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THE TUNA FISHERY IN THE EASTERN PACIFIC OCEAN IN 2019

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This report provides a summary of the catches and effort in 2019 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 2020; therefore, some of the data for 2019 are incomplete, and all data for 2018 and 2019 should be considered preliminary.

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:

Species:			
ALB	Albacore tuna (<i>Thunnus alalunga</i>)	SWO	Swordfish (<i>Xiphias gladius</i>)
BET	Bigeye tuna (<i>Thunnus obesus</i>)	TUN	Unidentified tunas
BIL	Unidentified istiophorid billfishes	YFT	Yellowfin tuna (<i>Thunnus albacares</i>)
BKJ	Black skipjack (<i>Euthynnus lineatus</i>)	Fishing gears:	
BLM	Black marlin (<i>Makaira indica</i>)	FPN	Trap
BUM	Blue marlin (<i>Makaira nigricans</i>)	GN	Gillnet
BZX	Bonito (<i>Sarda</i> spp.)	HAR	Harpoon
CGX	Carangids (Carangidae)	LL	Longline
DOX	Dorado (<i>Coryphaena</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 ²
SKJ	Skipjack tuna (<i>Katsuwonus pelamis</i>)	UNK	Unknown
SKX	Unidentified elasmobranchs	PS	Purse seine
SSP	Shortbill spearfish (<i>Tetrapturus angustirostris</i>)	RG	Recreational
		TX	Trawl

¹ Postponed until a later date to be determined

² Used to group known gear types

Ocean areas:

EPO	Eastern Pacific Ocean
WCPO	Western and Central Pacific Ocean

Set types:

DEL	Dolphin
NOA	Unassociated school
OBJ	Floating object
	LOG: Flotsam
	FAD: Fish-aggregating device

Flags:

IATTC Members & Cooperating Non-Members

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

Other flag codes

COK	Cook Islands
NZL	New Zealand
RUS	Russia

VCT	St. Vincent and the Grenadines
UNK	Unknown

Stock assessment:

<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

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 2019. 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.

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. This document therefore also covers other species such as billfishes (swordfish, marlins, shortbill spearfish, and sailfish), carangids (yellowtail, rainbow runner, and jack mackerel), dorado, elasmobranchs (sharks, rays, and skates), and other fishes. Additional information on these species is provided in Document SAC-11-13, *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), and a long-term sampling program is scheduled to commence in 2020.

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 2018 and 2019, and 2017-2019 data for longlines and other gears, are preliminary.

Since 1993 all Class-6³ 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 by the Antigua Convention are incomplete or unavailable, but some are obtained from vessel logbooks,

³ Class 6: carrying capacity greater than 363 metric tons (t)

or from governments or governmental reports.

Data for the western and central Pacific Ocean (WCPO) are taken from the [Tuna Fishery Yearbook for 2018](#), 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 1990-2019 are shown in [Tables A-2a-c](#).

The catches of tropical tunas during 1990-2019, by flag, are shown in [Tables A-3a-e](#), and the purse-seine catches and landings of tunas during 2018-2019 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 1990-2019 are shown in [Table A-1](#). The 2019 EPO catch of 228 thousand t is 8% less than the average of 248 thousand t for the previous 5-year period (2014-2018). In the WCPO, the catches of yellowfin reached a record high of 692 thousand t in 2017.

The annual retained catches of yellowfin in the EPO, by gear, during 1990-2019 are shown in [Table A-2a](#). Over the most recent 15-year period (2004-2018), the annual retained purse-seine and pole-and-line catches have fluctuated around an average of 224 thousand t (range: 167 to 274 thousand t). The preliminary estimate of the retained catch in 2019, 228 thousand t, is 5% less than that of 2018, but 2% greater than the 2004-2018 average. On average, about 0.5% (range: 0.1 to 1.1%) of the total purse-seine catch of yellowfin was discarded at sea during 2004-2018 ([Table A-2a](#)).

During 1990-2004, annual longline catches in the EPO averaged about 23 thousand t (range: 12 to 35 thousand t), or about 8% 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 2005-2018. Catches by other fisheries (recreational, gillnet, troll, artisanal, *etc.*), whether incidental or targeted, are shown in [Table A-2a](#), under “Other gears” (OTR); during 2005-2018 they averaged about 2 thousand t.

2.2. Skipjack tuna

The total annual catches of skipjack in the Pacific Ocean during 1990-2019 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 1.2 million t to an all-time high of 2 million t in 2014. In the EPO, the greatest catches occurred between 2003 and 2019, ranging from 153 to 350 thousand t, the record catch in 2019.

The annual retained catches of skipjack in the EPO, by gear, during 1990-2019 are shown in [Table A-2a](#). During 2004-2018 the annual retained purse-seine and pole-and-line catch averaged 267 thousand t (range: 147 to 338 thousand t). The preliminary estimate of the retained catch in 2019, 347 thousand t, is 30% greater than the 15-year average for 2004-2018.

Discards of skipjack at sea decreased each year during the period, from 8% in 2004 to a low of less than 1% in 2018, averaging about 2% 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 1990-2019 are shown in [Table A-1](#). Overall, the catches in both the EPO and WCPO have increased, but with considerable fluctuations. In the WCPO they averaged more than 77 thousand t during the late 1970s, decreased during the early 1980s, and then increased steadily to 119 thousand t in 1992; they jumped to 168 thousand t in 1998, and reached a high of 180 thousand t in 2004, since when they have fluctuated between 123 and 156 thousand t. In the EPO, the average catch during 1990-2019 was 105 thousand t, with a low of 83 thousand t in 1993 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 1990-2019 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. Prior to 1993, the annual retained purse-seine catch of bigeye in the EPO was about 5 thousand t ([Table A-2a](#)); by 1994 it was 35 thousand t, and in 1996 was over 60 thousand t. During 1997-2018 it has fluctuated between 44 and 95 thousand t; the preliminary estimate for 2019 is 71 thousand t.

During 2000-2019 the percentage of the purse-seine catch of bigeye discarded at sea has steadily decreased, from 5% in 2000 to less than 1% in 2014, averaging about 1.7%.

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 50%, to 44 thousand t, and the preliminary estimate for 2019 is less than 25 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 1990-2019, by gear, are shown in [Table A-2a](#). In recent years, purse-seine vessels accounted for over 90% of the annual catch. The 1990-2018 average EPO retained catch is 3.6 thousand t (range: 400 t to 9.9 thousand t); the preliminary estimate for 2019 is 2.5 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 1990-2019, 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 black skipjack, bonito, frigate and bullet tunas, contribute to the overall harvest. The estimated annual retained and discarded catches of these species during 1990-2019 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 2019 was 12.2 thousand t, more than the 2004-2018 average of 8.0 thousand t (range: 1 to 19 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 23 thousand t, possibly due to increased abundance of swordfish, increased effort directed toward the species, 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 2004-2018 were about 3.3 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 2003-2017 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](#).

2.8. Other species

Data on catches of carangids (yellowtail, rainbow runner, jack mackerel), dorado, elasmobranchs (sharks, rays, and skates), and other fishes caught in the EPO tuna fisheries, are shown in [Table A-2c](#). The purse-seine data are from three different sources: estimates of retained and discarded catches by Class-6 vessels recorded by on-board observers, who cover all trips by such vessels; reported retained and discarded catch for Class-5 vessels, but only for the very small proportion of their trips covered by observers; and catches recorded in the logbooks of Class 1-5 vessels, which include only retained catches, not discards. The data for Class 1-5 vessels have not been raised to the total effort of the fleet, so they are considered minimum estimates only. The data for 2018-2019 are preliminary.

In previous reports, much of the catch of elasmobranchs was allocated to 'other gears' (OTR) in [Table A-2c](#). However, it has been determined that many of these catches from 2006 onward were in fact made with longlines, and in this report they have been transferred to the correct column (LL) in the table.

Dorado are unloaded mainly in ports in Central and South America. The reported catches of dorado have declined, from a high of 71 thousand t in 2009 to 15 thousand t in 2016.

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 2004-2019, and the retained catches

from those sets, are shown in [Table A-7](#) and [Figure 1](#).⁴ The estimates for Class 1-5⁵ 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 predominant in the floating-object fishery, and now account for an estimated 98% 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 2014-2018 are shown in [Figures A-1a](#), [A-2a](#), and [A-3a](#), respectively, and preliminary estimates for 2019 are shown in [Figures A-1b](#), [A-2b](#), and [A-3b](#).

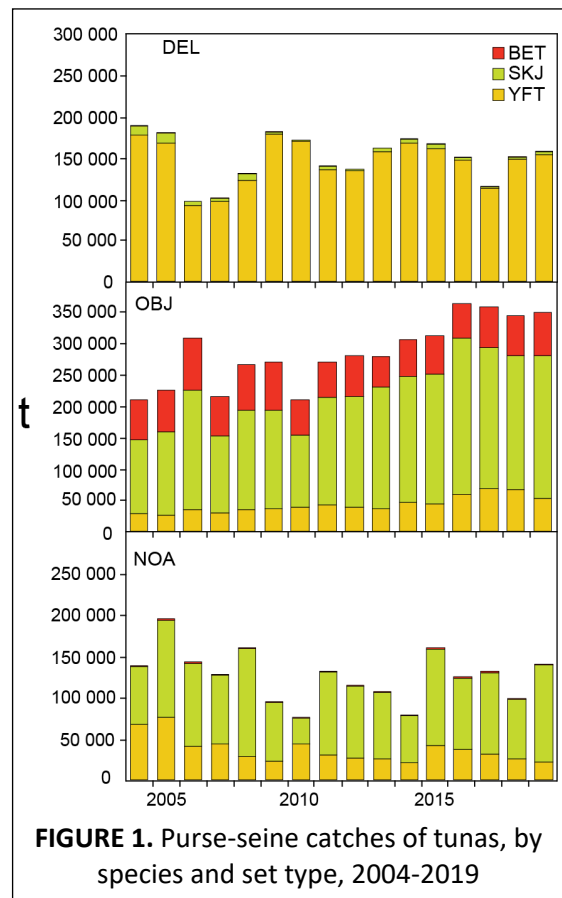


FIGURE 1. Purse-seine catches of tunas, by species and set type, 2004-2019

Yellowfin: The majority of catches in 2019 were taken in sets associated with dolphins in three main areas: south of Mexico from 125°W to 145°W, north and east from the Galapagos Islands to the coast, and offshore west of 120°W. As in 2018, larger-than-normal catches of yellowfin were taken in dolphin sets far offshore around the equator. Lesser amounts were taken in floating-object sets throughout the EPO south of 10°N, with a singular concentration around 150°W and the equator ([Figure A-1b](#)).

Skipjack catches in 2019 were more evenly distributed throughout the EPO than in previous years, with most of the catch taken in floating-object sets throughout the EPO. Catches around the Galapagos Islands decreased from 2018, while catches near the coast of Peru increased, due to higher catches in unassociated sets ([Figure A-2b](#)).

Bigeye are not often caught north of about 7°N in the EPO, and almost all of the 2019 catches were taken in sets on FADs. More of the catch was taken far offshore than in previous years, concentrated mainly west of 120°W just north of the equator ([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.

⁴ The catch data for 2004-2019 incorporate previously unavailable data, and are thus different from the corresponding data presented in previous publications.

⁵ ≤363 t carrying capacity

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 2014-2018 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, Mexico, Panama, and Venezuela. 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-11-05). In this report, data on the size composition of the catches during 2014-2019 are presented (Figures A-6 to A-8), with two sets of length-frequency histograms for each species: the first shows the data for 2019 by stratum (gear type, set type, and area), and the second the combined data for each year of the 2014-2019 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 971 wells sampled during 2019, 728 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 half of the year, with smaller amounts taken in the NOA-N fishery in the second quarter and in the OBJ fisheries throughout the year. The largest yellowfin (>120 cm) were caught in the DEL-N fishery throughout the year, and in the NOA-N fishery. Smaller yellowfin (<60 cm) were taken in the OBJ fishery, primarily in the second, third and fourth quarters.

The estimated size compositions of the yellowfin caught by all fisheries combined during 2014-2019 are shown in [Figure A-6b](#). The average weight of yellowfin in 2019, 8.1 kg, continued the increase from previous years, and the size distribution also showed a trend toward larger fish, with the greatest quantity around the 140 cm length interval.

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 971 wells sampled, 668 contained skipjack. The estimated size compositions of the fish caught during 2019 are shown in [Figure A-7a](#). Most of the skipjack catch was taken in the OBJ fisheries in the second, third and fourth quarters, and in the NOA-S fishery in the first and second quarters. Large skipjack (65-80 cm) were caught in the NOA-N fishery in the second quarter, close to 150°W between the equator and 10°N ([Figure A-2b](#)); the smallest (<40 cm) were caught primarily in the OBJ-N and OBJ-S fisheries in the second and fourth quarters.

The estimated size compositions of the skipjack caught by all fisheries combined during 2014-2019 are shown in [Figure A-7b](#). The average weight of skipjack in 2019 (2.0 kg) was consistent with previous years (1.8-2.2 kg).

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 971 wells sampled, 202 contained bigeye. The estimated size compositions of the fish caught during 2019 are shown in [Figure A-8a](#). Most of the 2019 catch of bigeye was taken in the OBJ-N and OBJ-S fisheries throughout the year, with lesser

amounts caught in the OBJ-E fishery.

The estimated size compositions of bigeye caught by all fisheries combined during 2014-2019 are shown in [Figure A-8b](#). The average weight of bigeye in 2019 (5.0 kg) was slightly higher than the previous four years (4.7-4.9 kg), but lower than the 2014 average of 5.6 kg. As in previous years, most of the bigeye caught was in the 40-80 cm range.

