

11th MEETING OF THE SCIENTIFIC COMMITTEE

11 to 16 September 2023, Panama City, Panama

SC11 – Doc27

Annual Report of the Republic of Peru to SC11 – SPRFMO Area

Republic of Peru

11th MEETING OF THE SCIENTIFIC COMMITTEE

Panamá, 11-16 September 2023



Peru National Report No. 1

**REPORT ON THE FISHING ACTIVITIES OF THE PERUVIAN FLEET IN
THE AREA OF APPLICATION OF THE CONVENTION ON THE
CONSERVATION AND MANAGEMENT OF HIGH SEAS FISHERY
RESOURCES IN THE SOUTH PACIFIC OCEAN, PERIOD JANUARY 2022 –
JULY 2023**

by

IMARPE - PRODUCE

2023

SUMMARY

As of July 2023, there are 118 Peruvian vessels authorized and registered in the Commission record of vessels authorized to fish within the SPRFMO Convention area. A maximum annual catch of 40516 t of *Trachurus murphyi* was reported in 2010 by the Peruvian fleet in the SPRFMO and fishing activities were significantly reduced thereafter. In 2014, up to 5 Peruvian multipurpose purse seine/traulners caught 2 556.9 t of *T. murphyi* and 1 190.0 t of *Dosidicus gigas* in the SPRFMO Convention area. From 2015 to 2022, no Peruvian vessel fished for *T. murphyi* in the SPRFMO Convention area. However, during the first semester of 2023 (until July) a total catch of 20 056.06 t was reported by 38 Peruvian flagged purse seine vessels. Regarding *Scomber japonicus*, a total of 1 122.3 t was caught by 5 Peruvian purse seiners in 2016. But during this year 2023 (until July 2023), the same Peruvian flagged vessels fished a total of 7 360 t. of *S. japonicus* in the SPRFMO Convention area. Regarding *D. gigas*, two Peruvian scientific research vessels caught a total of 1.6 t in 2015 and one of them caught 1.0 t in 2018, while a variable number of small artisanal jigger vessels were reported to have occasionally fished for *D. gigas* in the SPRFMO Convention area between 2014 and 2018. No catches of jumbo flying squid in this area have been reported from 2019 and the first semester of 2023 (until July 2023). The research activities in the SPRFMO area, and monitored by a Peruvian onboard observer program, provided reliable information on fishing effort, catch volumes, species composition of the catches, fishing areas; and horizontal and vertical distribution of the target species. Part of this information is presented in this report. Finally, there were no registers of top predators bycatch (seabirds, marine mammals and sea turtles) in any observation during the reported fishing activities.

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1. INTRODUCTION

This report provides information on the Peruvian fishing and seagoing research activities directed to non-highly migratory species in the SPRFMO Convention area during the period between January 2022 and July 2023. It updates the information provided in previous reports (IMARPE-PRODUCE 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022) where details for previous earlier years can be found.

2. DESCRIPTION OF THE FISHERIES

2.1. Fleet composition

As of July 2023, the Peruvian fleet authorized and registered in the Commission record of vessels authorized to fish within the area of application of the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean (SPRFMO Convention area) added up to 118 vessels, including 90 purse seiners with an average hold capacity of 508.26 m³, 1 trawler/freezer with a total hold capacity of 2 399 m³, 3 scientific fishery research vessels with no (0 m³) hold capacity, and 24 liners vessels with an average hold capacity of 25.08 m³ (Table 1).

Table 1. Peruvian vessels registered and authorized to fish within the SPRFMO Convention area (as of 30 July 2023)

Number of vessels	Type of fishing vessels	Total hold capacity (m ³)	Average hold capacity (m ³)
90	Purse seine	45 743.51	508.26
1	Trawl/freezer	2 399	2 399
3	Scientific fishery research	0	0
24	Liniers	602	25.08

No Peruvian flagged vessels had been reported for the last two years (2021 and 2022). Between January and July 2023, a total of 38 Peruvian flagged vessels have participated in fishing activities directed to non-highly migratory species in the SPRFMO Convention area (Table 2). This group of vessels have fished up to 27 416.36 tons.

Table 2. Peruvian fleet that participated in fishing activities in the SPRFMO Convention area, by type of vessel and fishing gear with an indication of their total hold capacity and total catch per year for the period January 2022 - July 2023

Year	Number of vessels	Type of vessel and fishing gear	Total hold capacity (m ³)	Average hold capacity (m ³)	Total catch (t)
2021	0	not applicable	0	0	0
2022	0	not applicable	0	0	0
2023*	38	Purse seine	21 346.05	561.74	27 416.36

* January-July 2023 only

2.2. Catch and fishing activities

Annual catches of Jack mackerel (*Trachurus murphyi*), jumbo flying squid (*Dosidicus gigas*), and chub mackerel (*Scomber japonicus*) by Peruvian vessels that participated in fishing activities in the SPRFMO Convention area between January 2014 and July 2023 are shown in Table 3. Until last year (2022), the higher catches were registered in 2014 by a small fleet of 5 larger (2 046 m³ average hold capacity) multipurpose purse seine/trawl vessels. However, important catches (up to 27 416.36 tonnes) were reported by smaller purse seine vessels (561.74 m³ average hold capacity) over the course of 2023. This is followed by those catches of smaller (550 m³ average hold capacity) purse seine vessels in 2016 and even smaller (18 m³ average hold capacity) artisanal jigger vessels in 2017. Furthermore, no catches have been reported between 2019 and 2022.

