

**INTER-AMERICAN TROPICAL TUNA COMMISSION  
SCIENTIFIC ADVISORY COMMITTEE**

**2<sup>ND</sup> MEETING**

La Jolla, California (USA)  
9-12 May 2011

**DOCUMENT SAC-02-04**

**THE FISHERY FOR TUNAS AND BILLFISHES IN THE  
EASTERN PACIFIC OCEAN IN 2010**

**INTRODUCTION**

This report provides a summary of the fishery for tunas in the eastern Pacific Ocean (EPO) in 2010. It is based on data available to the IATTC staff in March 2011.

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

<b>Species:</b>	<b>Fishing gears:</b>
ALB Albacore tuna ( <i>Thunnus alalunga</i> )	FPN Trap
BET Bigeye tuna ( <i>Thunnus obesus</i> )	GN Gillnet
BIL Unidentified istiophorid billfishes	HAR Harpoon
BKJ Black skipjack ( <i>Euthynnus lineatus</i> )	LL Longline
BLM Black marlin ( <i>Makaira indica</i> )	LP Pole and line
BUM Blue marlin ( <i>Makaira nigricans</i> )	LTL Troll
BZX Bonito ( <i>Sarda</i> spp.)	LX Hook and line
CAR Chondrichthyes, cartilaginous fishes nei <sup>1</sup>	OTR Other <sup>2</sup>
CGX Carangids (Carangidae)	NK Unknown
DOX Dorado ( <i>Coryphaena</i> spp.)	PS Purse seine
MLS Striped marlin ( <i>Kajikia audax</i> )	RG Recreational
MZZ Osteichthyes, marine fishes nei	TX Trawl
PBF Pacific bluefin tuna ( <i>Thunnus orientalis</i> )	<b>Ocean areas:</b>
SFA Indo-Pacific sailfish ( <i>Istiophorus platypterus</i> )	EPO Eastern Pacific Ocean
SKJ Skipjack tuna ( <i>Katsuwonus pelamis</i> )	WCPO Western and Central Pacific Ocean
SKX Unidentified elasmobranchs	<b>Set types:</b>
SSP Shortbill spearfish ( <i>Tetrapturus angustirostris</i> )	DEL Dolphin
SWO Swordfish ( <i>Xiphias gladius</i> )	NOA Unassociated school
TUN Unidentified tunas	OBJ Floating object
YFT Yellowfin tuna ( <i>Thunnus albacares</i> )	FLT: Flotsam
	FAD: Fish-aggregating device

<sup>1</sup> not elsewhere included

<sup>2</sup> Used to group known gear types

---

**Flags:**

---

**Members & cooperating non-members**

---

BLZ	Belize
CAN	Canada
CHN	China
COK	Cook Islands
COL	Colombia
CRI	Costa Rica
ECU	Ecuador
ESP	Spain
GTM	Guatemala
HND	Honduras
JPN	Japan
KOR	Republic of Korea
MEX	Mexico
NIC	Nicaragua
PAN	Panama
PER	Peru
PYF	French Polynesia
SLV	El Salvador
TWN	Chinese Taipei
USA	United States of America
VEN	Venezuela
VUT	Vanuatu

---

**Other flags**

---

BMU	Bermuda
BOL	Bolivia
CHL	Chile
COG	Congo
CYM	Cayman Islands
CYP	Cyprus
FSM	Federated States of Micronesia
LBR	Liberia
NLD	Netherlands
NZL	New Zealand
PRT	Portugal
RUS	Russia
SEN	Senegal
VCT	St. Vincent and the Grenadines
UNK	Unknown

---

## A. THE FISHERY FOR TUNAS AND BILLFISHES IN THE EASTERN PACIFIC OCEAN

1. Catches and landings of tunas, billfishes, and associated species.....	3
1.1. Catches by species.....	4
1.2. Distributions of the catches of tunas.....	7
1.3. Size compositions of the catches of tunas .....	7
1.4. Catches of tunas and bonitos, by flag and gear.....	9
2. Fishing effort.....	9
2.1. Purse seine .....	9
2.2. Longline .....	10
3. The fleets.....	10
3.1. The purse-seine and pole-and-line fleets .....	10
3.2. Other fleets of the EPO .....	11

This section summarizes the fisheries for species covered by the IATTC Convention (tunas and other fishes caught by tuna-fishing vessels) in the eastern Pacific Ocean (EPO). The most important of these are the scombrids (Family Scombridae), which include tunas, bonitos, seerfishes, and mackerels. The principal species of tunas caught are yellowfin, skipjack, bigeye, and albacore, with lesser catches of Pacific bluefin, black skipjack, and frigate and bullet tunas; other scombrids, such as bonitos and wahoo, are also caught.

This section also covers other species caught by tuna-fishing vessels in the EPO: billfishes (swordfish, marlins, shortbill spearfish, and sailfish) carangids (yellowtail, rainbow runner, and jack mackerel), dorado, elasmobranchs (sharks, rays, and skates), and other fishes.

Most of the catches are made by the purse-seine and longline fleets; the pole-and-line fleet and various artisanal and recreational fisheries account for a small percentage of the total catches.

Detailed data are available for the purse-seine and pole-and-line fisheries; the data for the longline, artisanal, and recreational fisheries are incomplete.

The IATTC [Regional Vessel Register](#) contains details of vessels authorized to fish for tunas in the EPO. The IATTC has detailed records of most of the purse-seine and pole-and-line vessels that fish for yellowfin, skipjack, bigeye, and/or Pacific bluefin tuna in the EPO. The Register is incomplete for small vessels. It contains records for most large (overall length >24 m) longline vessels that fish in the EPO and in other areas.

The data in this report are derived from various sources, including vessel logbooks, observer data, unloading records provided by canners and other processors, export and import records, reports from governments and other entities, and estimates derived from the species and size composition sampling program.

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

Estimating the total catch of a species of fish is difficult, for various reasons. Some fish are discarded at sea, and the data for some gear types are incomplete. Data for fish discarded at sea by purse-seine vessels with carrying capacities greater than 363 metric tons (t) have been collected by observers since 1993, which allows for better estimation of the total amounts of fish caught by the purse-seine fleet. Estimates of the total amount of the catch that is landed (hereafter referred to as the retained catch) are based principally on data from unloadings. Beginning with [Fishery Status Report 3](#), which reports on the fishery in 2004, the unloading data for purse-seine and pole-and-line vessels have been adjusted, based on the species composition estimates for yellowfin, skipjack, and bigeye tunas. The current species composition sampling program, described in Section 1.3.1, began in 2000, so the catch data for 2000-2010 are adjusted, based on estimates by flag for each year. The catch data for the previous years were adjusted by applying the average ratio by species from the 2000-2004 estimates, by flag, and summing over all flags. This has tended to increase the estimated catches of bigeye and decrease those of yellowfin

and/or skipjack. These adjustments are all preliminary, and may be improved in the future. All of the purse-seine and pole-and-line data for 2010 are preliminary.

Data on the retained catches of most of the larger longline vessels are obtained from the governments of the nations that fish for tunas in the EPO. Longline vessels, particularly the larger ones, direct their effort primarily at bigeye, yellowfin, albacore, or swordfish. Data from smaller longliners, artisanal vessels, and other vessels that fish for tunas, billfishes, dorado, and sharks in the EPO were gathered either directly from the governments, from logbooks, or from reports published by the governments. Data for the western and central Pacific Ocean (WCPO) were provided by the Ocean Fisheries Programme of the Secretariat of the Pacific Community (SPC). All data for catches in the EPO by longlines and other gears for 2009 and 2010 are preliminary.

The data from all of the above sources are compiled in a database by the IATTC staff and summarized in this report. In recent years, the IATTC staff has increased its effort toward compiling data on the catches of tunas, billfishes, and other species caught by other gear types, such as trollers, harpooners, gillnetters, and recreational vessels. The estimated total catches from all sources mentioned above of 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 1981-2010 are shown in Table A-2a-c. The catches of yellowfin, bigeye, and skipjack tunas, by gear and flag, during 1981-2010 are shown in Tables A-3a-e, and the purse-seine and pole-and-line catches of tunas and bonitos during 2009-2010 are summarized by flag in Table A-4. There were no restrictions on fishing for tunas in the EPO during 1988-1997, but the catches of most species have been affected by restrictions on fishing during some or all of the last six months of 1998-2010. Furthermore, regulations placed on purse-seine vessels directing their effort at tunas associated with dolphins have affected the way these vessels operate, especially since the late 1980s, as discussed in Section 4.

The catches have also been affected by climate perturbations, such as the major El Niño events that occurred during 1982-1983 and 1997-1998. These events made the fish less vulnerable to capture by purse seiners due to the greater depth of the thermocline, but had no apparent effect on the longline catches. Yellowfin recruitment tends to be greater after an El Niño event.

## **1.1. Catches by species**

### **1.1.1. Yellowfin tuna**

The annual catches of yellowfin during 1981-2010 are shown in Table A-1. Overall, the catches in both the EPO and WCPO have increased during this period. In the EPO, the El Niño event of 1982-1983 led to a reduction in the catches in those years, whereas the catches in the WCPO were apparently not affected. Although the El Niño episode of 1997-1998 was greater in scope, it did not have the same effect on the yellowfin catches in the EPO. The catch of yellowfin in the EPO, in 2002, 443 thousand t, was the greatest on record, but during 2004-2009 it decreased substantially, and the catch during 2010, 256 thousand t, was greater than the catches during 2006-2009, but less than the catches during 1996-2005. In the WCPO, the catches of yellowfin reached 341 thousand t in 1990, peaked at 425 thousand t in 1998, and remained high through 2001 (383 thousand t); increased to 417 thousand t in 2003, and fell to 384 thousand t in 2004, increased to 548 thousand t in 2008, and fell again in 2009, to 430 thousand t.

The annual retained catches of yellowfin in the EPO by purse-seine and pole-and-line vessels during 1981-2010 are shown in Table A-2a. The average annual retained catch during 1995-2009 was 267 thousand t (range: 167 to 413 thousand t). The preliminary estimate of the retained catch in 2010, 251 thousand t, was 6% greater than that of 2009, but 6% less than the average for 1995-2009. The average amount of yellowfin discarded at sea during 1995-2009 was about 2% of the total purse-seine catch (retained catch plus discards) of yellowfin (range: 1 to 3%) (Table A-2a).

The annual retained catches of yellowfin in the EPO by longliners during 1981-2010 are shown in Table A-2a. During 1995-2009 they remained relatively stable, averaging about 17 thousand t (range: 6 to 30 thousand t), or about 6% of the total retained catches of yellowfin. Yellowfin are also caught by recreational vessels, as incidental catch in gillnets, and by artisanal fisheries. Estimates of these catches are shown in Table A-2a, under “Other gears” (OTR); during 1995-2009 they averaged about 1 thousand t.

### **1.1.2. Skipjack tuna**

The annual catches of skipjack during 1981-2010 are shown in Table A-1. Most of the skipjack catch in the Pacific Ocean is taken in the WCPO. The greatest reported catch in the WCPO, about 1.8 million t, occurred in 2009, and the greatest total catch in the EPO, 310 thousand t, occurred in 2006.

The annual retained catches of skipjack in the EPO by purse-seine and pole-and-line vessels during 1981-2010 are shown in Table A-2a. During 1995-2009 the annual retained catch averaged 205 thousand t (range 107 to 297 thousand t). The preliminary estimate of the retained catch in 2010, 147 thousand t, is 28% less than the average for 1995-2009, and 51% less than the previous record-high retained catch of 2006. The average amount of skipjack discarded at sea during 1995-2009 was about 9% of the total catch of skipjack (range: 3 to 19%) (Table A-2a).

Small amounts of skipjack are caught with longlines and other gears (Table A-2a).

### **1.1.3. Bigeye tuna**

The annual catches of bigeye during 1981-2010 are shown in Table A-1. Overall, the catches in both the EPO and WCPO have increased, but with considerable fluctuations. The catches in the EPO reached 105 thousand t in 1986, and have fluctuated between about 73 and 148 thousand t since then, with the greatest catch in 2000. In the WCPO the catches of bigeye increased to more than 77 thousand t during the late 1970s, decreased during the 1980s, and then increased, with lesser fluctuations, until 1999, when the catches reached more than 112 thousand t. They increased significantly in 2006, to 125 thousand t, and in 2007, 2008 and 2009 they were 119, 122, and 111 thousand t, respectively.

Prior to 1994, the average annual retained catch of bigeye taken by purse-seine vessels in the EPO was about 8 thousand t (range 1 to 15 thousand t) (Table A-2a). Following the development of fish-aggregating devices (FADs), placed in the water by fishermen to aggregate tunas, the annual retained catches of bigeye increased from 35 thousand t in 1994 to between 44 and 95 thousand t during 1995-2009. A preliminary estimate of the retained catch in the EPO in 2010 is 58 thousand t. The average amount of bigeye discarded at sea during 1995-2009 was about 4% of the purse-seine catch of the species (range: 1 to 9%). Small amounts of bigeye have been caught in some years by pole-and-line vessels, as shown in Table A-2a.

During 1981-1994, prior to the increased use of FADs and the resulting greater catches of bigeye by purse-seine vessels, the longline catches of bigeye in the EPO ranged from 46 to 104 thousand t (average: 76 thousand t) about 90%, on average, of the retained catches of this species from the EPO. During 1995-2009 the annual retained catches of bigeye by the longline fisheries ranged from about 26 to 74 thousand t (average: 46 thousand t), an average of 41% of the total catch of bigeye in the EPO (Table A-2a). The preliminary estimate of the longline catch in the EPO in 2010 is 23 thousand t (Table A-2a).

Small amounts of bigeye are caught by other gears, as shown in Table A-2a.

### **1.1.4. Bluefin tuna**

The catches of Pacific bluefin in the entire Pacific Ocean, by flag and gear, are shown in Table A-5. The data, which were obtained from the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC), are reported by fishing nation or entity, regardless of the area of the Pacific Ocean in which the fish were caught.

The catches of Pacific bluefin in the EPO during 1981-2010, by gear, are shown in Table A-2a. During

1995-2009 the annual retained catch of bluefin from the EPO by purse-seine and pole-and-line vessels averaged 4,000 t (range 700 t to 10 thousand t). The preliminary estimate of the retained catch of bluefin in 2010, 7,700 t, is 3,700 t greater than the average for 1995-2009. Small amounts of bluefin are discarded at sea by purse-seine vessels (Table A-2a).

#### **1.1.5. Albacore tuna**

The catches of albacore in the entire Pacific Ocean, by gear and area (north and south of the equator) are shown in Table A-6a-b. The catches of albacore in the EPO, by gear, are shown in Table A-2a. A significant portion of the albacore catch is taken by troll gear, included under “Other gears” (OTR) in Table A-2a. The catch data were obtained from IATTC data for the EPO and from data compiled by the SPC for the WCPO.

#### **1.1.6. Other tunas and tuna-like species**

While yellowfin, skipjack, and bigeye tunas comprise the most significant portion of the retained catches of the purse-seine and pole-and-line fleets in the EPO, other tunas and tuna-like species, such as black skipjack, bonito, wahoo, and frigate and bullet tunas, contribute to the overall harvest in this area. The estimated annual retained and discarded catches of these species during 1981-2010 are presented in Table A-2a. The catches reported in the unidentified tunas category (TUN) in Table A-2a contain some catches reported by species (frigate or bullet tunas) along with the unidentified tunas. The total retained catch of these other species by these fisheries was about 6 thousand t in 2010, which is greater than the 1995-2009 annual average retained catch of about 5 thousand t (range: 1 thousand t 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.

#### **1.1.7. Billfishes**

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

In general, dolphins, sea turtles, whale sharks, and small fish are the only animals captured in the purse-seine fishery that are released alive. In previous versions of this report, all billfishes caught in that fishery were classified as discarded dead. When most of the individuals of species caught incidentally are discarded, the difference between catches and discards is not significant for those species, but as the rate of retention of species formerly discarded increases, part of the bycatch becomes catch, and the distinction becomes important. As a result of a review in 2010, this has been clarified in Table A-2b with the addition of a column for retained catch next to the column for discards.

Swordfish are caught in the EPO with large-scale and artisanal longline gear, gillnets, harpoons, and occasionally with recreational gear. The average annual longline catch of swordfish during 1995-2009 was 11 thousand t, but during 2001-2004 was about 17 thousand t. It is not clear whether this is due to increased abundance of swordfish or increased effort directed toward that species.

Other billfishes are caught with large-scale and artisanal longline gear and recreational gear. The average annual longline catches of blue marlin and striped marlin during 1995-2009 were about 4 thousand and 2 thousand t, respectively. Smaller amounts of other billfishes are taken by longline.

Unfortunately, little information is available on the recreational catches of billfishes, but they are believed to be substantially less than the commercial catches for all species.

Small amounts of billfishes are caught by purse seiners, some are retained, and others are considered to be discarded although some may be landed but not reported. These data are also included in Table A-2b.

#### **1.1.8. Other species**

Data on the catches and discards of carangids (yellowtail, rainbow runner, and jack mackerel), dorado, elasmobranchs (sharks, rays, and skates), and other fishes caught in the EPO are shown in Table A-2c.

Bycatches of other species in the purse-seine fishery are reported in Table A-2c as either retained or discarded. A revision was made to the allocation of catches into those categories as a result of a review in 2010.

Dorado are unloaded mainly in ports in South and Central America. Although the catches are greater than 10 thousand t in some years, the gear types used are often not reported.

## **1.2. Distributions of the catches of tunas**

### **1.2.1. Purse-seine catches**

The average annual distributions of the purse-seine catches of yellowfin, skipjack, and bigeye, by set type, in the EPO during 2005-2009, are shown in Figures A-1a, A-2a, and A-3a, and preliminary estimates for 2010 are shown in Figures A-1b, A-2b, and A-3b. Catches of yellowfin on dolphins were greater in the inshore areas off southern Mexico and Central America, and in the inshore areas off Baja California. Yellowfin catches in floating object and unassociated school sets were somewhat smaller in the inshore areas south of 10°S. In 2010 catches on unassociated schools of skipjack were somewhat smaller in the areas north of 10°N and in the inshore areas off Ecuador and Peru, compared to the average annual distributions for 2005-2009. Somewhat greater catches of skipjack were observed in floating-object sets in the offshore equatorial area from about 130°W to 150°W. The catches of bigeye in 2010 were very similar to the average annual distribution of catches during 2005-2009, with slightly higher catches observed in the offshore equatorial area from about 140°W to 150°W. Catches of bigeye were smaller in the equatorial area from 90°W to 110°W.

Bigeye are not often caught north of about 7°N, and the catches of bigeye have decreased in the inshore areas off South America for several years. With the development of the fishery for tunas associated with FADs, the relative importance of the inshore areas has decreased, while that of the offshore areas has increased. Most of the bigeye catches are taken in sets on FADs between 5°N and 5°S.

### **1.2.2. Longline catches**

Data on the spatial and temporal distributions of the catches in the EPO by the distant-water longline fleets of China, Chinese Taipei, French Polynesia, Japan, the Republic of Korea, Spain, the United States, and Vanuatu are maintained in databases of the IATTC. 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 tunas in the Pacific Ocean by Japanese, Korean, and Chinese Taipei longline vessels during 2005-2009 are shown in Figure A-4. Data for the Japanese longline fishery in the EPO during 1956-2003 are available in IATTC Bulletins describing that fishery.

## **1.3. Size compositions of the catches of tunas**

### **1.3.1. 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, including the integrated modeling that the staff has employed during the last several years. The results of such studies have been described in several IATTC Bulletins, in its Annual Reports for 1954-2002, and in its Stock Assessment Reports.

Length-frequency samples of yellowfin, skipjack, bigeye, Pacific bluefin, and, occasionally, black skipjack from the catches of purse-seine, pole-and-line, and recreational vessels in the EPO are collected by IATTC personnel at ports of landing in Ecuador, Mexico, Panama, the USA, and Venezuela. The catches of yellowfin and skipjack were first sampled in 1954, bluefin in 1973, and bigeye in 1975. Sampling has continued to the present.

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](#). Briefly, the fish in a well of a purse-seine or pole-and-line vessel are selected for sampling only if all the fish in the well were caught during the same calendar

month, in the same type of set (floating-object, unassociated school, or dolphin), and in the same sampling area. These data are then categorized by fishery (Figure A-5), based on the staff's most recent stock assessments.

