fished for striped marlin in the Convention area south of 15˚ S, during the period 2000 – 2004 and 2024 related to **paragraph 4 of CMM 2006–04.**

Year	Number of vessel
2000 – 2004 (as main target species)	0
2024 (as main target species)	0
2024 (as bycatch species)	11

Appendix Table 10-1. Fishing effort and albacore catch of vessel of the Japanese offshore and distant water longline and pole-and-line fisheries in the south of 20˚ S in the WCP-CA related to **paragraph 4 of CMM 2015–02**. The number of vessels and the catch in cases where the catch of albacore exceeds 50% of the total catch of bigeye, yellowfin, albacore, swordfish, southern bluefin, and skipjack for each vessel

(a) Offshore and distant water longline

Year	Albacore catch (mt)	Number of vessel
2019	330	20
2020	664	19
2021	418	17
2022	425	15
2023	325	15
2024	644	10

(b) Offshore and distant water pole-and-line

Year	Albacore catch (mt)	Vessels
2019	10	1
2020	0	0
2021	317	2
2022	34	5
2023	0	0
2024	0	0

Appendix Table 10-2. Catch (mt) by vessel for the Japanese offshore and distant water longline fishery in the south of 20˚ S in the WCP-CA related to **paragraph 4 of CMM 2015–02**. BIL: other billfishes, SHK: sharks.

Year	Vessel	SBT	ALB	BET	YFT	SWO	SKJ
2024	A1	0	105	2	18	0	4
2024	A2	0	30	0	14	1	2
2024	A3	0	50	1	9	1	1

2024	A4	0	44	0	8	1	2
2024	A5	0	133	2	16	3	9
2024	A6	0	145	2	33	2	4
2024	A7	0	39	0	1	0	3
2024	A8	0	5	0	0	0	0
2024	A9	0	48	1	3	0	1
2024	A10	0	40	3	0	0	3

Appendix Table 11-1. Albacore catch by fishery in mt in the WCP-CA north of the equator related to **paragraph 3 of CMM 2019–03**. Values in the last two years are provisional.

	LL	LL	PL	PL	PS	PS				
Year	Coastal	Offshore & distant water	Coastal	Offshore & distant water	Coastal	Offshore & distant water	Gillnet	Troll	Setnet	Others
2019	9,371	4,085	177	8,356	NA	1,046	9	543	27	95
2020	10,251	3,722	254	36,389	NA	5,963	7	784	25	159
2021	15,217	4,162	224	11,241	NA	92	3	428	11	232
2022	8,583	3,702	86	4,052	NA	726	31	216	18	159
2023	11,253	4,029	181	13,825	NA	3,098	8	1,038	34	231
2024	11,253	4,061	181	13,825	NA	3,098	8	1,038	34	231

Appendix Table 11-2. Fishing effort in number of vessel and vessel days by fishery directed at albacore in the WCP- CA north of the equator related to **paragraph 3 of CMM 2019–03**. Values in the last two years are provisional. NA indicates data not available. The number of vessels refers to the number of registered vessels.

CCM	Area	Fishery	2002–04 Average		2019		2020		2021		2022		2023		2024	
			No.	days	No.	days	No.	days	No.	days	No.	days	No.	days	No.	days
Japan	WCPFCA North of the Equator.	LL Coastal	296	40.988	225	34,231	226	35,573	230	36,418	222	29,135	207	31,629	210	34,640
		LL Offshore & distant water	633	26,851	249	9,987	249	10,182	249	10,308	237	7,533	228	10,478	219	10,563
		PL Coastal	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		PL Offshore & distant water	141	19,839	76	12,321	75	11,093	74	10,531	69	9,487	67	6,713	67	8,845
		PS Coastal	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		PS Offshore & distant water	19	145	10	90	12	162	7	14	6	39	11	119	7	48
		Gillnet	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Troll	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Setnet	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Appendix Table 12. Fishing effort in number of vessel and vessel days by fishery directed at swordfish in the WCP- CA north of the equator related to **paragraph 4 of CMM 2023–03**. Values in the last two years are provisional. NA indicates data not available. The number of vessels refers to the number of registered vessels. Fishing days is the total days of fishing (both targeting and bycatch). Others include set-net, troll, pole and line and other artisanal fisheries etc., mostly operating within territorial water of Japan. * Provisional. CA: WCPFC conventional area.

CCM	Area	Fishery (gear type)	2008-2010 Average			2022			2023			2024		
			Catch (t)	No. of vessels	Fishing days[1]	Catch (t)	No. of vessels	Fishing days	Catch (t)	No. of vessels	Fishing days	Catch (t)	No. of vessels	Fishing days
Japan	CA North Pacific Ocean	Drift gillnet	608	139	3,593	459	54	917(*)	631(*)	49	832(*)	631(*)	46	522(*)
		Longline	5,548	406	60,718	3,249	264	41,791	4,469(*)	252	42,107	4,175(*)	242	45,203
		Others	545	-	-	604	-	-	516(*)	-	-	516(*)	-	-
		Total	***6,701***			***4,309***			***5,616***			***5,322***		
	CA north of 20°N	Drift gillnet	608	139	3,593	459	54	917(*)	631(*)	49	832(*)	631(*)	46	522(*)
		Longline	5,103	318	44,192	3,046	243	34,566	4,258(*)	221	34,578	4,009(*)	221	37,767
		Others (**)	545	-	-	604	-	-	516(*)	-	-	*516*(*)	-	-
		Total	***3,978***			***2,598***			***5,405***			***5,156***		