Table 3. Catches by the Peruvian fleet that participated in fishing activities in the SPRFMO Convention area, by main species (in tonnes and per year), period January 2014 – July 2023

Year	Type of vessel and fishing gear	<i>Trachurus murphyi</i> (t)	<i>Dosidicus gigas</i> (t)	<i>Scomber japonicus</i> (t)	Others (t)	Total (t)
2014	Purse seine/trawl	2 556.9	1 190.0	0	0	3 746.9
	Artisanal jigger ++	0	84.3 ++	0	0	84.3 ++
2015	Scientific research jigger/trawl	0	1.6	0	0.1	1.7
	Artisanal jigger ++	0	302.8 ++	0	0	302.8 ++
2016	Purse seine	0	0	1 122.3	0	1 122.3
	Artisanal jigger ++	0	999.3 ++	0	0	999.3 ++
2017	Scientific research jigger/trawl	0	1	0	0	1
	Artisanal jigger ++	0	5 066.0 ++	0	0	5 066.0 ++
2018	Artisanal jigger ++	0	287.9 ++	0	0	287.9 ++
2019 - 2022	n/a	0	0	0	0	0
2023*	Purse seine	20 056.06	0	7 360.30	0	27 416.36

* January-July 2023 only

++ Estimates from IMARPE's port interviews & sampling programme, for research purposes only. Non official data. Subject to changes.

2.2.1. Jack mackerel

The annual catches of Jack mackerel (*Trachurus murphyi*) by Peruvian vessels in the SPRFMO Convention area since 2009 are shown in Figure 1. A maximum annual catch of 40 516 t was reported in 2010. After the annual catch of 2 556.90 t reported by 5 Peruvian flagged multipurpose purse seine/trawl vessels in 2014, no Peruvian flag vessel has participated in the *T. murphyi* fishery in the SPRFMO Convention area during the period from 2015 to the end of 2022. However, between

January and July 2023 a total catch of 20 056.06 t was reported by 38 Peruvian flagged purse seine vessels in the SPRFMO Convention area. These vessels participated in the fishing operations with the objective of catching Jack mackerel.

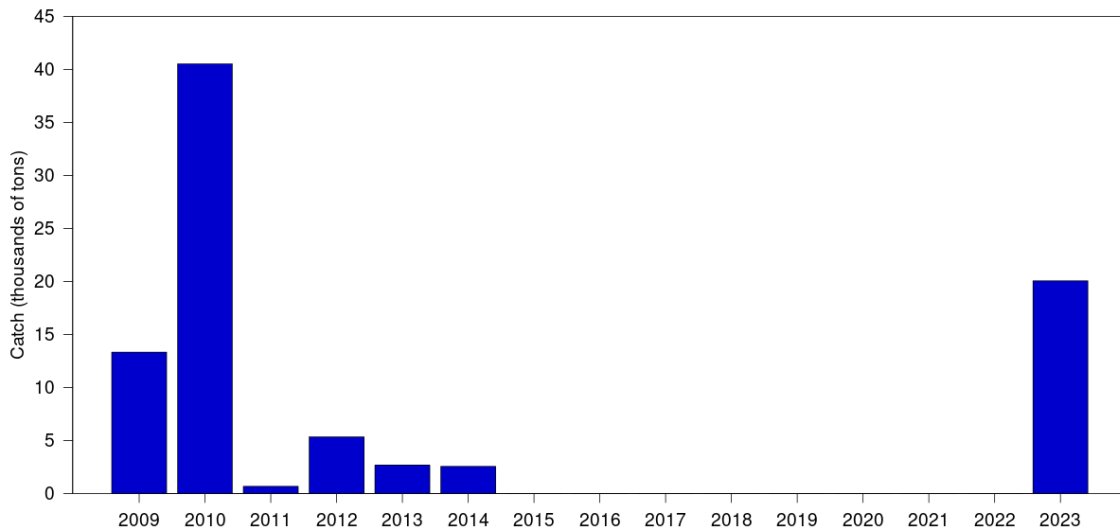


Figure 1. Annual Peruvian catches of Jack mackerel (*Trachurus murphy*) in the SPRFMO Convention area, from 2009 until July 2023

2.2.2. Jumbo flying squid

The annual catches of jumbo flying squid (*Dosidicus gigas*) by Peruvian vessels in the SPRFMO Convention area since 2009 are shown in Figure 2. There is a first maximum of 1 274.3 t in 2014, mostly (1 190 t) caught by large multipurpose purse seine/ trawl vessels, and a more recent maximum of 5 067 t in 2017, most of it caught by small artisanal jigger vessels (5 066 t). An estimated 287.90 t were caught by small artisanal jigger vessels in 2018. No catches (0 t) of jumbo flying squid in the SPRFMO Convention area have been reported during 2019, 2020, 2021, 2022 and the first semester of 2023 (until July 2023).

