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THE TUNA FISHERY IN THE EASTERN PACIFIC OCEAN IN 2022

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This report provides a summary of the catches and effort in 2022 of the fishery for tunas in the eastern Pacific Ocean (EPO), for whose management the Inter-American Tropical Tuna Commission (IATTC) is responsible. It is based on data available to the IATTC staff in March 2023; therefore, some of the data for 2021 and 2022 are incomplete, and all data for 2020, 2021 and 2022 should be considered preliminary. Any changes in the fishery statistics provided in this report for the years prior to 2020 are due to data updates reported by CPCs.

All weights of catches and discards are in metric tons (t). In the tables, 0 means no effort, or a catch of less than 0.5 t; - means no data collected; \* means data missing or not available. The following acronyms are used:

<b>Species:</b>		TUN	Unidentified tunas
ALB	Albacore tuna ( <i>Thunnus alalunga</i> )	YFT	Yellowfin tuna ( <i>Thunnus albacares</i> )
BET	Bigeye tuna ( <i>Thunnus obesus</i> )	<b>Fishing gears:</b>	
BIL	Unidentified istiophorid billfishes	FPN	Trap
BKJ	Black skipjack ( <i>Euthynnus lineatus</i> )	GN	Gillnet
BLM	Black marlin ( <i>Makaira indica</i> )	HAR	Harpoon
BUM	Blue marlin ( <i>Makaira nigricans</i> )	LL	Longline
BZX	Bonito ( <i>Sarda</i> spp.)	LP	Pole and line
MLS	Striped marlin ( <i>Kajikia audax</i> )	LTL	Troll
PBF	Pacific bluefin tuna ( <i>Thunnus orientalis</i> )	LX	Hook and line
SFA	Indo-Pacific sailfish ( <i>Istiophorus platypterus</i> )	OTR	Other <sup>1</sup>
SKJ	Skipjack tuna ( <i>Katsuwonus pelamis</i> )	UNK	Unknown
SSP	Shortbill spearfish ( <i>Tetrapturus angustirostris</i> )	PS	Purse seine
SWO	Swordfish ( <i>Xiphias gladius</i> )	RG	Recreational
		TX	Trawl

<sup>1</sup> Used to group known gear types

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<b>Ocean areas:</b>	
EPO	Eastern Pacific Ocean
WCPO	Western and Central Pacific Ocean

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NZL	New Zealand
RUS	Russia
VCT	St. Vincent and the Grenadines
UNK	Unknown

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<b>Set types:</b>	
DEL	Dolphin
NOA	Unassociated school
OBJ	Floating object
	LOG: Flotsam
	FAD: Fish-aggregating device

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<b>Stock assessment:</b>	
<i>B</i>	Biomass
<i>C</i>	Catch
CPUE	Catch per unit of effort
<i>F</i>	Rate of fishing mortality
MSY	Maximum sustainable yield
<i>S</i>	Index of spawning biomass
SBR	Spawning biomass ratio
SSB	Spawning stock biomass

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**Flags:**

**IATTC Members & Cooperating Non-Members**

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BLZ	Belize
BOL	Bolivia
CAN	Canada
CHL	Chile
CHN	China
COL	Colombia
CRI	Costa Rica
ECU	Ecuador
EUR	European Union
EU (CYP)	Cyprus
EU (ESP)	Spain
EU (PRT)	Portugal
FRA	France
FRA (PYF)	French Polynesia
GTM	Guatemala
HND	Honduras
IDN	Indonesia
JPN	Japan
KIR	Kiribati
KOR	Republic of Korea
LBR	Liberia
MEX	Mexico
NIC	Nicaragua
PAN	Panama
PER	Peru
SLV	El Salvador
TWN	Chinese Taipei
USA	United States of America
VEN	Venezuela
VUT	Vanuatu

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**Other flag codes**

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COK	Cook Islands
MHL	Marshall Islands

## INTRODUCTION

This document summarizes the catches and effort of the fisheries for species covered by the IATTC's Antigua Convention ("*tunas and tuna-like species and other species of fish taken by vessels fishing for tunas and tuna-like species*") in the eastern Pacific Ocean (EPO) in 2022. The most important of these species are the scombrids (family Scombridae), which include tunas, bonitos, seerfishes, and some mackerels. The principal species of tunas caught are the three tropical tuna species (yellowfin, skipjack, and bigeye), followed by the temperate tunas (albacore, and lesser catches of Pacific bluefin); other scombrids, such as bonitos and wahoo, are also caught. In addition to the tunas, this document covers the billfishes (swordfish, marlins, shortbill spearfish, and sailfish).

There are important fisheries for dorado, sharks, and other species and groups that interact with the tuna fisheries in the EPO and are thus within the IATTC's remit. Information on these other species such as carangids (yellowtail, rainbow runner, and jack mackerel), dorado, elasmobranchs (sharks, rays, and skates), among others, is provided in Document SAC-14-11, *Ecosystem considerations*.

Access to the fisheries is regulated by Resolution [C-02-03](#), which allows only vessels on the IATTC [Regional Vessel Register](#) to fish for tunas in the EPO. Vessels are authorized to fish by their respective flag governments, and only duly authorized vessels are included in the Register. The Register lists, in addition to a vessel's name and flag, its fishing gear, dimensions, carrying capacity, date of construction, ownership, home port, and other characteristics. However, this requirement has not been applied to the thousands of small artisanal vessels, called *pangas*, that are known to catch tunas, among other species, in coastal waters of the EPO, but data on their numbers, effort, and catches are incomplete or unavailable. A pilot program, focused on sharks, to collect data on these fisheries in Central America has been completed (SAC-11-14). The results of the pilot study will offer guidance in the development of a long-term sampling program in the region.

The IATTC staff has collected and compiled data on the longline fisheries since 1952, on catches of yellowfin and skipjack since 1954, bluefin since 1973, and bigeye since 1975. The data in this report, which are as accurate and complete as possible, are derived from various sources, including vessel logbooks, on-board observer data, unloading records provided by canners and other processors, export and import records, reports from governments and other entities, and the IATTC species and size composition sampling program.

### 1. CATCHES AND LANDINGS OF TUNAS, BILLFISHES, AND ASSOCIATED SPECIES

Almost all the catches in the EPO are made by the purse-seine and longline fleets; pole-and-line vessels, and various artisanal and recreational fisheries, account for a small percentage of the total catches. The IATTC staff compiles catch data for all fishing gears, including trolls, harpoons, and gillnets.

Detailed catch data are available for the purse-seine fishery, which takes over 90% of the total reported catches; the data for the other fisheries are incomplete. Purse-seine data for 2021 and 2022, and 2019-2021 data for longlines and other gears, are preliminary.

Since 1993 all Class-6<sup>2</sup> purse-seine vessels carry observers, who collect detailed data on catches, including those discarded at sea. Estimates of the "retained" catch (the portion of the total catch that is landed) are based principally on data collected during vessel unloadings.

Longline vessels, particularly the larger ones, fish primarily for bigeye, yellowfin, albacore, and swordfish. Data on the retained catches of most of the larger longline vessels are obtained from the vessels' flag governments; data for smaller longliners, artisanal vessels, and other vessels that fish for species covered

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<sup>2</sup> Class 6: carrying capacity greater than 363 metric tons (t)

by the Antigua Convention are incomplete or unavailable, but some are obtained from vessel logbooks, or from governments or governmental reports.

Data for the western and central Pacific Ocean (WCPO) are taken from the [Tuna Fishery Yearbook for 2021](#), published by the Western and Central Pacific Fisheries Commission (WCPFC).

This report summarizes data from all the above sources. The estimated total catches of tropical tunas (yellowfin, skipjack, and bigeye) in the entire Pacific Ocean are shown in [Table A-1](#) and are discussed further in the sections below.

Estimates of the annual retained and discarded catches of tunas and other species taken by tuna-fishing vessels in the EPO during 1993-2022 are shown in [Tables A-2a-b](#).

The catches of tropical tunas during 1993-2022, by flag, are shown in [Tables A-3a-e](#), and the purse-seine catches and landings of tunas during 2021-2022 are summarized by flag in [Tables A-4a-b](#).

## 2. CATCHES BY SPECIES

### 2.1. Yellowfin tuna

The total annual catches of yellowfin in the Pacific Ocean during 1993-2022 are shown in [Table A-1](#). The 2022 EPO catch of 292 thousand t is 20% higher than the average of 243 thousand t for the previous 5-year period (2017-2021). In the WCPO, the catches of yellowfin reached a record high of 771 thousand t in 2021.

The annual retained catches of yellowfin in the EPO, by gear, during 1993-2022 are shown in [Table A-2a](#). Over the most recent 15-year period (2007-2021), the annual retained purse-seine and pole-and-line catches have fluctuated around an average of 223 thousand t (range: 171 to 253 thousand t). The preliminary estimate of the retained catch in 2022, 292 thousand t, is 15% higher than that of 2021, and 27% higher than the 2017-2021 average. On average, about 0.3% (range: 0.1 to 1.0%) of the total purse-seine catch of yellowfin was discarded at sea during 2007-2021 ([Table A-2a](#)).

During 1993-2005, annual longline catches in the EPO averaged about 21 thousand t (range: 12 to 30 thousand t), or about 7% of the total retained catches of yellowfin. They then declined sharply, to an annual average of 10 thousand t (range: 8 to 13 thousand t), or about 4% of the total retained catches, during 2006-2021. Catches by other fisheries (recreational, gillnet, troll, artisanal, *etc.*), whether incidental or targeted, are shown in [Table A-2a](#), under "Other gears" (OTR); during 2006-2021 they averaged about 2 thousand t.

### 2.2. Skipjack tuna

The total annual catches of skipjack in the Pacific Ocean during 1993-2022 are shown in [Table A-1](#). Most of the catch is taken in the WCPO. Prior to 1998, WCPO catches averaged about 900 thousand t; subsequently, they increased steadily, from 1.1 million t to an all-time high of 2 million t in 2019. In the EPO, the greatest catches occurred between 2003 and 2022, ranging from 153 to 351 thousand t, the record catch in 2019.

The annual retained catches of skipjack in the EPO, by gear, during 1993-2022 are shown in [Table A-2a](#). During 2007-2021 the annual retained purse-seine catch averaged 281 thousand t (range: 147 to 347 thousand t). The preliminary estimate of the retained catch in 2022, 296 thousand t, is 6% greater than the 15-year average for 2007-2021.

Discards of skipjack at sea decreased each year during the period, from 3% in 2007 to a low of less than 1% in 2018, averaging about 1.3% of the total catch of the species ([Table A-2a](#)).

Catches of skipjack in the EPO by longlines and other gears are negligible ([Table A-2a](#)).

### 2.3. Bigeye tuna

The total annual catches of bigeye in the Pacific Ocean during 1993-2022 are shown in [Table A-1](#). Overall, the catches in both the EPO and WCPO have increased, but with considerable fluctuations. In the WCPO starting in 1993 the bigeye has been fluctuating between 107 thousand t to 163 thousand t reaching a high of 183 thousand t in 2004. After 2004, the bigeye has fluctuated between 130 and 171 thousand t. In the EPO, the average catch during 1993-2022 was 104 thousand t, with a low of 64 thousand t in 2022 and a high of 149 thousand t in 2000.

The annual retained catches of bigeye in the EPO by purse-seine and pole-and-line vessels during 1993-2022 are shown in [Table A-2a](#). The introduction of fish-aggregating devices (FADs), placed in the water by fishers to attract tunas, in 1993 led to a sudden and dramatic increase in the purse-seine catches. From 1994 to 1999, the average annual retained purse-seine catch of bigeye in the EPO was 44 thousand t, and than in 2000 was over 95 thousand t. Since the high in 2000, it has fluctuated between 49 and 84 thousand t; the preliminary estimate for 2022 is 47 thousand t.

During 2000-2022 the percentage of the purse-seine catch of bigeye discarded at sea has steadily decreased, from 5% in 2000 to less than 1% from 2017 to the current year, averaging about 1.5%.

Before the expansion of the FAD fishery, longliners caught almost all the bigeye in the EPO, averaging 88 thousand t annually during 1985-1992. Since 1993, the annual average catch has declined by 51%, to 43 thousand t, and the preliminary estimate for 2022 is less than 17 thousand t ([Table A-2a](#)).

Small amounts of bigeye are caught in the EPO by other gears ([Table A-2a](#)).

### 2.4. Pacific bluefin tuna

The catches of Pacific bluefin in the entire Pacific Ocean, by flag and gear, as reported by the vessels' flag governments to the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC), are shown in [Table A-5a](#).

The catches of Pacific bluefin in the EPO during 1993-2022, by gear, are shown in [Table A-2a](#). Since 2007, the purse-seine vessels accounted for over 89% of the annual catch. The 1993-2021 average EPO retained catch is 3.8 thousand t (range: 600 t to 9.9 thousand t); the preliminary estimate for 2022 is 3.4 thousand t ([Table A-2a](#)).

Catches of Pacific bluefin by recreational gear in the EPO are reported in numbers of individual fish caught, whereas all other gears report catches in weight; the data are therefore converted to weights for inclusion in the EPO catch totals. The original catch data for 1993-2022, in numbers of fish, are presented in [Table A-5b](#).

### 2.5. Albacore tuna

Data provided by the relevant CPCs on catches of albacore in the EPO, by gear and area (north and south of the equator), are shown in [Table A-6](#), and for the entire EPO in [Table A-2a](#). A portion of the albacore catch is taken by troll vessels (LTL), included under "Other gears" (OTR) in [Table A-2a](#).

### 2.6. Other tunas and tuna-like species

While yellowfin, skipjack, and bigeye tunas comprise the great majority of the retained purse-seine catches in the EPO, other tunas and tuna-like species, such as albacore, black skipjack, bonito, frigate and bullet tunas, contribute to the overall harvest. The estimated annual retained and discarded catches of these species during 1993-2022 are shown in [Table A-2a](#). The catches reported in the "unidentified tunas" (TUN) category in [Table A-2a](#) contain some catches reported by species (frigate and bullet tunas) along with the unidentified tunas. The total retained catch of these other species by the purse-seine fishery in

2022 was 15 thousand t, greater than the 2007-2021 average of 14 thousand t (range: 8 to 23 thousand t).

Black skipjack are also caught by other gears in the EPO, mostly by coastal artisanal fisheries. Bonitos are also caught by artisanal fisheries, and have been reported as catch by longline vessels in some years.

## 2.7. Billfishes

Catch data for billfishes (swordfish, blue marlin, black marlin, striped marlin, shortbill spearfish, and sailfish) are shown in [Table A-2b](#).

**Swordfish** are caught in the EPO with large-scale and artisanal longlines, gillnets, harpoons, and occasionally with recreational gear. During 1999-2013 the longline catch averaged 15 thousand t, but during 2014-2016 this increased by about 50%, to over 24 thousand t, possibly due to increased abundance of swordfish, increased effort directed toward the species along with improved fishing efficiency, increased reporting, or a combination of all of these.

**Other billfishes** are caught with large-scale and artisanal longlines and recreational gear. The average annual longline catches of blue marlin and striped marlin during 2007-2021 were about 3.0 thousand and 1.8 thousand t, respectively. Smaller amounts of other billfishes are taken by longline.

Little information is available on the recreational catches of billfishes, but, the retained catches are believed to be substantially less than the commercial catches for all species, due to catch-and-release practices.

Billfishes are caught incidentally in the purse-seine fisheries, which during 2007-2021 accounted for about 1% of the total catch of billfishes in the EPO. Prior to 2011, they were all classified as discarded dead; however, the growing rate of retention of such bycatches made it important to reflect this in the data, and since 2011 retained catch and discards are reported separately in [Table A-2b](#).

## 3. CATCHES AND FISHING EFFORT

### 3.1. Purse seine

Estimates of the numbers of purse-seine sets of each type (associated with dolphins (DEL), associated with floating objects (OBJ), and unassociated (NOA)) in the EPO during 2007-2022, and the retained catches from those sets, are shown in [Table A-7](#) and [Figure 1](#).<sup>3</sup> The estimates for Class 1-5<sup>4</sup> vessels were calculated from logbook data in the IATTC statistical data base, and those for Class-6 vessels from the observer data bases of the IATTC, Colombia, Ecuador, the European Union, Mexico, Nicaragua, Panama, the United States, and Venezuela.

Since the introduction of artificial fish-aggregating devices (FADs) in the mid-1990s, they have become

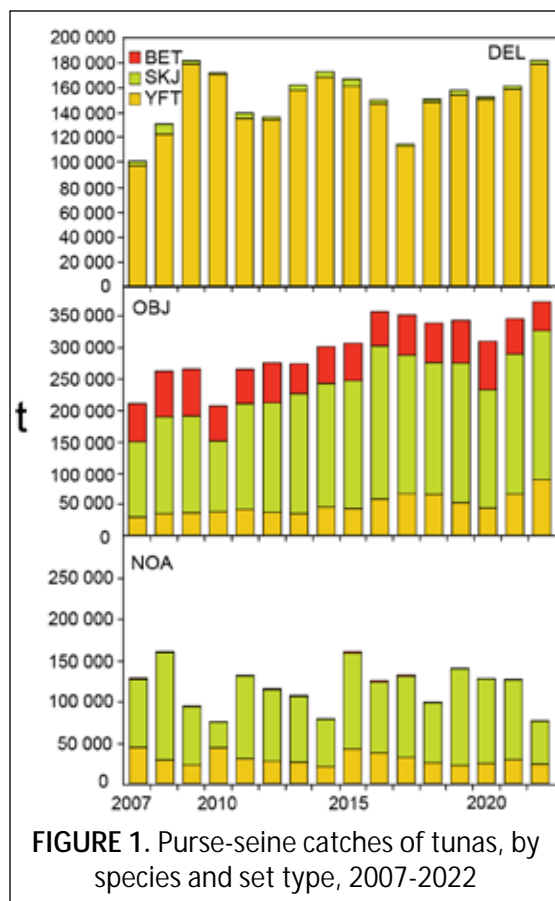


FIGURE 1. Purse-seine catches of tunas, by species and set type, 2007-2022

<sup>3</sup> The catch data for 2007-2022 incorporate previously unavailable data, and are thus different from the corresponding data presented in previous publications.

<sup>4</sup> ≤363 t carrying capacity.

predominant in the floating-object fishery, and now account for an estimated 97% of all floating-object sets by Class-6 vessels ([Table A-8](#)).

### 3.2. Longline

The reported nominal fishing effort (in thousands of hooks) by longline vessels in the EPO, and their catches of the predominant tuna species, are shown in [Table A-9](#).

## 4. DISTRIBUTIONS OF THE CATCHES OF TROPICAL TUNAS

### 4.1. Purse-seine catches

The average annual distributions of purse-seine catches, by set type, of tropical tunas (yellowfin, skipjack, and bigeye) in the EPO during 2017-2021 are shown in [Figures A-1a, A-2a, and A-3a](#), respectively, and preliminary estimates for 2022 are shown in [Figures A-1b, A-2b, and A-3b](#).

**Yellowfin:** The majority of catches in 2022 were taken in sets associated with dolphins in two principal areas: north of 5°N from 105°W to 140°W, and inshore north of 5°S from 100°W to the coast. Greater amounts of yellowfin were taken in dolphin and floating-objects sets in both areas when compared to the previous 5 years. ([Figure A-1b](#)).

**Skipjack** catches in 2022 occurred primarily in floating object sets between 5°N and 20°S and west of 100°W. The proportion of skipjack catch in this area from floating object sets increased over the previous 5 years. The amount of skipjack caught in 2022 in unassociated sets on the western edge of the EPO was much less than in the previous 5 years. ([Figure A-2b](#)).

**Bigeye** are not often caught north of about 7°N in the EPO. Almost all of the 2022 catches were taken in sets on FADs between the 10°N and 15°S and west of 90°W ([Figure A-3b](#)).

### 4.2. Longline catches

Since 2009, the IATTC has received tuna catch and effort data from Belize, China, France (French Polynesia), Japan, the Republic of Korea, Panama, Chinese Taipei, the United States, and Vanuatu. Albacore, bigeye and yellowfin tunas make up the majority of the catches by most of these vessels. The distributions of the catches of bigeye and yellowfin in the Pacific Ocean by Chinese, Japanese, Korean, and Chinese Taipei longline vessels during 2017-2021 are shown in [Figure A-4](#).

## 5. SIZE COMPOSITIONS OF THE CATCHES OF TUNAS

### 5.1. Purse-seine, pole-and-line, and recreational fisheries

Length-frequency samples are the basic source of data used for estimating the size and age compositions of the various species of fish in the landings. This information is necessary to obtain age-structured estimates of the populations for various purposes, primarily the integrated modeling that the staff uses to assess the status of the stocks (see [Stock Assessment Reports](#)). Length-frequency samples are obtained from the catches of purse-seine vessels in the EPO by IATTC personnel at ports of landing in Ecuador and Mexico. The methods for sampling the catches of tunas are described in the [IATTC Annual Report for 2000](#) and in IATTC [Stock Assessment Reports 2](#) and [4](#).

Historical long-term time series of size-composition data for yellowfin and bigeye are available in the [Stock Assessment Reports](#), and average length stock status indicators (SSIs) are available for yellowfin, bigeye and skipjack ([SAC-14-04](#)). In this report, data on the size composition of the catches during 2017-2022 are presented ([Figures A-6 to A-8](#)), with two sets of length-frequency histograms for each species: the first shows the data for 2022 by stratum (gear type, set type, and area), and the second the combined data for each year of the 2017-2022 period.

**Yellowfin:** nine purse-seine fisheries (four associated with floating objects (OBJ), three associated with dolphins (DEL), and two unassociated (NOA)) and one pole-and-line (LP) fishery, which includes all 13 sampling areas) are defined ([Figure A-5](#)). Of the 937 wells with fish caught during 2022, 824 contained yellowfin. The estimated size compositions of the fish caught are shown in [Figure A-6a](#). Most of the yellowfin catch was taken in the DEL fisheries during the first three quarters of the year, with smaller amounts taken in the OBJ fisheries throughout the year. Large yellowfin (100-140 cm) were caught primarily in the DEL-I and DEL-S fishery in the first quarter, in the DEL-N fishery in the second and third quarters and in the NOA-S fishery in the first quarter. Smaller yellowfin (<70 cm) were taken in the OBJ fisheries in all four quarters.