Data for fish caught during the 2005-2010 period are presented in this report. Two sets of length-frequency histograms are presented for each species, except bluefin and black skipjack; the first shows the data by stratum (gear type, set type, and area) for 2010, and the second shows the combined data for each year of the 2005-2010 period. For bluefin, the histograms show the 2005-2010 catches by commercial and recreational gear combined. For black skipjack, the histograms show the 2005-2010 catches by commercial gear. Only a small amount of catch was taken by pole-and-line vessels in 2010, and no samples were obtained from these vessels.

For stock assessments of yellowfin, nine purse-seine fisheries (four associated with floating objects, three associated with dolphins, and two unassociated) and one pole-and-line fishery are defined (Figure A-5). The last fishery includes all 13 sampling areas. Of the 723 wells sampled, 555 contained yellowfin. The estimated size compositions of the fish caught during 2010 are shown in Figure A-6a. The majority of the yellowfin catch was taken in sets associated with dolphins and in unassociated sets. Most of the larger yellowfin (>100 cm) were caught throughout the year in the Inshore dolphin fishery, during the second, and third quarters in the Northern dolphin-associated area, and during the first and second quarters in the Southern dolphin-associated fishery. Larger yellowfin were also caught primarily in the first and second quarters in the Southern unassociated fishery. Small amounts of yellowfin were taken in all of the floating-object fisheries primarily in the first, second and fourth quarters.

The estimated size compositions of the yellowfin caught by all fisheries combined during 2005-2010 are shown in Figure A-6b. The average weights of the yellowfin caught in 2010 (9.0 kg) were considerably less than those of 2009 (15.1 kg).

For stock assessments of skipjack, seven purse-seine fisheries (four associated with floating objects, two unassociated, one associated with dolphins) and one pole-and-line fishery are defined (Figure A-5). The last two fisheries include all 13 sampling areas. Of the 723 wells sampled, 326 contained skipjack. The estimated size compositions of the fish caught during 2010 are shown in Figure A-7a. Large amounts of skipjack in the 40- to 50-cm size range were caught in the Northern, Equatorial, and Southern floating-object fisheries throughout the year, and in the Inshore floating-object fishery during the first and second quarters. Larger skipjack in the 60- to 70-cm size range were caught primarily in the Southern unassociated fishery during the first, second and third quarters, in the Equatorial floating-object fishery during the first, third and fourth quarters, and in the Southern floating-object fishery during the second and third quarters.

The estimated size compositions of the skipjack caught by all fisheries combined during 2005-2010 are shown in Figure A-7b. The average weight of skipjack in 2010, (2.1 kg), was slightly greater than in 2009, (2.0 kg), but less than the average weights for the previous four years.

For stock assessments of bigeye, six purse-seine fisheries (four associated with floating objects, one unassociated, one associated with dolphins) and one pole-and-line fishery are defined (Figure A-5). The last three fisheries include all 13 sampling areas. Of the 723 wells sampled, 163 contained bigeye. The estimated size compositions of the fish caught during 2010 are shown in Figure A-8a. In 2000 the majority of the catch was taken in floating-object sets in the Equatorial area, whereas from 2001 to 2003 the majority of the bigeye catch was taken in sets on floating objects in the Southern area. In 2010, nearly equal amounts of bigeye were taken in the Northern and Southern floating-object fisheries throughout the year. Smaller bigeye in the 40- to 80-cm size range were caught throughout the year in the Northern, and Southern floating-object fishery. Larger bigeye (>100 cm.) were caught in the first, second and fourth quarters in the Southern floating-object fishery, and in the fourth quarter in the Northern floating-object fishery.

The estimated size compositions of the bigeye caught by all fisheries combined during 2005-2010 are



shown in Figure A-8b. The average weight of bigeye in 2010 (5.2 kg) was lower than during 2007-2009.

Pacific bluefin are caught by purse-seine and recreational gear off California and Baja California from about 23°N to 35°N, with most of the catch being taken during May through October. During 2010 bluefin were caught between 26°N and 32°N from June through August. The majority of the catches of bluefin by both commercial and recreational vessels were taken during July and August. Prior to 2004, the sizes of the fish in the commercial and recreational catches have been reported separately. During 2004-2010, however, small sample sizes made it infeasible to estimate the size compositions separately. Therefore, the sizes of the fish in the commercial and recreational catches of bluefin were combined for each year of the 2004-2010 period. The average weight of the fish caught during 2010 was slightly greater than that of 2009. The estimated size compositions are shown in Figure A-9.

Black skipjack are caught incidentally by fishermen who direct their effort toward yellowfin, skipjack, and bigeye tuna. The demand for this species is low, so most of the catches are discarded at sea, but small amounts, mixed with the more desirable species, are sometimes retained. Twenty-two samples of black skipjack were taken in 2010. The estimated size compositions for each year of the 2005-2010 period are shown in Figure A-10.

### **1.3.2. Longline fishery**

The estimated size compositions of the catches of yellowfin and bigeye by the Japanese longline fishery in the EPO during 2005-2009 are shown in Figures A-11 and A-12. The average weight of yellowfin in 2009 (43.5 kg) was considerably greater than those of 2008 (38.2 kg), but that of bigeye fell, from 47.1 kg in 2008 to 43.1 kg in 2009. Information on the size compositions of fish caught by the Japanese longline fishery in the EPO during 1958-2003 is available in IATTC Bulletins describing that fishery.

### **1.4. Catches of tunas and bonitos, by flag and gear**

The annual retained catches of tunas and bonitos in the EPO during 1981-2010, by flag and gear, are shown in Tables A-3a-e. These tables include all of the known catches of tunas and bonitos compiled from various sources, including vessel logbooks, observer data, unloading records provided by canners and other processors, export and import records, estimates derived from the species and size composition sampling program, reports from governments and other entities, and estimates derived from the species- and size-composition sampling program. Similar information on tunas and bonitos prior to 2001, and historical data for tunas, billfishes, sharks, carangids, dorado, and miscellaneous fishes are available on the [IATTC website](#). The purse-seine and pole-and-line catches of tunas and bonitos in 2009 and 2010, by flag, are summarized in Table A-4. Of the 471 thousand t of tunas and bonitos caught in 2010, 32% was caught by Ecuadorian vessels, and 26% by Mexican vessels. Other countries with significant catches of tunas and bonitos in the EPO included Panama (13%), Venezuela (8%), and Nicaragua (4%).

## **3. FISHING EFFORT**

### **1.5. Purse seine**

Estimates of the numbers of purse-seine sets of each type (associated with dolphins, associated with floating objects, and unassociated) in the EPO during the 1995-2010 period, and the retained catches of these sets, are shown in Table A-7 and in Figure 1. The estimates for vessels  $\leq 363$  t carrying capacity were calculated from logbook data in the IATTC statistical data base, and those for vessels  $>363$  t carrying capacity were calculated from the observer data bases of the IATTC, Colombia, Ecuador, the European Union, Mexico, Nicaragua, Panama, the United States, and Venezuela. The greatest numbers of sets associated with floating objects and unassociated sets were made from the mid-1970s to the early 1980s. Despite opposition to fishing for tunas associated with dolphins and the refusal of U.S. canners to accept tunas caught during trips during which sets were made on dolphin-associated fish, the numbers of sets associated with dolphins decreased only moderately during the mid-1990s, and in 2003 were the greatest recorded.

There are two types of floating objects, flotsam and FADs. The occurrence of the former is unplanned from the point of view of the fishermen, whereas the latter are constructed by fishermen specifically for the purpose of attracting fish. FADs have been widely used for about 15 years, and their relative importance has increased during this period, while that of flotsam has decreased, as shown by the data in Table A-8.

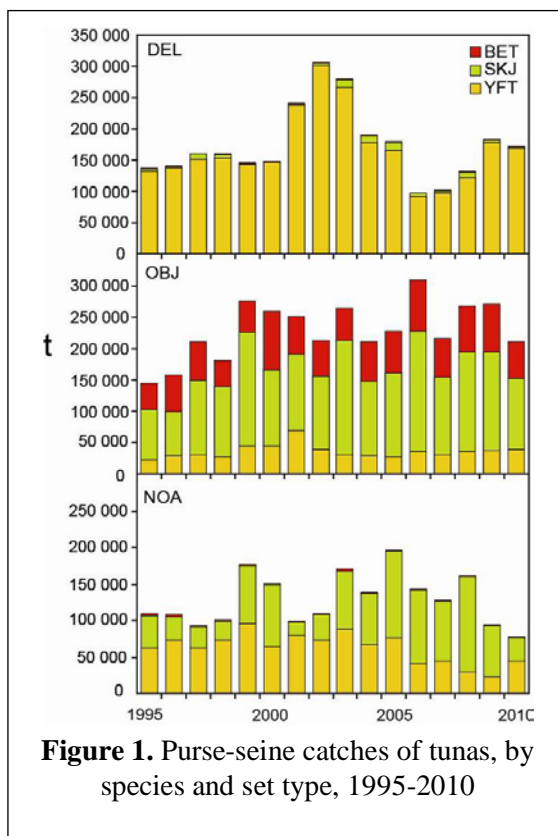
**1.6. Longline**

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. THE FLEETS**

**1.7. The purse-seine and pole-and-line fleets**

The IATTC staff maintains detailed records of gear, flag, and fish-carrying capacity for most of the vessels that fish with purse-seine or pole-and-line gear for yellowfin, skipjack, bigeye, and/or Pacific bluefin tuna in the EPO. The fleet described here includes purse-seine and pole-and-line vessels that have fished all or part of the year in the EPO for any of these four species.

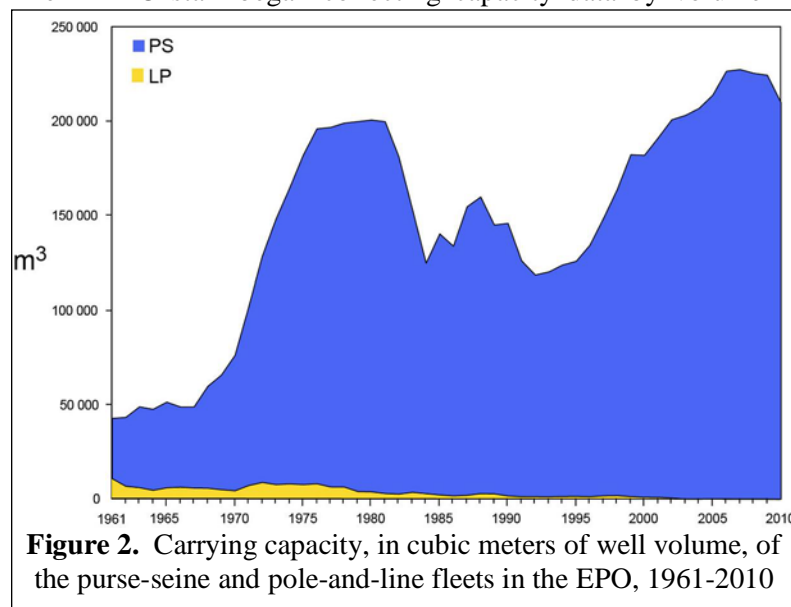


**Figure 1.** Purse-seine catches of tunas, by species and set type, 1995-2010

Historically, the owner's or builder's estimates of carrying capacities of individual vessels, in tons of fish, were used until landing records indicated that revision of these estimates was required.

Since 2000, the IATTC has used well volume, in cubic meters (m<sup>3</sup>), instead of weight, in metric tons (t), to measure the carrying capacities of the vessels. Since a well can be loaded with different densities of fish, measuring carrying capacity in weight is subjective, as a load of fish packed into a well at a higher density weighs more than a load of fish packed at a lower density. Using volume as a measure of capacity eliminates this problem.

The IATTC staff began collecting capacity data by volume in 1999, but has not yet obtained this information for all vessels.



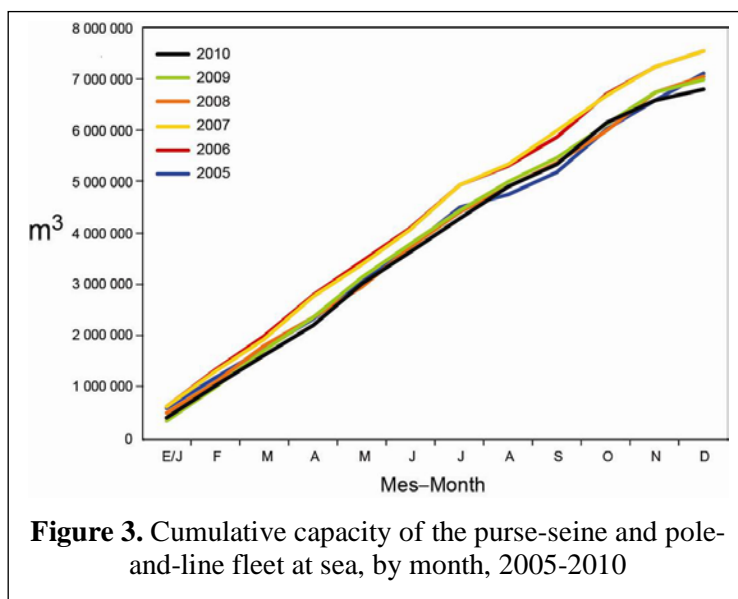
**Figure 2.** Carrying capacity, in cubic meters of well volume, of the purse-seine and pole-and-line fleets in the EPO, 1961-2010

For vessels for which reliable information on well volume is not available, the estimated capacity in metric tons was converted to cubic meters.

Until about 1960, fishing for tunas in the EPO was dominated by pole-and-line vessels operating in coastal regions and in the vicinity of offshore islands and banks. During the late 1950s and early 1960s most of the larger pole-and-line vessels were converted to purse seiners, and by 1961 the EPO fishery was dominated by these vessels. From 1961 to 2010 the number of pole-and-line vessels

decreased from 93 to 3, and their total well volume from about 11 thousand to about 255 m<sup>3</sup>. During the same period the number of purse-seine vessels increased from 125 to 200, and their total well volume from about 32 thousand to about 210 thousand m<sup>3</sup>, an average of about 1,050 m<sup>3</sup> per vessel. An earlier peak in numbers and total well volume of purse seiners occurred from the mid-1970s to the early 1980s, when the number of vessels reached 282 and the total well volume about 195 thousand m<sup>3</sup>, an average of about 700 m<sup>3</sup> per vessel (Table A-10; Figure 2).

The catch rates in the EPO were low during 1978-1981, due to concentration of fishing effort on small fish, and the situation was exacerbated by a major El Niño event, which began in mid-1982 and persisted until late 1983 and made the fish less vulnerable to capture. The total well volume of purse-seine and pole-and-line vessels then declined as vessels were deactivated or left the EPO to fish in other areas, primarily the western Pacific Ocean, and in 1984 it reached its lowest level since 1971, about 122 thousand m<sup>3</sup>. In early 1990 the U.S. tuna-canning industry adopted a policy of not purchasing tunas caught during trips during which sets on tunas associated with dolphins were made. This caused many U.S.-flag vessels to leave the EPO, with a consequent reduction in the fleet to about 117 thousand m<sup>3</sup> in 1992. With increases in participation of vessels of other nations in the fishery, the total well volume has increased steadily since 1992, and in 2010 was 210 thousand m<sup>3</sup>.



**Figure 3.** Cumulative capacity of the purse-seine and pole-and-line fleet at sea, by month, 2005-2010

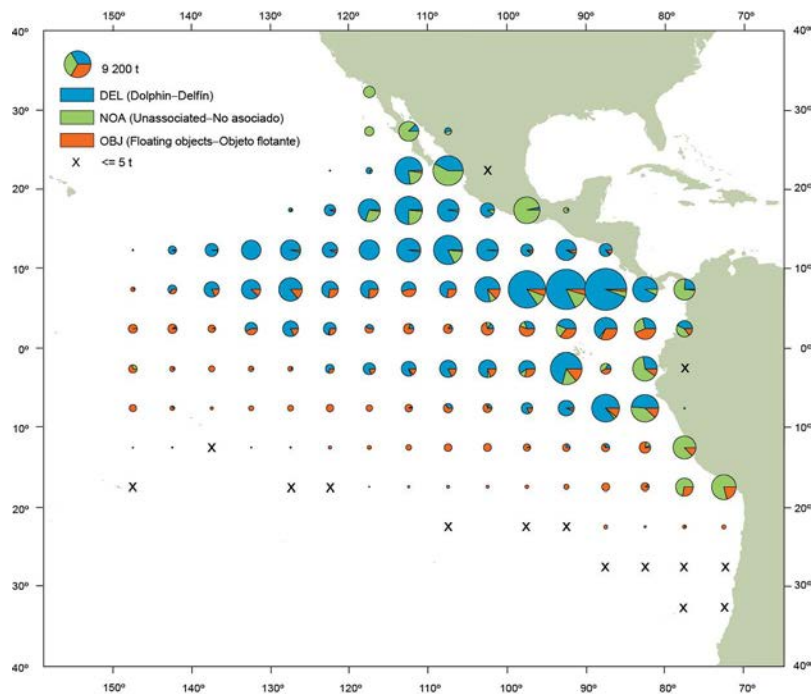
The 2009 and preliminary 2010 data for numbers and total well volumes of purse-seine and pole-and-line vessels that fished for tunas in the EPO are shown in Tables A-11a and A-11b. During 2010, the fleet was dominated by vessels operating under the Ecuadorian and Mexican flags, with about 29% and 22%, respectively, of the total well volume; they were followed by Panama (16%), Venezuela (11%), Colombia (7%), Spain (5%), El Salvador and Nicaragua (4 and 3% respectively), and Guatemala, and Vanuatu (2%).

The cumulative capacity at sea during 2010 is compared to those of the previous five years in Figure 3.

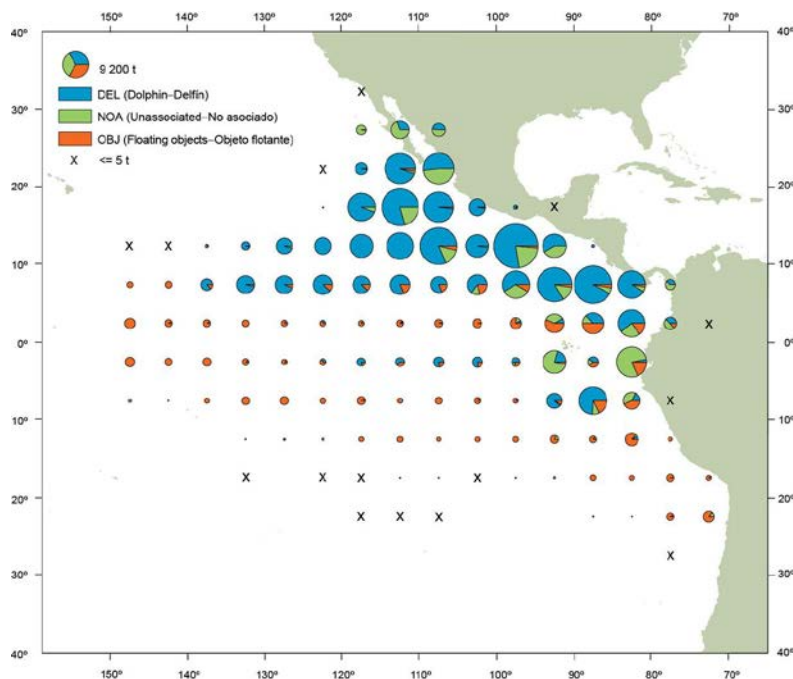
The monthly average, minimum, and maximum total well volumes at sea (VAS), in thousands of cubic meters, of purse-seine and pole-and-line vessels that fished for tunas in the EPO during 2000-2009, and the 2010 values, are shown in Table A-12. The monthly values are averages of the VAS estimated at weekly intervals by the IATTC staff. The fishery was regulated during some or all of the last four months of 1998-2010, so the VAS values for September-December 2010 are not comparable to the average VAS values for those months of 1998-2010. The average VAS values for 2000-2009 and 2010 were 129 thousand m<sup>3</sup> (61% of total capacity) and 132 thousand m<sup>3</sup> (63% of total capacity), respectively.