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. Also, the purse-seine fishing season has started earlier than previously: in 2019, bluefin were first caught in February, and the fishery was closed in March, 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 Fisheries Institute (INAPESCA) provided length-composition data for purse-seine catches during 2014-2019 ([Figure A-9](#)); the average weight for 2019 calculated from these length data, 42.3 kg, was lower than for 2017 and 2018 (55.4 and 55.7 kg, respectively), due to a sharp reduction in fish larger than 120 cm, but higher than for 2014-2016 (25.6-33.5 kg).

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 2014-2018 are shown in [Figures A-10](#) and [A-11](#). The average annual weight during that period ranged from 35.1 to 61.0 kg for yellowfin, and from 60.7 kg to 66.2 kg for bigeye.

5.3. Catches of tunas, by flag and gear

The annual retained catches of tunas in the EPO during 1990-2019, by flag and gear, are shown in [Tables A-3a-e](#). The purse-seine catches of tunas in 2018 and 2019, by flag and species, are summarized in [Table A-4a](#). Of the nearly 653 thousand t of tunas caught in 2019, 46% were caught by Ecuadorian vessels, and 20% by Mexican vessels. Other countries with significant catches included Panama (10%), Colombia (7%), Venezuela (5%), United States (5%), Nicaragua (3%) and Peru (2%). The purse-seine landings of tunas in 2018 and 2019, by species and country of landing, are summarized in [Table A-4b](#). Of the more than 622 thousand t of tunas landed in the EPO in 2019, 64% were landed in Ecuadorian ports, and 21% in Mexican ports. Other countries with landings of tunas in the EPO included Colombia (3%), Peru (4%) and the United States (2%).

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 2019 are included in the following description of the purse-seine fleet.

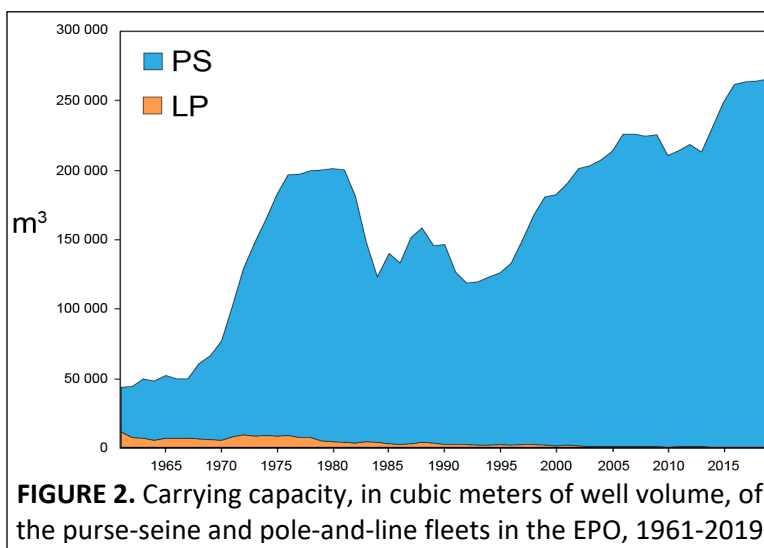


FIGURE 2. Carrying capacity, in cubic meters of well volume, of the purse-seine and pole-and-line fleets in the EPO, 1961-2019

The IATTC uses well volume, in cubic meters (m³), 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 2018 and preliminary 2019 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 2019, the fleet was dominated by Ecuadorian and Mexican vessels, with about 34% and 23%, respectively, of the total well volume; they were followed by the United States (11%), Panama (9%), Venezuela (7%), Colombia (6%), Nicaragua (3%), El Salvador (2%), Peru (2%) and the European Union (Spain) (2%).⁶

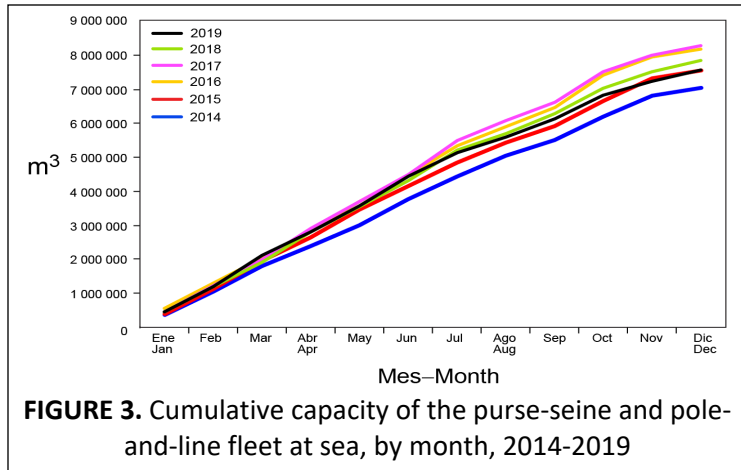


FIGURE 3. Cumulative capacity of the purse-seine and pole-and-line fleet at sea, by month, 2014-2019

The cumulative capacity at sea during 2019 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 2009-2018, and the 2019 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 2009-2018 and 2019 were slightly over 141 thousand m³ (60% of total capacity) and about 146 thousand m³ (55% of total capacity), respectively.

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 2019, or ever.

⁶ The sum of the percentages may not add up to 100% due to rounding.

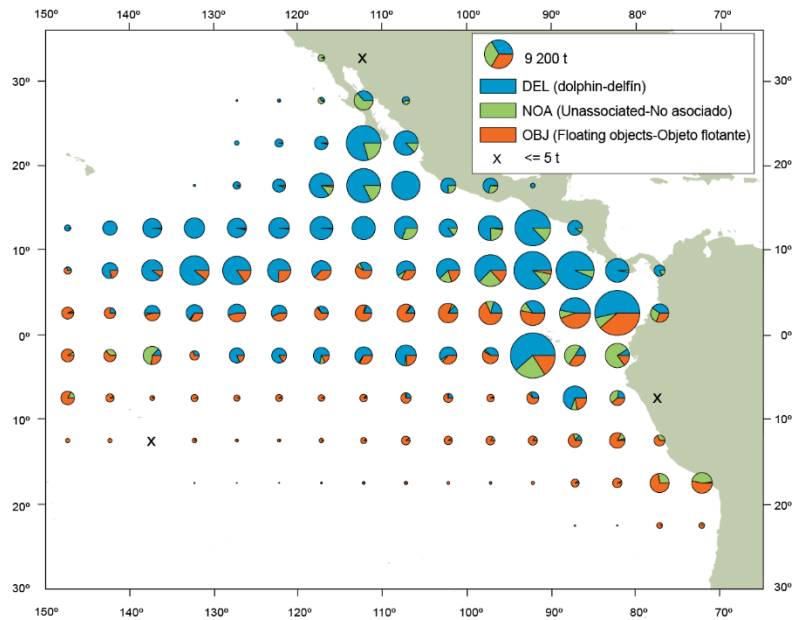


FIGURE A-1a. Average annual distributions of the purse-seine catches of yellowfin, by set type, 2014-2018. The sizes of the circles are proportional to the amounts of yellowfin caught in those 5° by 5° areas.
FIGURA A-1a. Distribución media anual de las capturas cerqueras de aleta amarilla, por tipo de lance, 2014-2018. El tamaño de cada círculo es proporcional a la cantidad de aleta amarilla capturado en la cuadrícula de 5° x 5° correspondiente.

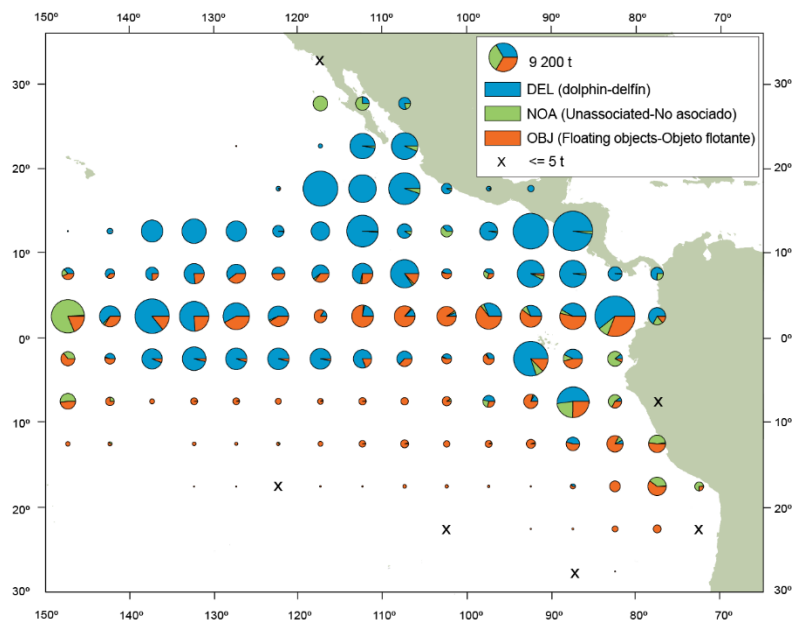


FIGURE A-1b. Annual distributions of the purse-seine catches of yellowfin, by set type, 2019. The sizes of the circles are proportional to the amounts of yellowfin caught in those 5° by 5° areas.
FIGURA A-1b. Distribución anual de las capturas cerqueras de aleta amarilla, por tipo de lance, 2019. El tamaño de cada círculo es proporcional a la cantidad de aleta amarilla capturado en la cuadrícula de 5° x 5° correspondiente.

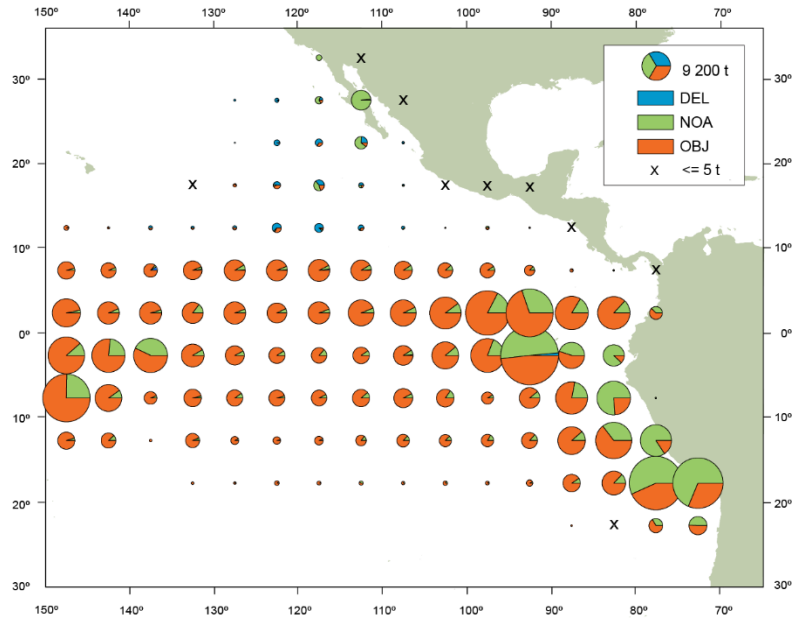


FIGURE A-2a. Average annual distributions of the purse-seine catches of skipjack, by set type, 2014-2018. The sizes of the circles are proportional to the amounts of skipjack caught in those 5° by 5° areas.
FIGURA A-2a. Distribución media anual de las capturas cerqueras de barrilete, por tipo de lance, 2014-2018. El tamaño de cada círculo es proporcional a la cantidad de barrilete capturado en la cuadrícula de 5° x 5° correspondiente.

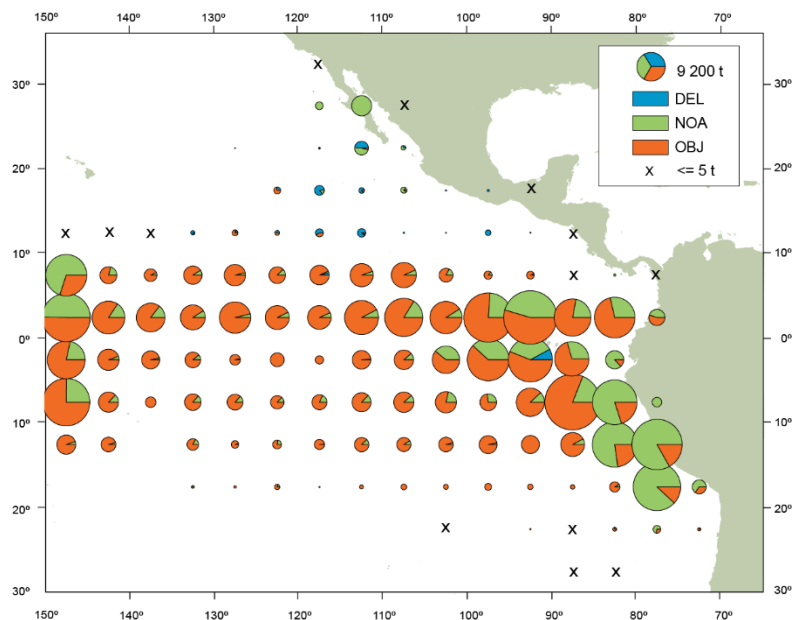


FIGURE A-2b. Annual distributions of the purse-seine catches of skipjack, by set type, 2019. The sizes of the circles are proportional to the amounts of skipjack caught in those 5° by 5° areas.
FIGURA A-2b. Distribución anual de las capturas cerqueras de barrilete, por tipo de lance, 2019. El tamaño de cada círculo es proporcional a la cantidad de barrilete capturado en la cuadrícula de 5° x 5° correspondiente.