The estimated size compositions of the yellowfin caught by all fisheries combined during 2017-2022 are shown in [Figure A-6b](#). The average weight of yellowfin in 2022, 6.5 kg, was much lower than the 2020 average of 10.5 kg, and lower than the average for other years (7.2-7.9 kg). The size distribution shifted toward the smaller end of the range when compared to previous years, indicating smaller sized yellowfin in 2022.

**Skipjack:** seven purse-seine fisheries (four OBJ, two NOA, one DEL) and one LP fishery are defined ([Figure A-5](#)); the last two include all 13 sampling areas. Of the 937 wells with fish caught, 602 contained skipjack. The estimated size compositions of the fish caught during 2022 are shown in [Figure A-7a](#). Most of the skipjack catch was taken in the OBJ-N, OBJ-E and OBJ-S fisheries in all four quarters, and in the NOA-S fishery in the first and second quarters. The largest skipjack (60-70 cm) were caught in the OBJ-E fishery in the third and fourth quarters. The smallest (<50 cm) were caught primarily in the OBJ-N, OBJ-E and OBJ-S fisheries in all four quarters, and in the NOA-S fishery in the second quarter.

The estimated size compositions of skipjack caught by all fisheries combined during 2017-2022 are shown in [Figure A-7b](#). The majority of the skipjack in 2022 was in the 40-50 cm range.

**Bigeye:** six purse-seine fisheries (four OBJ, one NOA, one DEL) and one LP fishery are defined ([Figure A-5](#)); all except the OBJ fisheries include all 13 sampling areas. Of the 937 wells with fish caught, 160 contained bigeye. The estimated size compositions of the fish caught during 2022 are shown in [Figure A-8a](#). Most of the bigeye catch was taken in the OBJ-N fishery in the second and third quarters, and in the OBJ-S fishery throughout the year. Lesser amounts were caught in the OBJ-E fishery in the second quarter.

The estimated size compositions of bigeye caught by all fisheries combined during 2017-2022 are shown in [Figure A-8b](#). The average weight of bigeye in 2022 (4.0 kg) was considerably less than any of the previous five years (4.7-5.2 kg). The majority of bigeye caught in 2022 was in the 40-70 cm range, with less of the larger bigeye >100 cm than in previous years.

**Pacific bluefin** are caught by purse-seine and recreational gears off California and Baja California, historically from about 23°N to 35°N, but only between 28°N and 32°N in recent years. The 2021 purse-seine fishing season continued the trend of starting earlier than any previous year: in 2021, bluefin were first caught in early January, and the fishery was closed in late January, when the annual catch limit was reached. Most of the catch is transported live to grow-out pens near the coast of Mexico. Mexico's National Observer Program (PNAAPD) submitted the length-composition data for purse-seine catches during 2016-2021 ([Figure A-9](#)). This data is provided every other year, so the figure will be updated in 2024.

## 5.2. Longline fishery

The size compositions of yellowfin and bigeye caught by the Japanese longline fleet (commercial and training vessels) in the EPO during 2016-2020 are shown in [Figures A-10](#) and [A-11](#). The average annual weight during that period ranged from 36.8 to 61.0 kg for yellowfin, and from 61.7 kg to 66.2 kg for bigeye.



Size composition data for 2021 was not available due to difficulties resulting from the COVID-19 pandemic, which impacted the collection and analysis of 2021 YFT and BET size data.

### 5.3. Catches of tunas, by flag and gear

The annual retained catches of tunas in the EPO during 1993-2022, by flag and gear, are shown in [Tables A-3a-e](#). The purse-seine catches of tunas in 2021 and 2022, by flag and species, are summarized in [Table A-4a](#). Of the nearly 650 thousand t of tunas caught in 2022, 40% were caught by Ecuadorian vessels, and 22% by Mexican vessels. Other countries with significant catches included Panama (15%), Venezuela (7%), Colombia (6%), United States (4%) and Nicaragua (3%). The purse-seine landings of tunas in 2021 and 2022, by species and country of landing, are summarized in [Table A-4b](#). Of the more than 639 thousand t of tunas landed in the EPO in 2022, 64% were landed in Ecuadorian ports, and 23% in Mexican ports. Other countries with landings of tunas in the EPO included Colombia (5%), Peru (1%) and the United States (1%).

## 6. THE FLEETS

### 6.1. Purse seine

The IATTC [Regional Vessel Register](#) contains detailed records of all purse-seine vessels that are authorized to fish for tunas in the EPO. However, only vessels that fished for yellowfin, skipjack, bigeye, and/or Pacific bluefin tuna in the EPO in 2022 are included in the following description of the purse-seine fleet.

The IATTC uses well volume, in cubic meters ( $m^3$ ), to measure the carrying capacity of purse-seine vessels. Reliable well volume data are available for almost all purse-seine vessels; the well volume of vessels lacking such data is calculated by applying a conversion factor to their capacity in tons ([Table A-10](#); [Figure 2](#)).

The 2021 and preliminary 2022 data for numbers and total well volumes of purse-seine vessels that fished for tunas in the EPO are shown in [Tables A-11a](#) and [A-11b](#). During 2022, the fleet was dominated by Ecuadorian and Mexican vessels, with about 31% and 24%, respectively, of the total well volume; they were followed by the Panama (11%), United States (11%), Venezuela (9%), Colombia (6%), European Union (Spain) (3%), Nicaragua (3%) and El Salvador (2%).<sup>5</sup>

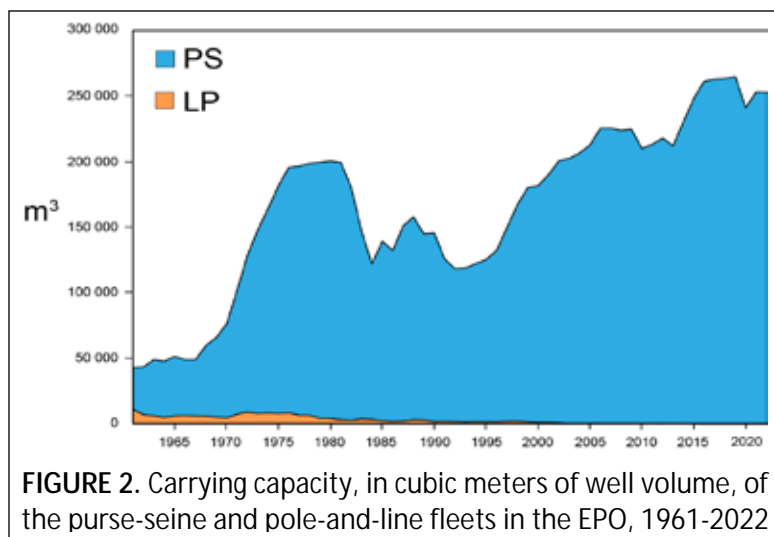
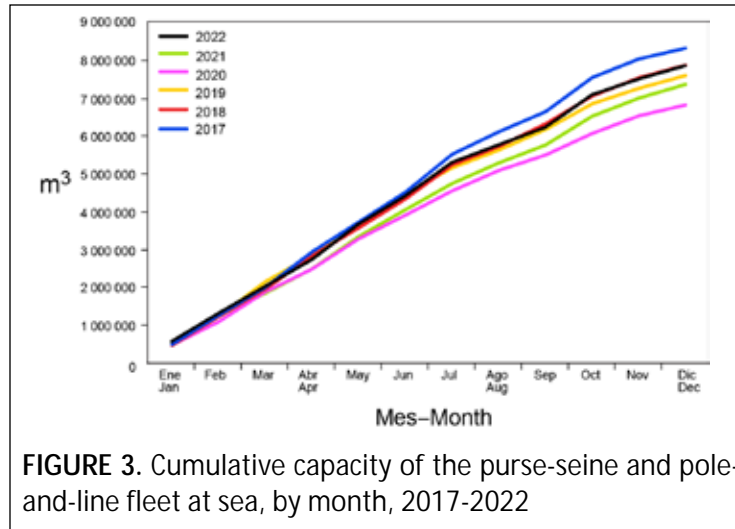


FIGURE 2. Carrying capacity, in cubic meters of well volume, of the purse-seine and pole-and-line fleets in the EPO, 1961-2022

<sup>5</sup> The sum of the percentages may not add up to 100% due to rounding.

The cumulative capacity at sea during 2022 is compared to those of the previous five years in [Figure 3](#).

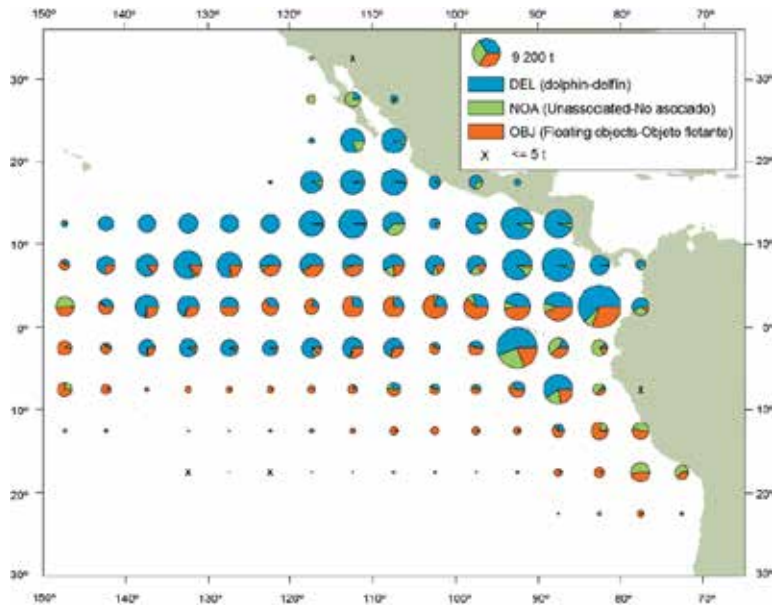
The monthly average, minimum, and maximum total well volumes at sea (VAS), in thousands of cubic meters, of purse-seine and pole-and-line vessels that fished for tunas in the EPO during 2012-2021, and the 2022 values, are shown in [Table A-12](#). The monthly values are averages of the VAS estimated at weekly intervals by the IATTC staff. The average VAS values for 2012-2021 and 2022 were slightly lower 144 thousand m<sup>3</sup> (59% of total capacity) and about 150 thousand m<sup>3</sup> (59% of total capacity), respectively.



**FIGURE 3.** Cumulative capacity of the purse-seine and pole-and-line fleet at sea, by month, 2017-2022

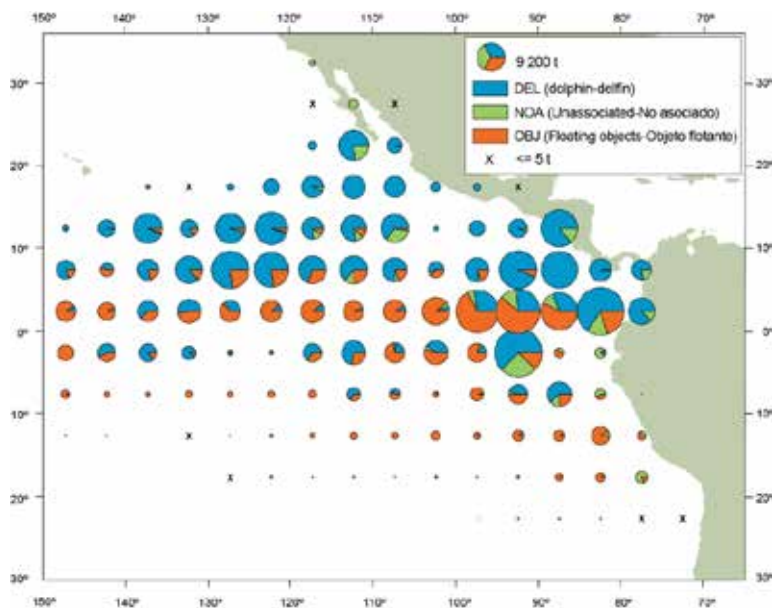
## 6.2. Other fleets of the EPO

Information on other types of vessels that are authorized to fish in the EPO is available in the IATTC's [Regional Vessel Register](#). In some cases, particularly for large longline vessels, the Register contains information for vessels authorized to fish not only in the EPO, but also in other oceans, and which may not have fished in the EPO during 2022, or ever.



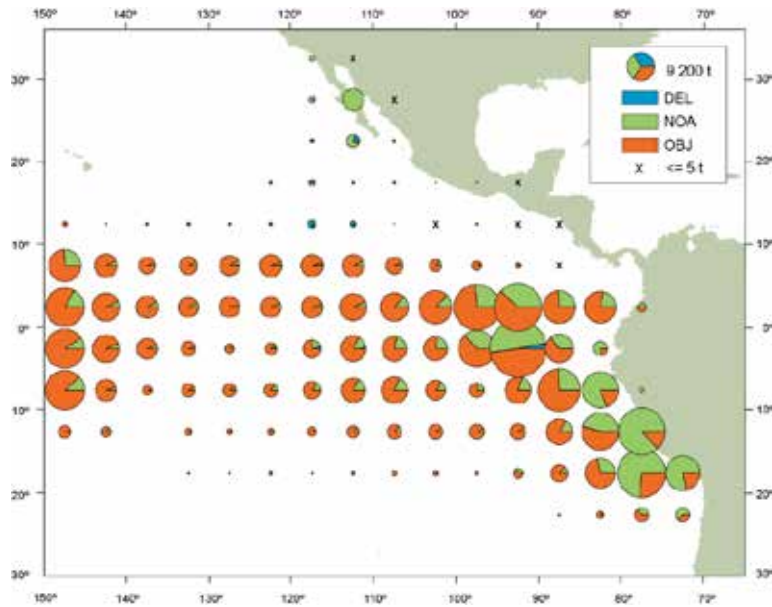
**FIGURE A-1a.** Average annual distributions of the purse-seine catches of yellowfin, by set type, 2017-2021. The sizes of the circles are proportional to the amounts of yellowfin caught in those 5° by 5° areas.

**FIGURA A-1a.** Distribución media anual de las capturas cerqueras de aleta amarilla, por tipo de lance, 2017-2021. El tamaño de cada círculo es proporcional a la cantidad de aleta amarilla capturado en la cuadrícula de 5° x 5° correspondiente.



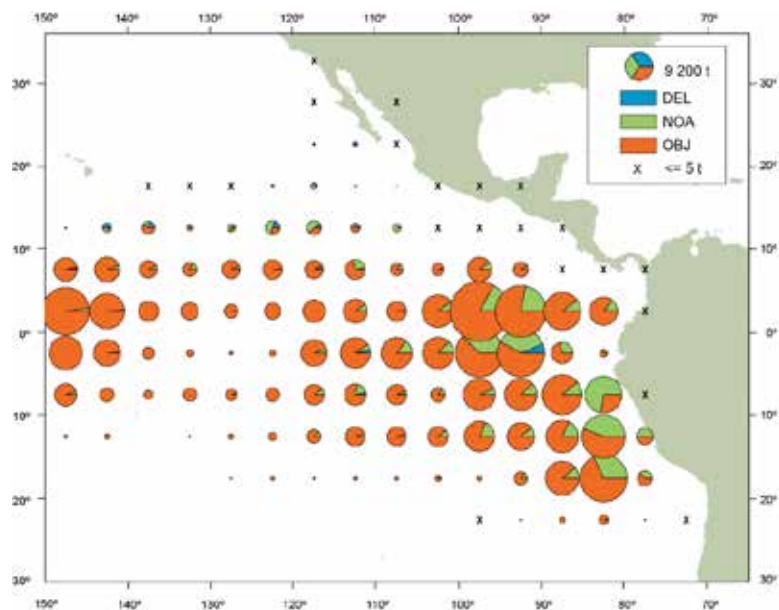
**FIGURE A-1b.** Annual distributions of the purse-seine catches of yellowfin, by set type, 2022. The sizes of the circles are proportional to the amounts of yellowfin caught in those 5° by 5° areas.

**FIGURA A-1b.** Distribución anual de las capturas cerqueras de aleta amarilla, por tipo de lance, 2022. El tamaño de cada círculo es proporcional a la cantidad de aleta amarilla capturado en la cuadrícula de 5° x 5° correspondiente.



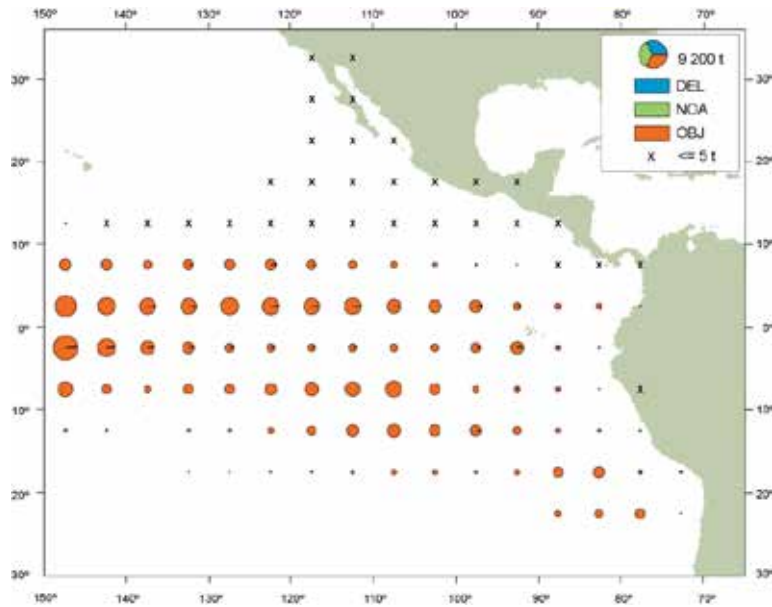
**FIGURE A-2a.** Average annual distributions of the purse-seine catches of skipjack, by set type, 2017-2021. The sizes of the circles are proportional to the amounts of skipjack caught in those 5° by 5° areas.

**FIGURA A-2a.** Distribución media anual de las capturas cerqueras de barrilete, por tipo de lance, 2017-2021. El tamaño de cada círculo es proporcional a la cantidad de barrilete capturado en la cuadrícula de 5° x 5° correspondiente.



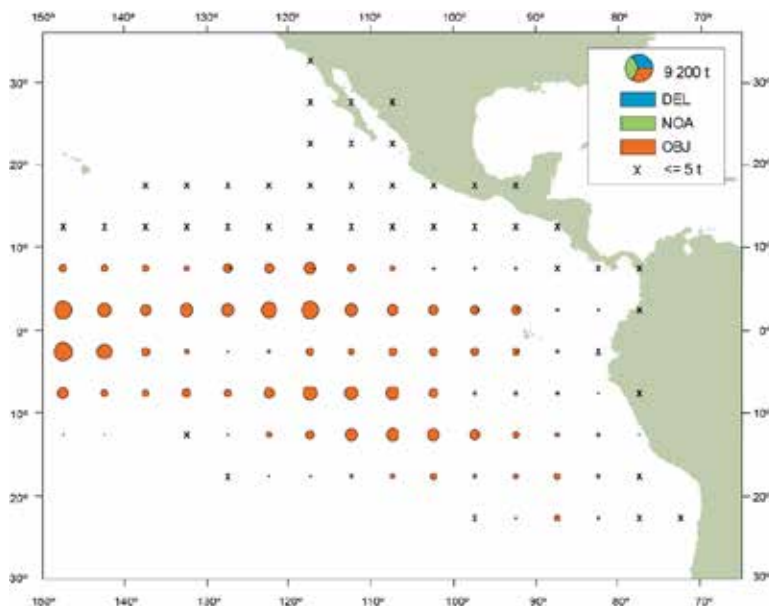
**FIGURE A-2b.** Annual distributions of the purse-seine catches of skipjack, by set type, 2022. The sizes of the circles are proportional to the amounts of skipjack caught in those 5° by 5° areas.

**FIGURA A-2b.** Distribución anual de las capturas cerqueras de barrilete, por tipo de lance, 2022. El tamaño de cada círculo es proporcional a la cantidad de barrilete capturado en la cuadrícula de 5° x 5° correspondiente.