### 1.8. Other fleets of the EPO

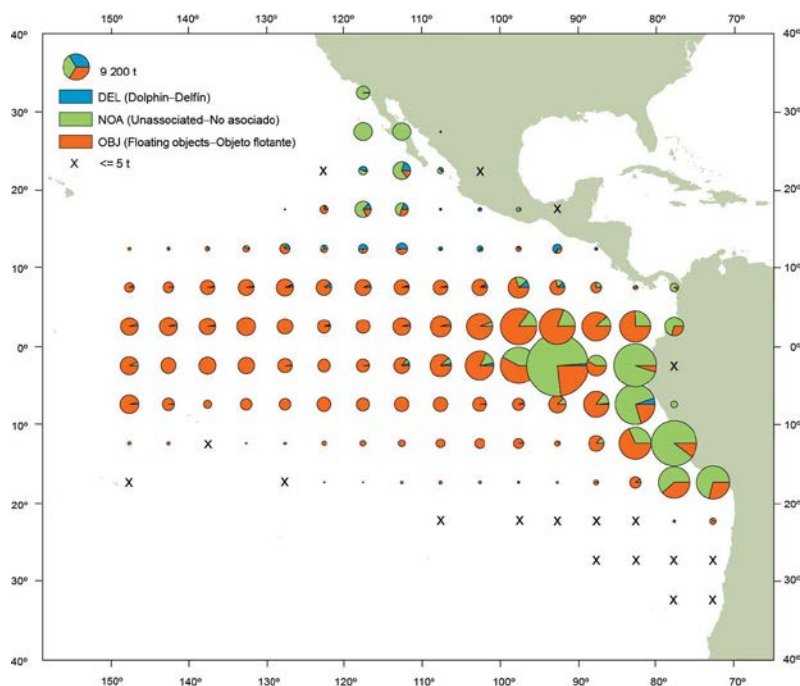
Information on other types of vessels that fish for tunas in the EPO is available on the IATTC's Regional Vessel Register, on the [IATTC web site](#). The Register is incomplete for small vessels. In some cases, particularly for large longline vessels, the Register contains information for vessels authorized to fish not only in the EPO, but also in other oceans, and which may not have fished in the EPO during 2010, or ever.



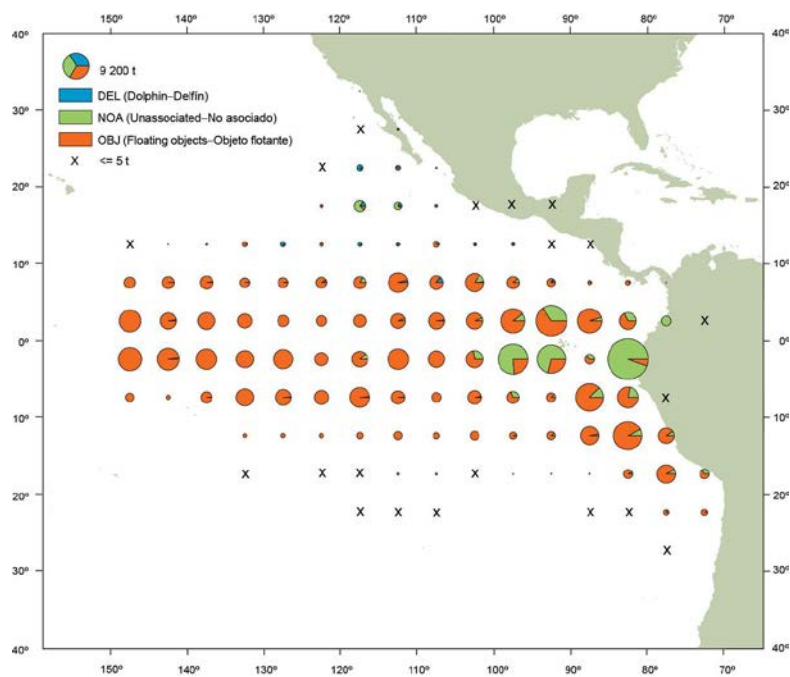
**FIGURE A-1a.** Average annual distributions of the purse-seine catches of yellowfin, by set type, 2005-2009. The sizes of the circles are proportional to the amounts of yellowfin caught in those 5° by 5° areas.  
**FIGURA A-1a.** Distribución media anual de las capturas cerqueras de aleta amarilla, por tipo de lance, 2005-2009. 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, 2010. 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, 2010. El tamaño de cada círculo es proporcional a la cantidad de aleta amarilla capturado en la cuadrícula de 5° x 5° correspondiente.

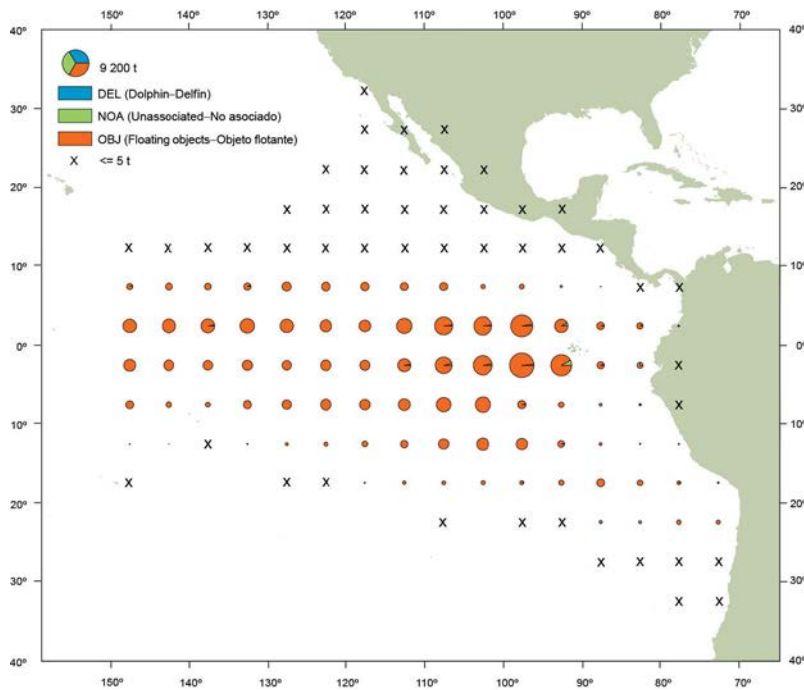


**FIGURE A-2a.** Average annual distributions of the purse-seine catches of skipjack, by set type, 2005-2009. The sizes of the circles are proportional to the amounts of skipjack caught in those 5° by 5° areas.  
**FIGURA A-2a.** Distribución media anual de las capturas cerqueras de barrilete, por tipo de lance, 2005-2009. El tamaño de cada círculo es proporcional a la cantidad de barrilete capturado en la cuadrícula de 5° x 5° correspondiente.



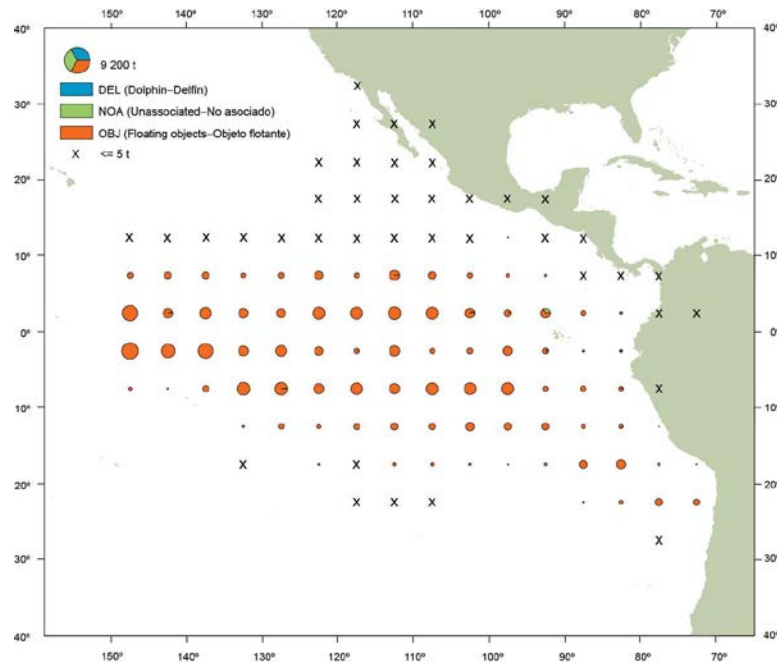
**FIGURE A-2b.** Annual distributions of the purse-seine catches of skipjack, by set type, 2010. The sizes of the circles are proportional to the amounts of skipjack caught in those 5° by 5° areas.  
**FIGURA A-2b.** Distribución anual de las capturas cerqueras de barrilete, por tipo de lance, 2010. El tamaño de cada círculo es proporcional a la cantidad de barrilete capturado en la cuadrícula de 5° x 5° correspondiente.





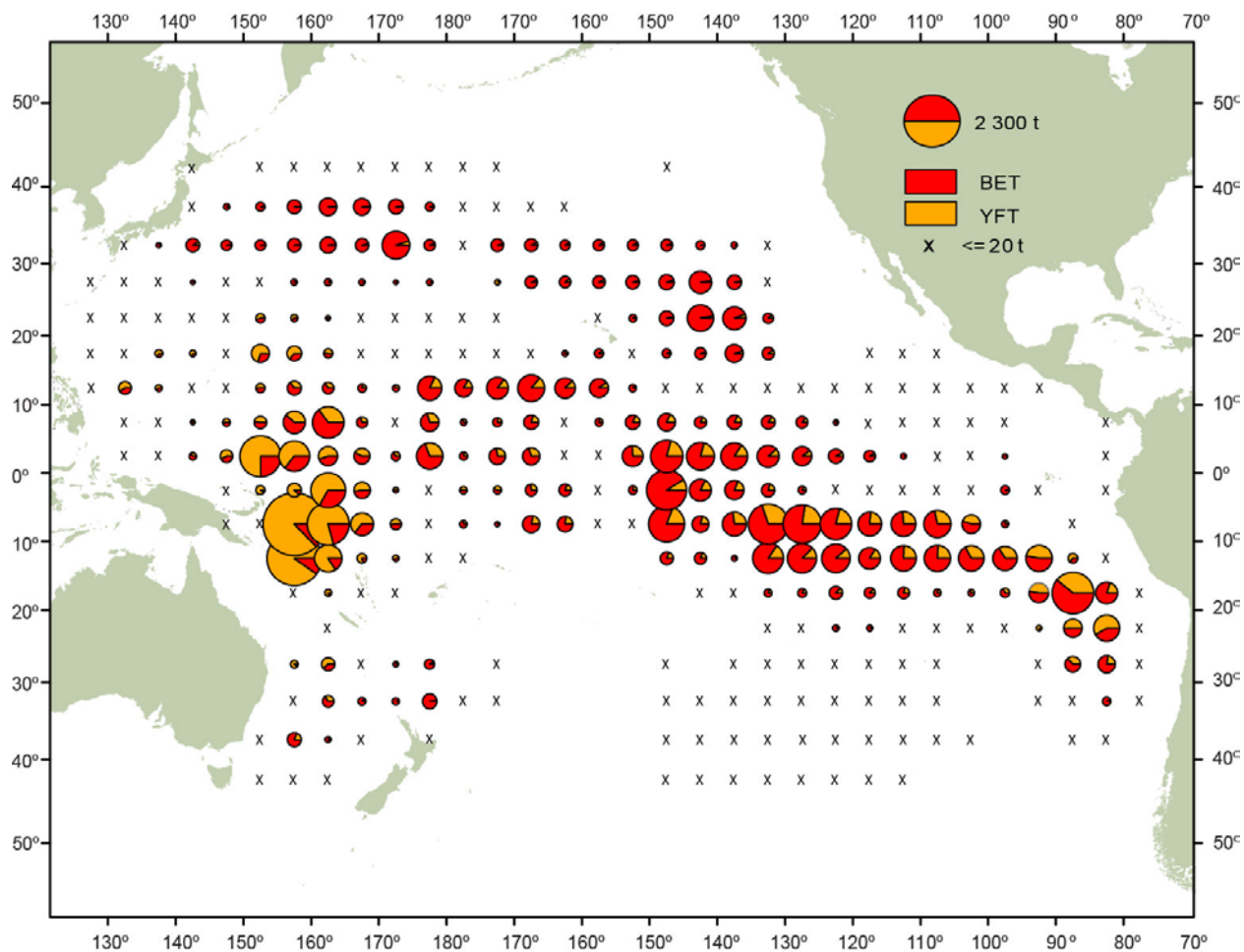
**FIGURE A-3a.** Average annual distributions of the purse-seine catches of bigeye, by set type, 2005-2009. The sizes of the circles are proportional to the amounts of bigeye caught in those 5° by 5° areas.

**FIGURA A-3a.** Distribución media anual de las capturas cerqueras de patudo, por tipo de lance, 2005-2009. El tamaño de cada círculo es proporcional a la cantidad de patudo capturado en la cuadrícula de 5° x 5° correspondiente.



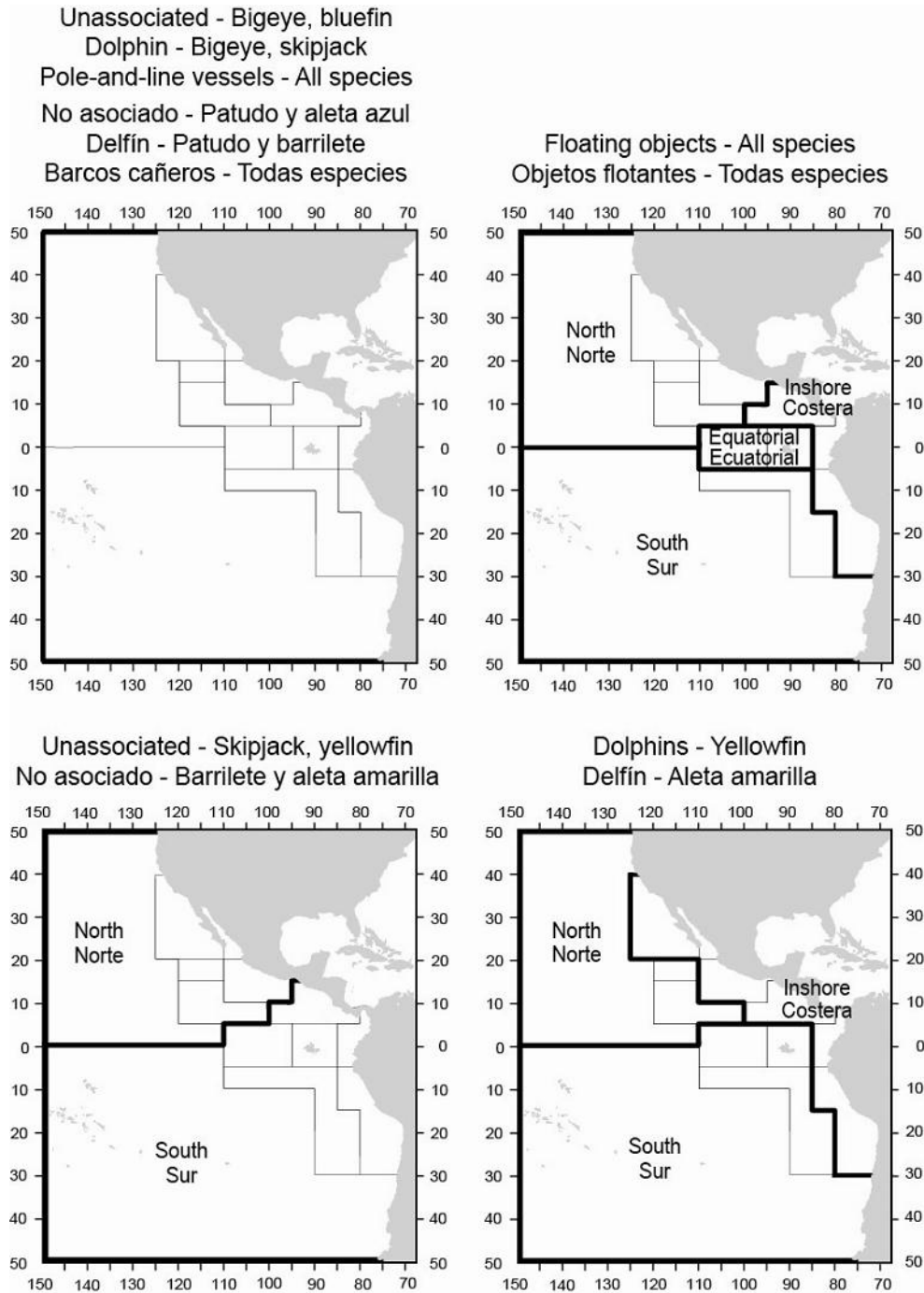
**FIGURE A-3b.** Annual distributions of the purse-seine catches of bigeye, by set type, 2010. The sizes of the circles are proportional to the amounts of bigeye caught in those 5° by 5° areas.

**FIGURA A-3b.** Distribución anual de las capturas cerqueras de patudo, por tipo de lance, 2010. 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 Taipei, Japanese and Korean longline vessels, 2005-2009. The sizes of the circles are proportional to the amounts of bigeye and yellowfin caught in those 5° by 5° areas.

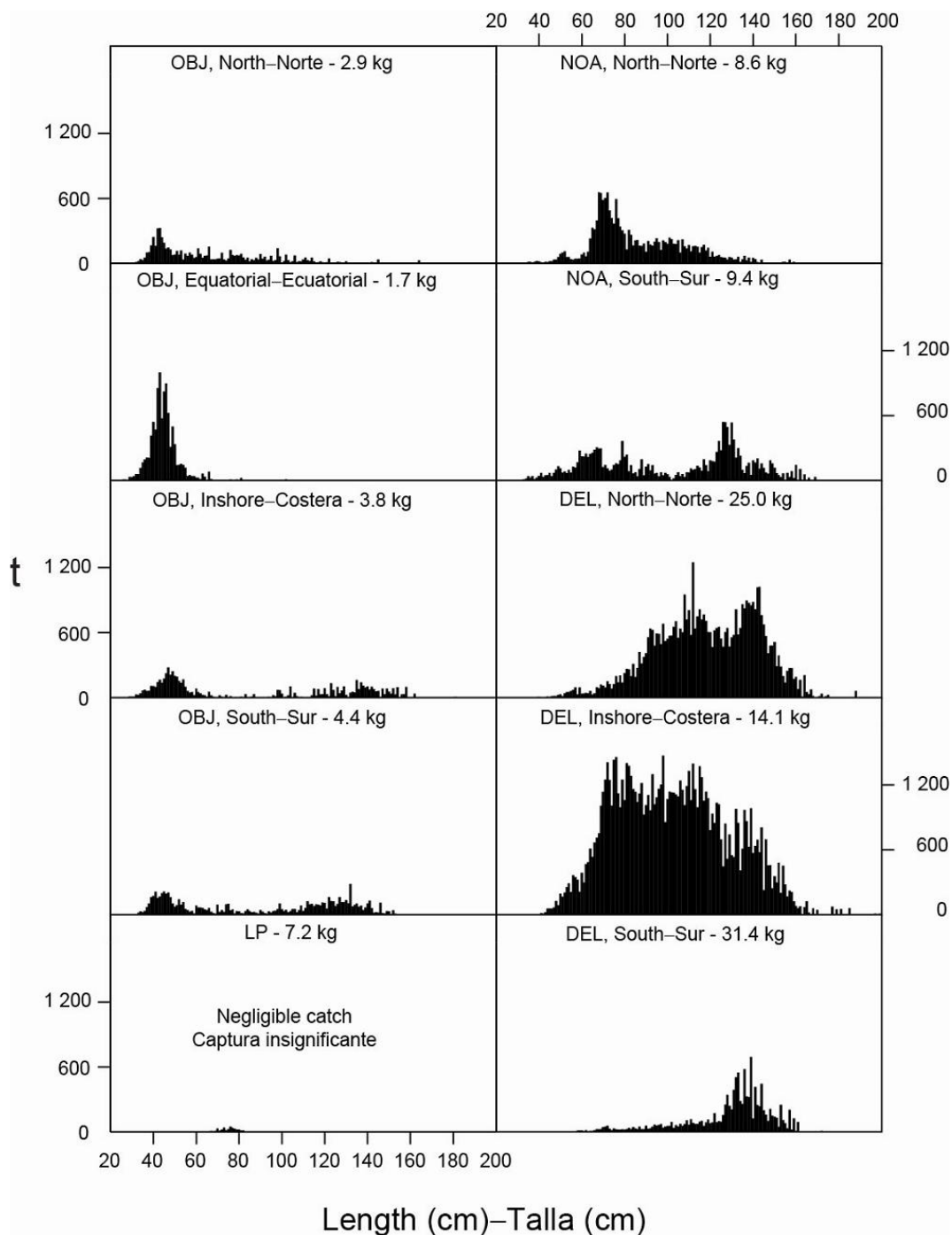
**FIGURA A-4.** Distribución de las capturas anuales medias de atunes patudo y aleta amarilla en el Océano Pacífico, en toneladas métricas, por buques palangreros de Corea, Japón y Taipei Chino 2005-2009. El tamaño de cada círculo es proporcional a la cantidad de patudo y aleta amarilla capturado en la cuadrícula de 5° x 5° correspondiente.