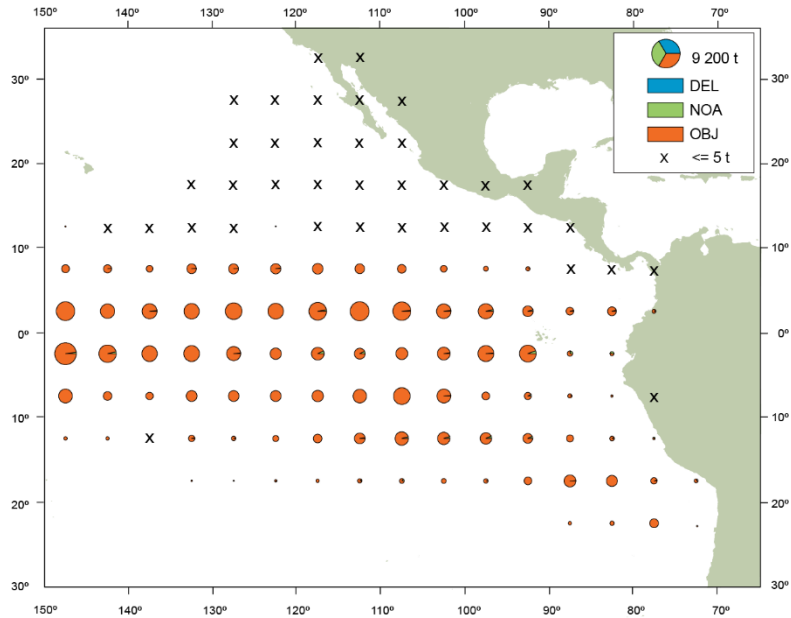


FIGURE A-3a. Average annual distributions of the purse-seine catches of bigeye, by set type, 2014-2018. The sizes of the circles are proportional to the amounts of bigeye caught in those 5° by 5° areas.
FIGURA A-3a. Distribución media anual de las capturas cerqueras de patudo, por tipo de lance, 2014-2018. El tamaño de cada círculo es proporcional a la cantidad de patudo capturado en la cuadrícula de 5° x 5° correspondiente.

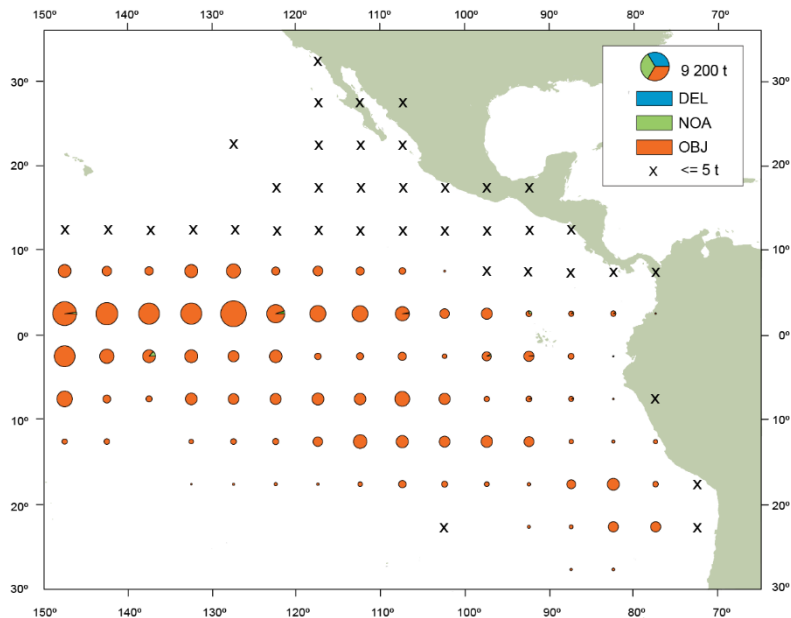


FIGURE A-3b. Annual distributions of the purse-seine catches of bigeye, by set type, 2019. The sizes of the circles are proportional to the amounts of bigeye caught in those 5° by 5° areas.
FIGURA A-3b. Distribución anual de las capturas cerqueras de patudo, por tipo de lance, 2019. El tamaño de cada círculo es proporcional a la cantidad de patudo capturado en la cuadrícula de 5° x 5° correspondiente.

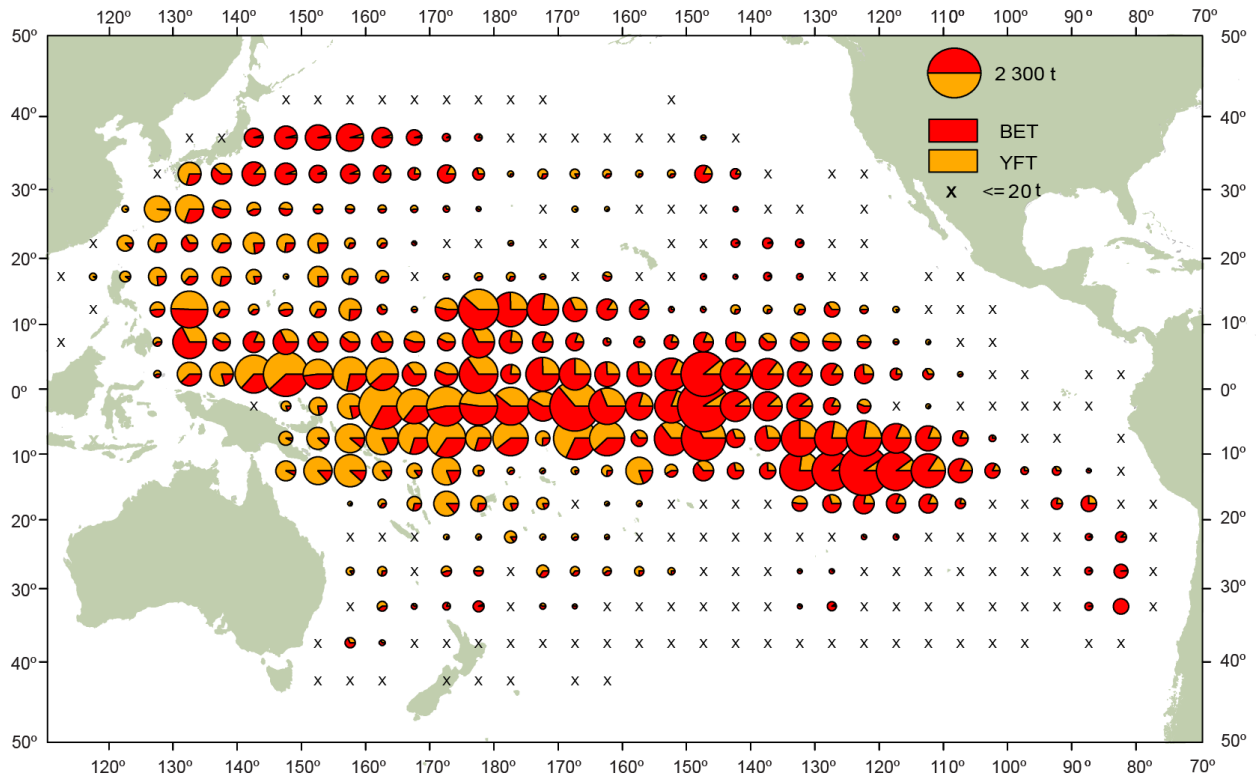


FIGURE A-4. Distributions of the average annual catches of bigeye and yellowfin tunas in the Pacific Ocean, in metric tons, by Chinese, Japanese, Korean, and Chinese Taipei longline vessels, 2014-2018. The sizes of the circles are proportional to the amounts of bigeye and yellowfin caught in those 5° 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, 2014-2018. El tamaño de cada círculo es proporcional a la cantidad de patudo y aleta amarilla capturado en la cuadrícula de 5° x 5° correspondiente.

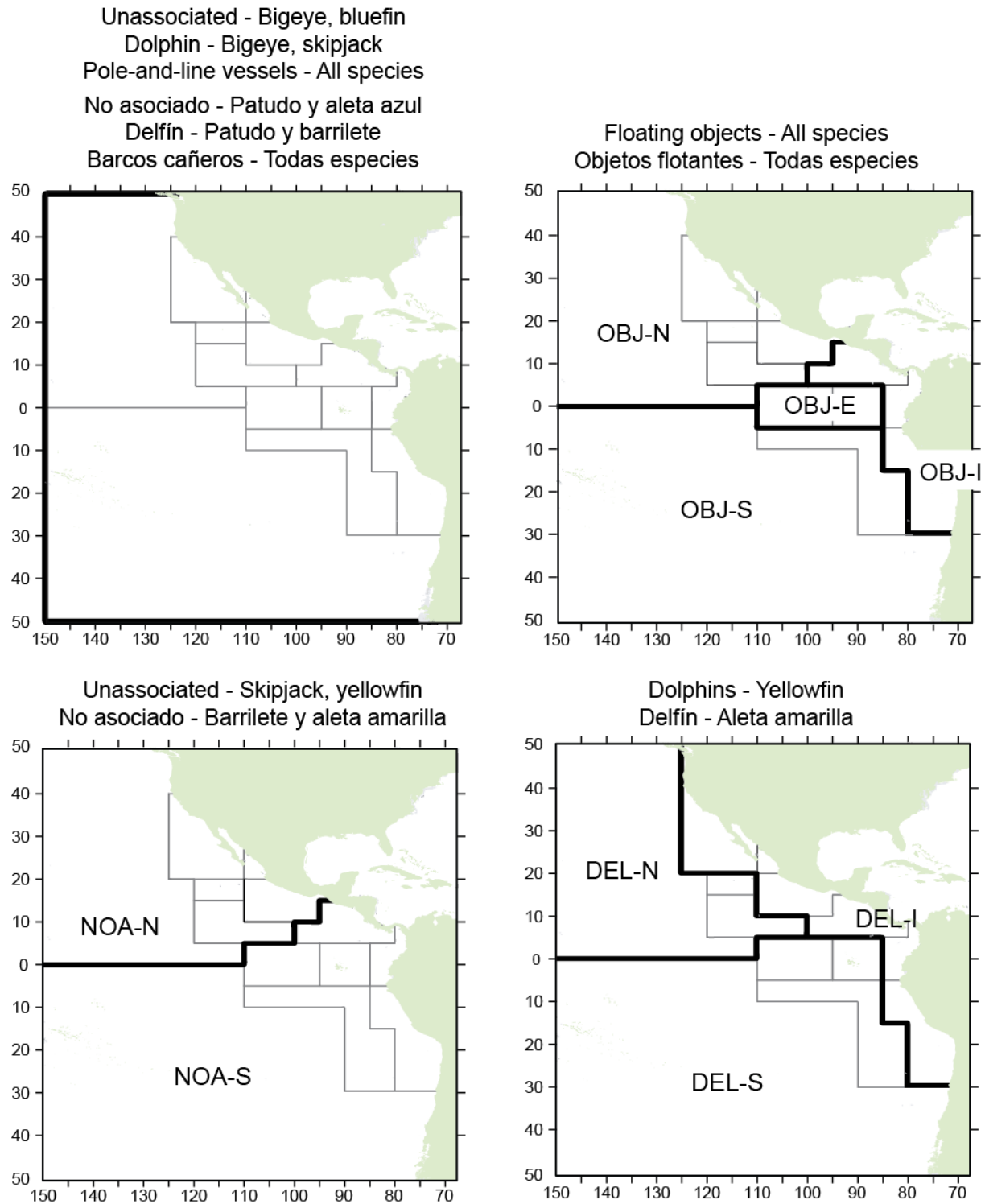


FIGURE A-5. The purse-seine fisheries defined by the IATTC staff for analyses of yellowfin, skipjack, and bigeye in the EPO. The thin lines indicate the boundaries of the 13 length-frequency sampling areas, and the bold lines the boundaries of the fisheries.

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.

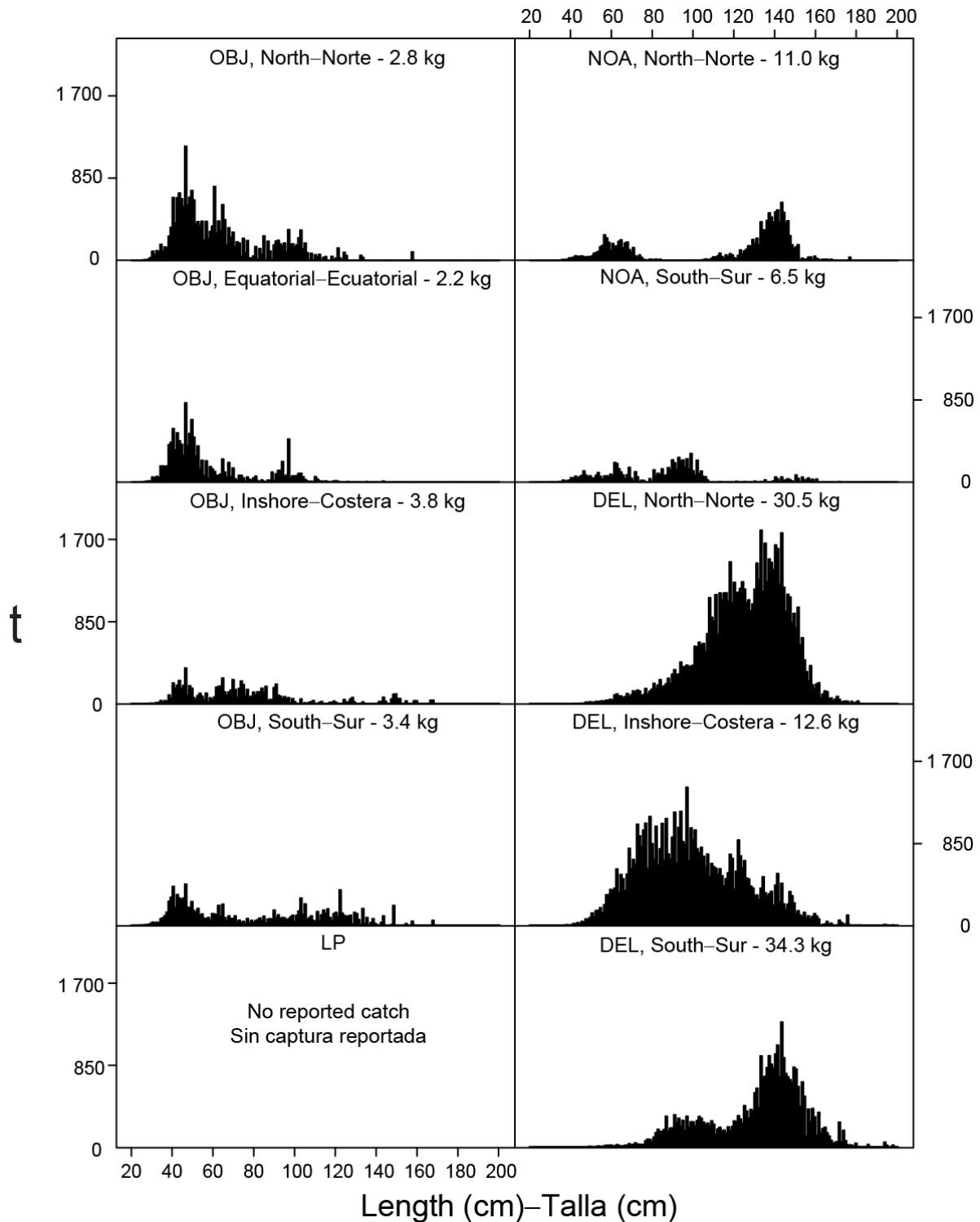


FIGURE A-6a. Estimated size compositions of the yellowfin caught in the EPO during 2019 for each fishery designated in Figure A-5. The value at the top of each panel is the average weight of the fish in the samples.
FIGURA A-6a. Composición por tallas estimada del aleta amarilla capturado en el OPO durante 2019 en cada pesquería ilustrada en la Figura A-5. El valor en cada recuadro representa el peso promedio del pescado en las muestras.