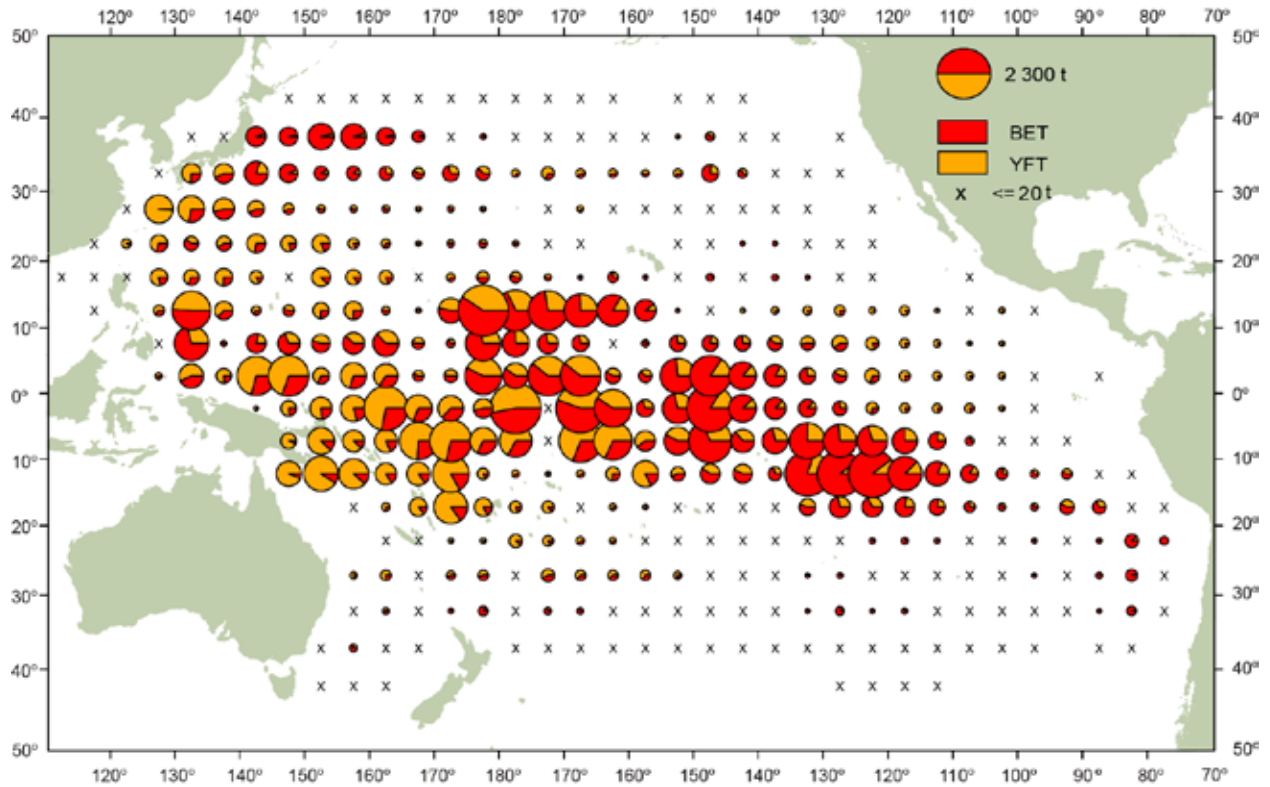
**FIGURE A-3a.** Average annual distributions of the purse-seine catches of bigeye, by set type, 2017-2021. The sizes of the circles are proportional to the amounts of bigeye caught in those 5° by 5° areas.

**FIGURA A-3a.** Distribución media anual de las capturas cerqueras de patudo, por tipo de lance, 2017-2021. El tamaño de cada círculo es proporcional a la cantidad de patudo capturado en la cuadrícula de 5° x 5° correspondiente.



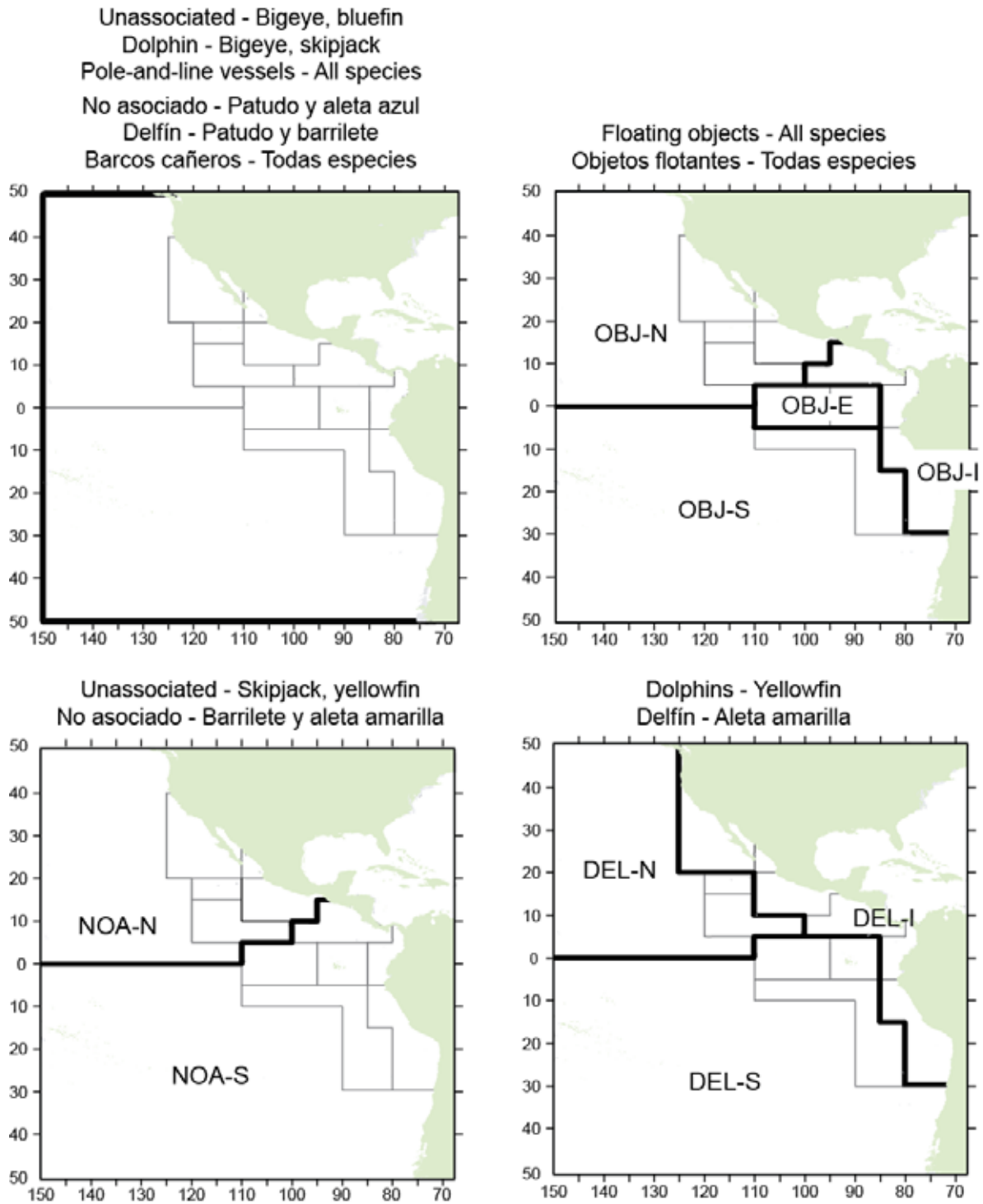
**FIGURE A-3b.** Annual distributions of the purse-seine catches of bigeye, by set type, 2022. The sizes of the circles are proportional to the amounts of bigeye caught in those 5° by 5° areas.

**FIGURA A-3b.** Distribución anual de las capturas cerqueras de patudo, por tipo de lance, 2022. El tamaño de cada círculo es proporcional a la cantidad de patudo capturado en la cuadrícula de 5° x 5° correspondiente.



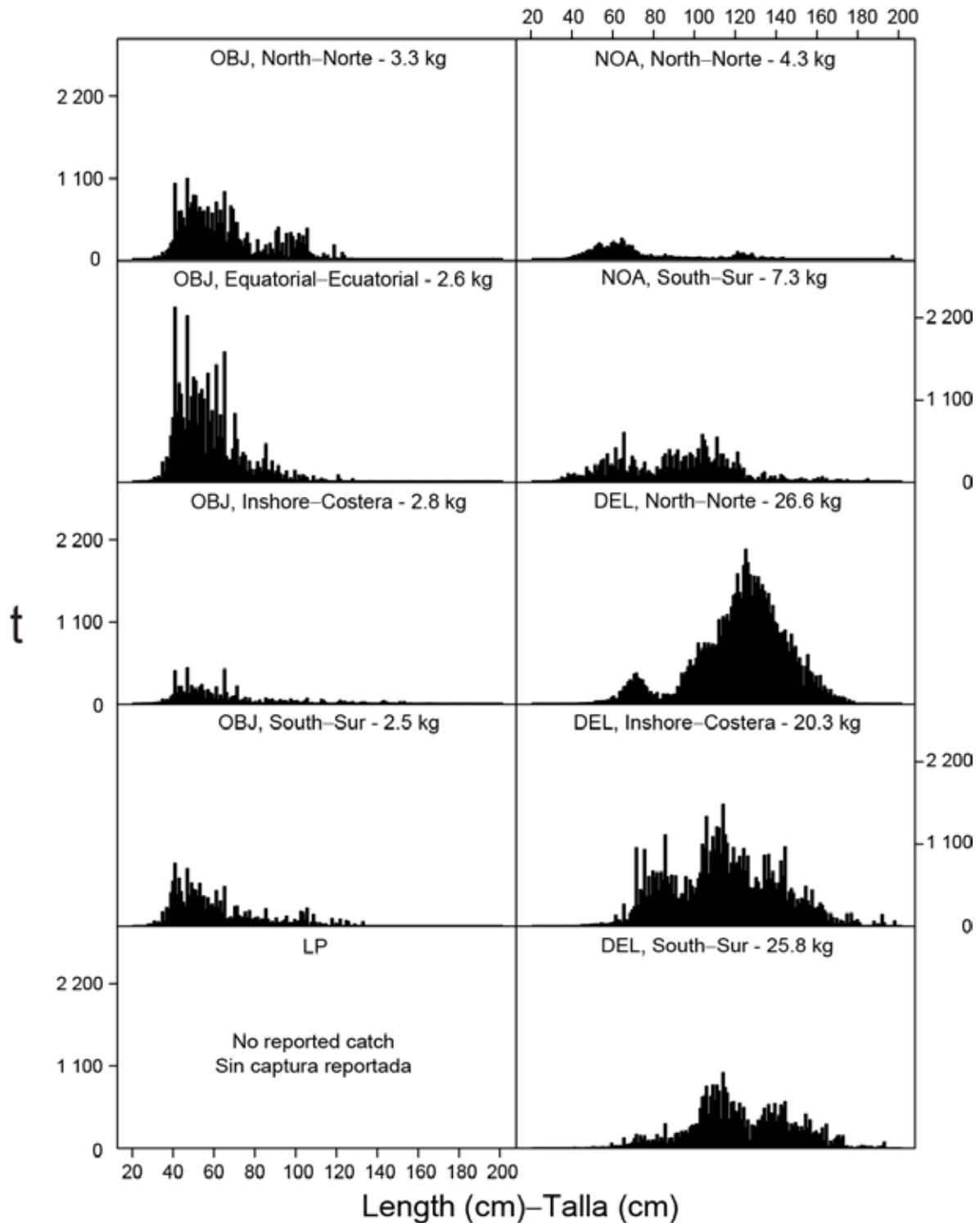
**FIGURE A-4.** Distributions of the average annual catches of bigeye and yellowfin tunas in the Pacific Ocean, in metric tons, by Chinese, Japanese, Korean, and Chinese Taipei longline vessels, 2017-2021. The sizes of the circles are proportional to the amounts of bigeye and yellowfin caught in those 5° by 5° areas.

**FIGURA A-4.** Distribución de las capturas anuales medias de atunes patudo y aleta amarilla en el Océano Pacífico, en toneladas métricas, por buques palangreros de China, Corea, Japón, y Taipei Chino, 2017-2021. El tamaño de cada círculo es proporcional a la cantidad de patudo y aleta amarilla capturado en la cuadrícula de 5° x 5° correspondiente.



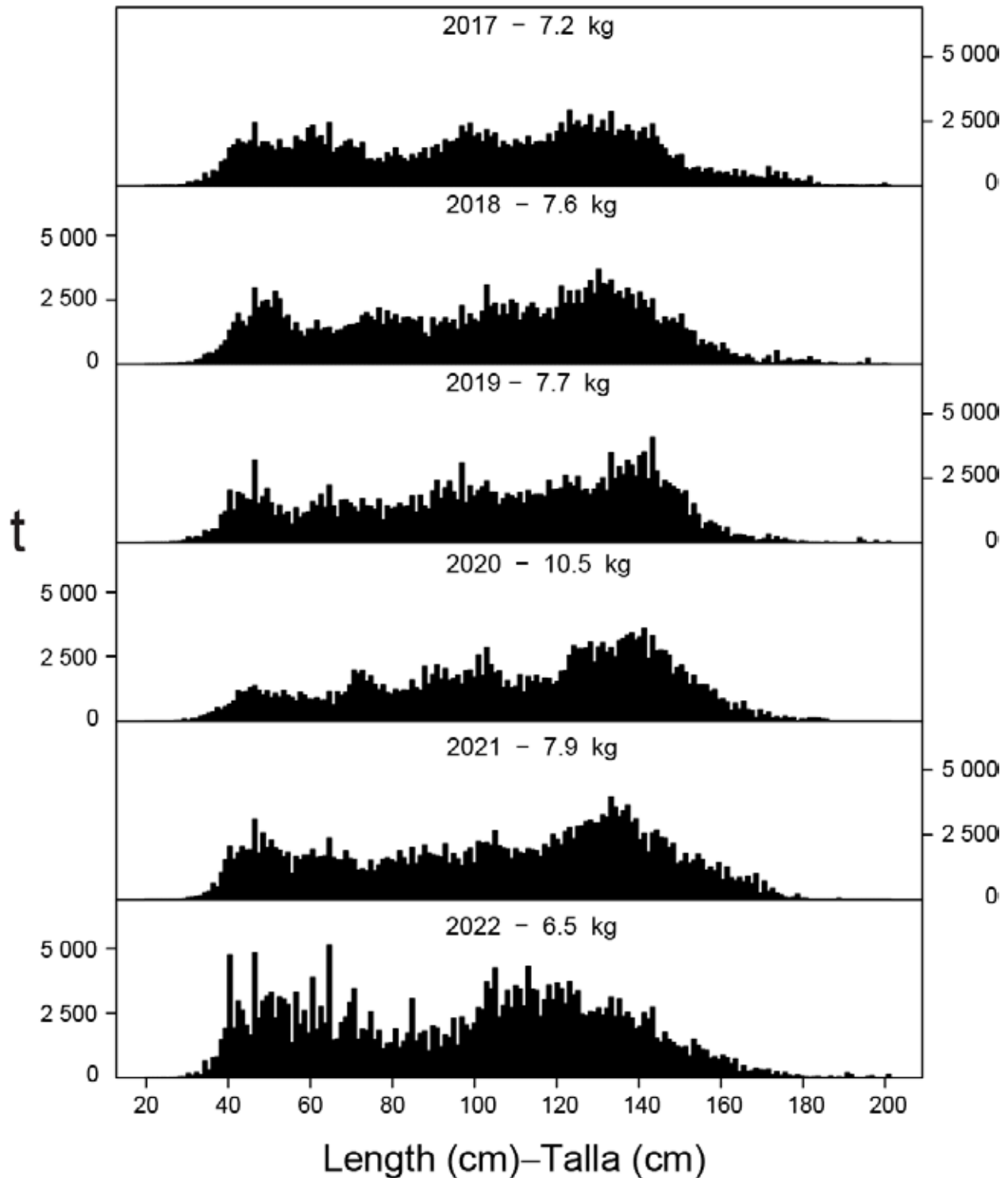
**FIGURE A-5.** The purse-seine fisheries defined by the IATTC staff for analyses of yellowfin, skipjack, and bigeye in the EPO. The thin lines indicate the boundaries of the 13 length-frequency sampling areas, and the bold lines the boundaries of the fisheries.

**FIGURA A-5.** Las pesquerías cerqueras definidas por el personal de la CIAT para los análisis de los atunes aleta amarilla, barrilete, y patudo en el OPO. Las líneas delgadas indican los límites de las 13 zonas de muestreo de frecuencia de tallas, y las líneas gruesas los límites de las pesquerías.



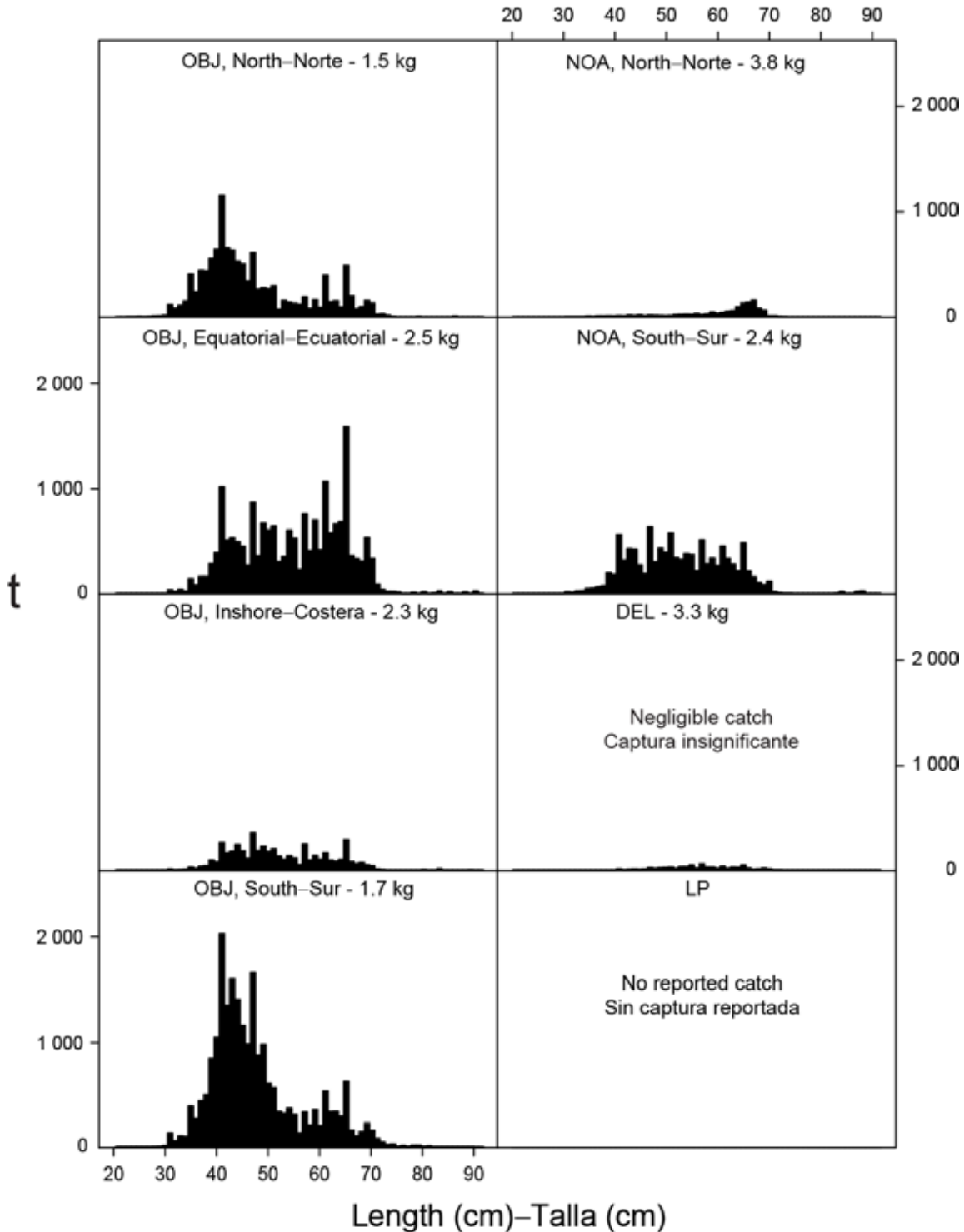
**FIGURE A-6a.** Estimated size compositions of the yellowfin caught in the EPO during 2022 for each fishery designated in Figure A-5. The value at the top of each panel is the average weight of the fish in the samples.  
**FIGURA A-6a.** Composición por tallas estimada del aleta amarilla capturado en el OPO durante 2022 en cada pesquería ilustrada en la Figura A-5. El valor en cada recuadro representa el peso promedio del pescado en las muestras.



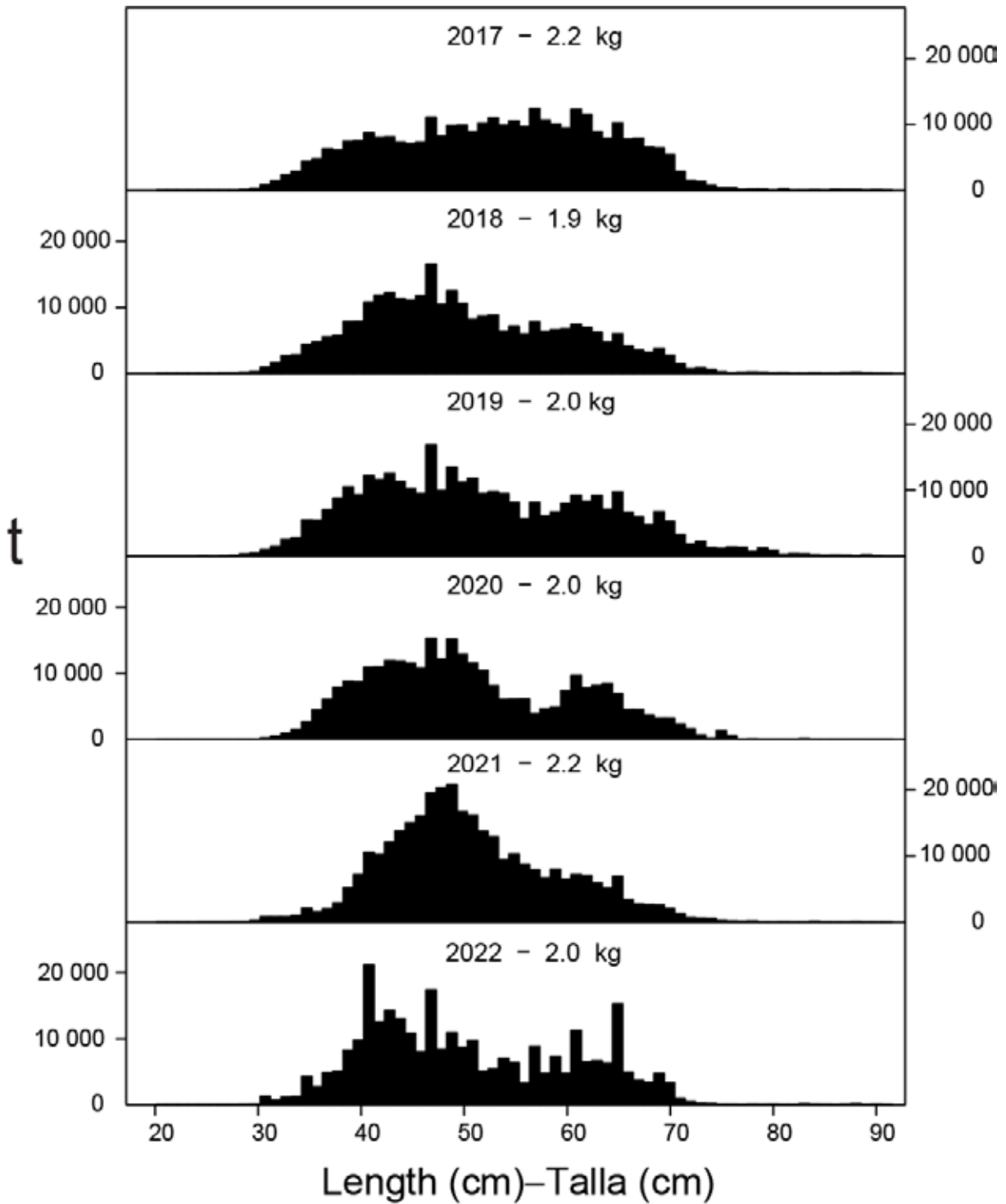


**FIGURE A-6b.** Estimated size compositions of the yellowfin caught by purse-seine and pole-and-line vessels in the EPO during 2017-2022. The value at the top of each panel is the average weight of the fish in the samples.