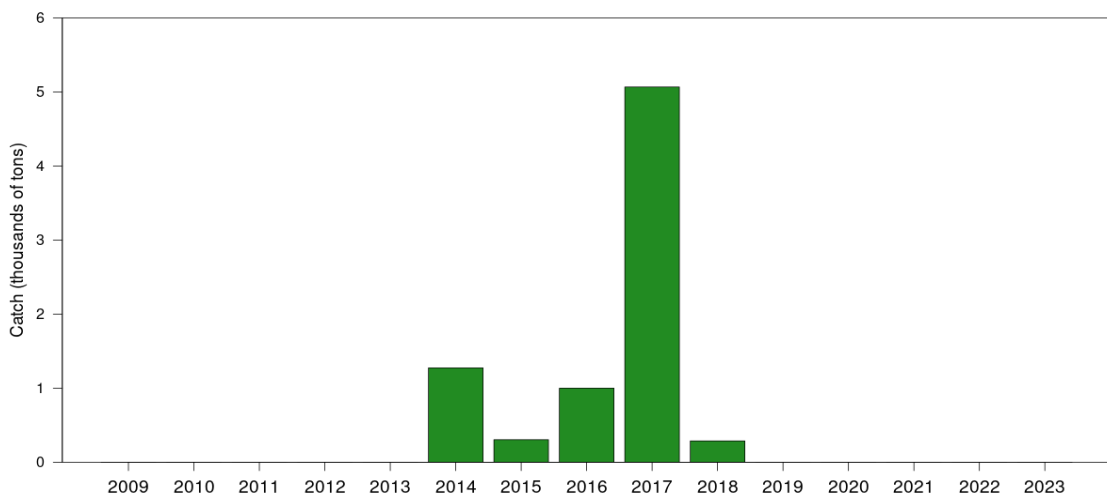


Figure 2. Annual Peruvian catches of jumbo flying squid (*Dosidicus gigas*) in the SPRFMO Convention area, from 2009 until July 2023

2.2.3. Chub mackerel

The annual catches of chub mackerel (*Scomber japonicus*) by Peruvian vessels in the SPRFMO Convention area since 2009 are shown in Figure 3. Until last year (2022), the maximum annual catch of 1 122.3 t was reported by 5 Peruvian purse-seine vessels during 2016. However, this year (until July 2023) a total catch of 7 360.30 t of chub mackerel was reported. These chub mackerel landings were fished by the same Peruvian flagged purse seine vessels that operated in the SPRFMO Convention area and whose main target species was Jack mackerel.

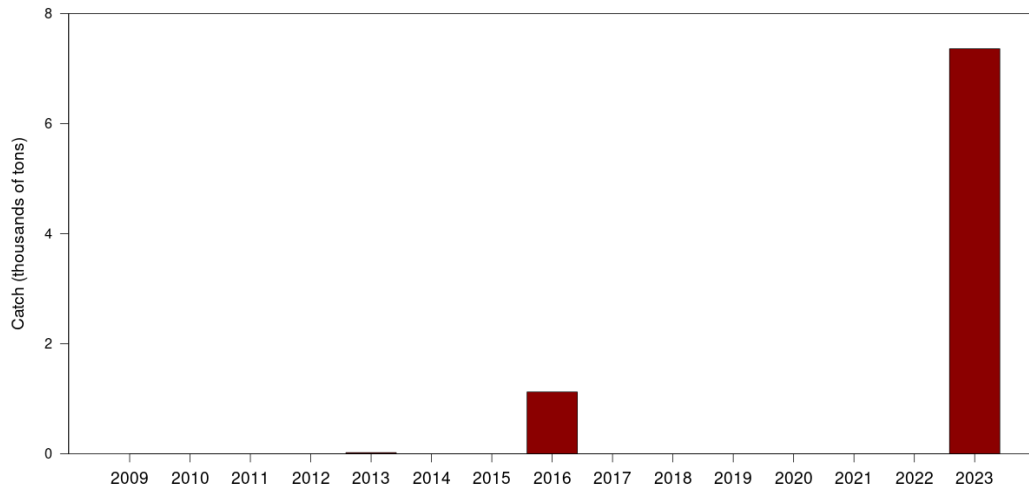


Figure 3. Annual Peruvian catches of chub mackerel (*Scomber japonicus*) in the SPRFMO Convention area, from 2009 until July 2023

2.3. Jack mackerel catch entitlements and transfers

As per CMM 01-2021, the 2021 Peruvian catch entitlement for Jack mackerel (*T. murphyi*) to be caught within the SPRFMO Convention area was 15 862 t. In accordance with the same CMM, the 15 862 t of this 2021 entitlement were transferred to Chile on 6 September 2021, and accepted by Chile on 13 September 2021.

As per CMM 01-2022, the 2022 Peruvian catch entitlement for Jack mackerel (*T. murphyi*) to be caught within the SPRFMO Convention area was 18 256 t. In accordance with the same CMM, the 18 256 t of this 2022 entitlement were transferred to Chile on 20 October 2022, and accepted by Chile on 28 October 2022.