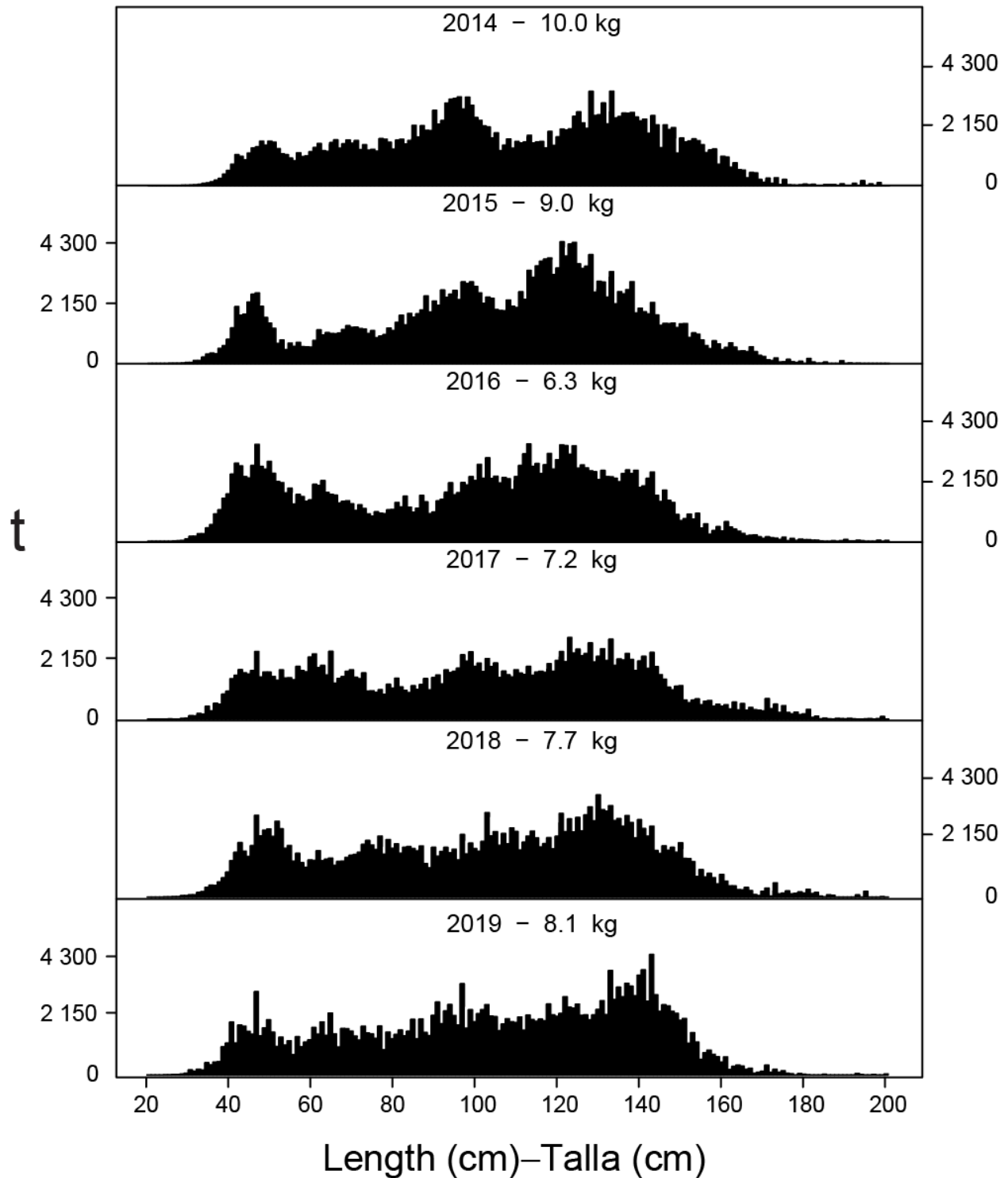


FIGURE A-6b. Estimated size compositions of the yellowfin caught by purse-seine and pole-and-line vessels in the EPO during 2014-2019. The value at the top of each panel is the average weight of the fish in the samples.

FIGURA A-6b. Composición por tallas estimada del aleta amarilla capturado por buques cerqueros y cañeros en el OPO durante 2014-2019. El valor en cada recuadro representa el peso promedio del pescado en las muestras.

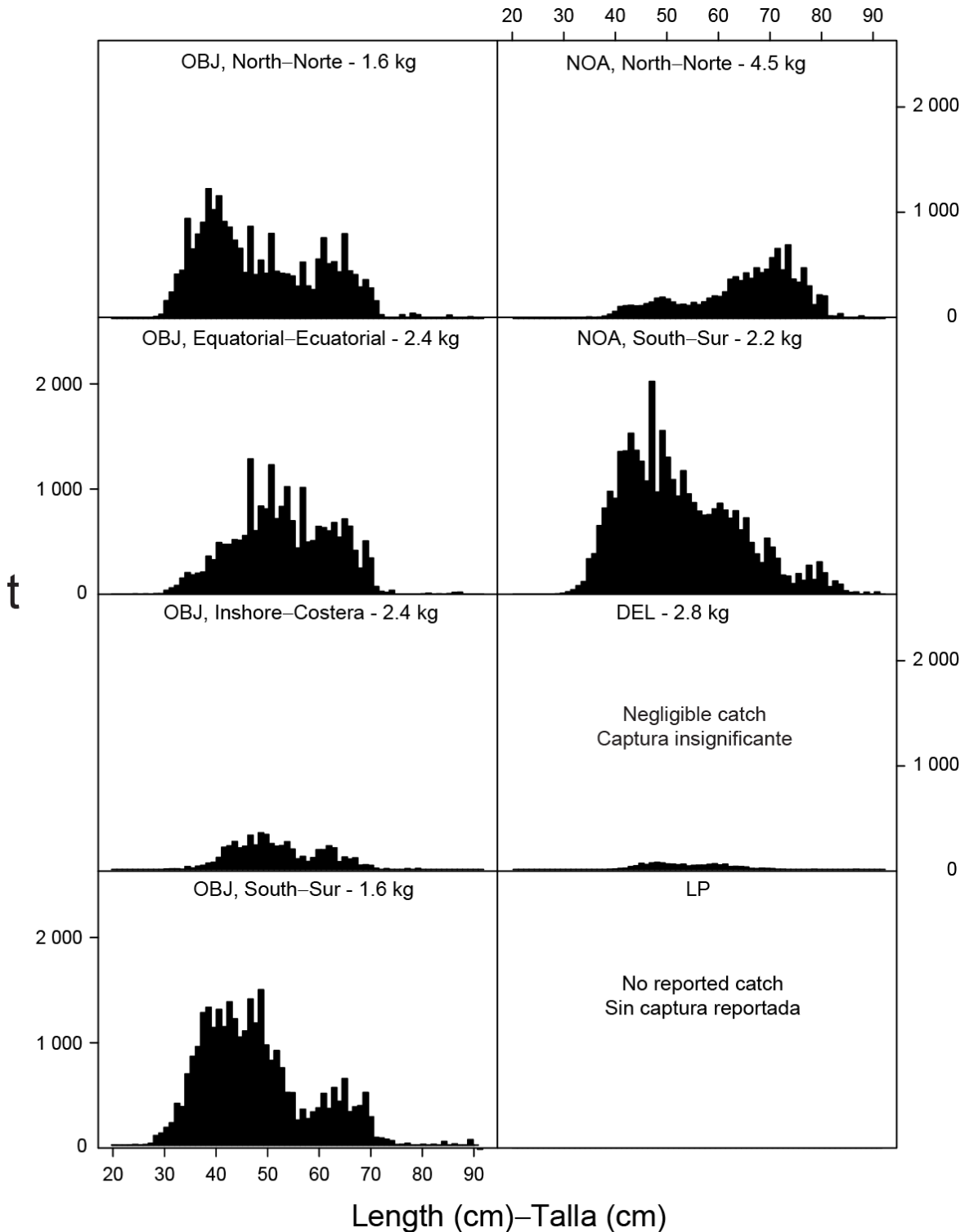


FIGURE A-7a. Estimated size compositions of the skipjack caught in the EPO during 2019 for each fishery designated in Figure A-5. The value at the top of each panel is the average weight of the fish in the samples.
FIGURA A-7a. Composición por tallas estimada del barrilete capturado en el OPO durante 2019 en cada pesquería ilustrada en la Figura A-5. El valor en cada recuadro representa el peso promedio del pescado en las muestras.

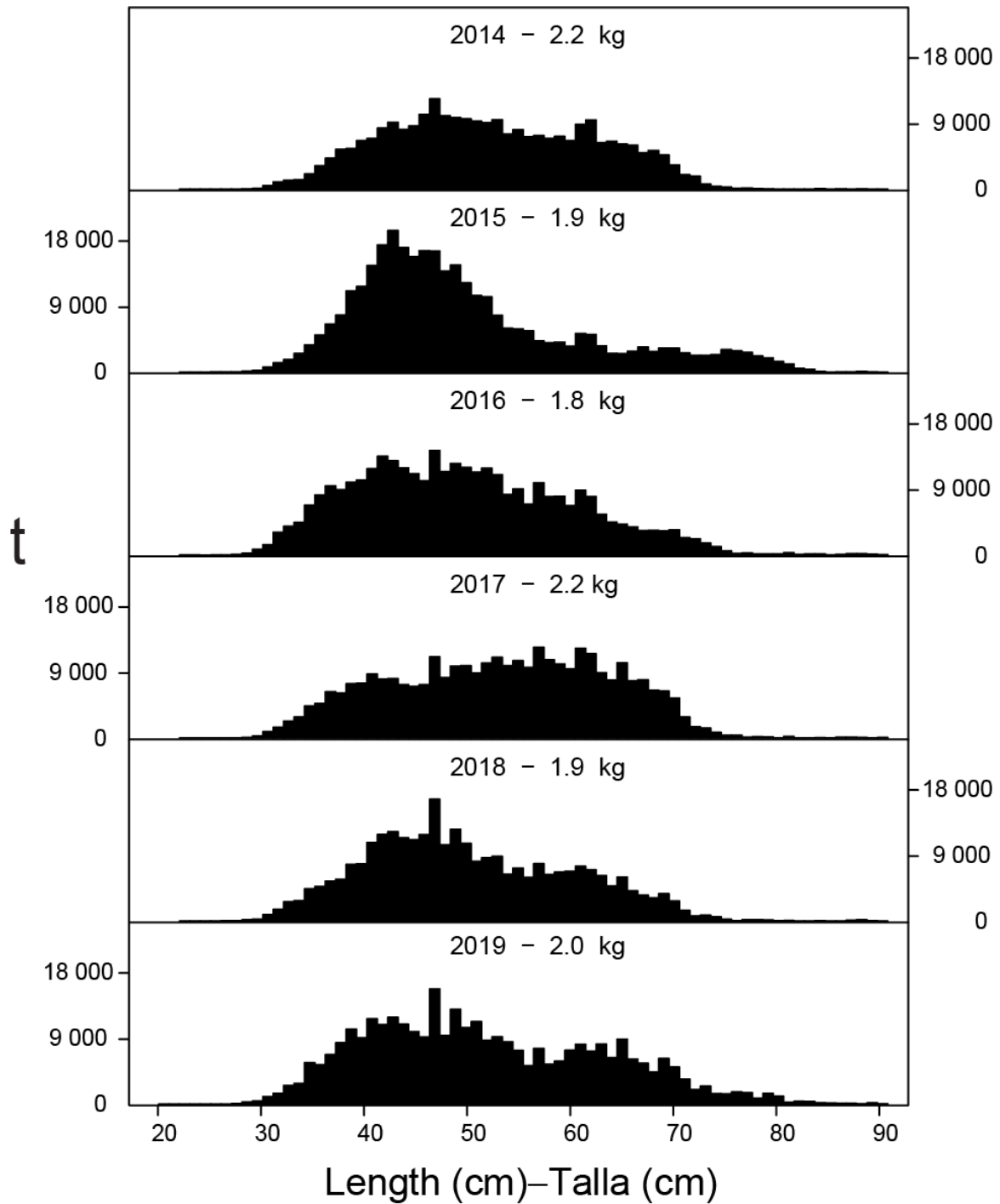


FIGURE A-7b. Estimated size compositions of the skipjack caught by purse-seine and pole-and-line vessels in the EPO during 2014-2019. The value at the top of each panel is the average weight of the fish in the samples.