**FIGURA A-6b.** Composición por tallas estimada del aleta amarilla capturado por buques cerqueros y cañeros en el OPO durante 2017-2022. El valor en cada recuadro representa el peso promedio del pescado en las muestras.

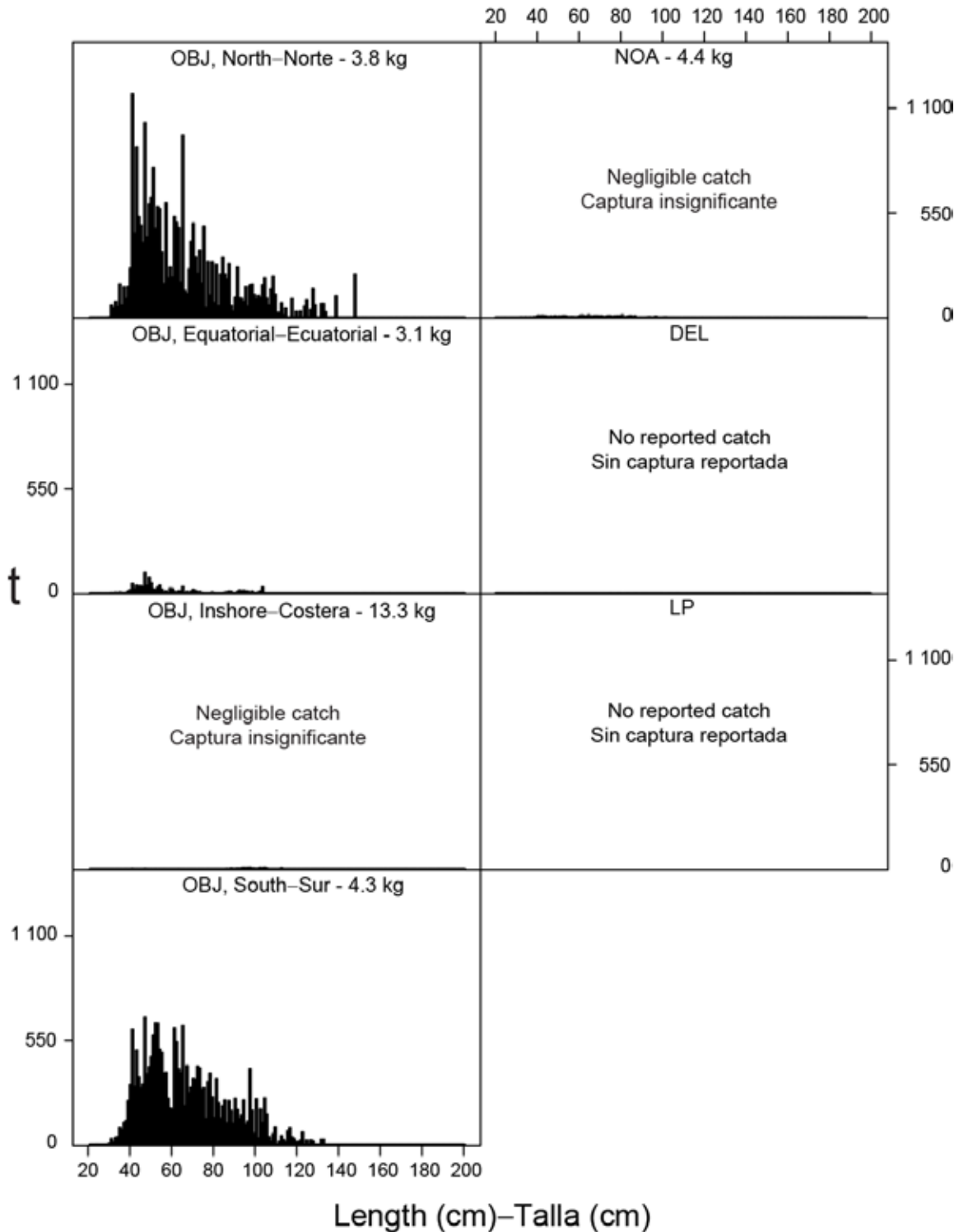


**FIGURE A-7a.** Estimated size compositions of the skipjack caught in the EPO during 2022 for each fishery designated in Figure A-5. The value at the top of each panel is the average weight of the fish in the samples.  
**FIGURA A-7a.** Composición por tallas estimada del barrilete capturado en el OPO durante 2022 en cada pesquería ilustrada en la Figura A-5. El valor en cada recuadro representa el peso promedio del pescado en las muestras.



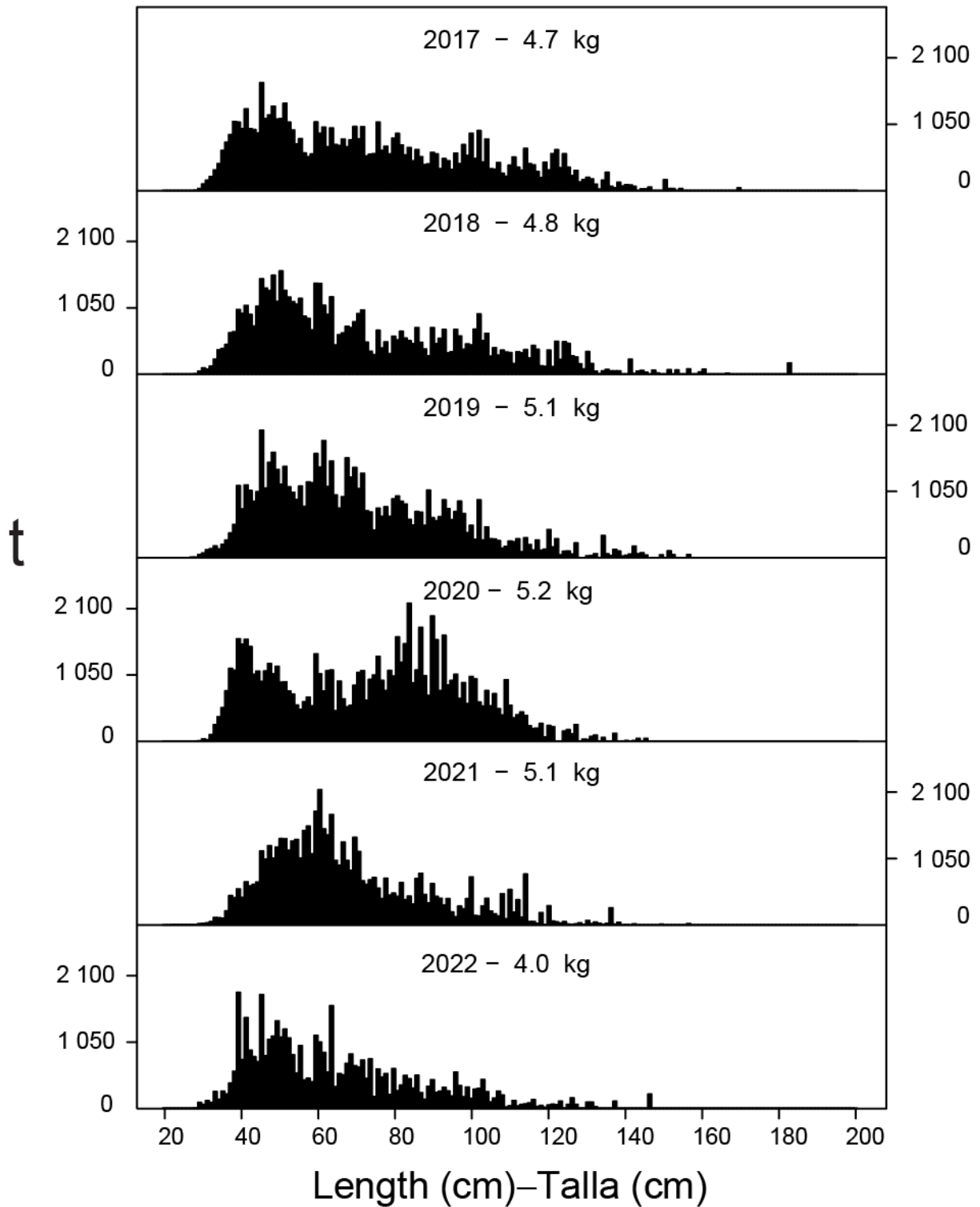
**FIGURE A-7b.** Estimated size compositions of the skipjack caught by purse-seine and pole-and-line vessels in the EPO during 2017-2022. The value at the top of each panel is the average weight of the fish in the samples.

**FIGURA A-7b.** Composición por tallas estimada del barrilete capturado por buques cerqueros y cañeros en el OPO durante 2017-2022. El valor en cada recuadro representa el peso promedio del pescado en las muestras.



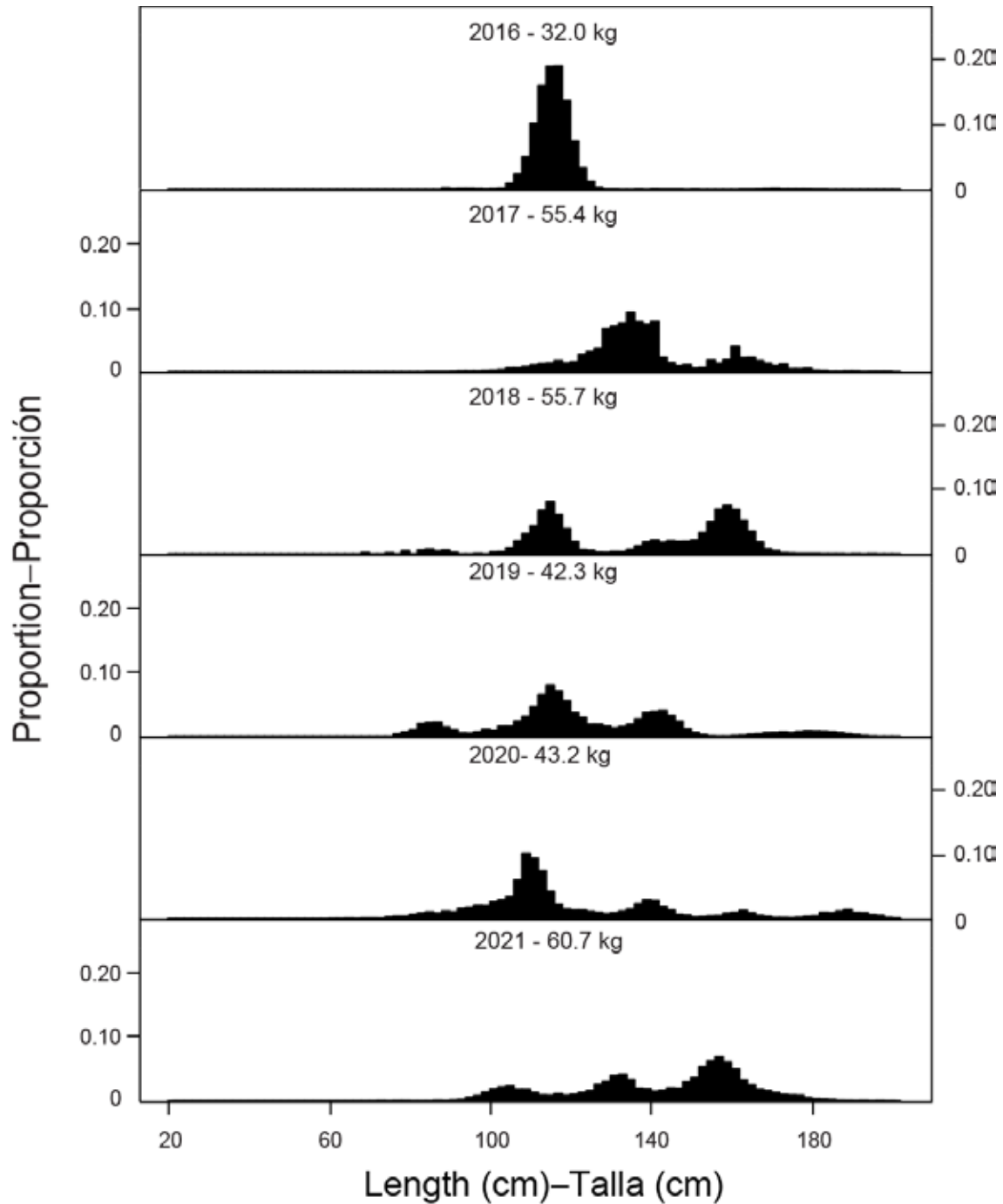
**FIGURE A-8a.** Estimated size compositions of the bigeye caught in the EPO during 2022 for each fishery designated in Figure A-5. The value at the top of each panel is the average weight.

**FIGURA A-8a.** Composición por tallas estimada del patudo capturado en el OPO durante 2022 en cada pesquería ilustrada en la Figura A-5. El valor en cada recuadro representa el peso promedio del pescado en las muestras.



**FIGURE A-8b.** Estimated size compositions of the bigeye caught by purse-seine vessels in the EPO during 2017-2022. The value at the top of each panel is the average weight.

**FIGURA A-8b.** Composición por tallas estimada del patudo capturado por buques cerqueros en el OPO durante 2017-2022. El valor en cada recuadro representa el peso promedio del pescado en las muestras.

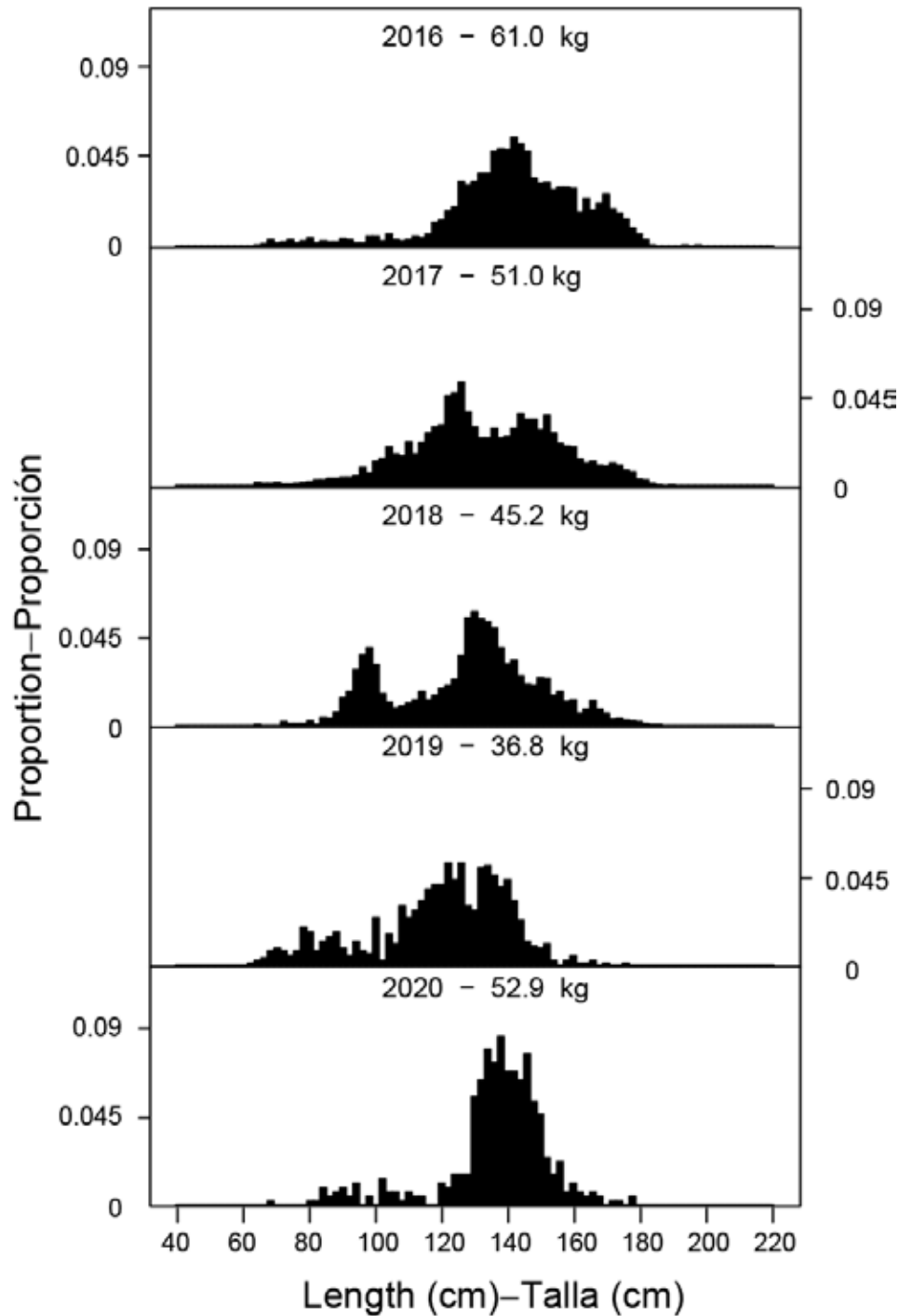


**FIGURE A-9.** Estimated length compositions of purse-seine catches of Pacific bluefin tuna, 2016-2021. The length distribution has been standardized as a proportion of the total number of measured tuna in each length interval. The value at the top of each panel is the average weight.

Source: Mexico's National Observer Program (PNAAPD).

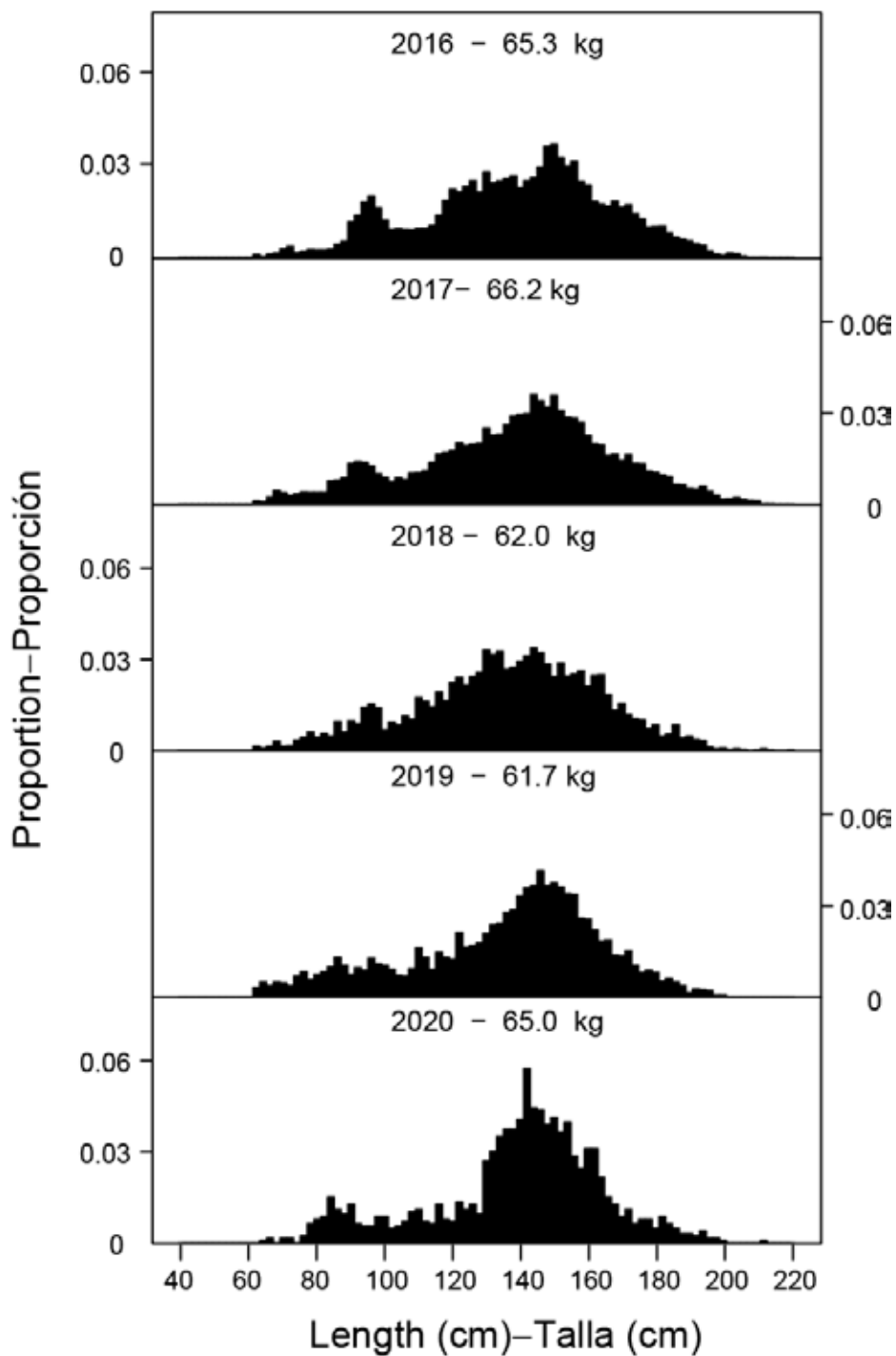
**FIGURA A-9.** Composición por talla estimada de las capturas cerqueras de atún aleta azul del Pacífico, 2016-2021. La distribución de las tallas ha sido estandarizada como proporción del número total de atunes medidos en cada intervalo de talla. El valor en cada recuadro representa el peso promedio.