**FIGURE A-5.** The fisheries defined by the IATTC staff for stock assessment 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.

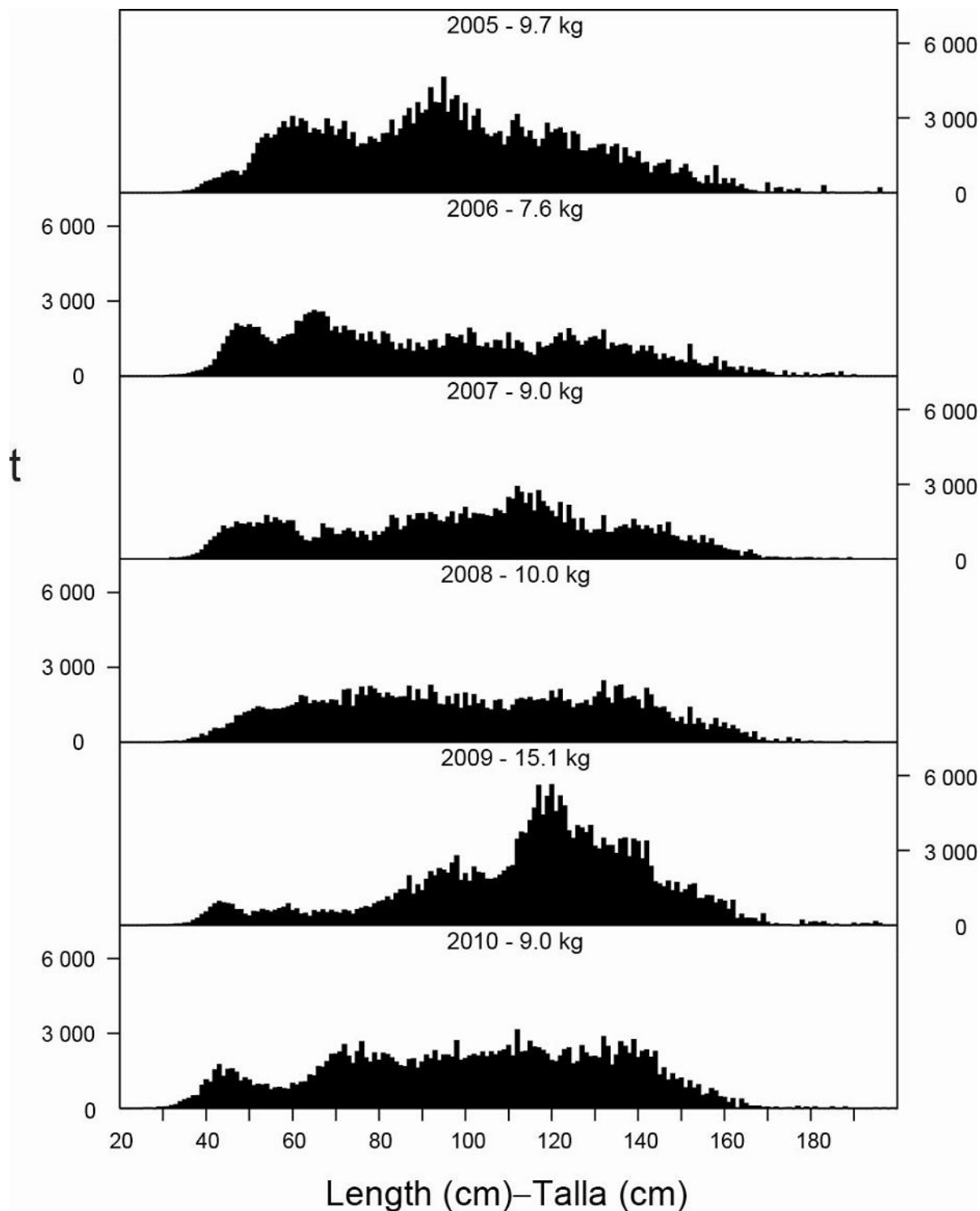
**FIGURA A-5.** Las pesquerías definidas por el personal de la CIAT para la evaluación de las poblaciones de atún aleta amarilla, barrilete, y patudo en el OPO. Las líneas delgadas indican los límites de las 13 zonas de muestreo de frecuencia de tallas, y las líneas gruesas los límites de las pesquerías.





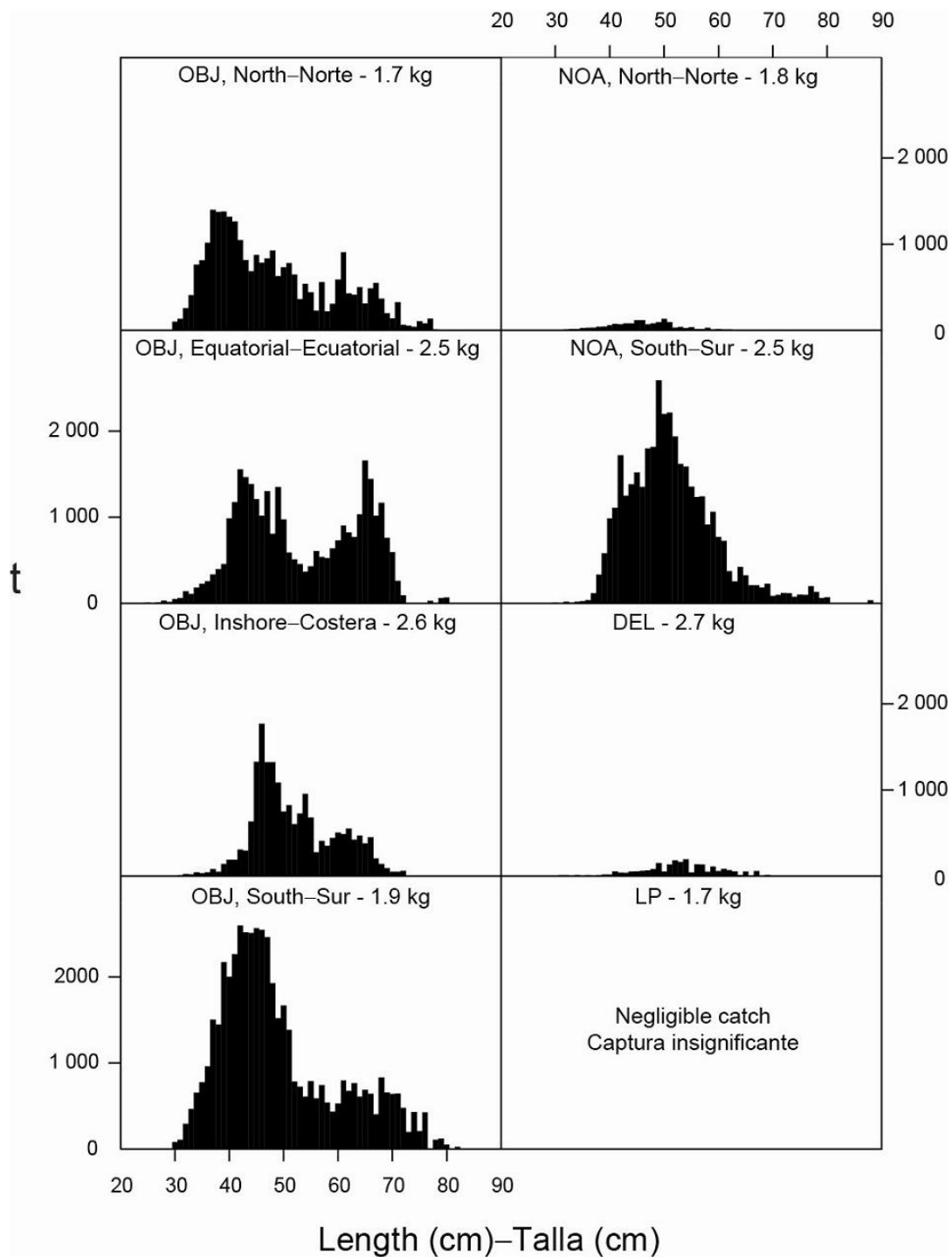
**FIGURE A-6a.** Estimated size compositions of the yellowfin caught in the EPO during 2010 for each fishery designated in Figure A-5. The average weights of the fish in the samples are given at the tops of the panels.

**FIGURA A-6a.** Composición por tallas estimada del aleta amarilla capturado en el OPO durante 2010 en cada pesquería ilustrada en la Figura A-5. En cada recuadro se detalla el peso promedio de los peces en las muestras.



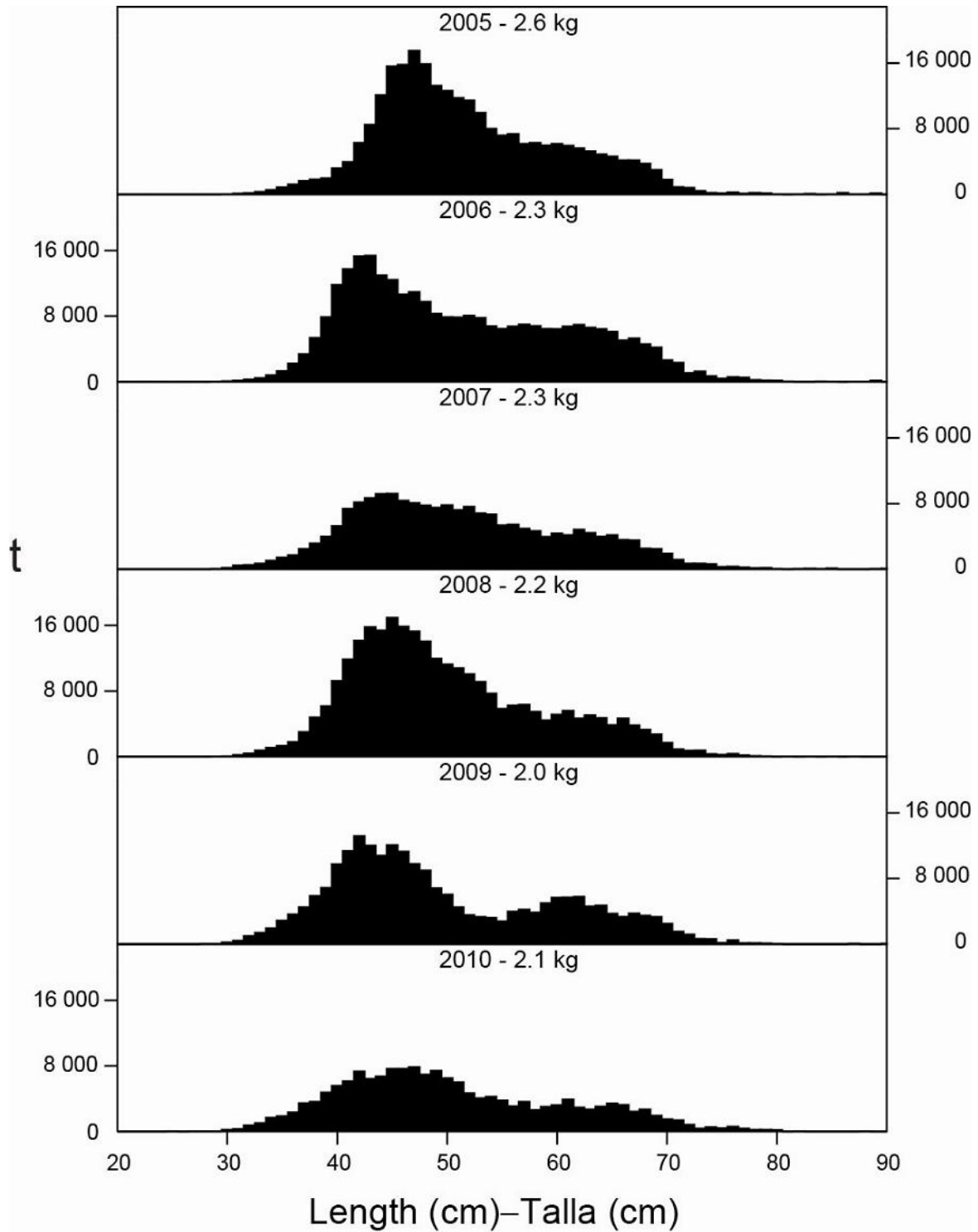
**FIGURE A-6b.** Estimated size compositions of the yellowfin caught by purse-seine and pole-and-line vessels in the EPO during 2005-2010. The average weights of the fish in the samples are given at the tops of the panels.

**FIGURA A-6b.** Composición por tallas estimada del aleta amarilla capturado por buques cerqueros y cañeros en el OPO durante 2005-2010. En cada recuadro se detalla el peso promedio de los peces en las muestras.



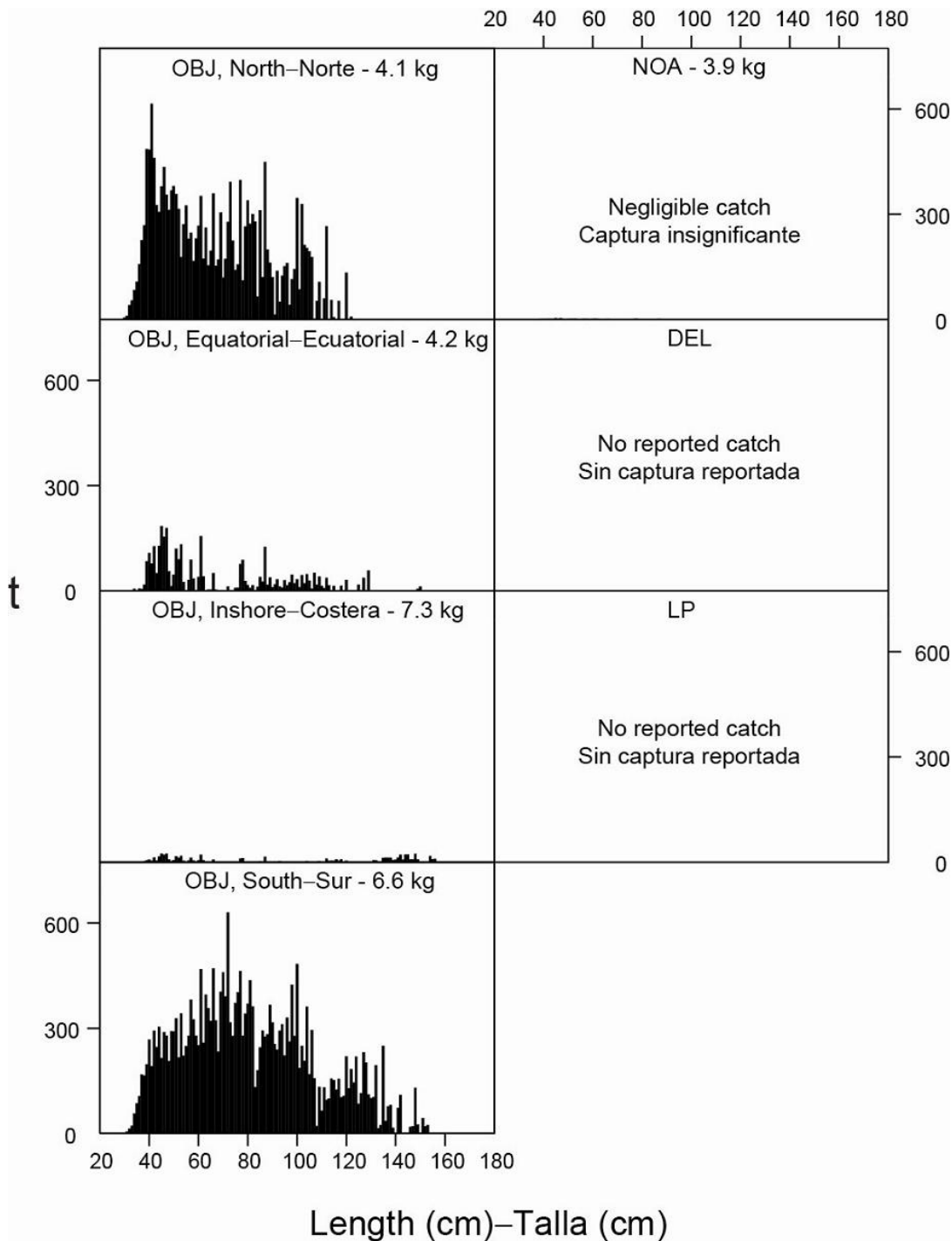
**FIGURE A-7a.** Estimated size compositions of the skipjack caught in the EPO during 2010 for each fishery designated in Figure A-5. The average weights of the fish in the samples are given at the tops of the panels.

**FIGURA A-7a.** Composición por tallas estimada del barrilete capturado en el OPO durante 2010 en cada pesquería ilustrada en la Figura A-5. En cada recuadro se detalla el peso promedio de los peces en las muestras.



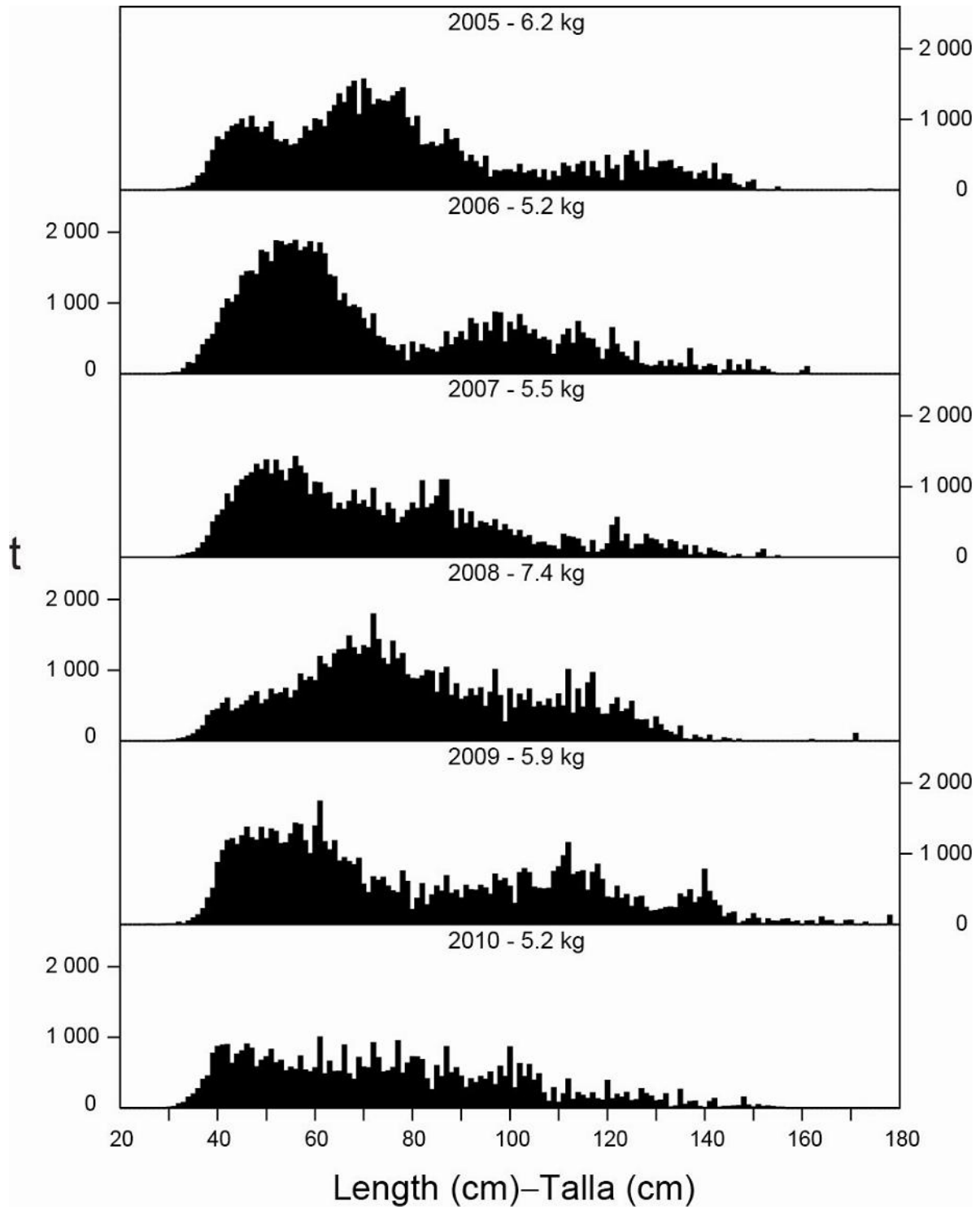
**FIGURE A-7b.** Estimated size compositions of the skipjack caught by purse-seine and pole-and-line vessels in the EPO during 2005-2010. The average weights of the fish in the samples are given at the tops of the panels.