FIGURA A-7b. Composición por tallas estimada del barrilete capturado por buques cerqueros y cañeros en el OPO durante 2014-2019. El valor en cada recuadro representa el peso promedio del pescado en las muestras.

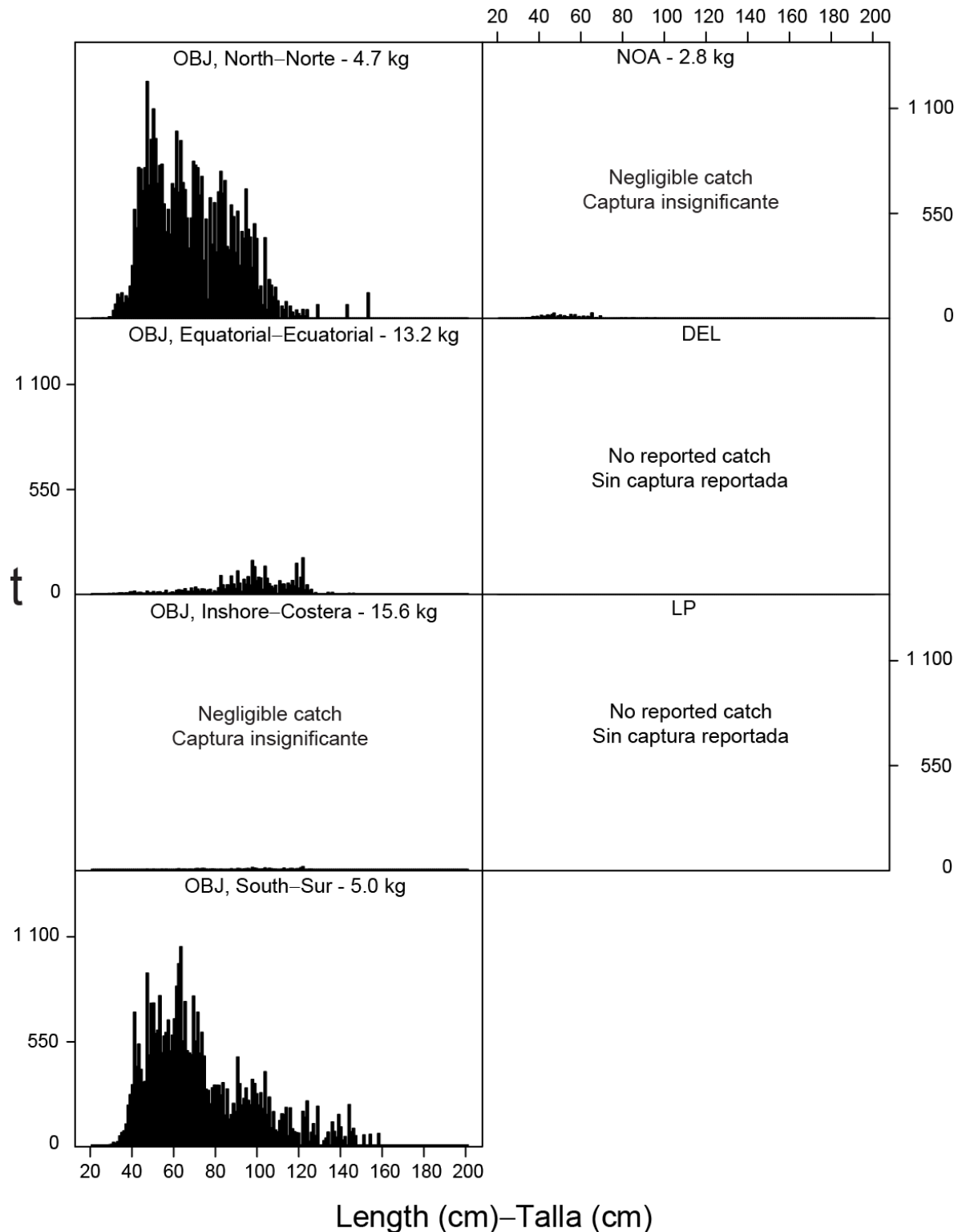


FIGURE A-8a. Estimated size compositions of the bigeye caught in the EPO during 2019 for each fishery designated in Figure A-5. The value at the top of each panel is the average weight.

FIGURA A-8a. Composición por tallas estimada del patudo capturado en el OPO durante 2019 en cada pesquería ilustrada en la Figura A-5. El valor en cada recuadro representa el peso promedio del pescado en las muestras.

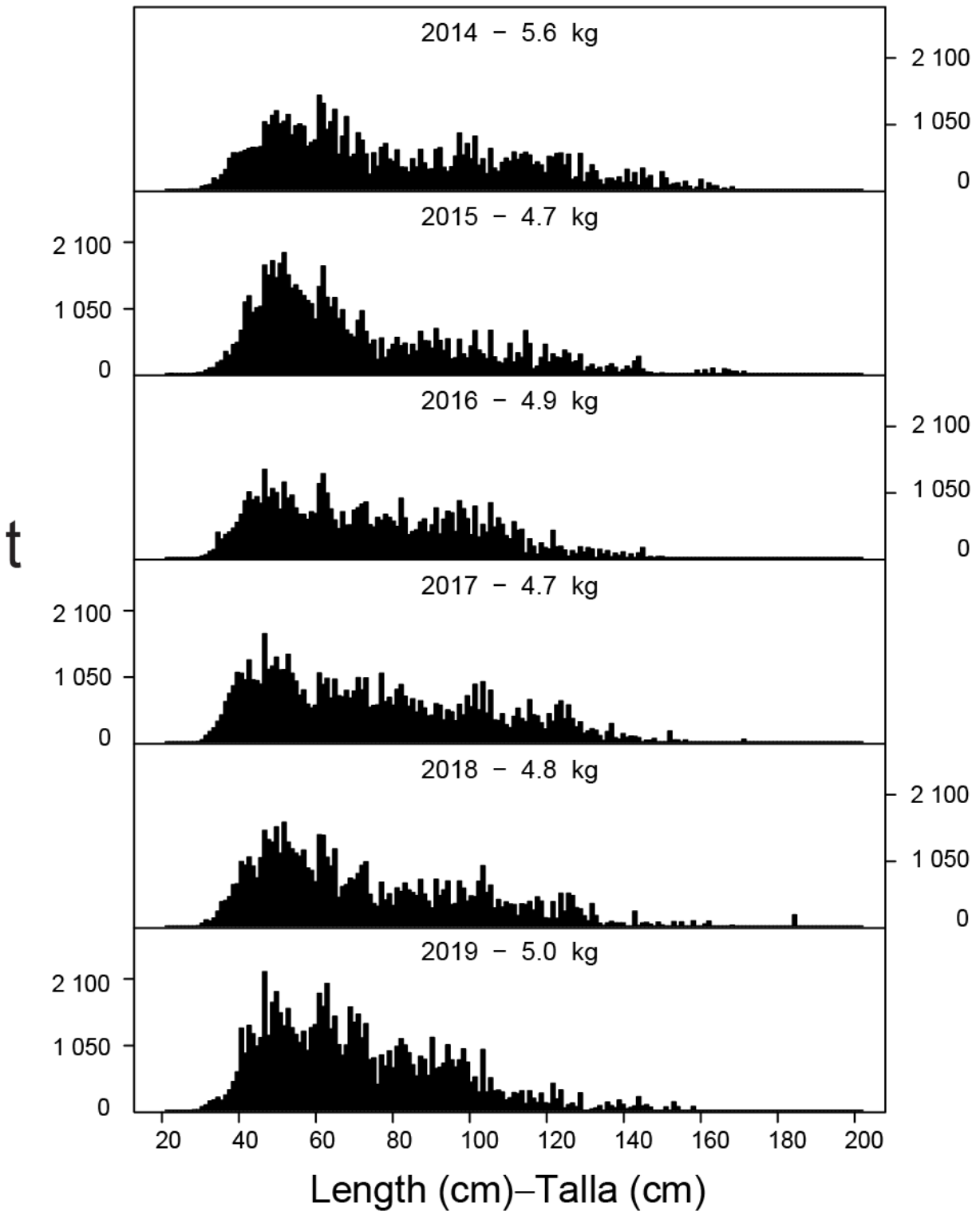


FIGURE A-8b. Estimated size compositions of the bigeye caught by purse-seine vessels in the EPO during 2014-2019. The value at the top of each panel is the average weight.

FIGURA A-8b. Composición por tallas estimada del patudo capturado por buques cerqueros en el OPO durante 2014-2019. El valor en cada recuadro representa el peso promedio del pescado en las muestras.

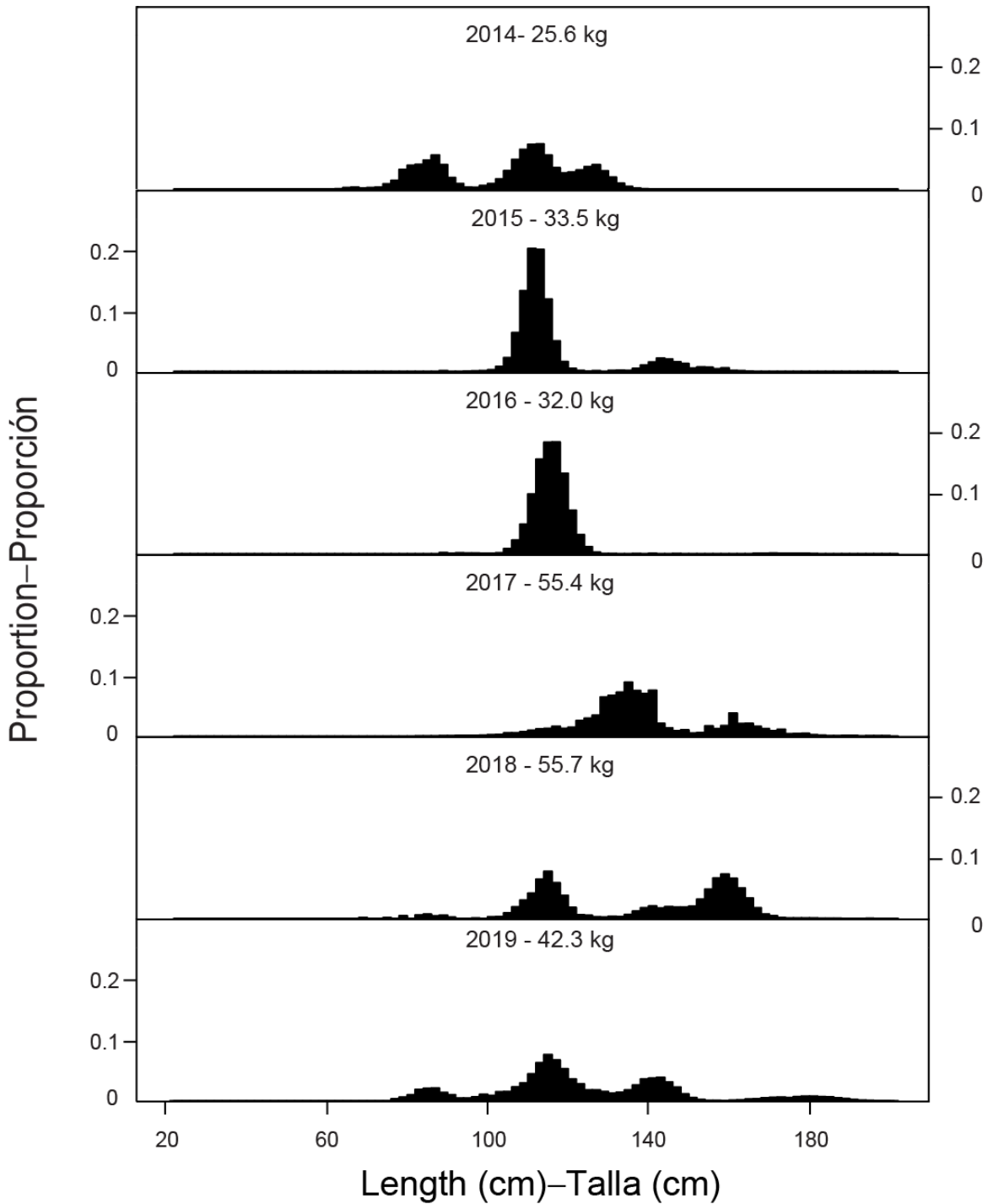


FIGURE A-9. Estimated length compositions of purse-seine catches of Pacific bluefin tuna, 2014-2019. The length distribution has been standardized as a proportion of the total number of measured tuna in each length interval. The value at the top of each panel is the average weight. Source: INAPESCA, Mexico.

FIGURA A-9. Composición por talla estimada de las capturas cerqueras de atún aleta azul del Pacífico, 2014-2019. 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: INAPESCA, México.