Fuente: Programa Nacional de Observadores de México (PNAAPD).



**FIGURE A-10.** Estimated size compositions of the catches of yellowfin by the Japanese longline fleet in the EPO, 2016-2020. The size distribution has been standardized as a proportion of the total number of measured tuna in each size range. The value at the top of each panel is the average weight. Source: Fisheries Agency of Japan.

**FIGURA A-10.** Composición por tallas estimada de las capturas de aleta amarilla por la flota palangrera japonesa en el OPO, 2016-2020. La distribución de las tallas ha sido estandarizada como proporción del número total de atunes medidos en cada gama de tallas. El valor en cada recuadro representa el peso promedio. Fuente: Agencia Pesquera de Japón.



**FIGURE A-11.** Estimated size compositions of the catches of bigeye by the Japanese longline fleet in the EPO, 2016-2020. The size distribution has been standardized as a proportion of the total number of measured tuna in each size range. The value at the top of each panel is the average weight. Source: Fisheries Agency of Japan

**FIGURA A-11.** Composición por tallas estimada de las capturas de patudo por la flota palangrera japonesa en el OPO, 2016-2020. La distribución de las tallas ha sido estandarizada como proporción del número total de atunes medidos en cada gama de tallas. El valor en cada recuadro representa el peso promedio. Fuente: Agencia Pesquera de Japón.



**TABLE A-1.** Annual catches (t) of yellowfin, skipjack, and bigeye tunas, by all types of gear combined, in the Pacific Ocean. The EPO totals for 1993-2022 include discards from purse-seine vessels with carrying capacities greater than 363 t.

**TABLA A-1.** Capturas anuales (t) de atunes aleta amarilla, barrilete, y patudo, por todas las artes combinadas, en el Océano Pacífico. Los totales del OPO de 1993-2022 incluyen los descartes de buques cerqueros de más de 363 t de capacidad de acarreo.

	YFT			SKJ			BET			Total		
	EPO	WCPO	Total	EPO	WCPO	Total	EPO	WCPO	Total	EPO	WCPO	Total
1993	256,199	418,101	674,300	100,434	864,455	964,889	82,843	113,424	196,267	439,476	1,395,980	1,835,456
1994	248,071	449,221	697,292	84,661	939,508	1,024,169	109,331	124,623	233,954	442,063	1,513,352	1,955,415
1995	244,639	442,815	687,454	150,661	977,478	1,128,139	108,210	110,376	218,586	503,510	1,530,669	2,034,179
1996	266,928	425,705	692,633	132,335	1,003,205	1,135,540	114,706	107,153	221,859	513,969	1,536,063	2,050,032
1997	277,575	481,125	758,700	188,285	942,932	1,131,217	122,274	133,740	256,014	588,134	1,557,797	2,145,931
1998	280,606	536,853	817,459	165,489	1,247,087	1,412,576	93,954	152,607	246,561	540,049	1,936,547	2,476,596
1999	304,638	475,159	779,797	291,249	1,072,899	1,364,148	93,078	163,186	256,264	688,965	1,711,244	2,400,209
2000	286,863	506,965	793,828	230,479	1,198,149	1,428,628	148,557	149,248	297,805	665,899	1,854,362	2,520,261
2001	425,008	505,659	930,667	157,676	1,104,553	1,262,229	130,546	135,601	266,147	713,230	1,745,813	2,459,043
2002	443,458	491,890	935,348	167,048	1,256,174	1,423,222	132,806	158,936	291,742	743,312	1,907,000	2,650,312
2003	415,933	565,533	981,466	300,470	1,247,718	1,548,188	115,175	143,931	259,106	831,578	1,957,182	2,788,760
2004	296,847	598,099	894,946	217,249	1,357,330	1,574,579	110,722	182,945	293,667	624,818	2,138,374	2,763,192
2005	286,492	553,254	839,746	283,453	1,418,129	1,701,582	110,514	155,709	266,223	680,459	2,127,092	2,807,551
2006	180,519	539,773	720,292	309,090	1,479,386	1,788,476	117,328	165,069	282,397	606,937	2,184,228	2,791,165
2007	182,141	567,047	749,188	216,324	1,663,349	1,879,673	94,260	165,153	259,413	492,725	2,395,549	2,888,274
2008	197,328	644,427	841,755	307,699	1,649,075	1,956,774	103,350	171,318	274,668	608,377	2,464,820	3,073,197
2009	250,413	558,446	808,859	239,408	1,761,338	2,000,746	109,255	169,168	278,423	599,076	2,488,952	3,088,028
2010	261,871	566,205	828,076	153,092	1,680,363	1,833,455	95,408	139,927	235,335	510,371	2,386,495	2,896,866
2011	216,720	531,230	747,950	283,509	1,536,806	1,820,315	89,460	168,273	257,733	589,689	2,236,309	2,825,998
2012	213,310	625,687	838,997	273,519	1,731,944	2,005,463	102,687	167,341	270,028	589,516	2,524,972	3,114,488
2013	231,170	578,552	809,722	284,043	1,831,396	2,115,439	86,029	154,882	240,911	601,242	2,564,830	3,166,072
2014	246,789	618,063	864,852	265,490	1,985,132	2,250,622	96,045	169,029	265,074	608,324	2,772,224	3,380,548
2015	260,265	589,285	849,550	334,050	1,788,514	2,122,564	104,635	145,722	250,357	698,950	2,523,521	3,222,471
2016	255,446	660,584	916,030	345,142	1,788,767	2,133,909	92,835	156,799	249,634	693,423	2,606,150	3,299,573
2017	224,777	712,722	937,499	327,610	1,610,032	1,937,642	102,856	130,583	233,439	655,243	2,453,337	3,108,580
2018	253,281	701,448	954,729	291,338	1,842,737	2,134,075	94,480	152,335	246,815	639,099	2,696,520	3,335,619
2019	242,402	694,182	936,584	350,991	2,037,943	2,388,934	97,482	130,421	227,903	690,875	2,862,546	3,553,421
2020	231,416	731,203	962,619	298,406	1,719,535	2,017,941	105,255	147,428	252,683	635,077	2,598,166	3,233,243
2021	263,201	771,472	1,034,673	328,583	1,625,302	1,953,885	79,867	142,712	222,579	671,651	2,539,486	3,211,137
2022	292,158	*	292,158	297,511	*	297,511	63,661	*	63,661	653,330	*	653,330

**TABLE A-2a.** Estimated catches, in metric tons, of tunas and bonitos in the EPO, by fishing gear, 1993-2022. For purse-seine (PS) vessels, retained (Ret.) catches include all vessels; discard (Dis.) data are for Class-6 vessels only. 'C' indicates that the catch has been combined with the total in the 'OTR' column. The purse-seine and pole-and-line (LP) data for yellowfin, skipjack, and bigeye tunas have been adjusted to the species composition estimate, and are preliminary. The data for 2021-2022 are preliminary.

**TABLA A-2a.** Capturas estimadas, en toneladas métricas, de atunes y bonitos en el OPO, por arte de pesca, 1993-2022. En el caso de los buques de cerco (PS), las capturas retenidas (Ret) incluyen todos los buques; los datos de descartes (Dis.) son de buques de Clase 6 únicamente. 'C' indica que la captura se ha combinado con el total en la columna 'OTR'. Los datos de los atunes aleta amarilla, barrilete, y patudo de las pesquerías de cerco y de caña (LP) fueron ajustados a la estimación de composición por especies, y son preliminares. Los datos de 2021-2022 son preliminares.

	Yellowfin—Aleta amarilla						Skipjack—Barrilete						Bigeye—Patudo					
	PS		LP	LL	OTR + UNK	Total	PS		LP	LL	OTR + UNK	Total	PS		LP	LL	OTR + UNK	Total
	Ret.	Dis. <sup>§</sup>					Ret.	Dis. <sup>§</sup>					Ret.	Dis. <sup>§</sup>				
1993	219,492	4,713	4,951	24,009	3,034	256,199	83,830	10,515	3,772	61	2,256	100,434	9,657	653	-	72,498	35	82,843
1994	208,408	4,525	3,625	30,026	1,487	248,071	70,126	10,491	3,240	73	731	84,661	34,899	2,266	-	71,360	806	109,331
1995	215,434	5,275	1,268	20,596	2,066	244,639	127,047	16,373	5,253	77	1,911	150,661	45,321	3,251	-	58,269	1,369	108,210
1996	238,607	6,312	3,762	16,608	1,639	266,928	103,973	24,494	2,555	52	1,261	132,335	61,311	5,689	-	46,958	748	114,706
1997	244,878	5,516	4,418	22,163	600	277,575	153,456	31,338	3,260	135	96	188,285	64,272	5,402	-	52,580	20	122,274
1998	253,959	4,697	5,085	15,336	1,529	280,606	140,631	22,643	1,684	294	237	165,489	44,129	2,822	-	46,375	628	93,954
1999	281,920	6,547	1,783	11,682	2,706	304,638	261,565	26,046	2,044	201	1,393	291,249	51,158	4,932	-	36,450	538	93,078
2000	253,263	6,205	2,431	23,855	1,109	286,863	205,647	24,467	231	68	66	230,479	95,282	5,417	-	47,605	253	148,557
2001	383,936	7,028	3,916	29,608	520	425,008	143,165	12,815	448	1,214	34	157,676	60,518	1,254	-	68,755	19	130,546
2002	412,286	4,140	950	25,531	551	443,458	153,546	12,506	616	261	119	167,048	57,421	949	-	74,424	12	132,806
2003	383,279	5,865	470	25,174	1,145	415,933	273,968	22,453	638	634	2,777	300,470	53,052	2,326	-	59,776	21	115,175
2004	272,557	3,000	1,884	18,779	627	296,847	197,824	17,078	528	713	1,106	217,249	65,471	1,574	-	43,483	194	110,722
2005	268,101	2,771	1,822	11,946	1,852	286,492	263,229	16,915	1,299	231	1,779	283,453	67,895	1,900	-	40,694	25	110,514
2006	166,631	1,534	686	10,210	1,458	180,519	296,268	11,177	435	224	986	309,090	83,838	1,680	-	31,770	40	117,328
2007	170,016	1,725	894	8,067	1,439	182,141	208,295	6,450	276	238	1,065	216,324	63,450	890	-	29,876	44	94,260
2008	185,057	696	814	9,820	941	197,328	296,603	8,249	499	1,185	1,163	307,699	75,028	2,086	-	26,208	28	103,350
2009	236,757	1,262	709	10,444	1,241	250,413	230,523	6,064	151	1,584	1,086	239,408	76,799	1,019	-	31,422	15	109,255
2010	251,009	1,031	460	8,339	1,032	261,871	147,192	2,769	47	1,815	1,269	153,092	57,752	564	-	37,090	2	95,408
2011	206,851	415	276	8,048	1,130	216,720	276,035	5,215	24	1,384	851	283,509	56,512	631	-	32,317	-	89,460
2012	198,017	451	400	12,954	1,488	213,310	266,215	3,511	303	2,381	1,109	273,519	66,020	473	-	36,167	27	102,687
2013	218,187	207	759	10,783	1,234	231,170	278,560	2,254	164	2,024	1,041	284,043	49,487	273	-	36,170	99	86,029
2014	234,066	517	C	8,649	3,557	246,789	261,469	2,596	C	194	1,231	265,490	60,445	83	-	35,340	177	96,045
2015	245,727	334	C	10,637	3,567	260,265	328,907	3,699	C	189	1,255	334,050	62,913	177	-	41,524	21	104,635
2016	242,118	404	-	9,807	3,118	255,446	337,561	4,086	-	214	3,281	345,142	56,731	541	-	35,541	22	92,835
2017	210,980	412	C	10,643	2,742	224,777	324,759	1,765	C	185	901	327,610	66,973	201	-	35,649	33	102,856
2018	238,981	231	C	12,579	1,490	253,281	288,821	865	C	1,222	430	291,338	64,523	145	-	29,789	23	94,480
2019	228,313	578	C	12,081	1,430	242,402	347,405	2,851	C	262	473	350,991	69,223	117	-	28,124	18	97,482
2020	218,747	148	C	11,748	773	231,416	295,961	1,787	C	267	391	298,406	78,784	106	-	26,321	44	105,255
2021	253,415	246	-	9,458	82	263,201	326,524	1,824	-	224	11	328,583	58,170	69	-	21,623	5	79,867
2022	291,826	332	-	*	*	292,158	296,453	1,058	-	*	*	297,511	46,690	50	-	16,921	*	63,661

<sup>§</sup> Class-6 (carrying capacity >363 t) purse-seine vessels only-Buques cerqueros de Clase 6 (capacidad de acarreo >363 t) solamente

TABLE A-2a. (continued)  
 TABLA A-2a. (continuación)

	Pacific bluefin—Aleta azul del Pacífico						Albacore—Albacora						Black skipjack—Barrilete negro					
	PS		LP	LL	OTR + UNK	Total	PS		LP	LL	OTR + UNK	Total	PS		LP	LL	OTR + UNK	Total
	Ret.	Dis. <sup>§</sup>					Ret.	Dis. <sup>§</sup>					Ret.	Dis. <sup>§</sup>				
1993	580	-	-	11	316	907	-	-	1	11,194	4,410	15,605	104	3,925	-	31	-	4,060
1994	969	-	-	12	116	1,097	-	-	85	10,390	10,154	20,629	188	857	-	40	-	1,085
1995	659	-	-	25	264	948	-	-	465	6,185	7,427	14,077	202	1,448	-	-	-	1,650
1996	8,333	-	-	19	83	8,435	11	-	72	7,631	8,398	16,112	704	2,304	-	12	-	3,020
1997	2,608	3	2	14	235	2,862	1	-	59	9,678	7,540	17,278	100	2,512	-	11	-	2,623
1998	1,772	-	-	95	516	2,383	42	-	81	12,635	13,158	25,916	489	1,876	39	-	-	2,404
1999	2,553	54	5	151	514	3,277	47	-	227	11,633	14,510	26,417	171	3,404	-	-	-	3,575
2000	3,712	-	61	46	349	4,168	71	-	86	9,663	13,453	23,273	294	1,995	-	-	-	2,289
2001	1,155	3	1	148	378	1,685	3	-	157	19,410	13,727	33,297	2,258	1,019	-	-	-	3,277
2002	1,758	1	3	71	620	2,453	31	-	381	15,289	14,433	30,134	1,459	2,283	8	-	-	3,750
2003	3,233	-	3	87	369	3,692	34	-	59	24,901	20,397	45,391	433	1,535	6	13	117	2,104
2004	8,880	19	-	15	59	8,973	105	-	126	18,444	22,011	40,686	884	387	-	27	862	2,160
2005	4,743	15	-	-	80	4,838	2	-	66	9,350	15,668	25,086	1,472	2,124	-	-	22	3,618
2006	9,928	-	-	-	93	10,021	109	-	1	13,831	18,980	32,921	1,999	1,972	-	-	-	3,971
2007	4,189	-	-	-	14	4,203	187	-	21	11,107	19,261	30,576	2,307	1,625	-	2	54	3,988
2008	4,392	14	15	-	63	4,484	49	-	1,050	9,218	16,505	26,822	3,624	2,251	-	-	8	5,883
2009	3,428	24	-	-	161	3,613	50	2	C	12,072	19,090	31,214	4,256	1,020	-	2	-	5,278
2010	7,746	-	-	3	89	7,838	25	-	C	14,256	19,363	33,644	3,425	1,079	-	8	184	4,696
2011	2,829	4	-	1	244	3,078	10	-	C	16,191	16,074	32,275	2,317	719	-	6	-	3,042
2012	6,705	-	-	1	405	7,111	-	-	C	24,198	18,100	42,298	4,504	440	-	5	7	4,956
2013	3,154	-	-	1	819	3,974	-	-	C	25,396	18,513	43,909	3,580	805	-	10	24	4,419
2014	5,263	66	-	-	427	5,756	-	-	C	29,231	19,463	48,694	4,153	486	-	11	81	4,731
2015	3,168	-	-	15	405	3,588	-	-	C	28,939	17,142	46,081	3,763	356	-	1	111	4,231
2016	3,025	-	-	31	697	3,753	2	-	-	26,777	14,567	41,346	6,606	792	-	-	178	7,576
2017	4,109	-	-	22	482	4,613	-	-	-	26,592	9,517	36,109	5,079	306	C	-	54	5,439
2018	2,852	-	-	31	551	3,434	8	-	-	25,477	11,138	36,623	3,002	732	C	-	120	3,854
2019	2,475	-	-	36	490	3,001	-	-	-	19,891	11,897	31,788	5,199	499	C	-	132	5,830
2020	3,383	19	-	88	744	4,234	-	-	-	19,077	10,327	29,404	4,573	684	-	-	359	5,616
2021	3,069	-	-	116	1,219	4,404	-	-	-	31,432	6,945	38,377	4,701	472	-	-	3	5,285
2022	3,392	7	-	*	*	3,399	2	-	-	*	*	2	6,467	592	-	-	*	7,059

<sup>§</sup> Class-6 (carrying capacity >363 t) purse-seine vessels only-Buques cerqueros de Clase 6 (capacidad de acarreo >363 t) solamente

TABLE A-2a. (continued)  
 TABLA A-2a. (continuación)

	Bonitos						Unidentified tunas— Atunes no identificados						Total					
	PS		LP	LL	OTR + UNK	Total	PS		LP	LL	OTR + UNK	Total	PS		LP	LL	OTR + UNK	Total
	Ret.	Dis. <sup>§</sup>					Ret.	Dis. <sup>§</sup>					Ret.	Dis. <sup>§</sup>				
1993	599	12	1	-	436	1,048	9	1,975	-	10	4,082	6,076	314,271	21,793	8,725	107,814	14,570	467,173
1994	8,331	147	362	-	185	9,025	9	498	-	1	464	972	322,930	18,781	7,311	111,901	13,943	474,867
1995	7,929	55	81	-	54	8,119	11	626	-	-	1,004	1,641	396,603	27,028	7,066	85,152	14,096	529,945
1996	647	1	7	-	16	671	37	1,028	-	-	1,038	2,103	413,623	39,827	6,395	71,283	13,183	544,311
1997	1,097	4	8	-	34	1,143	71	3,383	-	7	1,437	4,898	466,483	48,157	7,747	84,588	9,962	616,936
1998	1,330	4	7	-	588	1,929	13	1,233	-	24	18,158	19,428	442,365	33,276	6,897	74,758	34,815	592,111
1999	1,719	-	-	24	369	2,112	27	3,092	-	2,113	4,279	9,511	599,160	44,076	4,059	62,254	24,310	733,859
2000	636	-	-	75	56	767	190	1,410	-	1,992	1,468	5,060	559,095	39,494	2,809	83,305	16,756	701,459
2001	17	-	-	34	19	70	191	679	-	2,448	55	3,373	591,243	22,799	4,523	121,616	14,755	754,935
2002	-	-	-	-	1	1	576	1,863	-	482	1,422	4,343	627,077	21,741	1,958	116,057	17,158	783,992
2003	-	-	1	-	25	26	80	1,238	-	215	750	2,283	714,079	33,416	1,177	110,799	25,600	885,071
2004	15	35	1	8	3	62	256	973	-	349	258	1,836	545,992	23,066	2,539	81,818	25,120	678,536
2005	313	18	-	-	11	342	190	1,922	-	363	427	2,902	605,945	25,664	3,187	62,585	19,865	717,246
2006	3,507	80	12	-	3	3,602	50	1,910	-	29	193	2,182	562,330	18,353	1,134	56,066	21,754	659,636
2007	15,906	628	107	2	-	16,643	598	1,221	-	2,197	301	4,317	464,948	12,540	1,298	51,488	22,179	552,452
2008	7,874	37	9	6	26	7,952	136	1,380	1	727	883	3,127	572,763	14,712	2,388	47,164	19,617	656,644
2009	9,720	15	-	8	77	9,820	162	469	-	1,933	74	2,638	561,695	9,875	860	57,466	21,743	651,640
2010	2,820	19	4	2	70	2,915	136	709	-	1,770	36	2,651	470,105	6,170	511	63,279	22,045	562,111
2011	7,969	45	18	10	11	8,053	108	784	-	3,178	-	4,070	552,631	7,813	318	61,136	18,311	640,208
2012	8,191	156	-	1	64	8,412	41	354	-	196	221	812	549,693	5,385	704	75,900	21,419	653,101
2013	2,067	9	-	13	27	2,116	53	461	-	-	529	1,043	555,088	4,009	923	74,397	22,286	656,703
2014	2,821	38	-	-	154	3,013	113	328	-	269	392	1,102	568,330	4,113	-	73,695	25,482	671,620
2015	789	28	-	1	-	818	90	242	-	-	1,232	1,564	645,357	4,836	-	81,306	23,733	755,232
2016	3,806	15	-	-	1	3,822	129	212	-	-	294	635	649,978	6,050	-	72,485	22,157	750,655
2017	3,438	54	-	-	-	3,492	234	303	-	-	366	903	615,572	3,041	-	73,091	14,094	705,798
2018	2,409	58	-	-	-	2,467	75	448	-	3	213	739	600,671	2,479	-	69,101	13,965	686,216
2019	7,255	27	-	-	-	7,282	83	276	-	4	65	428	659,953	4,348	-	60,398	14,505	739,204
2020	3,169	6	-	-	506	3,681	211	480	-	3	-	694	604,828	3,229	-	57,504	13,144	678,705
2021	6,899	75	-	-	-	6,974	1,253	441	-	1	-	1,695	654,031	3,127	-	62,963	8,265	728,386
2022	3,242	9	-	-	-	3,251	2,293	699	-	*	-	2,992	650,365	2,747	-	16,921	*	670,033

<sup>§</sup> Class-6 (carrying capacity >363 t) purse-seine vessels only-Buques cerqueros de Clase 6 (capacidad de acarreo >363 t) solamente

TABLE A-2b. Estimated catches, in metric tons, of billfishes in the EPO, by fishing gear, 1993-2022. Purse-seine (PS) vessel data are for Class-6 vessels only. The data for 2021-2022 are preliminary.