As per CMM 01-2023, the 2023 Peruvian catch entitlement for Jack mackerel (*T. murphyi*) to be caught within the SPRFMO Convention area is 20 175 t. A total catch of 20 056.06 t was fished by Peruvian flagged purse seine vessels in the SPRFMO Convention area. This represents a total of 99.41% of the Peruvian catch entitlement for Jack mackerel in the SPRFMO Convention area.

3. CATCH, EFFORT AND CPUE SUMMARIES

3.1. Catch trends in the Jack mackerel fishery

The monthly trend in catches of Jack mackerel by the Peruvian fleet in the SPRFMO Convention area since 2010 is shown in Figure 4. As already noted, no fishing activities directed to Jack mackerel and no catches of this species have been made by Peruvian vessels in the SPRFMO Convention area since 2015 until the end of 2022. However, in the present year 2023, during the months of March, June, and July, there was important fishing activity reaching more than thirteen thousand tons in July 2023.

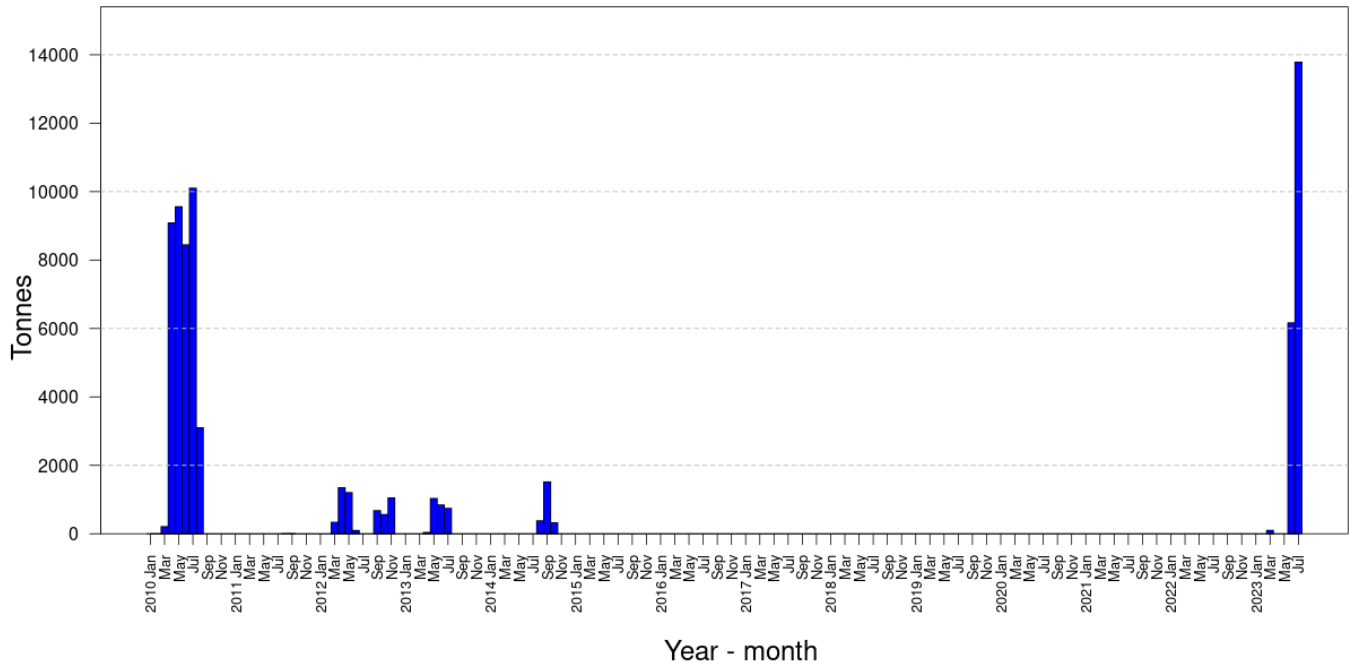


Figure 4. Jack mackerel (*Trachurus murphyi*) monthly catches by the Peruvian fleet in the SPRFMO Convention area, 2010 – 2023 (until July 2023)

3.2. Fishing effort trends in the Jack mackerel fishery

The trends of the fishing effort directed to Jack mackerel by Peruvian vessels operating in the SPRFMO Convention area since 2010 are shown in Figure 5. The number of vessels and hold capacity (m³) were highly variable within 2010 and 2014, with a total of 11 vessels in 2010 and of 11 102 m³ total hold capacity in 2012. No such fishing effort has been exerted between 2015 and the end of 2022. However, during the present year 2023, a maximum of 38 vessels and of 21 346.05 m³ total hold capacity have been registered.