**FIGURA A-7b.** Composición por tallas estimada del barrilete capturado por buques cerqueros y cañeros en el OPO durante 2005-2010. En cada recuadro se detalla el peso promedio de los peces en las muestras.



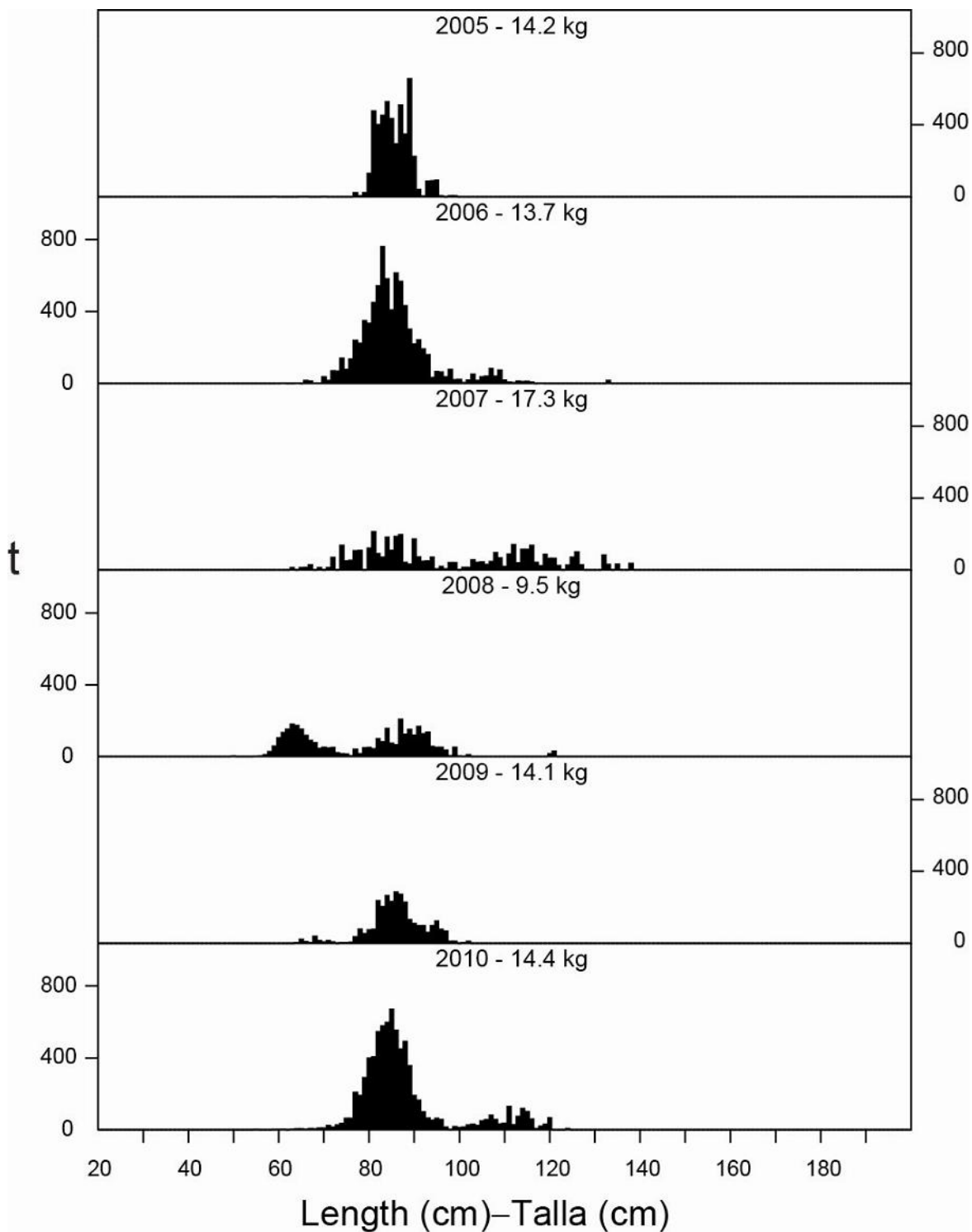
**FIGURE A-8a.** Estimated size compositions of the bigeye caught in the EPO during 2010 for each fishery designated in Figure A-5. The average weights of the fish in the samples are given at the tops of the panels.

**FIGURA A-8a.** Composición por tallas estimada del patudo capturado e en el OPO durante 2010 en cada pesquería ilustrada en la Figura A-5. En cada recuadro se detalla el peso promedio de los peces en las muestras.



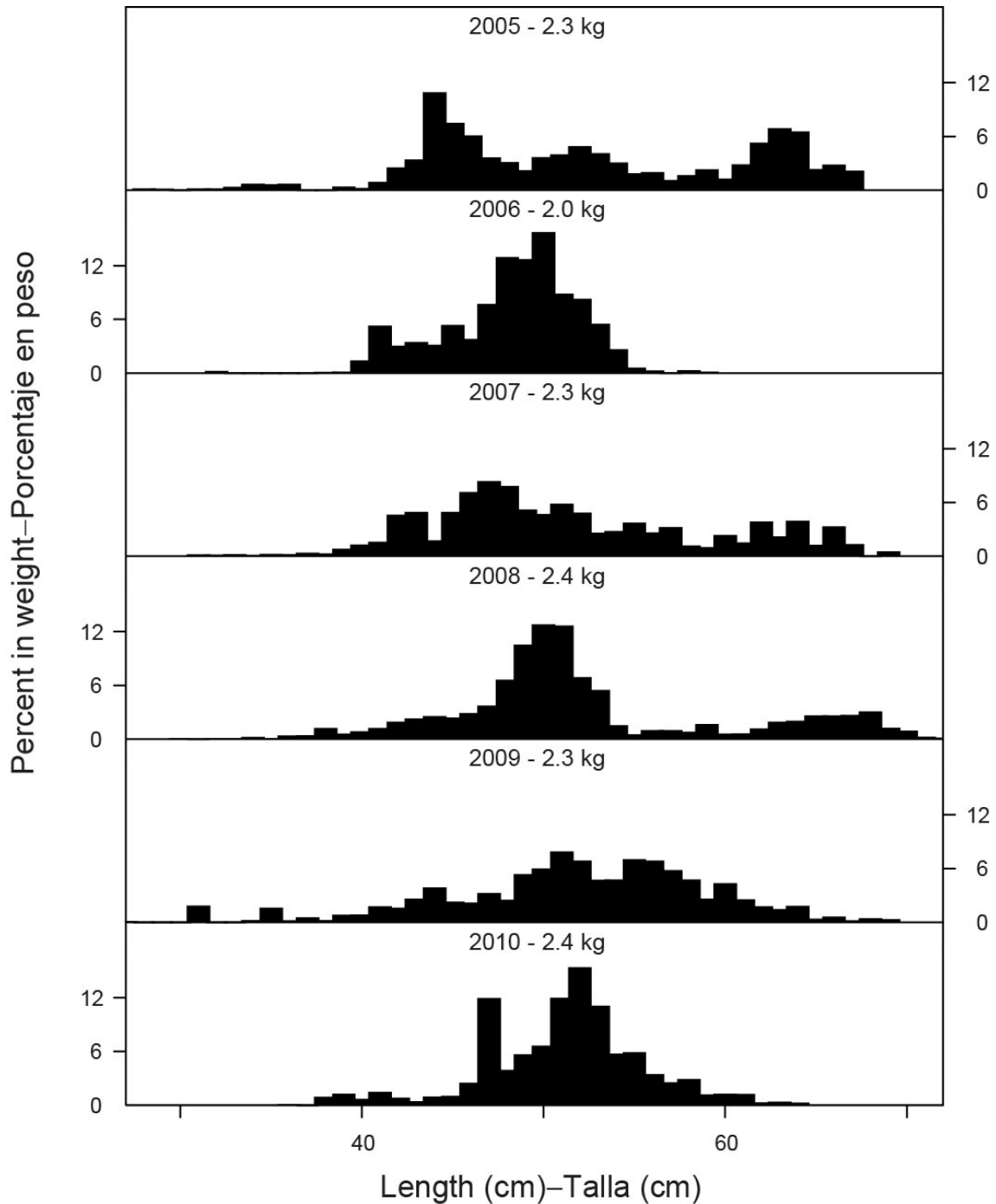
**FIGURE A-8b.** Estimated size compositions of the bigeye caught by purse-seine vessels in the EPO during 2005-2010. The average weights of the fish in the samples are given at the tops of the panels.

**FIGURA A-8b.** Composición por tallas estimada del patudo capturado por buques cerqueros en el OPO durante 2005-2010. En cada recuadro se detalla el peso promedio de los peces en las muestras.



**FIGURE A-9.** Estimated catches of Pacific bluefin by purse-seine and recreational gear in the EPO during 2005-2010. The values at the tops of the panels are the average weights.

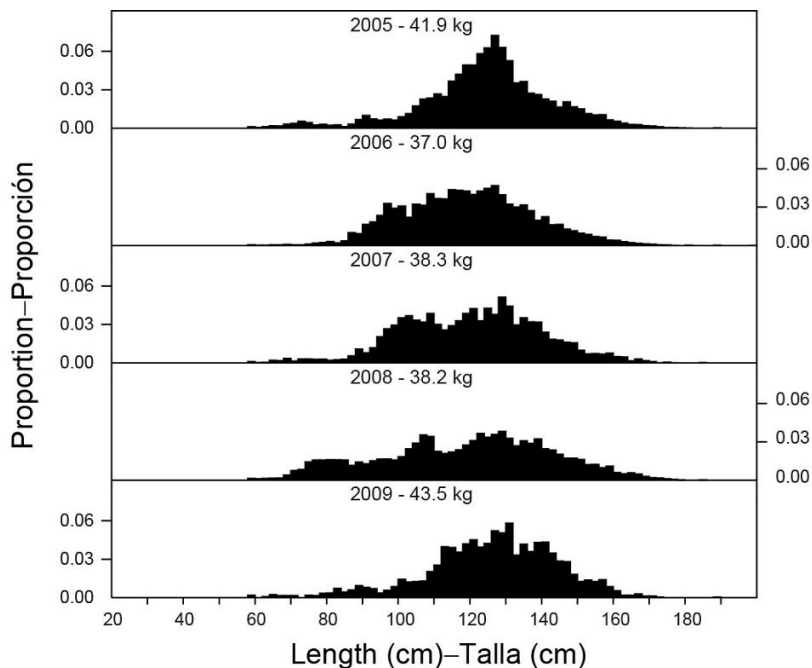
**FIGURA A-9.** Captura estimada de aleta azul del Pacífico con arte de cerco y deportiva en el OPO durante 2005-2010. El valor en cada recuadro representa el peso promedio.



**FIGURE A-10.** Estimated size compositions of the catches of black skipjack by purse-seine vessels in the EPO during 2005-2010. The values at the tops of the panels are the average weights.

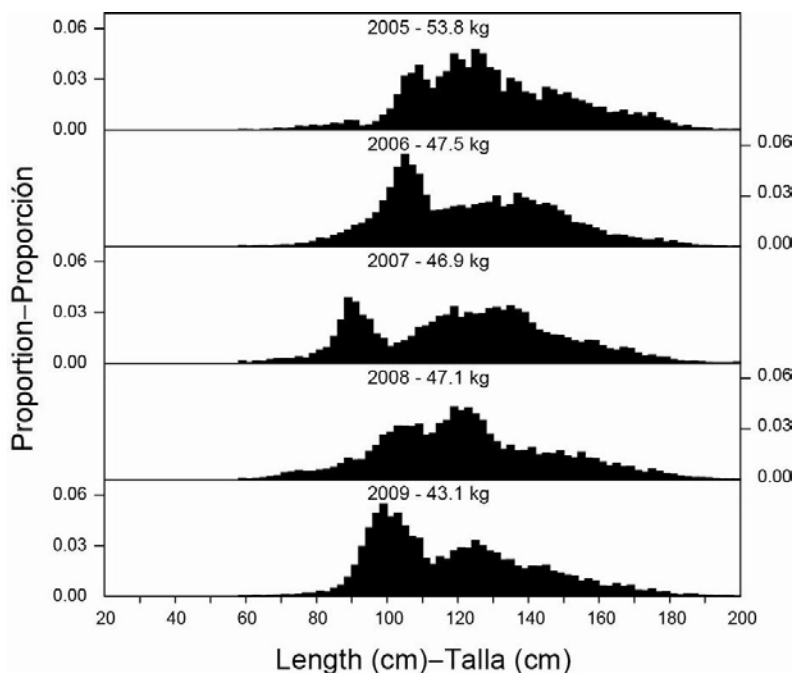
**FIGURA A-10.** Composición por tallas estimada del barrilete negro capturado por buques cerqueros en el OPO durante 2005-2010. El valor en cada recuadro representa el peso promedio.





**FIGURE A-11.** Estimated size compositions of the catches of yellowfin tuna by the Japanese longline fishery in the EPO, 2005-2009.

**FIGURA A-11.** Composición por tallas estimada de las capturas de atún aleta amarilla por la pesquería palangrera japonesa en el OPO, 2005-2009.



**FIGURE A-12.** Estimated size compositions of the catches of bigeye tuna by the Japanese longline fishery in the EPO, 2005-2009.

**FIGURA A-12.** Composición por tallas estimada de las capturas de atún patudo por la pesquería palangrera japonesa en el OPO, 2005-2009.

**TABLE A-1.** Annual catches of yellowfin, skipjack, and bigeye, by all types of gear combined, in the Pacific Ocean. The EPO totals for 1993-2010 include discards from purse-seine vessels with carrying capacities greater than 363 t.

**TABLA A-1.** Capturas anuales de aleta amarilla, barrilete, y patudo, por todas las artes combinadas, en el Océano Pacífico. Los totales del OPO de 1993-2010 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
1981	178,510	225,939	404,449	126,001	438,259	564,260	68,344	53,346	121,690	372,855	717,544	1,090,399
1982	127,534	221,064	348,598	104,669	490,242	594,911	60,349	59,301	119,650	292,552	770,607	1,063,159
1983	99,680	257,160	356,840	61,975	683,684	745,659	64,694	59,896	124,590	226,349	1,000,740	1,227,089
1984	149,465	256,314	405,779	63,611	762,090	825,701	55,268	64,680	119,948	268,344	1,083,084	1,351,428
1985	225,939	259,544	485,483	52,002	603,624	655,626	72,398	68,706	141,104	350,339	931,874	1,282,213
1986	286,071	250,723	536,794	67,745	755,402	823,147	105,185	63,777	168,962	459,001	1,069,902	1,528,903
1987	286,164	303,613	589,777	66,466	687,880	754,346	101,347	79,269	180,616	453,977	1,070,762	1,524,739
1988	296,428	263,108	559,536	92,127	849,154	941,281	74,313	68,447	142,760	462,868	1,180,709	1,643,577
1989	299,436	313,866	613,302	98,921	823,468	922,389	72,994	77,237	150,231	471,351	1,214,571	1,685,922
1990	301,522	340,986	642,508	77,107	900,025	977,132	104,851	89,059	193,910	483,480	1,330,070	1,813,550
1991	265,970	372,121	638,091	65,890	1,139,272	1,205,162	109,121	71,293	180,414	440,981	1,582,686	2,023,667
1992	252,514	376,681	629,195	87,294	1,039,766	1,127,060	92,000	88,384	180,384	431,808	1,504,831	1,936,639
1993	256,244	367,074	623,318	100,517	937,310	1,037,827	82,843	77,506	160,349	439,604	1,381,890	1,821,494
1994	248,073	371,035	619,108	84,671	1,043,685	1,128,356	109,331	86,943	196,274	442,075	1,501,663	1,943,738
1995	244,639	355,376	600,015	150,661	1,077,486	1,228,147	108,210	79,940	188,150	503,510	1,512,802	2,016,312
1996	266,928	287,054	553,982	132,344	1,053,413	1,185,757	114,706	80,314	195,020	513,978	1,420,781	1,934,759
1997	277,575	411,452	689,027	188,285	990,519	1,178,804	122,274	110,402	232,676	588,134	1,512,373	2,100,507
1998	280,607	425,077	705,684	165,490	1,342,609	1,508,099	93,954	109,980	203,934	540,051	1,877,666	2,417,717
1999	304,638	366,153	670,791	291,249	1,209,496	1,500,745	93,078	112,076	205,154	688,965	1,687,725	2,376,690
2000	286,865	405,044	691,909	230,521	1,243,711	1,474,232	148,557	113,528	262,085	665,943	1,762,283	2,428,226
2001	425,008	405,303	830,311	157,676	1,140,382	1,298,058	130,546	104,828	235,374	713,230	1,650,513	2,363,743
2002	443,458	383,105	826,563	167,048	1,316,787	1,483,835	132,806	120,432	253,238	743,312	1,820,324	2,563,636
2003	416,018	416,603	832,621	300,470	1,305,522	1,605,992	115,175	110,752	225,927	831,663	1,832,877	2,664,540
2004	296,856	383,775	680,631	217,352	1,402,253	1,619,605	110,897	124,763	235,660	625,105	1,910,791	2,535,896
2005	286,599	463,947	750,546	283,767	1,490,745	1,774,512	111,304	115,863	227,167	681,670	2,070,555	2,752,225
2006	179,557	419,279	598,836	310,316	1,559,426	1,869,742	119,971	125,140	245,111	609,844	2,103,845	2,713,689
2007	181,920	447,041	628,961	216,902	1,671,770	1,888,672	94,461	118,600	213,061	493,283	2,237,411	2,730,694
2008	194,629	548,266	742,895	307,485	1,630,820	1,938,305	103,115	121,654	224,769	605,229	2,300,740	2,905,969
2009	245,963	429,602	675,565	238,863	1,778,514	2,017,377	108,006	110,906	218,912	592,832	2,319,022	2,911,854
2010	256,126	*	256,126	150,661	*	150,661	81,391	*	81,391	488,178	*	488,178

**TABLE A-2a.** Estimated retained catches (Ret.), by gear type, and estimated discards (Dis.), by purse-seine vessels with carrying capacities greater than 363 t only, of tunas and bonitos, in metric tons, in the EPO. The purse-seine and pole-and-line data for yellowfin, skipjack, and bigeye tunas have been adjusted to the species composition estimate and are preliminary. The data for 2009-2010 are preliminary.

**TABLA A-2a.** Estimaciones de las capturas retenidas (Ret.), por arte de pesca, y de los descartes (Dis.), por buques cerqueros de más de 363 t de capacidad de acarreo únicamente, de atunes y bonitos, en toneladas métricas, en el OPO. Los datos de los atunes aleta amarilla, barrilete, y patudo de las pesquerías cerquera y cañera fueron ajustados a la estimación de composición por especie, y son preliminares. Los datos de 2009-2010 son preliminares.