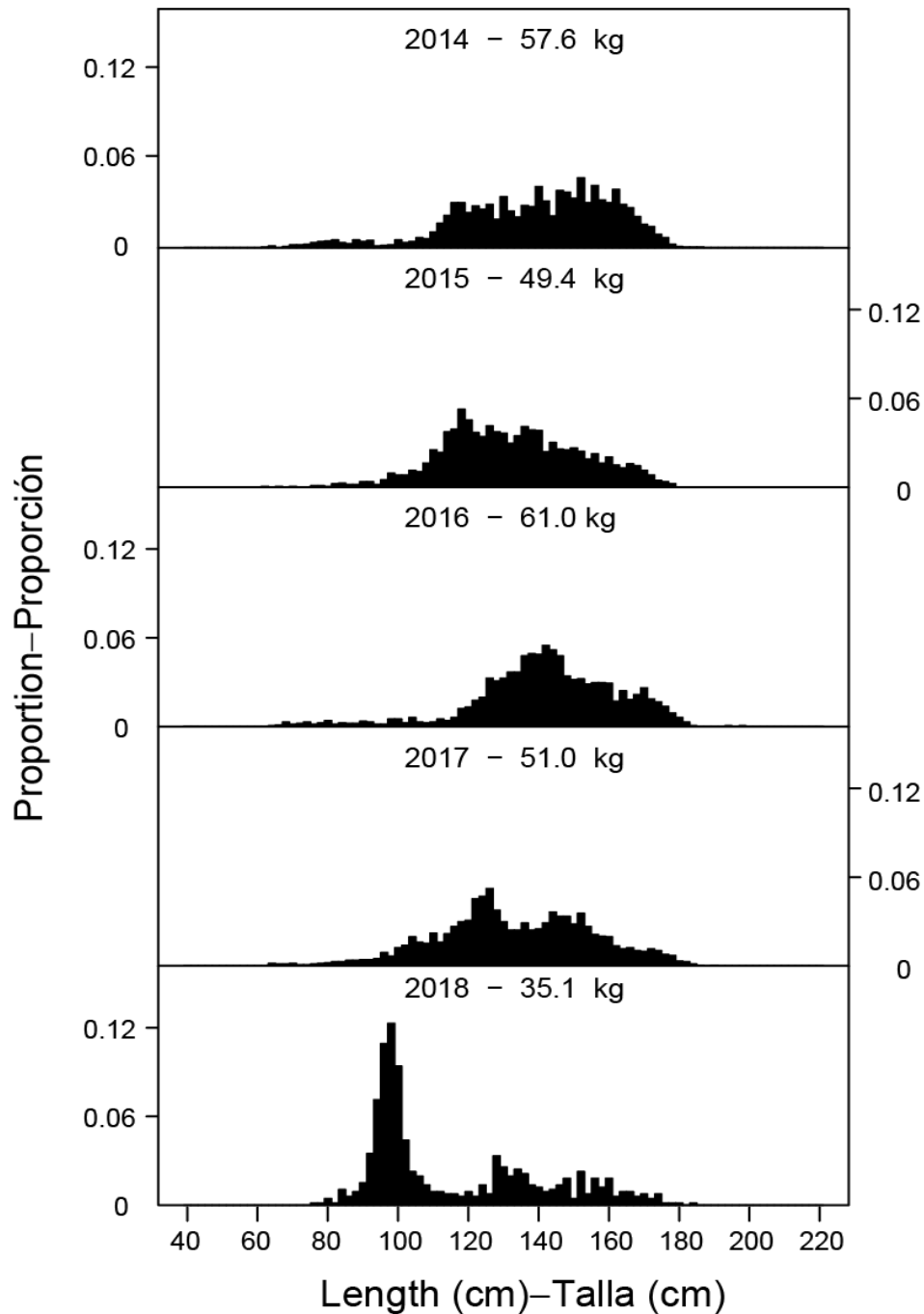


FIGURE A-10. Estimated size compositions of the catches of yellowfin by the Japanese longline fleet in the EPO, 2014-2018. The size distribution has been standardized as a proportion of the total number of measured tuna in each size range. The value at the top of each panel is the average weight. Source: 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, 2014-2018. 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.

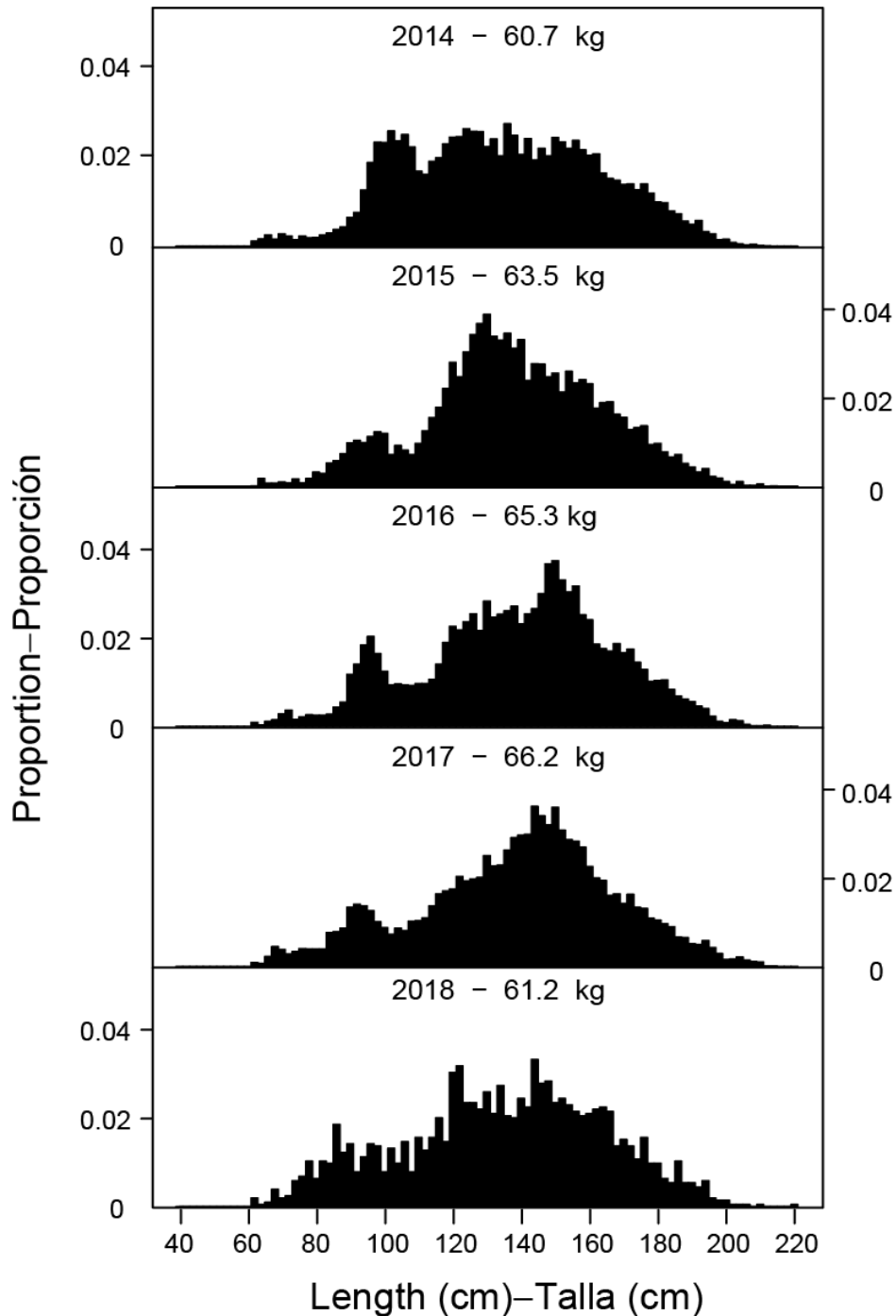


FIGURE A-11. Estimated size compositions of the catches of bigeye by the Japanese longline fleet in the EPO, 2014-2018. The size distribution has been standardized as a proportion of the total number of measured tuna in each size range. The value at the top of each panel is the average weight. Source: Fisheries Agency of Japan

FIGURA A-11. Composición por tallas estimada de las capturas de patudo por la flota palangrera japonesa en el OPO, 2014-2018. 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 1993-2019 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 1993-2019 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
1990	301,522	390,428	691,950	77,107	857,067	934,174	104,851	116,370	221,221	483,480	1,363,865	1,847,345
1991	265,970	416,609	682,579	65,890	1,077,398	1,143,288	109,121	99,354	208,475	440,981	1,593,361	2,034,342
1992	252,514	424,965	677,479	87,294	971,558	1,058,852	92,000	119,335	211,335	431,808	1,515,858	1,947,666
1993	256,199	365,631	621,830	100,434	926,617	1,027,051	82,843	103,733	186,576	439,476	1,395,981	1,835,457
1994	248,071	405,421	653,492	84,661	990,437	1,075,098	109,331	117,497	226,828	442,063	1,513,355	1,955,418
1995	244,639	409,174	653,813	150,661	1,020,852	1,171,513	108,210	100,642	208,852	503,510	1,530,668	2,034,178
1996	266,928	411,433	678,361	132,335	1,011,907	1,144,242	114,706	112,724	227,430	513,969	1,536,064	2,050,033
1997	277,575	493,038	770,613	188,285	906,376	1,094,661	122,274	158,380	280,654	588,134	1,557,794	2,145,928
1998	280,606	598,998	879,604	165,489	1,169,422	1,334,911	93,954	168,127	262,081	540,049	1,936,547	2,476,596
1999	304,638	512,991	817,629	291,249	1,047,417	1,338,666	93,078	150,842	243,920	688,965	1,711,250	2,400,215
2000	286,863	560,932	847,795	230,479	1,156,160	1,386,639	148,557	137,201	285,758	665,899	1,854,293	2,520,192
2001	425,008	527,859	952,867	157,676	1,080,053	1,237,729	130,546	137,859	268,405	713,230	1,745,771	2,459,001
2002	443,458	482,664	926,122	167,048	1,258,988	1,426,036	132,806	158,153	290,959	743,312	1,899,805	2,643,117
2003	415,933	540,331	956,264	300,470	1,252,996	1,553,466	115,175	128,596	243,771	831,578	1,921,923	2,753,501
2004	296,847	578,045	874,892	217,249	1,348,940	1,566,189	110,722	180,393	291,115	624,818	2,107,378	2,732,196
2005	286,492	547,082	833,574	283,453	1,397,441	1,680,894	110,514	143,482	253,996	680,459	2,088,005	2,768,464
2006	180,519	481,285	661,804	309,090	1,494,070	1,803,160	117,328	152,574	269,902	606,937	2,127,929	2,734,866
2007	182,141	512,270	694,411	216,324	1,647,760	1,864,084	94,260	138,656	232,916	492,725	2,298,686	2,791,411
2008	197,328	606,650	803,978	307,699	1,619,329	1,927,028	103,350	149,059	252,409	608,377	2,375,038	2,983,415
2009	250,413	540,660	791,073	239,408	1,784,286	2,023,694	109,255	147,666	256,921	599,076	2,472,612	3,071,688
2010	261,871	559,734	821,605	153,092	1,688,958	1,842,050	95,408	132,507	227,915	510,371	2,381,199	2,891,570
2011	216,720	520,937	737,657	283,509	1,534,944	1,818,453	89,460	154,391	243,851	589,689	2,210,272	2,799,961
2012	213,310	602,975	816,285	273,519	1,758,388	2,031,907	102,687	155,702	258,389	589,516	2,517,065	3,106,581
2013	231,170	548,776	779,946	284,043	1,835,068	2,119,111	86,029	143,156	229,185	601,242	2,527,000	3,128,242
2014	246,789	590,102	836,891	265,490	2,006,092	2,271,582	96,045	154,976	251,021	608,324	2,751,170	3,359,494
2015	260,293	573,947	834,240	334,051	1,793,193	2,127,244	104,737	136,280	241,017	699,081	2,503,420	3,202,501
2016	255,196	634,165	889,361	342,579	1,795,389	2,137,968	92,829	144,409	237,238	690,604	2,573,963	3,264,567
2017	224,556	691,839	916,395	327,571	1,626,818	1,954,389	102,577	123,309	225,886	654,704	2,441,966	3,096,670
2018	252,976	686,445	939,421	291,276	1,840,609	2,131,885	93,458	141,792	235,250	637,710	2,668,846	3,306,556
2019	228,288	*	228,288	349,965	*	349,965	95,192	*	95,192	673,445	*	673,445

TABLE A-2a. Estimated catches, in metric tons, of tunas and bonitos in the EPO, by fishing gear, 1990-2019. 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 2018-2019 are preliminary.