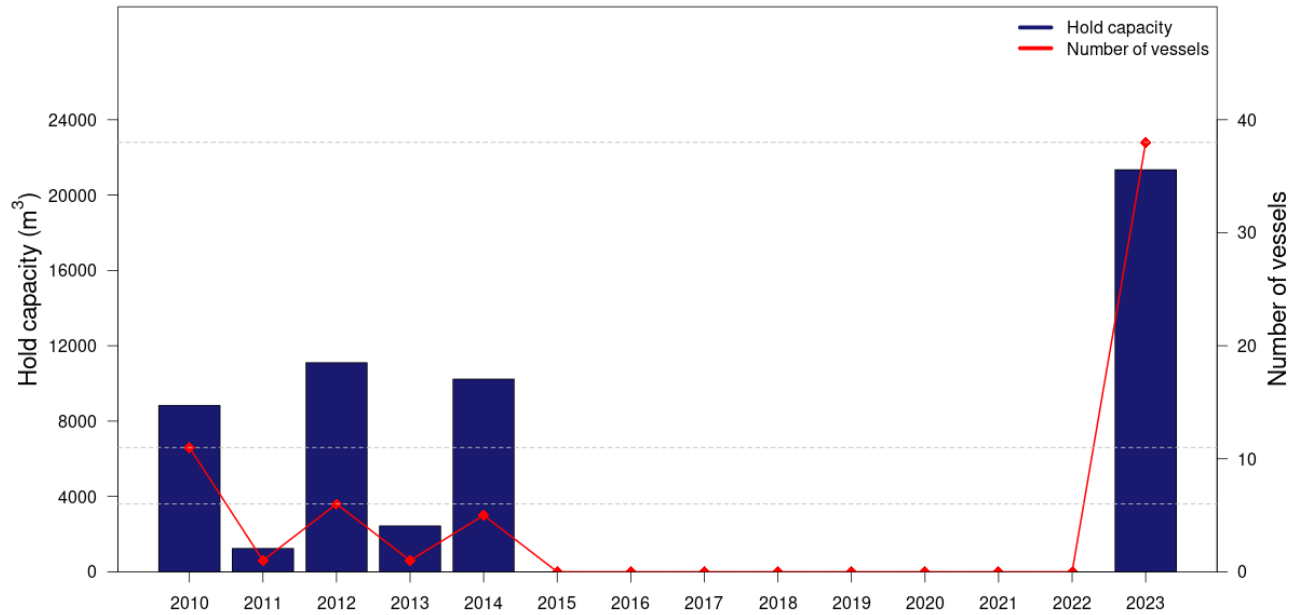


Figure 5. Total hold capacity and number of vessels in the Peruvian fleet that operated in the Jack mackerel (*Trachurus murphyi*) fishery in the SPRFMO Convention area, by year, 2010-2023 (until July 2023)

3.3. Catch, fishing effort and CPUE trends in the jumbo flying squid fishery

The monthly trend in catches of jumbo flying squid by Peruvian artisanal jigger vessels in the SPRFMO Convention area since 2012 is shown in Figure 6. The highest estimated monthly catch in this area was 3 123 t by 325 artisanal vessels in November 2017 (total 5 066 t for the whole year 2017).

No fishing activities directed to jumbo flying squid and no catches of this species have been reported by Peruvian vessels in the SPRFMO Convention area from 2019 until the first semester of 2023 (until July 2023).

Trends in CPUE and total fishing effort directed to jumbo flying squid by Peruvian artisanal jigger vessels within the SPRFMO Convention area since 2012 are shown in Figure 7.

Fishing effort by this artisanal fleet has been very low, only occasional, and highly variable, with an estimated maximum of 10 185 m³ of holding capacity, accumulated by an estimated 557 artisanal vessels in 573 trips in 2017, with a total estimated catch during that year of 5 066 t. Fishing effort (and catches) by this fleet in the Convention area have been much lower, or null, during other years. However, the observed CPUE (in t caught per m³ of hold capacity per trip) of these vessels has been relatively stable between 2013 and 2018, the years when they have occasionally fished for jumbo flying squid in the Convention area. With CPUE ranging from a minimum of 0.371 t/m³-trip in 2018 and a maximum of 0.523 t/m³-trip in 2015. There is no fishing effort and no jumbo flying squid CPUE by Peruvian flagged vessels to report for 2019, 2020, 2021, 2022, and the first semester of 2023.