	Yellowfin—Aleta amarilla						Skipjack—Barrilete						Bigeye—Patudo					
	PS		LP	LL	OTR + NK	Total	PS		LP	LL	OTR + NK	Total	PS		LP	LL	OTR + NK	Total
	Ret.	Dis.					Ret.	Dis.					Ret.	Dis.				
1981	168,234	-	1,477	7,999	800	178,510	119,165	-	5,906	20	910	126,001	14,921	-	-	53,416	7	68,344
1982	114,755	-	1,538	10,961	280	127,534	100,499	-	3,760	28	382	104,669	6,939	-	42	53,365	3	60,349
1983	83,929	-	4,007	10,895	849	99,680	56,851	-	4,387	28	709	61,975	4,575	-	39	60,043	37	64,694
1984	135,785	-	2,991	10,345	344	149,465	59,859	-	2,884	32	836	63,611	8,861	-	2	46,394	11	55,268
1985	211,459	-	1,070	13,198	212	225,939	50,829	-	946	44	183	52,002	6,056	-	2	66,325	15	72,398
1986	260,512	-	2,537	22,808	214	286,071	65,634	-	1,921	58	132	67,745	2,686	-	-	102,425	74	105,185
1987	262,008	-	5,107	18,911	138	286,164	64,019	-	2,233	37	177	66,466	1,177	-	-	100,121	49	101,347
1988	277,293	-	3,723	14,660	752	296,428	87,113	-	4,325	26	663	92,127	1,535	-	5	72,758	15	74,313
1989	277,996	-	4,145	17,032	263	299,436	94,934	-	2,940	28	1,019	98,921	2,030	-	-	70,963	1	72,994
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	4,758	4,951	24,009	3,034	256,244	83,830	10,598	3,772	61	2,256	100,517	9,657	653	-	72,498	35	82,843
1994	208,408	4,527	3,625	30,026	1,487	248,073	70,126	10,501	3,240	73	731	84,671	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	24,503	2,555	52	1,261	132,344	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	4,698	5,085	15,336	1,529	280,607	140,631	22,644	1,684	294	237	165,490	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	6,207	2,431	23,855	1,109	286,865	205,647	24,508	231	68	67	230,521	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	5,950	470	25,174	1,145	416,018	273,968	22,453	638	634	2,777	300,470	53,052	2,326	-	59,776	21	115,175
2004	272,557	3,009	1,884	18,779	627	296,856	197,824	17,182	528	713	1,105	217,352	65,471	1,749	-	43,483	194	110,897
2005	268,101	2,929	1,822	11,895	1,852	286,599	263,229	17,228	1,299	231	1,780	283,767	67,895	1,952	-	41,432	25	111,304
2006	166,631	1,665	686	9,117	1,458	179,557	296,268	12,403	435	224	986	310,316	83,838	2,385	-	33,708	40	119,971
2007	170,016	1,946	894	7,625	1,439	181,920	208,295	7,159	276	107	1,065	216,902	63,450	1,039	-	29,928	44	94,461
2008	185,057	1,019	814	6,798	941	194,629	296,603	9,166	499	54	1,163	307,485	75,028	2,287	-	25,772	28	103,115
2009	236,756	1,482	710	6,028	987	245,963	230,523	6,903	151	175	1,111	238,863	76,799	1,104	-	30,088	15	108,006
2010	251,009	1,115	460	3,339	203	256,126	147,192	3,365	47	56	1	150,661	57,752	646	-	22,993	-	81,391

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

	Pacific bluefin—Aleta azul del Pacífico						Albacore—Albacora						Black skipjack—Barrilete negro					
	PS		LP	LL	OTR + NK	Total	PS		LP	LL	OTR + NK	Total	PS		LP	LL	OTR + NK	Total
	Ret.	Dis.					Ret.	Dis.					Ret.	Dis.				
1981	1,085	-	-	4	7	1,096	99	-	608	7,275	12,301	20,283	1,908	-	3	-	-	1,911
1982	3,145	0	-	7	6	3,158	355	-	198	8,407	3,562	12,522	1,338	-	-	-	-	1,338
1983	836	0	-	2	38	876	7	-	449	7,433	7,840	15,729	1,222	-	-	-	13	1,235
1984	839	0	-	3	51	893	3,910	-	1,441	6,712	9,794	21,857	662	-	-	-	3	665
1985	3,996	0	-	1	77	4,074	42	-	877	7,268	6,654	14,841	288	-	-	-	7	295
1986	5,040	0	-	1	64	5,105	47	-	86	6,450	4,701	11,284	569	-	-	-	18	587
1987	980	0	-	3	88	1,071	1	-	320	9,994	2,662	12,977	571	-	-	-	2	573
1988	1,379	0	-	2	52	1,433	17	-	271	9,934	5,549	15,771	956	-	-	-	311	1,267
1989	1,103	0	5	4	91	1,203	1	-	21	6,784	2,695	9,501	801	-	-	-	-	801
1990	1,430	0	61	12	103	1,606	39	-	170	6,536	4,105	10,850	787	-	-	-	4	791
1991	419	0	-	5	55	479	0	-	834	7,893	2,754	11,481	421	-	-	-	25	446
1992	1,928	0	-	21	147	2,096	0	-	255	17,080	5,740	23,075	105	-	-	3	-	108
1993	580	0	-	11	325	916	0	-	1	11,194	4,410	15,605	104	4,144	-	31	-	4,279
1994	969	0	-	12	111	1,092	0	-	85	10,390	10,154	20,629	188	854	-	40	-	1,082
1995	659	0	-	25	300	984	0	-	465	6,185	7,427	14,077	203	1,448	-	-	-	1,651
1996	8,333	0	-	19	84	8,436	11	-	72	7,631	8,398	16,112	704	2,304	-	12	-	3,020
1997	2,607	3	2	14	245	2,871	1	-	59	9,678	7,540	17,278	100	2,512	-	11	-	2,623
1998	1,772	0	-	94	525	2,391	42	-	81	12,635	13,158	25,916	489	1,876	39	-	-	2,404
1999	2,553	54	5	152	564	3,328	47	-	227	11,633	14,510	26,417	171	3,413	-	-	-	3,584
2000	3,712	0	61	46	378	4,197	71	-	86	9,663	13,453	23,273	293	1,995	-	-	-	2,288
2001	1,155	3	1	148	401	1,708	3	-	157	19,410	13,727	33,297	2,258	1,019	-	-	-	3,277
2002	1,758	6	3	71	653	2,491	31	-	381	15,289	14,433	30,134	1,459	2,283	8	-	-	3,750
2003	3,233	0	3	87	404	3,727	34	-	59	24,901	20,397	45,391	433	1,535	6	13	117	2,104
2004	8,880	19	-	16	62	8,977	105	-	126	18,444	22,011	40,686	884	387	-	27	862	2,160
2005	4,743	15	-	-	85	4,843	2	-	66	8,861	15,649	24,578	1,472	2,124	-	-	22	3,618
2006	9,806	0	-	-	101	9,907	109	-	1	10,612	18,966	29,688	1,999	1,977	-	-	-	3,976
2007	4,189	0	-	-	16	4,205	187	-	21	8,934	19,296	28,438	2,307	1,625	-	-	55	3,987
2008	4,392	14	15	-	103	4,524	49	-	1,050	5,994	16,567	23,660	3,624	2,251	-	-	8	5,883
2009	3,378	24	20	0	207	3,629	51	2	2,084	6,969	17,080	26,186	4,368	1,020	-	-	-	5,388
2010	7,746	0	*	*	111	7,857	25	-	*	1,233	6,497	7,755	3,191	1,087	*	*	*	4,278

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

	Bonitos						Unidentified tunas—Atunes no identificados						Total					
	PS		LP	LL	OTR + NK	Total	PS		LP	LL	OTR + NK	Total	PS		LP	LL	OTR + NK	Total
	Ret.	Dis.					Ret.	Dis.					Ret.	Dis.				
1981	5,690	-	27	-	4,609	10,326	213	-	3	-	1,109	1,325	311,315	-	8,024	68,714	19,743	407,796
1982	2,122	-	0	-	6,776	8,898	47	-	-	-	382	429	229,200	-	5,538	72,768	11,391	318,897
1983	3,827	-	2	-	7,291	11,120	60	-	-	-	4,711	4,771	151,307	-	8,884	78,401	21,488	260,080
1984	3,514	-	0	-	7,291	10,805	6	-	-	-	2,524	2,530	213,436	-	7,318	63,486	20,854	305,094
1985	3,599	-	5	-	7,869	11,473	19	-	-	-	678	697	276,288	-	2,900	86,836	15,695	381,719
1986	232	-	258	-	1,889	2,379	177	-	4	-	986	1,167	334,897	-	4,806	131,742	8,078	479,523
1987	3,195	-	121	-	1,782	5,098	481	-	-	-	2,043	2,524	332,432	-	7,781	129,066	6,941	476,220
1988	8,811	-	739	-	947	10,497	79	-	-	-	2,939	3,018	377,183	-	9,063	97,380	11,228	494,854
1989	11,278	-	818	-	465	12,561	36	-	-	-	626	662	388,179	-	7,929	94,811	5,160	496,079
1990	13,641	-	215	-	371	14,227	200	-	-	3	692	895	359,640	-	3,945	140,096	8,168	511,849
1991	1,207	-	82	-	242	1,531	4	-	-	29	192	225	300,406	-	5,520	143,057	6,160	455,143
1992	977	-	-	-	318	1,295	24	-	-	27	1,071	1,122	322,617	-	6,001	120,609	10,277	459,504
1993	599	12	1	-	436	1,048	9	2,013	-	10	4,082	6,114	314,271	22,178	8,725	107,814	14,578	467,566
1994	8,331	147	362	-	185	9,025	9	497	-	1	464	971	322,930	18,792	7,312	111,902	13,938	474,874
1995	7,929	55	81	-	54	8,119	11	626	-	-	1,004	1,641	396,604	27,028	7,067	85,152	14,131	529,982
1996	647	1	7	-	16	671	37	1,028	-	-	1,038	2,103	413,623	39,837	6,396	71,280	13,184	544,320
1997	1,097	4	8	-	34	1,143	71	3,383	-	7	1,437	4,898	466,482	48,158	7,747	84,588	9,972	616,947
1998	1,330	4	7	-	588	1,929	13	1,233	-	24	18,158	19,428	442,365	33,277	6,896	74,758	34,823	592,119
1999	1,719	-	-	24	369	2,112	27	3,092	-	2,113	4,279	9,511	599,160	44,084	4,059	62,255	24,359	733,917
2000	636	-	-	75	56	767	190	1,410	-	1,992	1,468	5,060	559,094	39,537	2,809	83,304	16,784	701,528
2001	17	-	0	34	19	70	191	679	-	2,448	55	3,373	591,243	22,798	4,522	121,617	14,775	754,955
2002	-	-	-	-	1	1	576	1,863	-	482	1,422	4,343	627,077	21,747	1,958	116,058	17,191	784,031
2003	-	0	1	-	25	26	80	1,238	-	215	750	2,283	714,079	33,502	1,177	110,800	25,636	885,194
2004	15	35	1	8	3	62	256	973	-	349	258	1,836	545,992	23,354	2,539	81,819	25,122	678,826
2005	313	18	0	-	11	342	190	1,922	-	363	427	2,902	605,945	26,188	3,187	62,782	19,851	717,953
2006	3,507	80	12	-	3	3,602	49	1,910	-	21	193	2,173	562,207	20,420	1,134	53,682	21,747	659,190
2007	15,906	628	107	-	-	16,641	600	1,221	-	2,196	302	4,319	464,950	13,618	1,298	48,790	22,217	550,873
2008	7,874	37	9	-	26	7,946	136	1,381	1	727	883	3,128	572,763	16,155	2,388	39,345	19,719	650,370
2009	9,561	15	246	0	256	10,078	158	469	-	2,071	74	2,772	561,594	11,019	3,211	45,331	19,730	640,885
2010	2,810	25	4	*	*	2,839	125	747	*	*	*	872	469,850	6,985	511	27,621	6,812	511,779

**TABLE A-2b.** Estimated retained catches, by gear type, and estimated discards, by purse-seine vessels with carrying capacities greater than 363 t only, of billfishes, in metric tons, in the EPO. Data for 2009-2010 are preliminary. PS dis. = discards by purse-seine vessels.

**TABLA A-2b.** Estimaciones de las capturas retenidas, por arte de pesca, y de los descartes, por buques cerqueros de más de 363 t de capacidad de acarreo únicamente, de peces picudos, en toneladas métricas, en el OPO. Los datos de 2009-2010 son preliminares. PS dis. = descartes por buques cerqueros.

	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.			
1981	-	-	3,070	1,134	4,204	-	-	4,476	-	4,476	-	-	247	-	247	-	-	4,876	-	4,876
1982	-	-	2,604	1,551	4,155	-	-	4,745	-	4,745	-	-	213	-	213	-	-	4,711	-	4,711
1983	-	-	3,341	2,338	5,679	-	-	4,459	-	4,459	-	-	240	-	240	-	-	4,472	-	4,472
1984	-	-	2,752	3,336	6,088	-	-	5,197	-	5,197	-	-	248	-	248	-	-	2,662	-	2,662
1985	-	-	1,885	3,768	5,653	-	-	3,588	-	3,588	-	-	180	-	180	-	-	1,599	-	1,599
1986	-	-	3,286	3,294	6,580	-	-	5,278	-	5,278	-	-	297	-	297	-	-	3,540	-	3,540
1987	-	-	4,676	3,740	8,416	-	-	7,282	-	7,282	-	-	358	-	358	-	-	7,647	-	7,647
1988	-	-	4,916	5,642	10,558	-	-	5,662	-	5,662	-	-	288	-	288	-	-	5,283	-	5,283
1989	-	-	5,202	6,072	11,274	-	-	5,392	-	5,392	-	-	193	-	193	-	-	3,473	-	3,473
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	6,627	-	6,679	-	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	217	-	305	47	20	3,575	259	3,902
1994	1	0	4,990	3,822	8,814	69	15	9,027	-	9,111	39	23	256	-	318	20	9	3,396	257	3,681
1995	3	1	4,495	2,974	7,473	70	16	7,288	-	7,375	43	23	158	-	224	18	8	3,249	296	3,571
1996	1	0	7,071	2,486	9,558	62	15	3,596	-	3,672	46	24	99	-	169	20	9	3,218	430	3,677
1997	2	1	10,580	1,781	12,365	126	15	5,915	-	6,056	71	22	153	-	246	28	3	4,473	329	4,832
1998	3	0	9,800	3,246	13,049	130	20	4,855	-	5,006	72	28	168	-	268	20	3	3,558	509	4,090
1999	2	0	7,569	1,965	9,536	181	38	3,690	-	3,909	83	42	94	-	219	26	11	2,621	376	3,034
2000	3	0	8,930	2,383	11,316	120	23	3,634	-	3,777	67	21	105	-	193	17	3	1,889	404	2,312
2001	3	1	16,007	1,964	17,975	119	40	4,197	-	4,356	67	48	123	-	238	13	8	1,961	342	2,324
2002	1	0	17,598	2,119	19,718	188	33	3,481	-	3,703	86	30	78	-	194	69	5	2,159	412	2,645
2003	3	1	18,161	353	18,518	185	21	4,016	-	4,222	121	26	72	-	219	31	4	1,906	417	2,359
2004	2	0	15,372	309	15,683	140	21	3,782	-	3,943	62	5	41	-	108	23	1	1,548	390	1,962
2005	2	0	8,910	4,304	13,217	209	14	3,328	-	3,551	95	9	37	-	141	37	4	1,521	553	2,116
2006	7	0	9,047	3,800	12,854	164	21	2,357	105	2,647	124	21	32	-	177	54	3	1,570	490	2,117
2007	4	0	8,948	4,390	13,342	124	13	2,349	106	2,592	74	8	35	-	117	32	4	1,349	1,024	2,409
2008	6	0	11,272	3,070	14,348	125	8	1,549	114	1,796	76	9	101	-	186	33	2	810	1,045	1,890
2009	4	0	12,599	3,652	16,255	159	15	1,570	131	1,875	76	8	56	-	140	23	2	755	7	787
2010	4	0	3,202	9	3,215	187	11	780	*	978	58	11	20	*	89	19	3	395	*	417

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

	Shortbill spearfish— Marlín trompa corta					Sailfish— Pez vela					Unidentified istiophorid billfishes—Picudos istiofóridos 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.			
1981	-	-	-	-	-	-	-	379	-	379	-	-	9	-	9	-	-	13,057	1,134	14,191
1982	-	-	-	-	-	-	-	1,084	-	1,084	-	-	3	-	3	-	-	13,360	1,551	14,911
1983	-	-	-	-	-	-	-	890	-	890	-	-	2	-	2	-	-	13,404	2,338	15,742
1984	-	-	-	-	-	-	-	345	-	345	-	-	-	-	-	-	-	11,204	3,336	14,540
1985	-	-	-	-	-	-	-	395	-	395	-	-	1	-	1	-	-	7,648	3,768	11,416
1986	-	-	5	-	5	-	-	583	-	583	-	-	1	-	1	-	-	12,990	3,294	16,284
1987	-	-	15	-	15	-	-	649	-	649	-	-	398	-	398	-	-	21,025	3,740	24,765
1988	-	-	13	-	13	-	-	649	-	649	-	-	368	-	368	-	-	17,179	5,642	22,821
1989	-	-	-	-	-	-	-	192	-	192	-	-	51	-	51	-	-	14,503	6,072	20,575
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	22,204	4,506	26,931
1993	0	0	1	-	1	26	32	2,266	-	2,324	29	68	1,650	-	1,747	246	171	20,467	4,673	25,558
1994	0	0	144	-	144	18	21	1,682	-	1,721	7	16	1,028	-	1,051	155	83	20,523	4,079	24,841
1995	1	0	155	-	156	12	15	1,351	-	1,378	4	9	232	-	245	151	71	16,928	3,270	20,421
1996	1	0	126	-	127	10	12	738	-	760	6	13	308	-	327	145	73	15,156	2,916	18,290
1997	1	0	141	-	142	12	11	1,891	-	1,914	3	5	1,324	-	1,332	243	57	24,477	2,110	26,887
1998	0	0	200	-	200	28	31	1,382	-	1,441	5	8	575	54	642	258	90	20,538	3,809	24,695
1999	1	0	278	-	279	33	8	1,216	-	1,257	6	12	1,136	-	1,154	333	110	16,604	2,341	19,388
2000	1	0	285	-	286	33	17	1,380	-	1,430	3	6	879	136	1,024	243	70	17,102	2,923	20,338
2001	0	0	304	-	305	18	45	1,539	325	1,927	2	5	1,742	204	1,953	223	146	25,873	2,835	29,077
2002	1	0	273	-	274	19	15	1,792	17	1,843	4	5	1,862	14	1,885	368	88	27,243	2,562	30,262
2003	1	4	290	-	294	38	49	1,174	-	1,261	6	5	1,389	-	1,400	384	110	27,008	770	28,272
2004	1	0	207	-	208	19	13	1,400	17	1,449	4	4	1,384	-	1,392	251	44	23,734	716	24,745
2005	1	0	229	-	230	32	11	805	15	863	5	3	900	-	908	382	42	15,730	4,872	21,026
2006	1	0	231	-	233	30	13	1,007	35	1,085	23	4	491	1	519	403	62	14,735	4,431	19,631
2007	1	0	239	-	240	41	8	930	64	1,043	13	4	104	15	136	289	38	13,954	5,599	19,880
2008	1	0	257	-	258	28	7	245	72	352	16	5	64	8	93	285	32	14,298	4,309	18,923
2009	1	0	450	-	451	17	6	11	8	42	11	1	12	12	36	291	33	15,453	3,810	19,587
2010	1	0	263	-	264	25	6	11	*	42	6	2	2	*	10	300	33	4,673	9	5,015

**TABLE A-2c.** Estimated retained catches (Ret.), by gear type, and estimated discards (Dis.), by purse-seine vessels of more than 363 t carrying capacity only, of other species, in metric tons, in the EPO. The data for 2009-2010 are preliminary.

**TABLA A-2c.** Estimaciones de las capturas retenidas (Ret.), por arte de pesca, y de los descartes (Dis.), por buques cerqueros de más de 363 t de capacidad de acarreo únicamente, de otras especies, en toneladas métricas, en el OPO. Los datos de 2009-2010 son preliminares.