TABLA A-2a. Capturas estimadas, en toneladas métricas, de atunes y bonitos en el OPO, por arte de pesca, 1990-2019. 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 2018-2019 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. [§]					Ret.	Dis. [§]					Ret.	Dis. [§]				
1990	263,253	-	2,676	34,633	960	301,522	74,369	-	823	41	1,874	77,107	5,921	-	-	98,871	59	104,851
1991	231,257	-	2,856	30,899	958	265,970	62,228	-	1,717	36	1,909	65,890	4,870	-	31	104,195	25	109,121
1992	228,121	-	3,789	18,646	1,958	252,514	84,283	-	1,957	24	1,030	87,294	7,179	-	-	84,808	13	92,000
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	10,649	3,583	260,293	328,907	3,699	C	189	1,256	334,051	62,913	177	-	41,626	21	104,737
2016	242,118	404	-	9,798	2,876	255,196	337,561	4,086	-	214	718	342,579	56,731	541	-	35,535	22	92,829
2017	210,980	412	-	10,476	2,688	224,556	324,759	1,765	-	168	879	327,571	66,973	201	-	35,361	42	102,577
2018	238,981	231	-	12,347	1,417	252,976	288,821	865	-	1,176	414	291,276	64,523	145	-	28,772	18	93,458
2019	227,709	579	-	*	*	228,288	347,114	2,851	-	*	*	349,965	70,544	117	-	24,531	*	95,192

[§] 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. \$					Ret.	Dis. \$					Ret.	Dis. \$				
1990	1,430	-	61	12	103	1,606	39	-	170	6,536	4,105	10,850	787	-	-	-	4	791
1991	419	-	-	5	55	479	-	-	834	7,893	2,754	11,481	421	-	-	-	25	446
1992	1,928	-	-	21	147	2,096	-	-	255	17,080	5,740	23,075	105	-	-	3	-	108
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	-	-	7	411	3,586	-	-	C	28,957	17,142	46,099	3,763	356	-	1	111	4,231
2016	3,025	-	-	-	408	3,433	2	-	-	26,778	14,586	41,366	6,606	792	-	-	178	7,576
2017	4,109	-	-	3	469	4,581	-	-	-	26,332	9,461	35,793	5,079	306	-	-	53	5,438
2018	2,852	-	-	-	539	3,391	8	-	-	24,494	10,940	35,442	3,002	732	-	-	118	3,852
2019	2,475	-	-	-	*	2,475	*	-	-	*	*	*	5,126	499	-	-	*	5,625

[§] 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. [§]					Ret.	Dis. [§]					Ret.	Dis. [§]				
1990	13,641	-	215	-	371	14,227	200	-	-	3	692	895	359,640	-	3,946	140,096	8,167	511,850
1991	1,207	-	82	-	242	1,531	4	-	-	29	192	225	300,406	-	5,520	143,057	6,161	455,144
1992	977	-	-	-	318	1,295	24	-	-	27	1,071	1,122	322,617	-	6,001	120,610	10,276	459,504
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	-	81,430	23,756	755,379
2016	3,806	15	-	-	1	3,822	129	212	-	-	294	635	649,978	6,050	-	72,325	19,083	747,436
2017	3,438	54	-	-	-	3,492	234	303	-	-	366	903	615,572	3,041	-	72,340	13,958	704,911
2018	2,409	58	-	-	-	2,467	75	448	-	3	227	753	600,671	2,479	-	66,792	13,673	683,615
2019	7,032	27	-	-	-	7,059	78	276	-	*	*	354	660,078	4,349	-	24,531	*	688,958

[§] 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, 1990-2019. For purse-seine (PS) vessels, retained (Ret.) catches include all vessels; discard (Dis.) data are for Class-6 vessels only. The data for 2018-2019 are preliminary.

TABLA A-2b. Capturas estimadas, en toneladas métricas, de peces picudos en el OPO, por arte de pesca, 1990-2019. 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. Los datos de 2018-2019 son preliminares.

	Swordfish—Pez espada				Blue marlin—Marlín azul				Black marlin—Marlín negro				Striped marlin—Marlín rayado							
	PS		LL	OTR	Total	PS		LL	OTR	Total	PS		LL	OTR	Total	PS		LL	OTR	Total
	Ret.	Dis. §				Ret.	Dis. §				Ret.	Dis. §				Ret.	Dis. §			
1990	-	-	5,807	5,066	10,873	-	-	5,540	-5,540	-	-	223	-	223	-	-	3,260	333	3,593	
1991	-	17	10,671	4,307	14,995	-	69	6,719	-6,788	-	58	246	-	304	-	76	2,993	409	3,478	
1992	-	4	9,820	4,267	14,091	-	52	6,626	-6,678	-	95	228	-	323	-	69	3,054	239	3,362	
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	3	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	25,805	6,079	31,890	306	11	4,121	182	4,620	117	14	240	-	371	26	-	1,269	474	1,769
2016	4	-	23,895	7,156	31,055	247	6	3,677	175	4,105	62	3	80	-	145	19	-	1,561	4	1,584
2017	1	2	21,327	6,301	27,631	151	4	3,832	191	4,178	39	1	211	-	251	10	-	1,736	4	1,750
2018	2	-	22,767	5,185	27,954	167	1	4,020	174	4,362	23	-	297	-	320	10	1	1,801	5	1,817
2019	3	-	*	*	3	202	3	*	*	205	45	-	45	-	45	16	*	*	*	16

§ 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		LL	OTR	Total	PS		LL	OTR	Total	PS		LL	OTR	Total	PS		LL	OTR	Total
	Ret.	Dis. [§]				Ret.	Dis. [§]				Ret.	Dis. [§]				Ret.	Dis. [§]			
1990	-	-	-	-	-	-	-	6	-	6	-	-	125	-	125	-	-	14,961	5,399	20,360
1991	-	-	1	-	1	-	-	717	-	717	-	-	112	-	112	-	220	21,459	4,716	26,395
1992	-	1	1	-	2	-	-	1,351	-	1,351	-	-	1,123	-	1,123	-	221	22,203	4,506	26,930
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	704	4	728	492	35	34,038	6,761	41,326
2016	1	-	416	-	417	49	9	457	19	534	112	9	732	1	854	494	27	30,818	7,355	38,694
2017	-	-	244	-	244	22	2	525	15	564	164	12	258	15	449	387	21	28,133	6,526	35,067
2018	-	-	235	-	235	13	2	426	17	458	123	6	144	10	283	338	10	29,690	5,391	35,429
2019	-	-	*	-	*	18	*	*	*	18	121	4	*	*	125	405	7	45	*	457

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

TABLE A-2c. Estimated catches, in metric tons, of carangids, dorado, elasmobranchs, and other fishes in the EPO, by fishing gear, 1990-2019. For purse-seine (PS) vessels, retained (Ret.) catches include all vessels; discard (Dis.) data are for Class-6 vessels only. The data for 2018-2019 are preliminary.

TABLA A-2c. Capturas estimadas, en toneladas métricas, de carángidos, dorado, elasmobranquies, y otros peces en el OPO, por arte de pesca, 1990-2019. 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. Los datos de 2018-2019 son preliminares.

	Carangids— Carángidos					Dorado (<i>Coryphaena</i> spp.)					Elasmobranchs— Elasmobranquios					Other fishes—Otros peces				
	PS		LL	OTR	Total	PS		LL	OTR	Total	PS		LL	OTR	Total	PS		LL	OTR	Total
	Ret.	Dis.				Ret.	Dis. [§]				Ret.	Dis. [§]				Ret.	Dis. [§]			
1990	234	-	-	1	235	63	-	-	1,491	1,554	-	-	280	1,095	1,375	433	-	260	14	707
1991	116	-	-	-	116	57	-	7	613	677	1	-	1,112	1,352	2,465	463	-	458	1	922
1992	116	-	-	-	116	69	-	37	708	814	-	-	2,294	1,190	3,484	555	-	183	-	738
1993	31	43	-	3	77	266	476	17	724	1,483	253	1,153	1,028	916	3,350	145	554	186	2	887
1994	19	28	-	16	63	687	826	46	3,459	5,018	372	1,029	1,234	1,314	3,949	243	567	275	-	1,085
1995	27	32	-	9	68	465	729	39	2,127	3,360	278	1,093	922	1,075	3,368	177	760	246	-	1,183
1996	137	135	-	57	329	548	885	43	183	1,659	239	1,001	1,120	2,151	4,511	155	467	492	-	1,114
1997	38	111	-	39	188	569	703	6,866	3,109	11,247	413	1,232	956	2,328	4,929	261	654	894	-	1,809
1998	83	149	-	4	236	424	426	2,528	9,167	12,545	279	1,404	2,099	4,393	8,175	303	1,133	1,403	-	2,839
1999	108	136	-	1	244	568	751	6,284	1,160	8,763	260	843	5,997	2,088	9,188	245	748	1,047	-	2,040
2000	97	66	4	4	171	813	785	3,537	1,041	6,176	263	771	8,418	405	9,857	148	408	1,578	-	2,134
2001	16	145	18	26	205	1,028	1,275	15,942	2,825	21,070	183	641	12,540	107	13,471	391	1,130	1,803	-	3,324
2002	20	111	15	20	166	932	938	9,464	4,137	15,471	137	758	12,398	99	13,392	355	722	1,920	-	2,997
2003	13	141	54	-	208	583	346	5,301	288	6,518	118	833	14,498	372	15,821	280	406	4,682	-	5,368
2004	41	103	1	-	145	811	317	3,986	4,645	9,759	157	623	11,273	173	12,226	339	1,031	670	-	2,040
2005	82	79	-	-	161	863	295	3,854	8,667	13,679	199	498	12,117	220	13,034	439	276	636	-	1,351
2006	247	146	-	-	393	1,002	385	3,408	13,127	17,922	235	677	20,579	233	21,724	496	381	603	100	1,580
2007	175	183	6	17	381	1,266	350	6,907	7,827	16,350	343	401	25,002	237	25,983	830	675	2,481	120	4,106
2008	86	55	5	17	163	933	327	15,845	5,458	22,563	540	371	30,143	201	31,255	522	429	1,526	85	2,562
2009	65	42	10	16	133	1,923	476	17,136	51,328	70,863	279	347	31,001	143	31,770	1,036	374	2,435	378	4,223
2010	82	15	8	23	128	1,243	253	9,484	47,881	58,861	335	467	40,655	120	41,577	884	192	2,341	384	3,801
2011	72	24	8	-	104	1,291	386	12,438	20,935	35,050	280	318	45,450	94	46,142	511	219	1,972	507	3,209
2012	53	23	1	-	77	1,805	401	17,255	26,627	46,088	230	281	31,889	429	32,829	875	230	2,693	381	4,179
2013	17	17	1	3	38	1,447	489	11,249	22,673	35,858	217	325	33,090	205	33,837	1,393	369	2,795	273	4,830
2014	20	11	11	46	88	1,762	370	3,340	20,915	26,387	248	476	29,076	352	30,152	1,459	438	2,763	348	5,008
2015	28	15	11	218	272	1,045	169	1,201	17,361	19,776	307	623	39,823	514	41,267	697	208	3,303	235	4,443
2016	30	33	11	142	216	893	175	447	13,002	14,517	229	590	37,877	178	38,874	955	463	2,858	159	4,435
2017	33	26	-	103	162	1,374	264	1,804	16,051	19,493	44	861	42,174	946	44,025	305	147	3,122	148	3,722
2018	33	64	-	56	153	1,186	342	3,499	16,834	21,861	3	543	36,612	974	38,132	505	100	1,912	115	2,632
2019	30	17	-	*	47	1,072	165	*	*	1,237	227	363	*	*	590	466	84	*	*	550

[§] 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 ¹	Total
1990	C	C	16,279	C	115,898	-	6,391	C	-	50,790	47,490	22,208	4,197	263,253
1991	C	-	15,011	C	115,107	-	1,731	C	-	18,751	45,345	29,687	5,625	231,257
1992	C	-	12,119	C	118,455	-	3,380	45	-	16,961	44,336	27,406	5,419	228,121
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	17,172	-	45,519	C	105,570	7,111	17,793	1,778	C	6,465	22,500	-	3,801	227,709

¹ Includes—Incluye: BLZ, BOL, CHN, GTM, HND, UNK

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 2018-2019 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 2018-2019 son preliminares.

	CHN	CRI	FRA (PYF)	JPN	KOR	MEX	PAN	TWN	USA	VUT	C + OTR ¹	Total LL	Total PS+LL	OTR ²
1990	-	-	-	29,255	4,844	-	-	534	-	-	*	34,633	297,886	3,636
1991	-	169	-	23,721	5,688	-	-	1,319	2	-	*	30,899	262,156	3,814
1992	-	119	57	15,296	2,865	-	-	306	3	-	*	18,646	246,767	5,747
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	134	530	139	10,649	256,376	3,582
2016	2,398	1,010	825	1,839	1,124	29	688	1,222	244	166	253	9,798	251,916	2,876
2017	2,907	837	1,252	1,463	1,176	10	612	1,263	531	406	18	10,475	221,456	2,688
2018	5,386	1,190	1,101	1,401	1,189	-	130	1,212	419	293	26	12,347	251,328	1,417
2019	*	*	*	*	*	*	*	*	*	*	*	*	227,709	*

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

² 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 2018-2019 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 2018-2019 son preliminares.

	PS														LL+ OTR ²
	COL	CRI	ECU	EU(ESP)	MEX	NIC	PAN	PER	SLV	USA	VEN	VUT	C+OTR ¹	Total	
1990	C	C	24,071	C	6,696	-	3,425	C	-	13,188	11,362	11,920	3,707	74,369	2,738
1991	C	-	18,438	C	10,916	-	1,720	C	-	13,162	5,217	9,051	3,724	62,228	3,662
1992	C	-	25,408	C	9,188	-	3,724	352	-	14,108	10,226	13,315	7,962	84,283	3,011
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	1,445
2016	20,665	-	190,577	C	13,286	1,971	32,844	6,449	C	40,036	9,067	-	22,666	337,561	932
2017	19,284	-	190,139	C	21,238	6,959	37,419	6,257	C	24,989	7,288	-	11,186	324,759	1,047
2018	15,365	-	177,456	C	17,014	7,759	36,504	4,119	C	11,869	6,679	-	12,056	288,821	1,590
2019	23,216	-	211,521	C	19,683	8,091	33,641	8,948	C	19,700	5,847	-	16,467	347,114	*

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

² 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 2018 and 2019.

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 2018 y 2019 son preliminares.

	COL	CRI	ECU	EU(ESP)	MEX	NIC	PAN	PER	SLV	USA	VEN	VUT	C + OTR ¹	Total
1990	-	-	1,619	C	29	-	196	-	-	209	1,405	2,082	381	5,921
1991	-	-	2,224	C	5	-	-	-	-	50	591	1,839	161	4,870
1992	-	-	1,647	C	61	-	38	*	-	3,002	184	1,397	850	7,179
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	4,169	-	39,943	C	1,001	2,629	10,918	-	C	3,398	983	-	7,503	70,544

¹ Includes—Incluye: BLZ, BOL, CHN, GTM, HND, UNK

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 2018-2019 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 2018-2019 son preliminares.