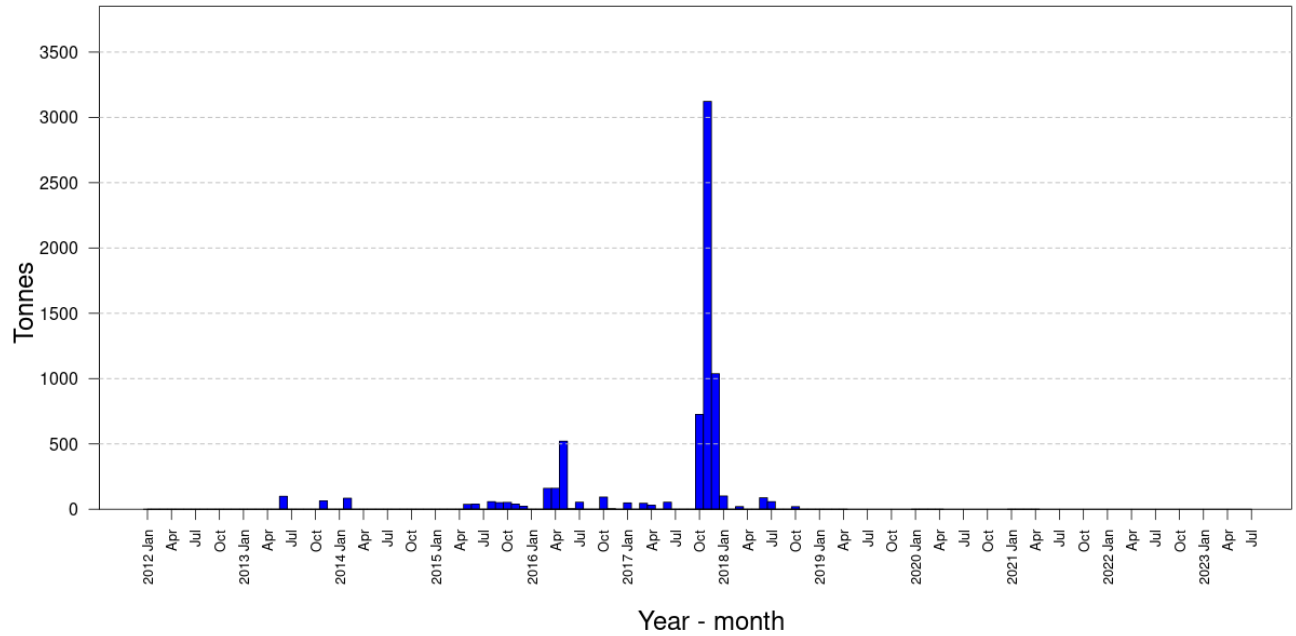


Figure 6. Estimated jumbo flying squid (*Dosidicus gigas*) monthly catches by Peruvian artisanal jigger vessels in the SPRFMO Convention area from 2012 until July 2023

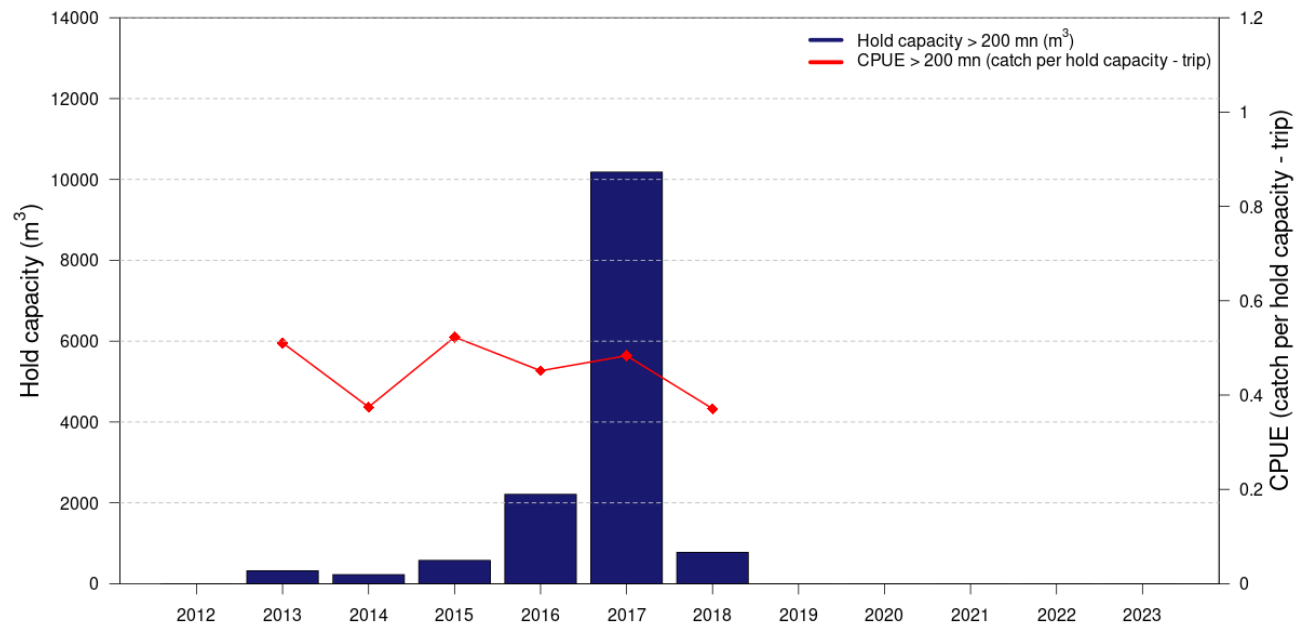


Figure 7. Estimated total holding capacity and CPUE (catch/hold capacity-fishing days) of Peruvian artisanal jigger vessels fishing for jumbo flying squid (*Dosidicus gigas*) in the SPRFMO Convention area, by year 2012-2023 (until July 2023)

4. DATA COLLECTION AND RESEARCH ACTIVITIES

During January and December 2022 there has been no fishing or seagoing research activities directed to non-highly migratory species by Peruvian flagged vessels in the SPRFMO Convention area. However, during the first semester of 2023 there were data collection and seagoing research activities to report due to the fishing activities in the SPRFMO area.

The research activities in this SPRFMO area, monitored by a Peruvian onboard observer program, provided reliable information on fishing effort, catch volumes, species composition of the catches, fishing areas, horizontal and vertical distribution of the target species. This was also complemented with biological-fishery information provided by a Peruvian sampling programme at port, which collected daily information along the Peruvian coast at mainly landing sites (i.e., Chimbote, Callao, Tambo de Mora). This sampling program at port aims to obtain biological information of the species caught (e.g., total length and weight, gonad weight and sexual maturity), but also allows obtaining gonad samples, otoliths and stomachs to undertake further studies of spawning activity, growth and trophic ecology.