	Carangids—Carángidos					Dorado ( <i>Coryphaena spp.</i> )					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.			
1981	111	-	-	17	128	410	-	-	628	1,038	49	-	120	1,211	1,380	201	-	51	3	255
1982	122	-	-	-	122	274	-	-	980	1,254	22	-	215	894	1,131	287	-	59	-	346
1983	1,240	-	-	-	1,240	88	-	-	3,374	3,462	34	-	85	695	814	288	-	-	1	289
1984	414	-	-	-	414	103	-	-	202	305	47	-	6	1,039	1,092	415	-	-	3	418
1985	317	-	-	4	321	93	-	-	108	201	27	-	13	481	521	76	-	7	-	83
1986	188	-	-	19	207	632	-	-	1,828	2,460	29	-	1	1,979	2,009	93	-	-	-	93
1987	566	-	-	5	571	271	-	-	4,272	4,543	96	-	87	1,020	1,203	210	-	535	-	745
1988	825	-	-	1	826	69	-	-	1,560	1,629	1	-	23	1,041	1,065	321	-	360	-	681
1989	60	-	-	2	62	210	-	-	1,680	1,890	29	-	66	1,025	1,120	670	-	152	-	822
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	-	457	1	921
1992	116	-	-	-	116	69	-	37	708	814	-	-	2,293	1,190	3,483	555	-	182	-	737
1993	31	43	-	2	76	267	477	17	724	1,485	277	1,152	1,026	916	3,371	145	554	184	2	885
1994	19	28	-	16	63	687	826	46	3,459	5,018	371	1,027	1,234	1,314	3,946	243	567	251	-	1,061
1995	27	32	-	9	68	466	729	39	2,127	3,361	285	1,093	922	1,075	3,375	177	760	210	-	1,147
1996	137	135	-	57	329	548	885	43	183	1,659	242	1,001	1,121	2,151	4,515	155	467	456	-	1,078
1997	40	111	-	39	190	569	703	6866	3,109	11,247	435	1,232	956	2,328	4,951	261	654	848	-	1,763
1998	82	149	-	4	235	424	426	2528	9,167	12,545	285	1,404	2,099	4,393	8,181	302	1,133	1,340	-	2,775
1999	108	136	-	1	245	567	751	6284	1,160	8,762	260	843	5,995	2,088	9,186	245	748	975	-	1,968
2000	97	66	4	4	171	812	785	3537	1,041	6,175	266	772	8,621	405	10,064	147	408	1,490	-	2,045
2001	16	145	18	26	205	1,028	1,275	15,941	2,825	21,069	183	641	12,551	107	13,482	391	1,130	1,726	-	3,247
2002	20	111	15	20	166	932	938	9,464	4,137	15,471	137	758	12,398	99	13,392	356	722	1,914	-	2,992
2003	13	141	54	-	208	582	346	5,301	288	6,517	118	833	14,881	372	16,204	288	406	4,681	-	5,375
2004	41	103	1	-	145	810	317	3,986	4,645	9,758	157	622	11,295	173	12,247	428	1,031	671	-	2,130
2005	82	79	-	-	161	864	295	3,854	8,667	13,680	199	499	12,105	224	13,027	495	276	558	-	1,329
2006	247	146	-	-	393	1,001	385	3,404	13,112	17,902	235	674	6,511	259	7,679	821	381	262	100	1,564
2007	175	183	6	17	381	1,266	350	2,978	7,827	12,421	348	394	8,726	424	9,892	658	675	2,001	114	3,448
2008	86	55	5	17	163	934	327	447	5,458	7,166	573	357	7,097	594	8,621	827	429	585	79	1,920
2009	65	42	10	16	133	1,905	476	3,174	51,328	56,883	279	339	5,323	374	6,315	858	374	1,273	88	2,593
2010	66	16	1	19	102	1,319	256	3	*	1,578	336	457	1,199	84	2,076	775	200	15	1	991



**TABLE A-3a.** Catches of yellowfin tuna by purse-seine vessels in the EPO, by vessel flag. The data have been adjusted to the species composition estimate, and are preliminary. \*: data missing or not available; -: no data collected; C: data combined with those of other flags; this category is used to avoid revealing the operations of individual vessels or companies.

**TABLA A-3a.** Capturas de atún aleta amarilla por buques de cerco en el OPO, por bandera del buque. Los datos están ajustados a la estimación de composición por especie, y son preliminares. \*: datos faltantes o no disponibles; -: datos no tomados; C: datos combinados con aquellos de otras banderas; se usa esta categoría para no revelar información sobre las actividades de buques o empresas individuales.

	COL	CRI	ECU	ESP	MEX	NIC	PAN	PER	SLV	USA	VEN	VUT	C + OTR <sup>1</sup>	Total
1981	-	2,632	7,004	6,651	41,147	-	7,202	C	C	91,611	6,269	-	5,718	168,234
1982	-	122	5,511	934	18,785	-	8,487	C	C	72,082	4,057	-	4,777	114,755
1983	-	C	7,579	-	18,576	-	2,444	943	-	43,780	7,840	-	2,767	83,929
1984	-	2,702	10,526	C	53,697	-	C	C	-	57,162	9,268	-	2,430	135,785
1985	-	2,785	8,794	C	80,422	-	10,887	C	-	84,364	20,696	C	3,511	211,459
1986	-	C	16,561	C	103,644	-	9,073	C	C	88,617	28,462	C	14,155	260,512
1987	-	-	15,046	C	96,182	-	C	C	C	95,506	34,237	C	21,037	262,008
1988	-	-	23,947	C	104,565	-	7,364	1,430	C	82,231	38,257	C	19,499	277,293
1989	-	C	17,588	C	116,928	-	10,557	1,724	C	73,688	42,944	C	14,567	277,996
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	13,564	253,263
2001	12,950	-	55,347	18,448	130,087	C	9,552	-	C	5,670	108,974	10,729	32,179	383,936
2002	17,574	-	32,512	16,990	152,864	C	15,719	C	7,412	7,382	123,264	7,502	31,067	412,286
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	C	91,442	C	33,563	-	C	5,645	39,094	7,371	54,556	272,557
2005	C	-	40,596	C	110,898	4,838	33,393	-	6,470	C	28,684	C	43,222	268,101
2006	C	-	26,049	C	69,449	4,236	22,521	-	C	C	13,286	C	31,090	166,631
2007	C	-	19,749	C	65,091	3,917	26,024	-	C	C	20,097	C	35,138	170,016
2008	C	-	18,463	C	84,462	4,374	26,993	C	C	C	17,692	C	33,073	185,057
2009	C	-	18,167	C	99,785	6,686	35,228	C	C	C	25,298	C	51,592	236,756
2010	C	-	34,764	C	104,969	9,422	34,538	C	C	-	21,244	C	46,071	251,008

<sup>1</sup> Includes—Incluye: BLZ, BMU, BOL, CAN, CHN, COG, CYM, CYP, GTM, HND, KOR, LBR, NLD, NZL, PRT, RUS, SEN, VCT, UNK

**TABLE A-3b.** Annual catches of yellowfin tuna by longline vessels, and totals for all gears, in the EPO, by vessel flag. The data for 2009-2010 are preliminary. \*: data missing or not available; -: no data collected; C: data combined with those of other flags; this category is used to avoid revealing the operations of individual vessels or companies.

**TABLA A-3b.** Capturas anuales de atún aleta amarilla por buques de palangre en el OPO, y totales de todas las artes, por bandera del buque. Los datos de 2009-2010 son preliminares. \*: datos faltantes o no disponibles; -: datos no tomados; C: datos combinados con aquéllos de otras banderas; se usa esta categoría para no revelar información sobre las actividades de buques o empresas individuales.

	CHN	CRI	FRA-PYF	JPN	KOR	MEX	PAN	TWN	USA	VUT	C + OTR <sup>1</sup>	Total LL	Total PS+LL	OTR <sup>2</sup>
1981	-	-	-	7,090	753	-	-	156	-	-	*	7,999	176,233	2,277
1982	-	-	-	9,826	1,054	-	-	81	-	-	*	10,961	125,716	1,818
1983	-	-	-	9,404	1,382	49	-	60	-	-	*	10,895	94,824	4,856
1984	-	-	-	9,134	1,155	-	-	56	-	-	*	10,345	146,130	3,335
1985	-	-	-	10,633	2,505	2	-	58	-	-	*	13,198	224,657	1,282
1986	-	-	-	17,770	4,850	68	-	120	-	-	*	22,808	283,320	2,751
1987	-	-	-	13,484	5,048	272	-	107	-	-	*	18,911	280,919	5,245
1988	-	-	-	12,481	1,893	232	-	54	-	-	*	14,660	291,953	4,475
1989	-	-	-	15,335	1,162	9	-	526	-	-	*	17,032	295,028	4,408
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	-	-	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	1	1,782	2,422	7	-	182	11,895	279,996	3,674
2006	246	1,402	537	2,968	-	-	2,164	1,671	21	-	108	9,117	175,748	2,144
2007	224	1,204	408	4,582	353	8	-	745	11	-	90	7,625	177,641	2,333
2008	469	154	335	5,383	129	5	-	247	33	-	43	6,798	191,855	1,755
2009	*	*	590	4,345	387	10	-	636	49	-	11	6,028	242,784	1,697
2010	*	*	*	3,334	*	4	-	*	*	-	*	3,338	254,346	663

<sup>1</sup> Includes—Incluye: BLZ, CHL, ECU, GTM, HND, NIC, SLV

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

**TABLE A-3c.** Catches of skipjack tuna by purse-seine and longline vessels in the EPO, by vessel flag. The data have been adjusted to the species composition estimate, and are preliminary. \*: data missing or not available; -: no data collected; C: data combined with those of other flags; this category is used to avoid revealing the operations of individual vessels or companies.

**TABLA A-3c.** Capturas de atún barrilete por buques de cerco y de palangre en el OPO, por bandera del buque. Los datos están ajustados a la estimación de composición por especie, y son preliminares. \*: datos faltantes o no disponibles; -: datos no tomados; C: datos combinados con aquéllos de otras banderas; se usa esta categoría para no revelar información sobre las actividades de buques o empresas individuales.

	PS													Total	LL+ OTR <sup>2</sup>
	COL	CRI	ECU	ESP	MEX	NIC	PAN	PER	SLV	USA	VEN	VUT	C+OTR <sup>1</sup>		
1981	-	1,047	8,213	2,642	24,081	-	4,230	C	C	71,237	3,562	-	4,153	119,165	6,836
1982	-	226	13,590	1,609	14,598	-	5,814	C	C	58,647	2,382	-	3,633	100,499	4,170
1983	-	C	12,590	-	6,277	-	764	170	-	32,009	3,352	-	1,689	56,851	5,124
1984	-	31	18,085	-	8,550	-	C	-	-	23,966	7,797	-	1,430	59,859	3,752
1985	-	87	22,806	C	5,334	-	1,197	-	-	9,907	8,184	C	3,314	50,829	1,173
1986	-	C	23,836	C	6,061	-	1,134	C	C	12,978	11,797	C	9,828	65,634	2,111
1987	-	-	20,473	C	4,786	-	C	C	C	13,578	11,761	C	13,421	64,019	2,447
1988	-	-	11,743	C	15,195	-	1,863	714	C	36,792	12,312	C	8,494	87,113	5,014
1989	-	C	22,922	C	14,960	-	4,361	276	-	21,115	16,847	C	14,453	94,934	3,987
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	22,402	205,647	366
2001	9,445	-	66,144	13,454	8,169	C	6,967	-	C	4,135	3,215	7,824	23,812	143,165	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	C	24,429	C	20,051	-	C	3,372	23,356	4,404	32,591	197,824	2,346
2005	C	-	140,927	C	32,271	3,735	25,782	-	4,995	C	22,146	C	33,373	263,229	3,311
2006	C	-	138,490	C	16,790	8,396	44,639	-	C	C	26,334	C	61,619	296,268	1,645
2007	C	-	93,553	C	21,542	4,286	28,475	-	C	C	21,990	C	38,449	208,295	1,448
2008	C	-	143,431	C	21,638	7,005	43,230	C	C	C	28,333	C	52,966	296,603	1,716
2009	C	-	132,712	C	6,847	5,119	26,973	C	C	C	19,370	C	39,502	230,523	1,437
2010	C	-	82,280	C	3,010	5,242	19,213	C	C	*	11,818	C	25,629	147,192	104

<sup>1</sup> Includes—Incluye: BLZ, BMU, BOL, CAN, CHN, COG, CYM, CYP, ECU, GTM, HND, KOR, LBR, NLD, NZL, PRT, RUS, SEN, VCT, UNK

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

**TABLE A-3d.** Catches of bigeye tuna by purse-seine vessels in the EPO, by vessel flag. The data have been adjusted to the species composition estimate, and are preliminary. \*: data missing or not available; -: no data collected; C: data combined with those of other flags; this category is used to avoid revealing the operations of individual vessels or companies.

**TABLA A-3d.** Capturas de atún patudo por buques de cerco en el OPO, por bandera del buque. Los datos están ajustados a la estimación de composición por especie, y son preliminares. \*: datos faltantes o no disponibles; -: datos no tomados; C: datos combinados con aquéllos de otras banderas; se usa esta categoría para no revelar información sobre las actividades de buques o empresas individuales.

	COL	CRI	ECU	ESP	MEX	NIC	PAN	PER	SLV	USA	VEN	VUT	C + OTR <sup>1</sup>	Total
1981	-	119	1,268	805	52	-	1,113	-	C	8,267	2,766	-	531	14,921
1982	-	-	105	41	16	-	1,039	*	*	4,548	1,190	-	*	6,939
1983	-	*	457	-	16	-	663	*	-	1,801	1,319	-	319	4,575
1984	-	3	1,164	*	40	-	*	*	-	5,335	2,181	-	138	8,861
1985	-	17	2,970	C	19	-	-	-	-	1,806	939	C	305	6,056
1986	-	-	653	C	1	-	-	-	-	266	1,466	C	300	2,686
1987	-	-	319	C	2	-	*	-	C	224	453	C	179	1,177
1988	-	-	385	C	-	-	431	*	C	256	202	C	261	1,535
1989	-	-	854	C	-	-	-	*	-	172	294	C	710	2,030
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	16,445	95,282
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	10,391	53,052
2004	C	-	30,817	C	0	C	8,294	*	C	1,395	9,661	1,822	13,482	65,471
2005	C	-	30,507	C	0	1,551	10,707	*	2,074	C	9,197	C	13,859	67,895
2006	C	-	39,302	C	6	2,652	14,099	*	C	C	8,317	C	19,462	83,838
2007	C	-	40,445	C	0	1,058	7,029	*	C	C	5,428	C	9,490	63,450
2008	C	-	41,177	C	327	1,785	11,018	C	C	C	7,221	C	13,500	75,028
2009	C	-	35,646	C	1,334	2,241	11,807	C	C	C	8,479	C	17,292	76,799
2010	C	-	34,902	C	11	1,934	7,089	C	C	*	4,360	C	9,456	57,752

<sup>1</sup> Includes—Incluye: BLZ, BMU, BOL, CAN, CHN, CYM, CYP, GTM, HND, KOR, LBR, NLD, NZL, PRT, SEN, VCT, UNK

**TABLE A-3e.** Annual catches of bigeye tuna by longline vessels, and totals for all gears, in the EPO, by vessel flag. The data for 2009-2010 are preliminary. \*: data missing or not available; -: no data collected; C: data combined with those of other flags; this category is used to avoid revealing the operations of individual vessels or companies.

**TABLA A-3e.** Capturas anuales de atún patudo por buques de palangre en el OPO, y totales de todas las artes, por bandera del buque. Los datos de 2009-2010 son preliminares. \*: datos faltantes o no disponibles; -: datos no tomados; C: datos combinados con aquéllos de otras banderas; se usa esta categoría para no revelar información sobre las actividades de buques o empresas individuales.

	CHN	CRI	FRA-PYF	JPN	KOR	MEX	PAN	TWN	USA	VUT	C + OTR <sup>1</sup>	Total LL	Total PS + LL	OTR <sup>2</sup>
1981	-	-	-	49,970	2,966	-	-	480	-	-	*	53,416	68,337	7
1982	-	-	-	50,199	2,969	-	-	197	-	-	*	53,365	60,304	45
1983	-	-	-	57,185	2,614	-	-	244	-	-	*	60,043	64,618	76
1984	-	-	-	44,587	1,613	-	-	194	-	-	*	46,394	55,255	13
1985	-	-	-	61,627	4,510	-	-	188	-	-	*	66,325	72,381	17
1986	-	-	-	91,981	10,187	-	-	257	-	-	*	102,425	105,111	74
1987	-	-	-	87,913	11,681	1	-	526	-	-	*	100,121	101,298	49
1988	-	-	-	66,015	6,151	1	-	591	-	-	*	72,758	74,293	20
1989	-	-	-	67,514	3,138	-	-	311	-	-	*	70,963	72,993	1
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	131,846	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	1,056	151	41,432	109,327	25
2006	709	18	388	16,235	8,694	-	37	6,412	85	935	195	33,708	117,546	40
2007	2,324	15	361	13,977	5,611	-	-	6,057	417	1,073	93	29,928	93,378	44
2008	2,379	2	367	14,909	4,150	-	-	1,852	1,277	747	89	25,772	100,800	28
2009	2,481	*	484	15,581	6,034	-	-	3,396	684	1,113	315	30,088	106,887	15
2010	1,765	*	*	14,633	*	-	-	5,076	289	1,230	*	22,993	80,745	*

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

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

**TABLE A-4.** Preliminary estimates of the retained catches in metric tons, of tunas and bonitos caught by purse-seine, pole-and-line, and recreational vessels in the EPO in 2009 and 2010, 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-4.** Estimaciones preliminares de las capturas retenidas, en toneladas métricas, de atunes y bonitos por buques cerqueros, cañeros, y recreacionales en el OPO en 2009 y 2010, por especie y bandera del buque. Los datos de los atunes aleta amarilla, barrilete, y patudo fueron ajustados a las estimaciones de composición por especie, y son preliminares.

	YFT	SKJ	BET	PBF	ALB	BKJ	BZX	TUN	Total	%
<b>2009</b>	<b>Retained catches–Capturas retenidas</b>									
ECU	18,167	132,712	35,646	-	3	308	-	146	186,982	33.0
MEX	100,494	6,998	1,334	3,019	17	3,919	7,885	2	123,668	21.8
NIC	6,686	5,119	2,241	-	-	-	-	-	14,046	2.5
PAN	35,228	26,973	11,807	-	-	133	-	-	74,141	13.1
VEN	25,298	19,370	8,479	-	-	8	-	1	53,156	9.4
OTR <sup>1</sup>	52,113	39,532	17,923	554	2,556	-	1,922	9	114,609	20.2
<b>Total</b>	237,986	230,704	77,430	3,573	2,576	4,368	9,807	158	566,602	
<b>2010</b>	<b>Retained catches–Capturas retenidas</b>									
ECU	34,764	82,280	34,902	-	-	413	3	108	152,470	32.4
MEX	105,428	3,057	11	7,745	25	2,569	2,811	3	121,649	25.8
NIC	9,422	5,242	1,934	-	-	70	-	1	16,669	3.5
PAN	34,538	19,213	7,089	-	-	3	-	-	60,843	12.9
VEN	21,245	11,818	4,361	-	-	9	-	-	37,433	8
OTR <sup>1</sup>	46,274	25,630	9,457	112	-	127	-	13	81,613	17.3
<b>Total</b>	251,671	147,240	57,754	7,857	25	3,191	2,814	125	470,677	

<sup>1</sup> Includes Bolivia, Colombia, El Salvador, Guatemala, Honduras, Peru, Spain, United States, and Vanuatu. This category is used to avoid revealing the operations of individual vessels or companies.

<sup>1</sup> Incluye Bolivia, Colombia, El Salvador, España, Estados Unidos, Guatemala, Honduras, Perú, y Vanuatu. Se usa esta categoría para no revelar información sobre las actividades de buques o empresas individuales.

**TABLE A-5.** Annual retained catches of Pacific bluefin tuna, by gear type and flag, in metric tons. The data for 2008 and 2009 are preliminary.

**TABLA A-5.** Capturas retenidas anuales de atún aleta azul del Pacífico, por arte de pesca y bandera, en toneladas métricas. Los datos de 2008 y 2009 son preliminares.