TABLA A-2b. Capturas estimadas, en toneladas métricas, de peces picudos en el OPO, por arte de pesca, 1993-2022. En el caso de los buques de cerco (PS), los datos son de buques de Clase 6 únicamente. Los datos de 2021-2022 son preliminares.

	Swordfish—Pez espada					Blue marlin—Marlín azul					Black marlin—Marlín negro					Striped marlin—Marlín rayado				
	PS <sup>§</sup>		LL	OTR	Total	PS <sup>§</sup>		LL	OTR	Total	PS <sup>§</sup>		LL	OTR	Total	PS <sup>§</sup>		LL	OTR	Total
	Ret.	Dis.				Ret.	Dis.				Ret.	Dis.				Ret.	Dis.			
1993	3	1	6,187	4,414	10,605	84	20	6,571	-6,675	57	31	218	-	306	47	20	3,575	259	3,901	
1994	1	-	4,990	3,822	8,813	69	15	9,027	-9,111	39	23	256	-	318	20	9	3,396	257	3,682	
1995	3	-	4,495	2,974	7,472	70	16	7,288	-7,374	43	23	158	-	224	18	8	3,249	296	3,571	
1996	1	-	7,071	2,486	9,558	62	15	3,596	-3,673	46	24	100	-	170	20	9	3,218	430	3,677	
1997	2	1	10,580	1,781	12,364	126	15	5,915	-6,056	71	22	154	-	247	28	34	4,473	329	4,833	
1998	3	-	9,800	3,246	13,049	130	20	4,856	-5,006	72	28	168	-	268	20	3	3,558	509	4,090	
1999	2	-	7,569	1,965	9,536	181	38	3,691	-3,910	83	42	94	-	219	26	11	2,621	376	3,034	
2000	3	-	8,930	2,383	11,316	120	23	3,634	-3,777	67	21	105	-	193	17	3	1,889	404	2,313	
2001	3	1	16,007	1,964	17,975	119	40	4,196	-4,355	67	48	123	-	238	13	8	1,961	342	2,324	
2002	1	-	17,598	2,119	19,718	188	33	3,480	-3,701	86	30	78	-	194	69	5	2,158	412	2,644	
2003	3	1	18,161	354	18,519	185	21	4,015	-4,221	121	26	73	-	220	31	4	1,904	417	2,356	
2004	2	-	15,372	309	15,683	140	21	3,783	-3,944	62	5	41	-	108	23	1	1,547	390	1,961	
2005	2	-	8,935	4,304	13,241	209	14	3,350	-3,573	95	9	39	-	143	37	4	1,531	553	2,125	
2006	7	-	9,890	3,800	13,697	164	21	2,934	105	3,224	124	21	77	-	222	54	3	1,735	490	2,282
2007	4	-	9,639	4,390	14,033	124	13	2,393	106	2,636	74	8	47	-	129	32	4	1,656	1,024	2,716
2008	6	-	12,248	3,071	15,325	125	8	1,705	114	1,952	76	9	100	-	185	33	2	1,291	1,045	2,371
2009	4	-	15,539	3,905	19,448	159	15	2,102	131	2,407	76	8	94	-	178	23	2	1,333	7	1,365
2010	4	-	18,396	4,480	22,880	176	12	2,920	126	3,234	62	9	160	-	231	21	2	2,129	9	2,161
2011	3	-	20,400	5,101	25,504	150	6	2,025	144	2,325	59	7	187	-	253	28	1	2,640	16	2,685
2012	5	-	23,587	7,148	30,740	178	15	3,723	177	4,093	71	4	444	-	519	28	-	2,703	20	2,751
2013	2	-	22,342	5,560	27,904	172	15	4,202	168	4,557	99	4	138	-	241	21	1	2,439	19	2,480
2014	4	-	21,331	6,332	27,667	209	12	4,069	186	4,476	70	4	151	-	225	22	1	1,929	3	1,955
2015	5	1	25,803	6,080	31,889	306	11	4,120	182	4,619	117	14	240	-	371	26	-	1,268	474	1,768
2016	4	-	24,371	7,512	31,887	247	6	3,678	175	4,106	62	3	80	-	145	19	-	1,562	4	1,585
2017	1	2	22,442	8,073	30,518	151	4	3,903	191	4,249	39	1	211	-	251	10	-	1,752	7	1,769
2018	2	-	24,569	7,039	31,610	167	1	4,094	174	4,436	23	-	297	-	320	10	1	1,820	5	1,836
2019	3	-	21,858	9,247	31,108	201	4	2,503	186	2,894	45	-	161	-	206	16	-	1,752	11	1,779
2020	2	-	22,486	5,684	28,172	131	1	2,789	194	3,115	45	-	611	-	656	10	-	1,857	9	1,876
2021	2	-	17,607	4,852	22,461	117	1	1,614	*	1,732	38	-	281	-	319	12	-	1,336	2	1,350
2022	3	-	*	*	3	169	3	*	*	172	38	1	*	-	39	16	1	*	*	17

§ Class-6 (carrying capacity >363 t) purse-seine vessels only—Buques cerqueros de Clase 6 (capacidad de acarreo >363 t) solamente

TABLE A-2b. (continued)  
 TABLA A-2b. (continuación)

	Shortbill spearfish— Marlín trompa corta					Sailfish— Pez vela					Unidentified istiophorid billfishes—Picudos istio- fóridos no identificados					Total billfishes— Total de peces picudos				
	PS <sup>§</sup>		LL	OTR	Total	PS <sup>§</sup>		LL	OTR	Total	PS <sup>§</sup>		LL	OTR	Total	PS <sup>§</sup>		LL	OTR	Total
	Ret.	Dis.				Ret.	Dis.				Ret.	Dis.				Ret.	Dis.			
1993	-	-	1	-	1	26	32	2,266	-	2,324	29	68	1,650	-	1,747	246	172	20,468	4,673	25,559
1994	-	-	144	-	144	19	21	1,682	-	1,722	7	16	1,028	-	1,051	155	84	20,523	4,079	24,841
1995	1	-	155	-	156	12	15	1,351	-	1,378	4	9	232	-	245	151	71	16,928	3,270	20,420
1996	1	-	126	-	127	10	12	738	-	760	6	13	308	-	327	146	73	15,157	2,916	18,292
1997	1	-	141	-	142	12	11	1,891	-	1,914	3	5	1,324	-	1,332	243	57	24,478	2,110	26,888
1998	-	-	200	-	200	28	31	1,382	-	1,441	5	7	575	55	642	258	89	20,539	3,810	24,696
1999	1	-	278	-	279	33	8	1,216	-	1,257	6	12	1,136	-	1,154	332	111	16,605	2,341	19,389
2000	1	-	285	-	286	33	17	1,380	-	1,430	3	6	880	136	1,025	244	70	17,103	2,923	20,340
2001	-	-	304	-	304	18	45	1,539	325	1,927	2	5	1,741	204	1,952	222	147	25,871	2,835	29,075
2002	1	-	273	-	274	19	15	1,792	17	1,843	4	5	1,862	14	1,885	368	88	27,241	2,562	30,259
2003	1	4	290	-	295	38	49	1,174	-	1,261	6	5	1,389	-	1,400	385	110	27,006	771	28,272
2004	1	-	207	-	208	19	13	1,400	17	1,449	4	4	1,385	-	1,393	251	44	23,735	716	24,746
2005	1	-	229	-	230	32	11	805	15	863	5	3	901	-	909	381	41	15,790	4,872	21,084
2006	1	-	231	-	232	30	13	1,007	35	1,085	23	4	490	1	518	403	62	16,364	4,431	21,260
2007	1	-	239	-	240	41	8	1,032	64	1,145	13	4	1,171	15	1,203	289	37	16,177	5,599	22,102
2008	1	-	266	-	267	28	7	524	72	631	16	5	1,587	8	1,616	285	31	17,721	4,310	22,347
2009	1	-	446	-	447	17	6	327	8	358	11	1	1,799	12	1,823	291	32	21,640	4,063	26,026
2010	1	-	519	-	520	27	20	655	3	705	8	2	2,604	-	2,614	299	45	27,383	4,618	32,345
2011	-	-	462	-	462	18	5	658	28	709	15	1	2,377	3	2,396	273	20	28,749	5,292	34,334
2012	1	-	551	-	552	14	2	685	15	716	10	1	2,178	-	2,189	307	22	33,871	7,360	41,560
2013	1	-	913	-	914	16	2	614	9	641	15	3	2,743	1	2,762	326	25	33,391	5,757	39,499
2014	-	-	721	-	721	16	1	481	8	506	8	2	220	3	233	329	20	28,902	6,532	35,783
2015	1	-	497	-	498	18	8	1,402	22	1,450	19	1	705	4	729	492	35	34,036	6,762	41,325
2016	1	-	416	-	417	49	9	457	19	534	112	9	732	1	854	494	27	31,296	7,710	39,527
2017	-	-	245	-	245	22	2	527	15	566	164	12	258	16	450	387	21	29,338	8,302	38,050
2018	-	-	235	-	235	13	2	467	17	499	123	6	203	12	344	338	10	31,684	7,247	39,280
2019	-	-	809	-	809	17	1	858	5	881	121	5	416	51	593	403	11	28,358	9,499	38,270
2020	1	-	647	-	648	18	1	493	3	515	77	3	564	7	651	284	5	29,448	5,897	35,633
2021	-	-	130	-	130	10	1	595	*	606	70	6	77	9	162	249	8	21,641	4,863	26,760
2022	1	-	*	-	1	8	2	*	*	10	62	4	*	*	66	297	11	*	*	308

<sup>§</sup> Class-6 (carrying capacity >363 t) purse-seine vessels only-Buques cerqueros de Clase 6 (capacidad de acarreo >363 t) solamente

**TABLE A-3a.** Catches (t) of yellowfin tuna by purse-seine vessels in the EPO, by vessel flag. 'C' indicates that the catch has been combined with the total in the 'OTR' column. The data have been adjusted to the species composition estimate and are preliminary.

**TABLA A-3a.** Capturas (t) de atún aleta amarilla por buques de cerco en el OPO, por bandera del buque. 'C' indica que la captura se ha combinado con el total en la columna 'OTR'. Los datos están ajustados a la estimación de composición por especie, y son preliminares.

	COL	CRI	ECU	EU (ESP)	MEX	NIC	PAN	PER	SLV	USA	VEN	VUT	C + OTR <sup>1</sup>	Total
1993	3,863	-	18,094	C	101,792	-	5,671	-	-	14,055	43,522	24,936	7,559	219,492
1994	7,533	-	18,365	C	99,618	-	3,259	-	-	8,080	41,500	25,729	4,324	208,408
1995	8,829	C	17,044	C	108,749	-	1,714	-	-	5,069	47,804	22,220	4,005	215,434
1996	9,855	C	17,125	C	119,878	-	3,084	-	-	6,948	62,846	10,549	8,322	238,607
1997	9,402	-	18,697	C	120,761	-	4,807	-	-	5,826	57,881	20,701	6,803	244,878
1998	15,592	-	36,201	5,449	106,840	-	3,330	-	C	2,776	61,425	17,342	5,004	253,959
1999	13,267	-	53,683	8,322	114,545	C	5,782	-	C	3,400	55,443	16,476	11,002	281,920
2000	6,138	-	35,492	10,318	101,662	C	5,796	-	-	4,374	67,672	8,247	13,563	253,262
2001	12,950	-	55,347	18,448	130,087	C	9,552	-	C	5,670	108,974	10,729	32,180	383,937
2002	17,574	-	32,512	16,990	152,864	C	15,719	C	7,412	7,382	123,264	7,502	31,068	412,287
2003	9,770	-	34,271	12,281	172,807	-	16,591	C	C	3,601	96,914	9,334	27,710	383,279
2004	C	-	40,886	13,622	91,442	C	33,563	-	C	C	39,094	7,371	46,577	272,555
2005	C	-	40,596	11,947	110,898	4,838	33,393	-	6,470	C	28,684	C	31,276	268,102
2006	C	-	26,049	8,409	69,449	4,236	22,521	-	C	C	13,286	C	22,679	166,629
2007	C	-	19,749	2,631	65,091	3,917	26,024	-	C	C	20,097	C	32,507	170,016
2008	C	-	18,463	3,023	84,462	4,374	26,993	C	C	C	17,692	C	30,050	185,057
2009	C	-	18,167	7,864	99,785	6,686	35,228	C	C	C	25,298	C	43,729	236,757
2010	20,493	-	34,764	2,820	104,969	9,422	34,538	C	C	-	21,244	C	22,758	251,008
2011	18,643	-	32,946	1,072	99,812	7,781	18,607	-	C	C	18,712	C	9,278	206,851
2012	20,924	-	29,485	1,065	93,323	7,541	15,932	-	C	C	23,408	C	6,339	198,017
2013	16,476	-	27,655	511	114,706	8,261	18,301	C	C	-	24,896	C	7,381	218,187
2014	17,185	-	37,546	760	120,980	8,100	19,349	C	C	1,105	23,025	-	6,016	234,066
2015	17,270	-	50,153	C	106,171	6,876	26,558	783	C	3,212	30,428	-	4,276	245,727
2016	19,280	-	59,280	C	93,928	11,047	23,249	1,647	C	4,578	23,812	-	5,298	242,118
2017	15,106	-	55,705	C	80,870	9,347	19,921	3,349	C	6,500	16,809	-	3,373	210,980
2018	21,855	-	57,164	C	101,651	7,552	22,625	1,458	C	3,808	19,527	-	3,341	238,981
2019	17,177	-	46,102	C	105,426	7,114	17,826	1,782	C	6,515	22,558	-	3,814	228,313
2020	16,641	-	39,897	C	102,137	5,423	22,585	561	C	3,728	24,475	-	3,300	218,747
2021	14,613	-	50,420	C	107,945	7,429	30,095	C	C	4,595	33,293	-	5,025	253,415
2022	15,874	-	59,669	C	119,478	8,945	39,148	*	C	4,412	38,081	-	6,219	291,826

<sup>1</sup> Includes—Incluye: BLZ, BOL, CHN, EU(CYP), GTM, HND, LBR, NZL, RUS, UNK, VCT

**TABLE A-3b.** Annual catches (t) of yellowfin tuna by longline vessels, and totals for all gears, in the EPO, by vessel flag. 'C' indicates that the catch has been combined with the total in the 'OTR' column. The data for 2020-2021 are preliminary.

**TABLA A-3b.** Capturas anuales (t) de atún aleta amarilla por buques de palangre en el OPO, y totales de todas las artes, por bandera del buque. 'C' indica que la captura se ha combinado con el total en la columna 'OTR'. Los datos de 2020-2021 son preliminares.

	CHN	CRI	FRA (PYF)	JPN	KOR	MEX	PAN	TWN	USA	VUT	C + OTR <sup>1</sup>	Total LL	Total PS+LL	OTR <sup>2</sup>
1993	-	200	39	20,339	3,257	C	-	155	17	-	2	24,009	243,501	7,985
1994	-	481	214	25,983	3,069	41	-	236	2	-	*	30,026	238,434	5,112
1995	-	542	198	17,042	2,748	7	-	28	31	-	*	20,596	236,030	3,334
1996	-	183	253	12,631	3,491	0	-	37	13	-	*	16,608	255,215	5,401
1997	-	715	307	16,218	4,753	-	-	131	11	-	28	22,163	267,041	5,018
1998	-	1,124	388	10,048	3,624	16	-	113	15	-	8	15,336	269,295	6,614
1999	-	1,031	206	7,186	3,030	10	-	186	7	-	26	11,682	293,602	4,489
2000	-	1,084	1,052	15,265	5,134	153	359	742	10	5	51	23,855	277,118	3,540
2001	942	1,133	846	14,808	5,230	29	732	3,928	29	13	1,918	29,608	413,544	4,436
2002	1,457	1,563	278	8,513	3,626	4	907	7,360	5	290	1,528	25,531	437,817	1,501
2003	2,739	1,418	462	9,125	4,911	365	C	3,477	5	699	1,973	25,174	408,453	1,615
2004	798	1,701	767	7,338	2,997	32	2,802	1,824	6	171	343	18,779	291,336	2,511
2005	682	1,791	530	3,966	532	0	1,782	2,422	7	51	183	11,946	280,047	3,674
2006	246	1,402	537	2,968	928	0	2,164	1,671	21	164	109	10,210	176,841	2,144
2007	224	1,204	408	4,582	353	8	-	745	11	154	378	8,067	178,083	2,333
2008	469	1,248	335	5,383	83	5	-	247	33	175	1,842	9,820	194,877	1,755
2009	629	1,003	590	4,268	780	10	-	636	84	244	2,200	10,444	247,201	1,950
2010	459	3	301	3,639	737	6	-	872	54	269	1,999	8,339	259,348	1,492
2011	1,807	-	349	2,373	754	6	-	647	55	150	1,907	8,048	214,899	1,406
2012	2,591	1,482	538	3,600	631	7	519	749	39	155	2,643	12,954	210,971	1,888
2013	1,874	1,424	410	3,117	928	8	325	572	43	101	1,981	10,783	228,970	1,993
2014	2,120	1,072	567	2,633	704	4	249	896	61	323	20	8,649	242,715	3,557
2015	2,642	1,415	929	2,177	957	20	419	1,287	121	530	139	10,637	256,364	3,567
2016	2,398	1,010	825	1,839	1,124	29	688	1,222	253	166	253	9,807	251,925	3,118
2017	2,907	837	1,252	1,463	1,176	10	612	1,263	536	406	182	10,643	221,623	2,742
2018	5,386	1,190	1,101	1,412	1,189	*	231	1,212	427	293	137	12,578	251,559	1,490
2019	3,372	1,490	1,015	1,809	1,725	*	314	1,556	260	344	195	12,081	240,394	1,430
2020	3,392	1,719	853	1,466	2,110	*	94	1,185	411	242	277	11,749	230,496	773
2021	2,299	*	1,933	1,092	1,641	*	1,037	895	216	215	131	9,459	262,874	82
2022	*	*	*	*	*	*	*	*	*	*	*	*	291,826	*

<sup>1</sup> Includes—Incluye: BLZ, CHL, ECU, EU(ESP), EU(PRT), GTM, HND, NIC, SLV

<sup>2</sup> Includes gillnets, pole-and-line, recreational, troll and unknown gears—Incluye red agallera, caña, artes deportivas, y desconocidas



**TABLE A-3c.** Catches (t) of skipjack tuna by purse-seine and longline vessels in the EPO, by vessel flag, adjusted to the species composition estimate. 'C' indicates that the catch has been combined with the total in the 'OTR' column. The 2021-2022 data are preliminary.

**TABLA A-3c.** Capturas (t) de atún barrilete por buques de cerco y de palangre en el OPO, por bandera del buque, ajustadas a la estimación de composición por especie. 'C' indica que la captura se ha combinado con el total en la columna 'OTR'. Los datos de 2021-2022 son preliminares.