5. BIOLOGICAL INFORMATION

5.1 Distribution of the fishing areas of the Peruvian fleet during 2023

No catches of Jack mackerel nor chub mackerel were made by the Peruvian fleet in the SPRFMO Convention area during 2022. However, during the first semester of 2023, the fishing operations of the Peruvian fleet was concentrated off southern Perú, catching Jack mackerel and chub mackerel in a localized area between 19°S and 20°S around 220 miles from the coast (Figure 8). This fishing activity was carried out by 38 purse seine vessels in total.

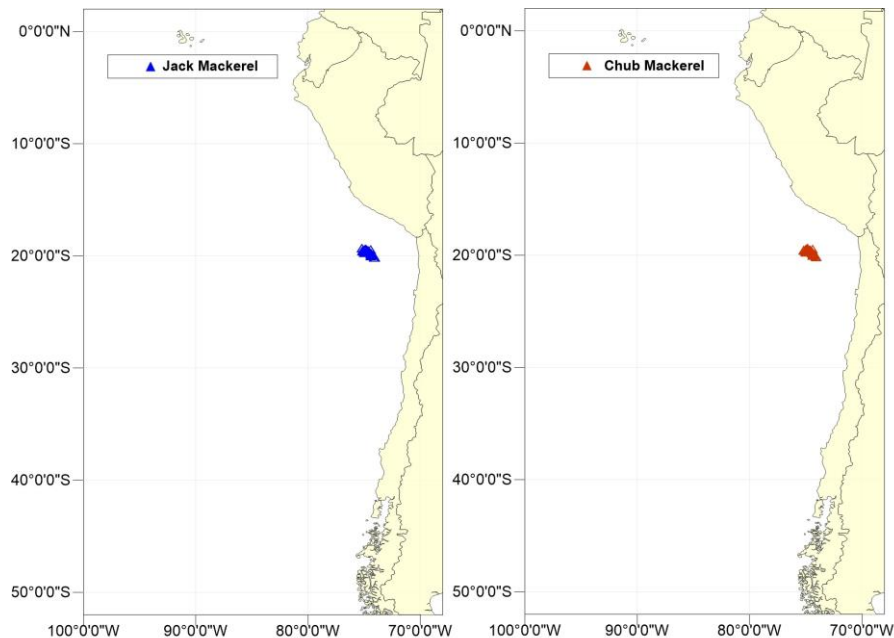


Figure 8. Fishing areas for Jack mackerel (on the left in blue) and chub mackerel (on the right in red) by the Peruvian fleet in the SPRFMO Convention area during the first semester of 2023 (March, June and July 2023)

5.2 Jack mackerel length frequency distribution in the catches during 2023

The length frequency distribution of Jack mackerel (*T. murphyi*) caught by the Peruvian fleet in the SPRFMO Convention area during the first semester of 2023 (March, June and July 2023) had a wide range from 25 to 58 cm in total length (TL). These length frequencies were generally characterized by a bimodal distribution (Figure 9). This can be explained because during the period in which the fleet operated (spatially between 19° - 20°S), there was a different size structure, comprising both juveniles and adults, with main modal size at 30 cm and secondary modal size at 35 cm TL.

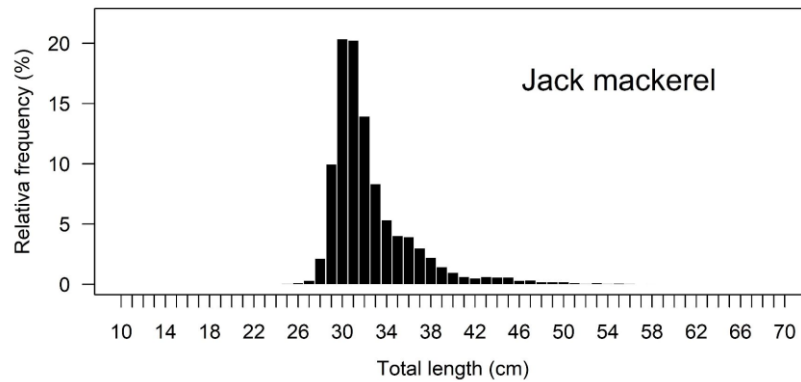


Figure 9. Length frequency distribution of the Jack mackerel caught by the Peruvian fleet in the SPRFMO Convention area during the first semester of 2023 (months of March, June and July 2023)

5.3 Chub mackerel length frequency distribution in the catches during 2023

The size frequency distribution of Chub mackerel (*S. japonicus*) caught during the first semester of 2023 (months of March, June and July 2023) had a range from 25 to 39 cm in fork length (FL). These length frequencies are generally characterized by a main modal size of 32 cm (Figure 10).