	CHN	CRI	FRA (PYF)	JPN	KOR	MEX	PAN	TWN	USA	VUT	C + OTR ¹	Total LL	Total PS + LL	OTR ²
1990	-	-	-	86,148	12,127	-	-	596	-	-	*	98,871	104,792	59
1991	-	1	-	85,011	17,883	-	-	1,291	9	-	*	104,195	109,065	56
1992	-	9	7	74,466	9,202	-	-	1,032	92	-	*	84,808	91,987	13
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	3,050	1,888	328	41,626	104,539	21
2016	7,052	3	477	10,467	7,692	-	313	6,006	2,084	762	679	35,535	92,266	22
2017	7,093	16	700	8,054	8,749	-	357	6,186	2,700	1,359	147	35,361	102,334	42
2018	6,060	14	897	6,098	6,675	-	175	5,125	2,389	1,194	145	28,772	93,295	18
2019	5,338	*	797	5,861	5,267	*	191	6,035	*	1,042	*	24,531	95,075	*

¹ Includes—Incluye: BLZ, CHL, ECU, EU(ESP), HND, SLV

² 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 2018 and 2019, 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 2018 y 2019, 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	%
2018	Retained catches–Capturas retenidas									
COL	21,855	15,365	1,449	-	-	9	11	4	38,693	6.4
ECU	57,164	177,456	40,427	-	-	506	201	23	275,777	45.9
MEX	101,651	17,014	766	2,840	-	2,482	94	42	124,889	20.8
NIC	7,552	7,759	1,519	-	8	-	-	-	16,838	2.8
PAN	22,625	36,504	11,753	-	-	-	-	1	70,883	11.8
PER	1,458	4,119	104	-	-	-	1,936	-	7,617	1.3
USA	3,808	11,869	3,354	12	-	5	167	-	19,215	3.2
VEN	19,527	6,679	1,157	-	-	-	-	-	27,363	4.6
OTR ¹	3,341	12,055	3,994	-	-	-	-	5	19,395	3.2
Total	238,981	288,820	64,523	2,852	8	3,002	2,409	75	600,670	
2019	Retained catches–Capturas retenidas									
COL	17,172	23,216	4,169	-	-	12	-	1	44,570	6.8
ECU	45,519	211,521	39,943	-	-	777	928	53	298,741	45.3
MEX	105,570	19,683	1,001	2,249	-	4,290	6,068	15	138,876	21.0
NIC	7,111	8,091	2,629	-	-	17	-	-	17,848	2.7
PAN	17,793	33,641	10,918	-	-	9	-	1	62,362	9.4
PER	1,778	8,948	-	-	-	-	36	3	10,765	1.6
USA	6,465	19,700	3,398	226	-	1	-	-	29,790	4.5
VEN	22,500	5,847	983	-	-	20	-	5	29,355	4.4
OTR ²	3,801	16,467	7,503	-	-	-	-	-	27,771	4.3
Total	227,709	347,114	70,544	2,475	-	5,126	7,032	78	660,078	

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

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

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

² 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 2018 and 2019, 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 2018 y 2019, 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	%
2018	Landings-Descargas									
COL	19,388	10,868	1,132	-	-	3	-	4	31,395	5.3
ECU	90,534	228,771	44,116	-	8	369	480	20	364,298	61.0
MEX	102,194	16,515	774	2,840	-	2,533	94	45	124,995	20.9
PER	4,675	18,934	1,652	-	-	11	2,145	1	27,418	4.6
USA	2,576	7,996	1,983	12	-	-	167	-	12,734	2.1
OTR ¹	19,476	12,983	3,872	-	-	-	-	5	36,336	6.1
Total	238,843	296,067	53,529	2,852	8	2,916	2,886	75	597,176	
2019	Landings-Descargas									
COL	7,696	10,740	1,157	-	-	1	-	-	19,594	3.1
ECU	85,028	268,476	39,988	-	-	690	930	5,020	400,132	63.8
MEX	99,850	20,577	903	2,249	-	4,287	4,733	15	132,614	21.1
PER	3,330	18,721	748	-	-	30	36	12	22,877	3.6
USA	3,195	6,158	330	269	-	-	-	-	9,952	1.6
OTR ²	19,628	16,088	6,589	-	-	3	-	-	42,308	6.8
Total	218,727	340,760	49,715	2,518	-	5,011	5,699	5,047	627,477	

¹ Includes Costa Rica, El Salvador, Guatemala and Unknown - This category is used to avoid revealing the operations of individual vessels or companies.

¹ Incluye Costa Rica, Desconocida, El Salvador y Guatemala - Se usa esta categoría para no revelar información sobre las actividades de buques o empresas individuales.

² Includes Costa Rica, El Salvador, Guatemala and Unknown - This category is used to avoid revealing the operations of individual vessels or companies.

² Incluye Costa Rica, Desconocida, El Salvador y Guatemala - 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, 1990-2018. The data for 2017 and 2018 are preliminary; 2019 data are not available.

TABLA A-5a. Capturas retenidas anuales de atún aleta azul del Pacífico, por arte de pesca y bandera, en toneladas, 1990-2018. Los datos de 2017 y 2018 son preliminares; no se dispone de datos de 2019.

PBF	Western Pacific flags—Banderas del Pacífico occidental ¹										EPO flags—Banderas del OPO					Total
	JPN				KOR		TWN			Sub-total	MEX		USA		Sub-total	
	PS	LP	LL	OTR	PS	OTR	PS	LL	OTR		PS	OTR	PS	OTR		
1990	2,989	536	309	2,421	132	-	149	189	315	7,040	50	-	1,380	157	1,587	8,627
1991	9,808	286	218	4,204	265	-	-	342	119	15,242	9	-	410	98	517	15,759
1992	7,162	166	513	3,204	288	-	73	464	8	11,878	0	-	1,928	171	2,099	13,977
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	619	2,086	676	1	-	552	26	7,613	3,082	-	86	412	3,580	11,193
2016	5,095	44	657	2,514	1,024	6	-	454	0	9,794	2,709	-	316	408	3,433	13,227
2017	4,540	86	901	3,522	734	9	-	415	0	10,207	3,643	-	466	471	4,580	14,787
2018	4,050	8	698	1,448	523	12	-	381	-	7,120	2,482	-	12	534	3,028	10,148

¹ Source: International Scientific Committee, 19th Plenary Meeting, PBFWG workshop report on Pacific Bluefin Tuna, July 2019—Fuente: Comité Científico Internacional, 19ª Reunión Plenaria, Taller PBFWG sobre Atún Aleta Azul del Pacífico, julio de 2019

TABLE A-5b. Reported catches of Pacific bluefin tuna in the EPO by recreational gear, in number of fish, 1990-2019.

TABLA A-5b. Capturas reportadas de atún aleta azul del Pacifico en el OPO por artes deportivas, en número de peces, 1990-2019.

1990	3,755	2005	5,757
1991	5,330	2006	7,473
1992	8,586	2007	1,028
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	10,414
2004	3,391	2019	16,620

TABLE A-6. Annual retained catches of albacore in the EPO, by gear and area (north and south of the equator), in metric tons, 1990-2018. The data for 2017 and 2018 are preliminary; 2019 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, 1990-2018. Los datos de 2017 y 2018 son preliminares; no se dispone de datos de 2019.

ALB	North—Norte				South—Sur				Total
	LL	LTL ¹	OTR	Subtotal	LL	LTL	OTR	Subtotal	
1990	1,143	2,610	63	3,816	5,393	1,336	305	7,034	10,850
1991	1,514	2,617	6	4,137	6,379	795	170	7,344	11,481
1992	1,635	4,770	2	6,407	15,445	1,205	18	16,668	23,075
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	2,083	15,986	935	19,004	26,873	0	221	27,094	46,098
2016	1,641	13,619	677	15,937	25,136	0	290	25,426	41,363
2017	2,512	8,870	386	11,768	23,820	0	206	24,026	35,794
2018	2,429	10,449	173	13,051	22,062	0	329	22,391	35,442

¹ 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 2018 and 2019 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 2018 y 2019 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				
DEL	Sets associated with dolphins Lances asociados a delfines					
2004	0	11,783	11,783	177,513	10,706	2
2005	0	12,173	12,173	167,224	12,321	1
2006	0	8,923	8,923	91,800	4,801	0
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	153,252	3,698	28
OBJ	Sets associated with floating objects Lances asociados a objetos flotantes					
2004	723	4,986	5,709	28,312	117,212	64,001
2005	796	4,992	5,788	25,752	132,937	66,256
2006	1,313	6,862	8,175	34,111	191,006	82,176
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	4,852	10,591	15,443	52,706	226,173	69,861

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				
NOA	Sets on unassociated schools Lances sobre cardúmenes no asociados					
2004	5,637	5,696	11,333	66,732	69,906	1,468
2005	6,922	7,816	14,738	75,125	117,971	1,638
2006	7,180	8,443	15,623	40,720	100,461	1,662
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	2,054	5,948	8,002	21,751	117,243	655
ALL	Sets on all types of schools Lances sobre todos tipos de cardumen					
2004	6,360	22,465	28,825	272,557	197,824	65,471
2005	7,718	24,981	32,699	268,101	263,229	67,895
2006	8,493	24,228	32,721	166,631	296,268	83,838
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	6,906	26,219	33,125	227,709	347,114	70,544

TABLE A-8. Types of floating objects involved in sets by vessels of >363 t carrying capacity, 2004-2019. The 2019 data are preliminary.

TABLA A-8. Tipos de objetos flotantes sobre los que realizaron lances buques de >363 t de capacidad de acarreo, 2004-2019. Los datos de 2019 son preliminares.

OBJ	Flotsam Naturales		FADs Plantados		Unknown Desconocido		Total
	No.	%	No.	%	No.	%	
2004	586	11.8	4,370	87.6	30	0.6	4,986
2005	603	12.1	4,281	85.8	108	2.2	4,992
2006	697	10.2	6,123	89.2	42	0.6	6,862
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	184	1.7	10,404	98.2	3	< 0.1	10,591

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.

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.

LL	CHN		JPN		KOR		FRA(PYF)		TWN		USA		OTR ¹
	E	C	E	C	E	C	E	C	E	C	E	C	C
1990	-	-	178,414	117,923	47,167	17,415	-	-	12,543	4,755	-	-	-
1991	-	-	200,365	112,337	65,024	24,644	-	-	17,969	5,862	42	12	173
1992	-	-	191,284	93,011	45,634	13,104	199	89	33,025	14,142	325	106	128
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	3,234	10,924
2016	66,405	25,756	30,910	13,242	23,235	9,457	13,677	3,954	20,941	11,432	11,312	2,362	6,121
2017	82,461	27,341	27,930	10,612	27,540	10,604	11,641	3,425	24,164	11,811	15,266	3,266	5,357
2018	83,023	27,024	24,538	8,642	19,443	8,474	13,258	4,300	21,143	9,985	13,549	2,853	5,510

¹ 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 2018 and 2019 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 2018 y 2019 son preliminares.

	PS		LP		Total	
	No.	Vol. (m ³)	No.	Vol. (m ³)	No.	Vol. (m ³)
1990	172	143,877	23	1,975	195	145,852
1991	152	124,062	22	1,997	174	126,059
1992	158	116,619	20	1,807	178	118,426
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

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 2018, 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 2018 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 ³)					Total	
		<401	401-800	801-1300	1301-1800	>1800	No.	Vol. (m ³)
		Number—Número						
COL	PS	2	2	7	3	-	14	14,860
ECU	PS	38	31	22	10	12	113	91,658
EU(ESP)	PS	-	-	-	-	2	2	4,120
MEX	PS	5	4	21	23	-	53	62,659
NIC	PS	-	-	3	2	1	6	9,066
PAN	PS	-	2	5	5	4	16	22,361
PER	PS	5	4	-	-	-	9	4,175
SLV	PS	-	-	-	1	2	3	6,202
USA	PS	14	-	3	8	6	31	28,201
VEN	PS	-	-	6	6	2	14	20,364
Grand total— Total general	PS	64	43	67	58	29	261	
Well volume—Volumen de bodega (m³)								
Grand total— Total general	PS	15,930	26,297	73,246	88,505	59,688		263,666

- : 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 2019, 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 2019, 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 ³)					Total	
		<401	401-800	801-1300	1301-1800	>1800	No.	Vol. (m ³)
		Number—Número						
COL	PS	2	2	7	3	-	14	14,860
ECU	PS	38	33	22	9	12	114	91,057
EU(ESP)	PS	-	-	-	-	2	2	4,120
MEX	PS	5	2	21	23	-	51	61,146
NIC	PS	-	-	3	2	1	6	9,066
PAN	PS	-	2	5	6	4	17	23,719
PER	PS	6	5	-	-	-	11	4,767
SLV	PS	-	-	-	1	2	3	6,202
USA	PS	11	-	3	9	6	29	30,367
VEN	PS	-	-	7	6	1	14	19,781
Grand total— Total general	PS	62	44	68	59	28	261	
Well volume—Volumen de bodega (m ³)								
Grand total— Total general	PS	16,015	26,070	75,928	88,886	58,186		265,085

- : 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 2009-2018 and in 2019, 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 2009-2018 y en 2019, por mes.

Month Mes	2009-2018			2019
	Min	Max	Ave.-Prom.	
1	86.9	129.6	101.4	105.5
2	150.7	192.3	168.2	189.9
3	135.4	189.7	159.9	184.2
4	145.9	200.8	166.2	174.0
5	139.8	196.9	163.4	189.3
6	154.9	198.6	170.2	174.7
7	154.1	200.4	169.7	172.4
8	108.0	148.7	121.5	116.9
9	105.5	142.2	119.8	108.9
10	150.7	188.9	172.3	170.2
11	102.9	140.8	124.7	102.8
12	45.9	66.4	56.8	68.2
Ave.-Prom.	123.4	166.3	141.2	146.4