	PS														LL+ OTR <sup>2</sup>
	COL	CRI	ECU	EU(ESP)	MEX	NIC	PAN	PER	SLV	USA	VEN	VUT	C+OTR <sup>1</sup>	Total	
1993	3,292	-	21,227	C	13,037	-	1,062	-	-	17,853	7,270	10,908	9,181	83,830	6,089
1994	7,348	-	15,083	C	11,783	-	2,197	-	-	8,947	6,356	9,541	8,871	70,126	4,044
1995	13,081	C	31,934	C	29,406	-	4,084	-	-	14,032	5,508	13,910	15,092	127,047	7,241
1996	13,230	C	32,433	C	14,501	-	3,619	-	-	12,012	4,104	10,873	13,201	103,973	3,868
1997	12,332	-	51,826	C	23,416	-	4,277	-	-	13,687	8,617	14,246	25,055	153,456	3,491
1998	4,698	-	67,074	20,012	15,969	-	1,136	-	C	6,898	6,795	11,284	6,765	140,631	2,215
1999	11,210	-	124,393	34,923	16,767	C	5,286	-	C	13,491	16,344	21,287	17,864	261,565	3,638
2000	10,138	-	104,849	17,041	14,080	C	9,573	-	-	7,224	6,720	13,620	22,399	205,644	365
2001	9,445	-	66,144	13,454	8,169	C	6,967	-	C	4,135	3,215	7,824	23,813	143,166	1,696
2002	10,908	-	80,378	10,546	6,612	C	9,757	C	4,601	4,582	2,222	4,657	19,283	153,546	996
2003	14,771	-	139,804	18,567	8,147	-	25,084	C	C	5,445	6,143	14,112	41,895	273,968	4,049
2004	C	-	89,621	8,138	24,429	C	20,051	-	C	C	23,356	4,404	27,825	197,824	2,347
2005	C	-	140,927	9,224	32,271	3,735	25,782	-	4,995	C	22,146	C	24,149	263,229	3,309
2006	C	-	138,490	16,668	16,790	8,396	44,639	-	C	C	26,334	C	44,952	296,269	1,645
2007	C	-	93,553	2,879	21,542	4,286	28,475	-	C	C	21,990	C	35,571	208,296	1,579
2008	C	-	143,431	4,841	21,638	7,005	43,230	C	C	C	28,333	C	48,125	296,603	2,847
2009	C	-	132,712	6,021	6,847	5,119	26,973	C	C	C	19,370	C	33,481	230,523	2,821
2010	11,400	-	82,280	1,569	3,010	5,242	19,213	C	C	-	11,818	C	12,660	147,192	3,132
2011	23,269	-	149,637	5,238	11,899	3,889	29,837	-	C	C	27,026	C	25,240	276,035	2,259
2012	15,760	-	151,280	15,773	18,058	3,931	25,786	-	C	C	20,829	C	14,798	266,215	3,793
2013	22,168	-	172,002	2,900	17,350	4,345	31,022	C	C	-	17,522	C	11,251	278,560	3,229
2014	22,732	-	172,239	5,581	8,783	6,300	21,776	C	C	521	13,767	-	9,770	261,469	1,425
2015	16,431	-	208,765	C	23,515	1,261	31,427	5,225	C	16,826	4,792	-	20,665	328,907	1,444
2016	20,665	-	190,577	C	13,286	1,971	32,844	6,449	C	40,036	9,067	-	22,666	337,561	3,495
2017	19,284	-	190,139	C	21,238	6,959	37,419	6,257	C	24,989	7,288	-	11,186	324,759	1,086
2018	15,365	-	177,456	C	17,014	7,759	36,504	4,119	C	11,869	6,679	-	12,056	288,821	1,652
2019	23,395	-	211,827	C	19,656	8,089	33,662	8,944	C	19,706	5,719	-	16,407	347,405	736
2020	15,569	-	189,750	C	7,322	9,049	39,058	2,618	C	14,119	4,578	-	13,898	295,961	658
2021	26,107	-	193,168	C	7,944	7,574	44,375	C	C	24,116	7,306	-	15,934	326,524	235
2022	20,349	-	169,788	C	11,526	7,741	48,031	*	C	17,616	6,466	-	14,936	296,453	*

<sup>1</sup> Includes—Incluye: BLZ, BOL, CHN, EU(CYP), GTM, HND, LBR, NZL, RUS, VCT, UNK

<sup>2</sup> Includes gillnets, pole-and-line, recreational, and unknown gears—Incluye red agallera, caña, artes deportivas y desconocidas

**TABLE A-3d.** Catches (t) of bigeye tuna by purse-seine vessels in the EPO, by vessel flag. 'C' indicates that the catch has been combined with the total in the 'OTR' column. The data have been adjusted to the species composition estimate and are preliminary for 2021 and 2022.

**TABLA A-3d.** Capturas (t) de atún patudo por buques de cerco en el OPO, por bandera del buque. 'C' indica que la captura se ha combinado con el total en la columna 'OTR'. Los datos están ajustados a la estimación de composición por especie, y los de 2021 y 2022 son preliminares.

	COL	CRI	ECU	EU(ESP)	MEX	NIC	PAN	PER	SLV	USA	VEN	VUT	C + OTR <sup>1</sup>	Total
1993	686	-	2,166	C	120	-	10	*	-	3,324	253	1,848	1,250	9,657
1994	5,636	-	5,112	C	171	-	-	*	-	7,042	637	8,829	7,472	34,899
1995	5,815	C	8,304	C	91	-	839	*	-	11,042	706	12,072	6,452	45,321
1996	7,692	C	20,279	C	82	-	1,445	*	-	8,380	619	12,374	10,440	61,311
1997	3,506	-	30,092	C	38	-	1,811	*	-	8,312	348	6,818	13,347	64,272
1998	596	-	25,113	5,747	12	-	12	*	C	5,309	348	4,746	2,246	44,129
1999	1,511	-	24,355	11,703	33	C	1,220	*	C	2,997	10	5,318	4,011	51,158
2000	7,443	-	36,094	12,511	0	C	7,028	*	-	5,304	457	10,000	16,446	95,283
2001	5,230	-	24,424	7,450	0	C	3,858	*	C	2,290	0	4,333	12,933	60,518
2002	5,283	-	26,262	5,108	0	C	4,726	C	2,228	2,219	0	2,256	9,340	57,422
2003	3,664	-	22,896	4,605	0	-	6,222	C	C	1,350	424	3,500	10,390	53,051
2004	C	-	30,817	3,366	0	C	8,294	*	C	C	9,661	1,822	11,511	65,471
2005	C	-	30,507	3,831	0	1,551	10,707	*	2,074	C	9,197	C	10,028	67,895
2006	C	-	39,302	5,264	6	2,652	14,099	*	C	C	8,317	C	14,197	83,837
2007	C	-	40,445	711	0	1,058	7,029	*	C	C	5,428	C	8,780	63,451
2008	C	-	41,177	1,234	327	1,785	11,018	C	C	C	7,221	C	12,266	75,028
2009	C	-	35,646	2,636	1,334	2,241	11,807	C	C	C	8,479	C	14,657	76,800
2010	4,206	-	34,902	579	11	1,934	7,089	C	C	-	4,360	C	4,672	57,753
2011	3,210	-	31,282	4,111	133	2,256	7,953	*	C	C	301	C	7,266	56,512
2012	1,873	-	45,633	3,866	225	1,250	7,238	*	C	C	848	C	5,087	66,020
2013	1,405	-	32,444	1,672	124	2,749	6,118	-	C	-	963	C	4,012	49,487
2014	2,479	-	39,094	2,812	40	3,068	8,168	-	C	129	1,183	-	3,472	60,445
2015	2,470	-	44,063	C	156	774	10,113	-	C	2,384	100	-	2,853	62,913
2016	2,743	-	33,139	C	255	667	8,440	312	C	2,801	345	-	8,029	56,731
2017	3,656	-	38,299	C	358	1,610	10,544	0	C	6,210	1,256	-	5,040	66,973
2018	1,449	-	40,427	C	766	1,519	11,753	104	C	3,354	1,157	-	3,994	64,523
2019	4,171	-	38,757	C	962	2,630	10,868	-	C	3,304	996	-	7,536	69,223
2020	4,548	-	47,957	C	726	1,885	10,519	65	C	4,066	688	-	8,330	78,784
2021	3,742	-	31,084	C	1,107	1,700	6,473	-	C	5,078	275	-	8,711	58,170
2022	2,129	-	24,209	C	577	2,048	7,297	-	C	3,800	880	-	5,750	46,690

<sup>1</sup> Includes—Incluye: BLZ, BOL, CHN, EU(CYP), GTM, HND, LBR, NZL, UNK, VCT

**TABLE A-3e.** Annual catches (t) of bigeye tuna by longline vessels, and totals for all gears, in the EPO, by vessel flag. 'C' indicates that the catch has been combined with the total in the 'OTR' column. The data for 2021-2022 are preliminary.

**TABLA A-3e.** Capturas anuales (t) de atún patudo por buques de palangre en el OPO, y totales de todas las artes, por bandera del buque. 'C' indica que la captura se ha combinado con el total en la columna 'OTR'. Los datos de 2021-2022 son preliminares.

	CHN	CRI	FRA (PYF)	JPN	KOR	MEX	PAN	TWN	USA	VUT	C + OTR <sup>1</sup>	Total LL	Total PS + LL	OTR <sup>2</sup>
1993	-	25	7	63,190	8,924	*	-	297	55	-	*	72,498	82,155	35
1994	-	1	102	61,471	9,522	-	-	255	9	-	*	71,360	106,259	806
1995	-	13	97	49,016	8,992	-	-	77	74	-	*	58,269	103,590	1,369
1996	-	1	113	36,685	9,983	-	-	95	81	-	*	46,958	108,269	748
1997	-	9	250	40,571	11,376	-	-	256	118	-	*	52,580	116,852	20
1998	-	28	359	35,752	9,731	-	-	314	191	-	*	46,375	90,504	628
1999	-	25	3,652	22,224	9,431	-	-	890	228	-	*	36,450	87,608	538
2000	-	27	653	28,746	13,280	42	14	1,916	162	2,754	11	47,605	142,887	253
2001	2,639	28	684	38,048	12,576	1	80	9,285	147	3,277	1,990	68,755	129,273	19
2002	7,614	19	388	34,193	10,358	-	6	17,253	132	2,995	1,466	74,424	131,845	12
2003	10,066	18	346	24,888	10,272	-	C	12,016	232	1,258	680	59,776	112,828	21
2004	2,645	21	405	21,236	10,729	-	48	7,384	149	407	459	43,483	108,954	194
2005	2,104	23	398	19,113	11,580	-	30	6,441	536	318	151	40,694	108,589	25
2006	709	18	388	16,235	6,732	-	37	6,412	85	960	195	31,771	115,608	40
2007	2,324	15	361	13,977	5,611	-	-	6,057	417	1,013	101	29,876	93,326	44
2008	2,379	16	367	14,908	4,150	-	-	1,852	1,277	790	468	26,207	101,236	28
2009	2,481	13	484	15,490	6,758	-	-	3,396	730	1,032	1,038	31,422	108,221	15
2010	2,490	4	314	15,847	9,244	-	-	5,276	1,356	1,496	1,063	37,090	94,842	2
2011	5,450	-	445	13,399	6,617	-	-	3,957	1,050	694	706	32,318	88,829	-
2012	4,386	3	464	16,323	7,450	-	-	4,999	875	1,063	604	36,167	102,187	27
2013	5,199	-	527	14,258	8,822	-	-	4,162	2,054	604	544	36,170	85,657	99
2014	5,253	9	526	13,634	8,203	-	114	4,511	2,073	897	120	35,340	95,785	177
2015	8,401	8	692	13,079	8,635	-	364	5,181	2,948	1,888	328	41,524	104,437	21
2016	7,052	3	477	10,467	7,692	-	313	6,006	2,090	762	679	35,541	92,272	22
2017	7,093	16	700	8,054	8,749	-	357	6,186	2,700	1,463	331	35,649	102,622	33
2018	6,060	14	897	6,125	6,675	-	415	5,125	2,410	1,841	227	29,789	94,312	23
2019	5,372	23	800	5,988	6,137	-	325	5,868	1,725	1,571	315	28,124	97,347	18
2020	4,048	35	745	5,440	7,633	-	164	5,414	1,466	1,077	299	26,321	105,105	44
2021	3,481	*	906	4,055	7,028	-	41	3,526	1,485	947	154	21,623	79,793	5
2022	2,922	*	*	3,325	5,402	-	*	4,971	*	157	144	16,921	63,611	*

<sup>1</sup> Includes—Incluye: BLZ, CHL, ECU, EU(ESP), EU(PRT), HND, SLV

<sup>2</sup> Includes gillnets, pole-and-line, recreational, and unknown gears—Incluye red agallera, caña, artes deportivas, y desconocidas

**TABLE A-4a.** Preliminary estimates of the retained catches, in metric tons, of tunas and bonitos caught by purse-seine vessels in the EPO in 2021 and 2022, by species and vessel flag. The data for yellowfin, skipjack, and bigeye tunas have been adjusted to the species composition estimates and are preliminary.

**TABLA A-4a.** Estimaciones preliminares de las capturas retenidas, en toneladas métricas, de atunes y bonitos por buques cerqueros en el OPO en 2021 y 2022, por especie y bandera del buque. Los datos de los atunes aleta amarilla, barrilete, y patudo fueron ajustados a las estimaciones de composición por especie, y son preliminares.

	YFT	SKJ	BET	PBF	ALB	BKJ	BZX	TUN	Total	%
<b>2021</b>	<b>Retained catches–Capturas retenidas</b>									
COL	14,613	26,107	3,742	-	-	22	-	-	44,484	6.8
ECU	50,420	193,168	31,084	-	-	1,614	42	673	277,001	42.3
MEX	107,945	7,944	1,107	3,026	-	3,030	6,812	63	129,927	19.9
NIC	7,428	7,574	1,700	-	-	-	-	-	16,702	2.6
PAN	30,095	44,375	6,473	-	-	20	-	486	81,449	12.4
USA	4,596	24,116	5,078	43	-	1	25	-	33,859	5.2
VEN	33,293	7,306	275	-	-	13	-	19	40,906	6.3
OTR <sup>1</sup>	5,025	15,934	8,711	-	-	1	20	12	29,703	4.5
<b>Total</b>	<b>253,415</b>	<b>326,524</b>	<b>58,170</b>	<b>3,069</b>	<b>-</b>	<b>4,701</b>	<b>6,899</b>	<b>1,253</b>	<b>654,031</b>	
<b>2022</b>	<b>Retained catches–Capturas retenidas</b>									
COL	15,874	20,349	2,129	-	-	51	-	31	38,434	5.9
ECU	59,669	169,787	24,209	-	2	1,975	55	2,034	257,731	39.6
MEX	119,479	11,526	576	3,194	-	4,263	3,187	21	142,246	21.9
NIC	8,945	7,741	2,048	-	-	32	-	31	18,797	2.9
PAN	39,148	48,031	7,297	-	-	130	-	107	94,713	14.6
USA	4,412	17,616	3,800	198	-	3	-	51	26,080	4.0
VEN	38,081	6,467	880	-	-	13	-	8	45,449	7.0
OTR <sup>2</sup>	6,218	14,936	5,751	-	-	-	-	10	26,915	4.1
<b>Total</b>	<b>291,826</b>	<b>296,453</b>	<b>46,690</b>	<b>3,392</b>	<b>2</b>	<b>6,467</b>	<b>3,242</b>	<b>2,293</b>	<b>650,365</b>	

<sup>1</sup> Includes El Salvador, European Union (Spain) and Peru - This category is used to avoid revealing the operations of individual vessels or companies.

<sup>1</sup> Incluye El Salvador, Perú y Unión Europea (España) - Se usa esta categoría para no revelar información sobre las actividades de buques o empresas individuales.

<sup>2</sup> Includes El Salvador and European Union (Spain) - This category is used to avoid revealing the operations of individual vessels or companies.

<sup>2</sup> Incluye El Salvador y Unión Europea (España) - Se usa esta categoría para no revelar información sobre las actividades de buques o empresas individuales.

**TABLE A-4b.** Preliminary estimates of the landings, in metric tons, of tunas and bonitos caught by purse-seine vessels in the EPO in 2021 and 2022, by year, species and country of landing. The data for yellowfin, skipjack, and bigeye tunas have not been adjusted to the species composition estimates and are preliminary.

**TABLA A-4b.** Estimaciones preliminares de las descargas, en toneladas métricas, de atunes y bonitos por buques cerqueros en el OPO en 2021 y 2022, por año, especie y país de descarga. Los datos de los atunes aleta amarilla, barrilete, y patudo no fueron ajustados a las estimaciones de composición por especie, y son preliminares.

	YFT	SKJ	BET	PBF	ALB	BKJ	BZX	TUN	Total	%
<b>2021</b>	<b>Landings-Descargas</b>									
COL	8,469	15,202	1,755	-	-	4	-	-	25,430	3.9
ECU	99,813	281,675	28,289	-	-	1,665	67	1,128	412,636	63.8
MEX	109,597	12,643	1,405	3,026	-	3,030	6,812	63	136,576	21.1
PER	1,460	6,724	441	-	-	5	20	4	8,654	1.3
USA	904	7,026	1,419	43	-	-	-	-	9,392	1.5
OTR <sup>1</sup>	35,786	13,653	4,690	-	-	1	-	51	54,181	8.4
<b>Total</b>	<b>256,028</b>	<b>336,923</b>	<b>37,998</b>	<b>3,069</b>	<b>-</b>	<b>4,705</b>	<b>6,899</b>	<b>1,246</b>	<b>646,869</b>	
<b>2022</b>	<b>Landings-Descargas</b>									
COL	13,457	14,381	1,255	-	-	27	-	-	29,120	4.6
ECU	111,877	264,782	26,310	-	2	2,187	55	2,208	407,421	63.8
MEX	119,555	15,609	587	3,194	-	4,266	3,187	34	146,432	22.9
PER	1,219	2,058	600	-	-	-	-	-	3,877	0.6
USA	841	2,154	797	198	-	-	-	-	3,990	0.6
OTR <sup>2</sup>	32,415	12,492	2,762	-	-	5	-	13	47,687	7.5
<b>Total</b>	<b>279,364</b>	<b>311,476</b>	<b>32,311</b>	<b>3,392</b>	<b>2</b>	<b>6,485</b>	<b>3,242</b>	<b>2,255</b>	<b>638,527</b>	

<sup>1</sup> Includes Costa Rica, El Salvador, European Union (Portugal), European Union (Spain), Guatemala, Kiribati, Marshall Islands, Panama, and Venezuela - This category is used to avoid revealing the operations of individual vessels or companies.

<sup>1</sup> Incluye Costa Rica, El Salvador, Guatemala, Islas Marshall, Kiribati, Panamá, Unión Europea (Portugal), Unión Europea (España) and Venezuela - Se usa esta categoría para no revelar información sobre las actividades de buques o empresas individuales.

<sup>2</sup> Includes Costa Rica, El Salvador, European Union (Spain), Guatemala, Marshall Islands, Panama and Unknown - This category is used to avoid revealing the operations of individual vessels or companies.

<sup>2</sup> Incluye Costa Rica, Desconocida, El Salvador, Guatemala, Islas Marshall, Panamá y Unión Europea (España) - Se usa esta categoría para no revelar información sobre las actividades de buques o empresas individuales.

**TABLE A-5a.** Annual retained catches of Pacific bluefin tuna, by gear type and flag, in metric tons, 1993-2021. The data for 2020 and 2021 are preliminary; 2022 data are not available.

**TABLA A-5a.** Capturas retenidas anuales de atún aleta azul del Pacífico, por arte de pesca y bandera, en toneladas, 1993-2021. Los datos de 2020 y 2021 son preliminares; no se dispone de datos de 2022.

PBF	Western Pacific flags—Banderas del Pacífico occidental <sup>1</sup>									EPO flags—Banderas del EPO						Total
	JPN				KOR		TWN			Sub-total	MEX		USA		Sub-total	
	PS	LP	LL	OTR	PS	OTR	PS	LL	OTR		PS	OTR	PS	OTR		
1993	6,600	129	812	1,759	40	-	1	471	3	9,815	-	-	580	386	966	10,781
1994	8,131	162	1,206	5,667	50	-	-	559	-	15,775	63	2	906	145	1,116	16,891
1995	18,909	270	678	7,223	821	-	-	335	2	28,238	11	-	657	294	962	29,200
1996	7,644	94	901	5,359	102	-	-	956	-	15,056	3,700	-	4,639	110	8,449	23,505
1997	13,152	34	1,300	4,354	1,054	-	-	1,814	-	21,708	367	-	2,240	264	2,871	24,579
1998	5,391	85	1,255	4,450	188	-	-	1,910	-	13,279	1	0	1,771	703	2,475	15,754
1999	16,173	35	1,157	5,246	256	-	-	3,089	-	25,956	2,369	35	184	592	3,180	29,136
2000	16,486	102	953	7,031	2,401	-	-	2,780	2	29,755	3,019	99	693	380	4,191	33,946
2001	7,620	180	791	5,614	1,176	10	-	1,839	4	17,234	863	-	292	392	1,547	18,781
2002	8,903	99	841	4,338	932	1	-	1,523	4	16,641	1,708	2	50	625	2,385	19,026
2003	5,768	44	1,237	3,345	2,601	-	-	1,863	21	14,879	3,211	43	22	373	3,649	18,528
2004	8,257	132	1,847	3,855	773	-	-	1,714	3	16,581	8,880	14	-	61	8,955	25,536
2005	12,817	549	1,925	6,363	1,318	9	-	1,368	2	24,351	4,542	-	201	80	4,823	29,174
2006	8,880	108	1,121	4,058	1,012	3	-	1,149	1	16,332	9,806	-	-	96	9,902	26,234
2007	6,840	236	1,762	4,983	1,281	4	-	1,401	10	16,517	4,147	-	42	14	4,203	20,720
2008	10,221	64	1,390	5,505	1,866	10	-	979	2	20,037	4,407	15	-	64	4,486	24,523
2009	8,077	50	1,080	4,814	936	4	-	877	11	15,849	3,019	-	410	162	3,591	19,440
2010	3,742	83	890	3,681	1,196	16	-	373	36	10,017	7,746	-	-	89	7,835	17,852
2011	8,340	63	837	3,754	670	14	-	292	24	13,994	2,731	1	-	343	3,075	17,069
2012	2,462	113	673	2,846	1,421	2	-	210	4	7,731	6,668	1	-	442	7,111	14,842
2013	2,771	8	784	2,848	604	1	-	331	3	7,350	3,154	-	-	820	3,974	11,324
2014	5,456	5	683	3,429	1,305	6	-	483	42	11,409	4,862	-	401	427	5,690	17,099
2015	3,645	8	648	2,086	676	1	-	552	26	7,642	3,082	-	86	411	3,579	11,221
2016	5,095	54	691	2,514	1,024	5	-	454	0	9,837	2,709	-	316	413	3,438	13,275
2017	4,540	49	913	3,491	734	9	-	415	0	10,151	3,643	-	466	483	4,592	14,743
2018	4,050	9	700	1,447	523	12	-	381	3	7,125	2,482	-	12	582	3,076	10,201
2019	4,464	0	1,002	2,033	542	39	-	486	6	8,572	2,249	-	226	529	3,004	11,576
2020	3,960	1	1,416	2,496	567	38	-	1,149	1	9,628	3,266	-	116	834	4,216	13,844
2021	4,198	0	1,436	2,740	422	87	-	1,478	1	10,362	3,026	-	43	1,335	4,404	14,766

<sup>1</sup> Source: International Scientific Committee, 22<sup>nd</sup> Plenary Meeting, PBFWG workshop report on Pacific Bluefin Tuna, July 2022—Fuente: Comité Científico Internacional, 22<sup>a</sup> Reunión Plenaria, Taller PBFWG sobre Atún Aleta Azul del Pacífico, julio de 2022

**TABLE A-5b.** Reported catches of Pacific bluefin tuna in the EPO by recreational gear, in number of fish, 1993-2022.

**TABLA A-5b.** Capturas reportadas de atún aleta azul del Pacifico en el OPO por artes deportivas, en número de peces, 1993-2022.