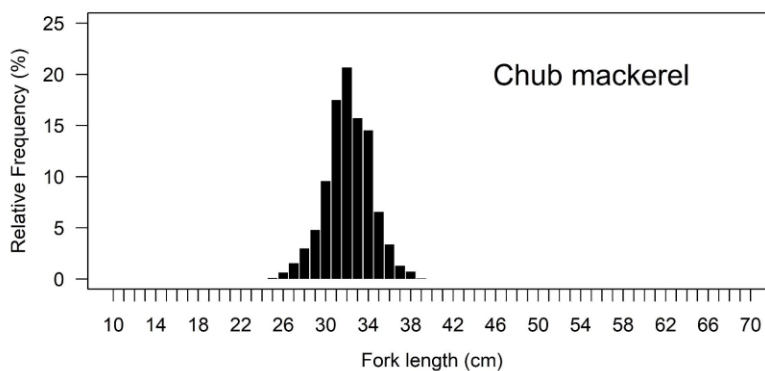


Figure 10. Length frequency distribution of the Chub mackerel caught by the Peruvian fleet in the SPRFMO area during the first semester of 2023 (months of March, June, July 2023)

5.4 Vertical distribution of Jack mackerel schools during 2023

Between June and July 2023 there was a deepening of the Jack mackerel schools (and of the depth of catch), going from a distribution concentrated between 20-39 m in June to a deeper distribution of 40-59 and reaching depths of 60-79 m by July 2023 (Figure 11). This vertical distribution behavior could have affected the performance of fishing operations that were looking for Jack mackerel as target species.

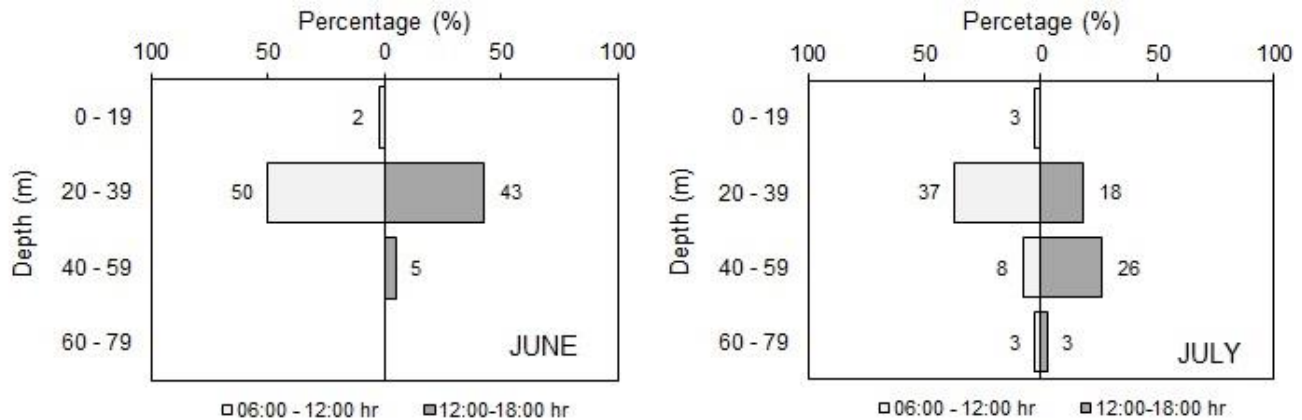


Figure 11. Observed vertical distribution of Jack mackerel schools (depth of catch), by month, June-July 2023

6. ECOSYSTEM APPROACH CONSIDERATIONS

There are no seabird mitigation measures, seabird interaction observations, or ALFG (abandoned, lost, discarded or retrieved fishing gear) reported for 2022. During the first semester of 2023 (and particularly in the months of June and July 2023) there were no seabird mitigation measures about seabird interaction. Based on the information registered by the observer onboard program, and of the total hauls sampled, such registers were mainly of individuals from the Diomedidae family (also known as albatrosses) in 22 %, and the Procellariidae family (also known as petrels) in 26 %. In addition, there were also records of marine mammals (i.e. pinnipeds) in 8%. Furthermore, there were no registers of top predators bycatch (seabirds, marine mammals and sea turtles) in any observation.

7. ONBOARD OBSERVER PROGRAM

From 2015 until 2022, there was no Peruvian fleet purposely fishing in the SPRFMO Convention area. During the first semester of 2023 (until the end of July 2023), the research activities in the SPRFMO Convention area were mostly carried out under the Peruvian onboard observer's program. This program aims to monitor the fishing fleets obtaining biological information in their operation areas. During the Jack mackerel fishing operations in 2023, this programme had 13% of coverage of the Peruvian fishing fleet that was operating in the SPRFMO Convention area. In addition, from this Peruvian fleet (with 38 vessels in total) operating in the Convention area, there were 6 vessels with observers onboard.

On the other hand, the Peruvian SPRFMO Onboard Observer Program is on hold until regular fishing activities resume in the SPRFMO Convention area. It is worth mentioning that this year's jack mackerel fishing in the Convention area has been carried out after 8 years, and since 2018 no squid has been caught in this same area. However, the IMARPE Observer Program was accepted (Annex 4 of CMM 16-2023) during the COMM 11 2023. The main objective of this program is to develop an alternative simplified approach to be used on artisanal fishing vessels up to 15 meters in length that fish for jumbo flying squid, collecting data equivalent to those specified in the SPRFMO Observer Program.

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