1993	10,535	2008	10,187
1994	2,243	2009	12,138
1995	16,025	2010	8,453
1996	2,739	2011	31,494
1997	8,338	2012	40,012
1998	20,466	2013	63,158
1999	36,797	2014	27,889
2000	20,669	2015	28,661
2001	21,913	2016	12,312
2002	33,399	2017	16,493
2003	22,291	2018	14,072
2004	3,391	2019	18,702
2005	5,757	2020	37,825
2006	7,473	2021	57,198
2007	1,028	2022	52,269

**TABLE A-6.** Annual retained catches of albacore in the EPO, by gear and area (north and south of the equator), in metric tons, 1993-2021. The data for 2020 and 2021 are preliminary; 2022 data are not available.

**TABLA A-6.** Capturas retenidas anuales de atún albacora en el OPO, por arte y zona (al norte y al sur de la línea ecuatorial), en toneladas, 1993-2021. Los datos de 2020 y 2021 son preliminares; no se dispone de datos de 2022.

ALB	North—Norte				South—Sur				Total
	LL	LTL <sup>1</sup>	OTR	Subtotal	LL	LTL	OTR	Subtotal	
1993	1,772	4,332	25	6,129	9,422	35	19	9,476	15,605
1994	2,356	9,666	106	12,128	8,034	446	21	8,501	20,629
1995	1,380	7,773	102	9,255	4,805	2	15	4,822	14,077
1996	1,675	8,267	99	10,041	5,956	94	21	6,071	16,112
1997	1,365	6,115	1,019	8,499	8,313	466	0	8,779	17,278
1998	1,730	12,019	1,250	14,999	10,905	12	0	10,917	25,916
1999	2,701	11,028	3,668	17,397	8,932	81	7	9,020	26,417
2000	1,880	10,960	1,869	14,709	7,783	778	3	8,564	23,273
2001	1,822	11,727	1,638	15,187	17,588	516	6	18,110	33,297
2002	1,227	12,286	2,388	15,901	14,062	131	40	14,233	30,134
2003	1,129	17,808	2,260	21,197	23,772	419	3	24,194	45,391
2004	854	20,288	1,623	22,765	17,590	331	0	17,921	40,686
2005	405	13,807	1,741	15,953	8,945	181	7	9,133	25,086
2006	3,671	18,515	408	22,594	10,161	48	119	10,328	32,922
2007	2,708	17,948	1,415	22,071	8,399	19	87	8,505	30,576
2008	1,160	17,137	308	18,605	8,058	0	159	8,217	26,822
2009	91	17,933	996	19,020	11,981	0	213	12,194	31,214
2010	1,134	18,246	892	20,272	13,122	3	247	13,372	33,644
2011	1,833	15,437	426	17,696	14,357	0	222	14,579	32,275
2012	4,583	16,633	1,222	22,438	19,613	35	210	19,858	42,296
2013	6,193	17,398	844	24,435	19,204	0	271	19,475	43,910
2014	3,546	18,178	1,042	22,766	25,685	0	243	25,928	48,694
2015	2,067	15,986	934	18,987	26,873	0	221	27,094	46,081
2016	1,627	13,600	679	15,906	25,151	0	289	25,440	41,346
2017	2,580	8,927	402	11,909	24,012	2	186	24,200	36,109
2018	1,090	10,433	538	12,061	24,387	0	175	24,562	36,623
2019	1,427	10,167	1,517	13,111	18,464	1	212	18,677	31,788
2020	1,538	9,873	326	11,737	17,658	0	9	17,667	29,404
2021	1,382	6,608	317	8,307	30,049	2	19	30,070	38,377

<sup>1</sup> Includes pole-and-line—Incluye caña



**TABLE A-7.** Estimated numbers of sets, by set type and vessel capacity category, and estimated retained catches, in metric tons, of yellowfin, skipjack, and bigeye tuna by purse-seine vessels in the EPO. The data for 2021 and 2022 are preliminary. The data for yellowfin, skipjack, and bigeye tunas have been adjusted to the species composition estimate and are preliminary.

**TABLA A-7.** Números estimados de lances, por tipo de lance y categoría de capacidad de buque, y capturas retenidas estimadas, en toneladas métricas, de atunes aleta amarilla, barrilete, y patudo por buques cerqueros en el OPO. Los datos de 2021 y 2022 son preliminares. Los datos de los atunes aleta amarilla, barrilete, y patudo fueron ajustados a la estimación de composición por especie, y son preliminares.

	Number of sets—Número de lances			Retained catch—Captura retenida		
	Vessel capacity— Capacidad del buque		Total	YFT	SKJ	BET
	≤363 t	>363 t				
<b>DEL</b>	<b>Sets associated with dolphins Lances asociados a delfines</b>					
2007	0	8,871	8,871	97,075	3,272	7
2008	0	9,246	9,246	122,107	8,388	4
2009	0	10,910	10,910	178,291	2,683	1
2010	0	11,646	11,646	170,028	1,365	0
2011	0	9,604	9,604	134,926	4,387	2
2012	0	9,220	9,220	133,825	2,122	0
2013	0	10,736	10,736	157,432	4,272	0
2014	0	11,382	11,382	167,780	4,413	3
2015	0	11,020	11,020	160,595	5,608	2
2016	0	11,219	11,219	146,526	3,179	4
2017	0	8,863	8,863	112,533	1,656	1
2018	0	9,774	9,774	147,859	2,456	1
2019	0	9,680	9,680	153,649	3,696	28
2020	0	9,773	9,773	150,263	1,705	63
2021	0	9,887	9,887	158,256	2,585	0
2022	0	10,614	10,614	178,366	2,887	0
<b>OBJ</b>	<b>Sets associated with floating objects Lances asociados a objetos flotantes</b>					
2007	1,605	5,857	7,462	29,412	122,119	62,187
2008	1,958	6,655	8,613	34,763	157,324	73,851
2009	2,142	7,077	9,219	36,147	157,023	75,889
2010	2,432	6,399	8,831	37,850	114,659	57,059
2011	2,538	6,921	9,459	42,176	171,193	55,587
2012	3,067	7,610	10,677	37,487	177,055	65,035
2013	3,081	8,038	11,119	35,112	194,372	48,337
2014	3,860	8,777	12,637	46,049	199,696	59,797
2015	3,457	9,385	12,842	43,603	206,515	60,975
2016	4,214	10,377	14,591	58,673	248,190	55,269
2017	4,544	11,148	15,692	67,167	224,422	65,443
2018	4,954	11,871	16,825	66,122	213,626	63,815
2019	4,885	10,591	15,476	52,862	226,375	68,553
2020	3,363	8,788	12,151	44,461	191,399	78,208
2021	4,002	11,167	15,169	66,542	227,028	57,391
2022	4,293	13,406	17,699	90,128	241,420	46,487

TABLE A-7. (continued)  
 TABLA A-7. (continuación)

	Number of sets—Número de lances			Retained catch—Captura retenida		
	Vessel capacity— Capacidad del buque		Total	YFT	SKJ	BET
	≤363 t	>363 t				
<b>NOA</b>	<b>Sets on unassociated schools</b> <b>Lances sobre cardúmenes no asociados</b>					
2007	5,480	7,211	12,691	43,529	82,904	1,256
2008	5,204	6,210	11,414	28,187	130,891	1,173
2009	3,822	4,109	7,931	22,319	70,817	909
2010	2,744	3,885	6,629	43,131	31,168	693
2011	2,840	5,182	8,022	29,749	100,455	923
2012	2,996	5,369	8,365	26,705	87,038	985
2013	3,064	4,156	7,220	25,643	79,916	1,150
2014	2,428	3,369	5,797	20,237	57,360	645
2015	3,116	6,201	9,317	41,529	116,784	1,936
2016	2,300	5,101	7,401	36,919	86,192	1,458
2017	2,016	4,960	6,976	31,280	98,681	1,529
2018	1,925	4,163	6,088	25,000	72,739	707
2019	2,064	5,948	8,012	21,802	117,334	642
2020	1,883	4,575	6,458	24,023	102,857	513
2021	1,678	4,803	6,481	28,617	96,911	779
2022	1,226	3,459	4,685	23,332	52,146	203
<b>ALL</b>	<b>Sets on all types of schools</b> <b>Lances sobre todos tipos de cardumen</b>					
2007	7,085	21,939	29,024	170,016	208,295	63,450
2008	7,162	22,111	29,273	185,057	296,603	75,028
2009	5,964	22,096	28,060	236,757	230,523	76,799
2010	5,176	21,930	27,106	251,009	147,192	57,752
2011	5,378	21,707	27,085	206,851	276,035	56,512
2012	6,063	22,199	28,262	198,017	266,215	66,020
2013	6,145	22,930	29,075	218,187	278,560	49,487
2014	6,288	23,528	29,816	234,066	261,469	60,445
2015	6,573	26,606	33,179	245,727	328,907	62,913
2016	6,514	26,697	33,211	242,118	337,561	56,731
2017	6,560	24,971	31,531	210,980	324,759	66,973
2018	6,879	25,808	32,687	238,981	288,821	64,523
2019	6,949	26,219	33,168	228,313	347,405	69,223
2020	5,246	23,136	28,382	218,747	295,961	78,784
2021	5,680	25,857	31,537	253,415	326,524	58,170
2022	5,519	27,479	32,998	291,826	296,453	46,690

**TABLE A-8.** Types of floating objects involved in sets by vessels of >363 t carrying capacity, 2007-2022. The 2022 data are preliminary.

**TABLA A-8.** Tipos de objetos flotantes sobre los que realizaron lances buques de >363 t de capacidad de acarreo, 2007-2022. Los datos de 2022 son preliminares.

OBJ	Flotsam Naturales		FADs Plantados		Unknown Desconocido		Total
	No.	%	No.	%	No.	%	
2007	597	10.2	5,188	88.6	72	1.2	5,857
2008	560	8.4	6,070	91.2	25	0.4	6,655
2009	322	4.5	6,728	95.1	27	0.4	7,077
2010	337	5.3	6,038	94.3	24	0.4	6,399
2011	563	8.1	6,342	91.6	16	0.2	6,921
2012	286	3.8	7,321	96.2	3	< 0.1	7,610
2013	274	3.4	7,759	96.5	5	0.1	8,038
2014	283	3.2	8,490	96.7	4	< 0.1	8,777
2015	273	2.9	9,093	96.9	19	0.2	9,385
2016	278	2.7	10,070	97.0	29	0.3	10,377
2017	271	2.4	10,877	97.6	0	0	11,148
2018	322	2.7	11,549	97.3	0	0	11,871
2019	216	2.0	10,373	97.9	2	< 0.1	10,591
2020	166	1.9	8,622	98.1	0	0	8,788
2021	260	2.3	10,907	97.7	0	0	11,167
2022	414	3.1	12,987	96.9	5	< 0.1	13,406

**TABLE A-9.** Reported nominal longline fishing effort (E; 1000 hooks) and catch (C; metric tons) of yellowfin, skipjack, bigeye, Pacific bluefin, and albacore tunas only, by flag, in the EPO. 2022 data are not available.  
**TABLA A-9.** Esfuerzo de pesca palangrero nominal reportado (E; 1000 anzuelos), y captura (C; toneladas métricas) de atunes aleta amarilla, barrilete, patudo, aleta azul del Pacífico, y albacora solamente, por bandera, en el OPO. No se dispone de datos de 2022.

LL	CHN		JPN		KOR		FRA(PYF)		TWN		USA		OTR <sup>1</sup>
	E	C	E	C	E	C	E	C	E	C	E	C	C
1993	-	-	159,955	87,977	46,375	12,843	153	79	18,064	6,566	415	81	227
1994	-	-	163,968	92,606	44,788	13,250	1,373	574	12,588	4,883	303	25	523
1995	-	-	129,598	69,435	54,979	12,778	1,776	559	2,910	1,639	828	180	562
1996	-	-	103,654	52,298	40,290	14,121	2,087	931	5,830	3,553	510	182	185
1997	-	-	96,383	59,325	30,493	16,663	3,464	1,941	8,720	5,673	464	215	752
1998	-	-	106,568	50,167	51,817	15,089	4,724	2,858	10,586	5,039	1,008	406	1,176
1999	-	-	80,958	32,886	54,269	13,294	5,512	4,446	23,247	7,865	1,756	469	1,157
2000	-	-	79,311	45,216	33,585	18,759	8,090	4,382	18,152	7,809	737	204	4,868
2001	13,056	5,162	102,219	54,775	72,261	18,201	7,445	5,086	41,920	20,060	1,438	238	15,612
2002	34,889	10,398	103,920	45,401	96,273	14,370	943	3,238	78,018	31,773	613	138	10,258
2003	43,289	14,548	101,227	36,187	71,006	15,551	11,098	4,101	74,460	28,328	1,314	262	11,595
2004	15,889	4,033	76,824	30,936	55,861	14,540	13,757	3,030	49,979	19,535	1,049	166	9,193
2005	16,896	3,681	65,081	25,712	15,798	12,284	13,356	2,515	38,536	12,229	2,397	557	5,244
2006	588	969	56,525	21,432	27,472	7,892	11,786	3,220	38,134	12,375	234	121	10,027
2007	12,226	2,624	45,972	20,514	10,548	6,037	9,672	3,753	22,244	9,498	2,689	436	6,424
2008	11,518	2,984	44,547	21,375	3,442	4,256	10,255	3,017	12,544	4,198	6,322	1,369	9,231
2009	10,536	3,435	41,517	21,492	18,364	7,615	10,686	4,032	13,904	6,366	5,141	852	11,731
2010	11,905	3,590	47,807	21,017	25,816	10,477	8,976	3,139	24,976	10,396	8,879	1,480	11,400
2011	37,384	9,983	52,194	18,682	25,323	7,814	9,514	3,192	21,065	9,422	7,359	1,233	7,616
2012	55,508	14,462	55,587	22,214	20,338	8,286	8,806	3,589	20,587	11,924	5,822	986	14,237
2013	70,411	18,128	48,825	19,097	31,702	10,248	9,847	3,303	19,198	11,722	10,765	2,127	9,754
2014	78,851	24,282	40,735	17,235	22,695	9,132	10,572	3,291	17,047	10,435	11,276	2,168	6,874
2015	99,131	25,559	35,290	16,046	22,394	9,879	13,661	4,509	15,334	11,274	13,868	3,089	10,924
2016	66,405	25,756	30,910	13,242	23,235	9,457	13,677	3,954	20,941	11,432	11,313	2,408	6,236
2017	82,461	27,341	27,961	10,617	27,540	10,525	11,641	3,425	24,164	11,811	15,266	3,288	6,085
2018	83,023	27,024	24,608	8,686	19,443	8,474	13,258	4,300	31,735	9,985	13,607	2,916	7,713
2019	65,298	18,652	18,472	8,831	17,655	8,556	12,620	4,209	34,930	12,170	11,117	2,060	5,917
2020	56,607	15,620	17,987	7,780	23,284	10,427	14,253	3,906	43,643	11,778	9,384	2,098	5,892
2021	84,812	27,299	16,207	6,030	19,704	9,699	15,748	5,092	28,693	8,032	8,123	1,925	4,775

<sup>1</sup> Includes the catches of—Incluye las capturas de: BLZ, CHL, COK, CRI, ECU, EU(ESP), GTM, HND, MEX, NIC, PAN, EU(PRT), SLV, VUT

**TABLE A-10.** Numbers and well volumes, in cubic meters, of purse-seine and pole-and line vessels of the EPO tuna fleet. The data for 2021 and 2022 are preliminary.

**TABLA A-10.** Número y volumen de bodega, en metros cúbicos, de buques cerqueros y cañeros de la flota atunera del OPO. Los datos de 2021 y 2022 son preliminares.

	PS		LP		Total	
	No.	Vol. (m <sup>3</sup> )	No.	Vol. (m <sup>3</sup> )	No.	Vol. (m <sup>3</sup> )
1993	151	117,593	15	1,550	166	119,143
1994	166	120,726	20	1,726	186	122,452
1995	175	123,798	20	1,784	195	125,582
1996	180	130,774	17	1,646	197	132,420
1997	194	147,926	23	2,127	217	150,053
1998	202	164,956	22	2,216	224	167,172
1999	208	178,724	14	1,642	222	180,366
2000	205	180,679	12	1,220	217	181,899
2001	204	189,088	10	1,259	214	190,347
2002	218	199,870	6	921	224	200,791
2003	214	202,381	3	338	217	202,719
2004	218	206,473	3	338	221	206,811
2005	220	212,419	4	498	224	212,917
2006	225	225,166	4	498	229	225,664
2007	227	225,359	4	380	231	225,739
2008	219	223,804	4	380	223	224,184
2009	221	224,632	4	380	225	225,012
2010	202	210,025	3	255	205	210,280
2011	208	213,237	3	339	211	213,576
2012	209	217,687	4	464	213	218,151
2013	203	212,087	3	268	206	212,355
2014	226	230,379	2	226	228	230,605
2015	244	248,428	1	125	245	248,553
2016	250	261,474	0	0	250	261,474
2017	254	263,018	0	0	254	263,018
2018	261	263,666	0	0	261	263,666
2019	261	265,085	0	0	261	265,085
2020	242	241,331	0	0	242	241,331
2021	236	253,323	0	0	236	253,323
2022	239	253,071	0	0	239	253,071

**TABLE A-11a.** Estimates of the numbers and well volume (cubic meters) of purse-seine (PS) and pole-and-line (LP) vessels that fished in the EPO in 2021, by flag and gear. Each vessel is included in the total for each flag under which it fished during the year but is included only once in the “Grand total”; therefore, the grand total may not equal the sums of the individual flags.

**TABLA A-11a.** Estimaciones del número y volumen de bodega (metros cúbicos) de buques cerqueros (PS) y cañeros (LP) que pescaron en el OPO en 2021 por bandera y arte de pesca. Se incluye cada buque en los totales de cada bandera bajo la cual pescó durante el año, pero solamente una vez en el “Total general”; por consiguiente, los totales generales no equivalen necesariamente a las sumas de las banderas individuales.

Flag Bandera	Gear Arte	Well volume —Volumen de bodega (m <sup>3</sup> )					Total	
		<401	401-800	801-1300	1301-1800	>1800	No.	Vol. (m <sup>3</sup> )
		Number—Número						
COL	PS	2	2	7	3	-	14	14,860
ECU	PS	34	34	24	4	10	106	82,234
EU(ESP)	PS	-	-	-	-	3	3	7,281
MEX	PS	5	3	20	23	-	51	61,072
NIC	PS	-	-	2	1	1	4	6,099
PAN	PS	-	2	5	7	5	19	27,390
PER	PS	-	4	-	-	-	4	2,475
SLV	PS	-	-	-	1	2	3	6,202
USA	PS	3	-	2	7	5	17	24,152
VEN	PS	-	-	6	8	1	15	21,558
Grand total— Total general	PS	44	45	66	54	27	236	
<b>Well volume—Volumen de bodega (m<sup>3</sup>)</b>								
Grand total— Total general	PS	12,243	26,689	74,744	82,277	57,370		253,323

- : none—ninguno

**TABLE A-11b.** Estimates of the numbers and well volumes (cubic meters) of purse-seine (PS) vessels that fished in the EPO in 2022, by flag and gear. Each vessel is included in the total for each flag under which it fished during the year but is included only once in the “Grand total”; therefore, the grand total may not equal the sums of the individual flags.

**TABLA A-11b.** Estimaciones del número y volumen de bodega (metros cúbicos) de buques cerqueros (PS) que pescaron en el OPO en 2022, por bandera y arte de pesca. Se incluye cada buque en los totales de cada bandera bajo la cual pescó durante el año, pero solamente una vez en el “Total general”; por consiguiente, los totales generales no equivalen necesariamente a las sumas de las banderas individuales.

Flag Bandera	Gear Arte	Well volume —Volumen de bodega (m <sup>3</sup> )					Total	
		<401	401-800	801-1300	1301-1800	>1800	No.	Vol. (m <sup>3</sup> )
		Number—Número						
COL	PS	1	2	7	3	-	13	14,590
ECU	PS	34	34	21	4	10	103	78,820
EU(ESP)	PS	-	-	-	-	3	3	7,281
MEX	PS	5	3	21	23	-	52	61,880
NIC	PS	-	-	3	1	1	5	7,316
PAN	PS	-	2	5	8	5	20	28,865
SLV	PS	-	-	-	1	2	3	6,202
USA	PS	10	-	2	8	5	25	26,559
VEN	PS	-	-	6	8	1	15	21,558
Grand total— Total general	PS	50	41	65	56	27	239	
		Well volume—Volumen de bodega (m <sup>3</sup> )						
Grand total— Total general	PS	12,831	23,970	73,729	85,367	57,174		253,071

- : none—ninguno

**TABLE A-12.** Minimum, maximum, and average capacity, in thousands of cubic meters, of purse-seine and pole-and-line vessels at sea in the EPO during 2012-2021 and in 2022, by month.

**TABLA A-12.** Capacidad mínima, máxima, y media, en miles de metros cúbicos, de los buques cerqueros y cañeros en el mar en el OPO durante 2012-2021 y en 2022, por mes.

Month Mes	2012-2021			2022
	Min	Max	Ave.-Prom.	
1	86.9	129.6	103.8	130.4
2	150.7	192.3	174.3	185.7
3	147.9	189.7	166.8	178.8
4	151.2	200.8	168.5	178.1
5	146.5	196.9	169.7	186.9
6	155.0	198.6	174.0	187.4
7	156.7	200.4	171.8	176.9
8	107.6	148.7	121.2	115.9
9	102.2	142.2	120.1	116.7
10	141.7	188.9	170.7	173.0
11	93.9	140.8	122.6	104.7
12	45.9	90.4	62.9	70.4
<b>Ave.-Prom.</b>	123.8	168.3	143.9	150.4