PBF	Western Pacific flags—Banderas del Pacífico occidental <sup>1</sup>										Eastern Pacific flags—Banderas del Pacífico oriental						Total	
	JPN				KOR <sup>1</sup>		TWN			Sub-total	MEX		USA		Sub-total	OTR		
	PS	LP	LL	OTR	PS	OTR	PS	LL	OTR		PS	OTR	PS	OTR				
1980	11,327	1,392	851	6,005	-	-	-	114	5	19,693	582	-	2,327	31	2,940	-	22,634	
1981	25,422	754	619	6,559	-	-	-	179	-	33,532	218	-	867	23	1,109	-	34,641	
1982	19,234	1,777	738	4,240	31	-	-	207	2	26,228	506	-	2,639	13	3,159	-	29,387	
1983	14,774	356	225	4,117	13	-	-	9	175	2	19,670	214	-	629	44	887	-	20,557
1984	4,433	587	164	4,976	4	-	-	5	477	8	10,655	166	-	673	78	917	-	11,573
1985	4,154	1,817	114	5,587	1	-	-	80	210	11	11,975	676	-	3,320	117	4,113	-	16,089
1986	7,412	1,086	116	5,100	344	-	-	16	70	13	14,157	189	-	4,851	69	5,109	-	19,266
1987	8,653	1,565	244	3,523	89	-	-	21	365	14	14,474	119	-	861	54	1,033	-	15,507
1988	3,605	907	187	2,465	32	-	-	197	108	62	7,562	447	1	923	56	1,427	-	8,989
1989	6,190	754	241	1,934	71	-	-	259	205	54	9,707	57	-	1,046	133	1,236	-	10,943
1990	2,989	536	336	2,421	132	-	-	149	189	315	7,067	50	-	1,380	157	1,587	2	8,653
1991	9,808	286	238	4,204	265	-	-	342	119	15,262	9	-	410	98	517	-	15,781	
1992	7,162	166	529	3,204	288	-	-	73	464	8	11,896	-	-	1,928	171	2,099	6	13,995
1993	6,600	129	822	1,759	40	-	-	1	471	3	9,825	-	-	580	401	981	2	10,811
1994	8,131	162	1,226	5,667	50	-	-	559	-	15,795	63	2	906	148	1,118	2	16,916	
1995	18,909	270	688	7,223	821	-	-	335	2	28,248	11	-	657	307	975	4	29,225	
1996	7,644	94	910	5,359	102	-	-	956	-	15,066	3,700	-	4,639	110	8,449	14	23,519	
1997	13,152	34	1,312	4,354	1,054	-	-	1,814	-	21,720	367	-	2,240	289	2,897	20	24,632	
1998	5,391	85	1,265	4,439	188	-	-	1,910	-	13,277	1	-	1,771	694	2,466	21	15,763	
1999	16,173	35	1,174	5,193	256	-	-	3,089	-	25,919	2,369	35	184	625	3,213	21	29,153	
2000	16,486	102	960	6,935	1,976	-	-	2,780	2	29,240	3,019	99	693	403	4,214	50	33,475	
2001	7,620	180	797	5,477	968	10	-	1,839	4	16,895	863	-	292	404	1,559	65	18,504	
2002	9,273	99	846	4,158	767	1	-	1,523	4	16,672	1,708	2	50	666	2,427	60	19,164	
2003	6,432	44	1,249	3,124	2,141	-	-	1,863	21	14,874	3,211	43	22	412	3,689	77	18,622	
2004	7,421	132	1,856	3,592	636	-	-	1,714	3	15,353	8,880	14	-	60	8,954	27	24,384	
2005	11,451	549	1,939	6,136	1,085	-	-	1,368	-	22,527	4,542	-	201	86	4,830	24	27,384	
2006	7,234	108	1,132	3,742	949	-	-	1,149	-	14,314	9,806	-	-	98	9,904	24	24,242	
2007	5,899	236	2,317	5,097	1,054	-	-	1,401	-	16,004	4,147	-	42	16	4,205	24	20,233	
2008	9,253	64	1,503	6,317	1,536	-	-	979	-	19,652	4,392	15	-	94	4,501	24	24,177	
2009	7,424	50	1,052	4,795	794	-	-	892	-	15,008	3,019	-	410	156	3,585	*	18,617	

<sup>1</sup> Source: International Scientific Committee, 10th Plenary Meeting, PBFWG workshop report on Pacific Bluefin Tuna, July 2010—Fuente: Comité Científico Internacional, 10ª Reunión Plenaria, Taller PBFWG sobre Atún Aleta Azul del Pacífico, julio de 2010

**TABLE A-6a.** Annual retained catches of North Pacific albacore by region and gear, in metric tons, compiled from IATTC data (EPO) and SPC data (WCPO). The data for 2008 and 2009 are preliminary.

**TABLA A-6a.** Capturas retenidas anuales de atún albacora del Pacífico Norte por región, en toneladas métricas, compiladas de datos de la CIAT (OPO) y la SPC (WCPO). Los datos de 2008 y 2009 son preliminares.

ALB (N)	Eastern Pacific Ocean Océano Pacífico oriental					Western and central Pacific Ocean Océano Pacífico occidental y central					Total
	LL	LP	LTL	OTR	Subtotal	LL	LP	LTL	OTR	Subtotal	
1982	1,971	198	3,303	612	6,084	16,304	29,841	3,410	13,351	62,906	68,990
1983	1,572	449	7,751	94	9,866	15,014	21,256	1,833	7,582	45,685	55,551
1984	2,592	1,441	8,343	5,337	17,713	13,541	25,602	1,011	13,333	53,487	71,200
1985	1,313	877	5,308	1,218	8,716	13,468	21,335	1,163	13,729	49,695	58,411
1986	698	86	4,282	243	5,309	12,442	16,442	456	10,695	40,035	45,344
1987	1,114	320	2,300	172	3,906	14,297	18,920	570	11,337	45,124	49,030
1988	899	271	4,202	81	5,453	14,702	6,543	165	18,887	40,297	45,750
1989	952	21	1,852	161	2,986	13,584	8,662	148	19,825	42,219	45,205
1990	1,143	170	2,440	63	3,816	15,465	8,477	465	26,096	50,503	54,319
1991	1,514	834	1,783	6	4,137	16,535	6,269	201	10,792	33,797	37,934
1992	1,635	255	4,515	2	6,407	18,356	13,633	419	16,578	48,986	55,393
1993	1,772	1	4,331	25	6,129	29,371	12,796	2,417	4,087	48,671	54,800
1994	2,356	85	9,581	106	12,128	28,469	26,304	3,553	3,380	61,706	73,834
1995	1,380	465	7,308	102	9,255	31,568	20,596	3,450	1,623	57,237	66,492
1996	1,675	72	8,195	99	10,041	37,708	20,224	13,654	971	72,557	82,598
1997	1,365	59	6,056	1,019	8,499	47,000	32,252	12,618	1,717	93,587	102,086
1998	1,730	81	11,938	1,250	14,999	46,320	22,924	8,136	1,987	79,367	94,366
1999	2,701	227	10,801	3,668	17,397	44,066	50,202	3,052	7,487	104,807	122,204
2000	1,880	86	10,874	1,869	14,709	40,086	21,533	4,371	3,116	69,106	83,815
2001	1,822	157	11,570	1,638	15,187	35,303	29,412	5,168	1,364	71,247	86,434
2002	1,227	381	11,905	2,388	15,901	32,132	48,451	4,418	3,831	88,832	104,733
2003	1,126	59	17,749	2,260	21,194	31,350	36,114	4,137	924	72,525	93,719
2004	854	126	20,162	1,623	22,765	28,430	32,254	2,093	7,354	70,131	92,896
2005	582	66	13,722	1,741	16,111	31,859	16,133	345	1,442	49,779	65,890
2006	3,797	1	18,500	408	22,706	29,464	15,422	431	729	46,046	68,752
2007	2,979	21	17,962	1,416	22,378	28,848	37,768	708	5,022	72,346	94,724
2008	916	1,050	16,149	308	18,423	27,358	18,016	695	2,617	48,686	67,109
2009	563	2,084	16,329	589	19,565	24,459	30,343	757	2,336	57,895	77,460



**TABLE A-6b.** Annual retained catches of South Pacific albacore by region, in metric tons, compiled from IATTC data (EPO) and SPC data (WCPO). The data for 2008 and 2009 are preliminary.

**TABLA A-6b.** Capturas retenidas anuales de atún albacora del Pacífico Sur por región, en toneladas métricas, compiladas de datos de la CIAT (OPO) y la SPC (WCPO). Los datos de 2008 y 2009 son preliminares.

ALB (S)	Eastern Pacific Ocean Océano Pacífico oriental				Western and central Pacific Ocean Océano Pacífico occidental y central					Total
	LL	LTL	OTR	Subtotal	LL	LP	LTL	OTR	Subtotal	
1980										
1981	5,235	-	35	5,270	27,459	-	2,085	-	29,544	34,814
1982	6,436	-	2	6,438	21,911	1	2,434	4	24,350	30,788
1983	5,861	-	2	5,863	18,448	-	744	37	19,229	25,092
1984	4,120	-	24	4,144	16,220	2	2,773	1,565	20,560	24,704
1985	5,955	-	170	6,125	21,183	-	3,253	1,767	26,203	32,328
1986	5,752	74	149	5,975	26,889	-	1,929	1,797	30,615	36,590
1987	8,880	188	3	9,071	13,099	9	1,946	927	15,981	25,052
1988	9,035	1,282	-	10,317	19,253	-	3,014	5,283	27,550	37,867
1989	5,832	593	90	6,515	12,906	-	7,777	21,878	42,561	49,076
1990	5,393	1,336	306	7,035	13,975	245	5,639	7,232	27,091	34,126
1991	6,379	795	170	7,344	17,006	14	7,010	1,319	25,349	32,693
1992	15,445	1,205	18	16,668	15,147	11	5,373	47	20,578	37,246
1993	9,422	35	19	9,476	20,807	74	4,261	51	25,193	34,669
1994	8,034	446	22	8,502	26,084	67	6,718	67	32,936	41,438
1995	4,805	2	15	4,822	24,527	139	7,714	89	32,469	37,291
1996	5,956	94	21	6,071	17,860	30	7,285	135	25,310	31,381
1997	8,313	466	-	8,779	18,790	21	4,213	133	23,157	31,936
1998	10,905	12	-	10,917	26,886	36	6,268	85	33,275	44,192
1999	8,932	81	7	9,020	22,977	138	3,338	67	26,520	35,540
2000	7,783	778	3	8,564	26,185	102	5,491	136	31,914	40,478
2001	17,588	516	5	18,109	31,050	37	4,626	194	35,907	54,016
2002	14,062	131	40	14,233	46,528	18	4,443	110	51,099	65,332
2003	23,775	419	3	24,197	32,994	12	5,193	127	38,326	62,523
2004	17,590	331	-	17,921	40,197	110	4,200	188	44,695	62,616
2005	8,279	181	7	8,467	49,318	29	3,270	208	52,825	61,292
2006	6,815	48	119	6,982	55,883	29	2,835	207	58,954	65,936
2007	5,955	19	87	6,061	51,375	17	2,063	-	53,455	59,516
2008	5,082	-	159	5,241	41,809	12	3,502	1	45,324	50,565
2009	6,406	-	213	6,619	58,499	21	2,027	-	60,547	67,166

**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 in the EPO, by purse-seine vessels. The data for 2010 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 en el OPO. Los datos de 2010 son preliminares. Los datos de los atunes aleta amarilla, barrilete, y patudo fueron ajustados a la estimación de composición por especie, y son preliminares.

	Number of sets—Número de lances			Retained catch—Captura retenida		
	Vessel capacity—Capacidad del buque		Total	YFT	SKJ	BET
	≤363 t	>363 t				
<b>DEL</b>	<b>Sets on fish associated with dolphins Lances sobre peces asociados con delfines</b>					
<b>1995</b>	0	7,185	7,185	132,561	2,546	1
<b>1996</b>	14	7,472	7,486	138,295	1,760	57
<b>1997</b>	43	8,977	9,020	152,052	8,149	0
<b>1998</b>	0	10,645	10,645	154,200	4,992	6
<b>1999</b>	0	8,648	8,648	143,128	1,705	5
<b>2000</b>	0	9,235	9,235	146,533	540	15
<b>2001</b>	0	9,876	9,876	238,629	1,802	6
<b>2002</b>	0	12,290	12,290	301,099	3,180	2
<b>2003</b>	0	13,760	13,760	265,512	13,332	1
<b>2004</b>	0	11,783	11,783	177,460	10,730	3
<b>2005</b>	0	12,173	12,173	166,211	12,127	2
<b>2006</b>	0	8,923	8,923	91,978	4,787	0
<b>2007</b>	0	8,871	8,871	97,032	3,277	7
<b>2008</b>	0	9,246	9,246	122,105	8,382	5
<b>2009</b>	0	10,910	10,910	178,436	2,719	1
<b>2010</b>	0	11,645	11,645	168,984	1,627	4
<b>OBJ</b>	<b>Sets on fish associated with floating objects Lances sobre peces asociados con objetos flotantes</b>					
<b>1995</b>	707	3,519	4,226	21,364	80,052	41,875
<b>1996</b>	1,230	3,965	5,195	28,102	69,637	58,376
<b>1997</b>	1,699	5,610	7,309	30,255	116,802	62,704
<b>1998</b>	1,198	5,465	6,663	26,769	110,335	41,919
<b>1999</b>	630	4,483	5,113	43,341	181,636	49,330
<b>2000</b>	508	3,713	4,221	42,522	121,723	92,966
<b>2001</b>	827	5,674	6,501	67,200	122,363	59,748
<b>2002</b>	867	5,771	6,638	38,057	116,793	55,901
<b>2003</b>	706	5,457	6,163	30,307	181,214	51,296
<b>2004</b>	615	4,986	5,601	28,340	117,212	64,005
<b>2005</b>	639	4,992	5,631	26,126	133,509	66,257
<b>2006</b>	1,158	6,862	8,020	34,313	191,093	82,136
<b>2007</b>	1,384	5,857	7,241	29,619	122,286	62,189
<b>2008</b>	1,819	6,655	8,474	34,819	157,274	73,855
<b>2009</b>	1,821	7,077	8,898	36,136	157,067	75,888
<b>2010</b>	1,788	6,399	8,187	38,113	113,716	57,167

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

	Number of sets—Número de lances			Retained catch—Captura retenida		
	Vessel capacity—Capacidad del buque		Total	YFT	SKJ	BET
	≤363 t	>363 t				
<b>NOA</b>	<b>Sets on unassociated schools</b> <b>Lances sobre cardúmenes no asociados</b>					
<b>1995</b>	6,120	4,782	10,902	61,509	44,449	3,445
<b>1996</b>	5,807	5,118	10,925	72,210	32,576	2,878
<b>1997</b>	5,334	4,680	10,014	62,571	28,505	1,568
<b>1998</b>	5,700	4,607	10,307	72,990	25,304	2,204
<b>1999</b>	5,632	6,139	11,771	95,451	78,224	1,823
<b>2000</b>	5,497	5,472	10,969	64,208	83,384	2,301
<b>2001</b>	4,022	3,024	7,046	78,107	19,000	764
<b>2002</b>	4,938	3,442	8,380	73,130	33,573	1,518
<b>2003</b>	7,274	5,131	12,405	87,460	79,422	1,755
<b>2004</b>	4,969	5,696	10,665	66,757	69,882	1,463
<b>2005</b>	6,109	7,816	13,925	75,764	117,593	1,636
<b>2006</b>	6,189	8,443	14,632	40,340	100,388	1,702
<b>2007</b>	4,845	7,211	12,056	43,365	82,732	1,254
<b>2008</b>	4,771	6,210	10,981	28,133	130,947	1,168
<b>2009</b>	3,308	4,109	7,417	22,184	70,737	910
<b>2010</b>	2,252	3,886	6,138	43,912	31,849	581
<b>ALL</b>	<b>Sets on all types of schools</b> <b>Lances sobre todos tipos de cardumen</b>					
<b>1995</b>	6,827	15,486	22,313	215,434	127,047	45,321
<b>1996</b>	7,051	16,555	23,606	238,607	103,973	61,311
<b>1997</b>	7,076	19,267	26,343	244,878	153,456	64,272
<b>1998</b>	6,898	20,717	27,615	253,959	140,631	44,129
<b>1999</b>	6,262	19,270	25,532	281,920	261,565	51,158
<b>2000</b>	6,005	18,420	24,425	253,263	205,647	95,282
<b>2001</b>	4,849	18,574	23,423	383,936	143,165	60,518
<b>2002</b>	5,805	21,503	27,308	412,286	153,546	57,421
<b>2003</b>	7,980	24,348	32,328	383,279	273,968	53,052
<b>2004</b>	5,584	22,465	28,049	272,557	197,824	65,471
<b>2005</b>	6,748	24,981	31,729	268,101	263,229	67,895
<b>2006</b>	7,347	24,228	31,575	166,631	296,268	83,838
<b>2007</b>	6,229	21,939	28,168	170,016	208,295	63,450
<b>2008</b>	6,590	22,111	28,701	185,057	296,603	75,028
<b>2009</b>	5,129	22,096	27,225	236,756	230,523	76,799
<b>2010</b>	4,040	21,930	25,970	251,009	147,192	57,752

**TABLE A-8.** Types of floating objects on which sets were made. The 2010 data are preliminary.

**TABLA A-8.** Tipos de objetos flotantes sobre los que se hicieron lances. Los datos de 2010 son preliminares.

OBJ	Flotsam Naturales		FADs Plantados		Unknown Desconocido		Total
	No.	%	No.	%	No.	%	
<b>1995</b>	728	20.7	2,714	77.1	77	2.2	3,519
<b>1996</b>	538	13.6	3,405	85.9	22	0.6	3,965
<b>1997</b>	829	14.8	4,728	84.3	53	0.9	5,610
<b>1998</b>	751	13.7	4,612	84.4	102	1.9	5,465
<b>1999</b>	831	18.5	3,632	81.0	20	0.4	4,483
<b>2000</b>	488	13.1	3,187	85.8	38	1.0	3,713
<b>2001</b>	592	10.4	5,058	89.1	24	0.4	5,674
<b>2002</b>	778	13.5	4,966	86.1	27	0.5	5,771
<b>2003</b>	715	13.1	4,722	86.5	20	0.4	5,457
<b>2004</b>	586	11.8	4,370	87.6	30	0.6	4,986
<b>2005</b>	603	12.1	4,281	85.8	108	2.2	4,992
<b>2006</b>	697	10.2	6,123	89.2	42	0.6	6,862
<b>2007</b>	597	10.2	5,188	88.6	72	1.2	5,857
<b>2008</b>	560	8.4	6,070	91.2	25	0.4	6,655
<b>2009</b>	322	4.5	6,728	95.1	27	0.4	7,077
<b>2010</b>	330	5.2	6,047	94.5	22	0.3	6,399

**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		PYF		TWN		USA		OTR <sup>1</sup>
	E	C	E	C	E	C	E	C	E	C	E	C	
1981	-	-	131,254	59,226	19,727	6,540	-	-	5,952	2,948	-	-	-
1982	-	-	116,210	61,369	18,608	7,489	-	-	8,117	3,910	-	-	-
1983	-	-	127,177	69,563	14,680	6,478	-	-	4,850	2,311	-	-	49
1984	-	-	119,628	57,262	11,770	4,490	-	-	3,730	1,734	-	-	-
1985	-	-	106,761	74,347	19,799	10,508	-	-	3,126	1,979	-	-	2
1986	-	-	160,572	111,673	30,778	17,432	-	-	4,874	2,569	-	-	68
1987	-	-	188,386	104,053	36,436	19,405	-	-	12,267	5,335	-	-	273
1988	-	-	182,709	82,384	43,056	10,172	-	-	9,567	4,590	-	-	234
1989	-	-	170,370	84,961	43,365	4,879	-	-	16,360	4,962	-	-	-
1990	-	-	178,414	117,923	47,167	17,415	-	-	12,543	4,755	-	-	-
1991	-	-	200,374	112,337	65,024	24,644	-	-	17,969	5,862	42	12	173
1992	-	-	191,300	93,011	45,634	13,104	199	88	33,025	14,142	325	106	128
1993	-	-	159,956	87,976	46,375	12,843	153	80	18,064	6,566	415	81	227
1994	-	-	163,999	92,606	44,788	13,249	1,373	574	12,588	4,883	303	26	523
1995	-	-	129,599	69,435	54,979	12,778	1,776	559	2,910	1,639	828	179	562
1996	-	-	103,649	52,298	40,290	14,120	2,087	931	5,830	3,554	510	181	184
1997	-	-	96,385	59,325	30,493	16,663	3,464	1,941	8,720	5,673	464	216	752
1998	-	-	106,568	50,167	51,817	15,089	4,724	2,858	10,586	5,039	1,008	405	1,176
1999	-	-	80,950	32,886	54,269	13,295	5,512	4,446	23,247	7,865	1,756	470	1,156
2000	-	-	79,327	45,216	33,585	18,758	8,090	4,382	18,152	7,809	736	204	4,868
2001	13,054	5,162	102,220	54,775	72,261	18,200	7,445	5,086	41,926	20,060	1,438	238	15,614
2002	34,894	10,398	103,912	45,401	96,273	14,370	943	3,238	78,024	31,773	611	138	10,258
2003	43,290	14,548	101,236	36,187	71,006	15,551	11,098	4,101	74,456	28,328	1,313	262	11,595
2004	15,886	4,033	76,828	30,937	55,861	14,540	13,757	3,030	49,981	19,535	1,047	166	9,194
2005	16,895	3,681	65,085	25,712	15,798	12,284	13,356	2,514	38,542	12,229	2,579	557	5,442
2006	*	969	56,525	21,432	*	8,752	11,786	3,220	38,139	12,375	234	121	6,792
2007	12,229	2,624	45,970	20,515	10,548	6,037	9,672	3,753	22,243	9,498	2,686	436	3,731
2008	11,519	2,984	44,555	21,376	4,394	4,302	10,255	3,017	13,319	4,198	6,314	1,369	1,372
2009	*	2,481	41,798	21,698	8,641	6,441	10,686	4,032	5,670	6,366	5,145	780	1,462

<sup>1</sup> Includes the catches of—Incluye las capturas de: Belize, Chile, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, México, Nicaragua, Panamá, Vanuatu

**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 2010 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 2010 son preliminares.

	PS		LP		Total	
	No.	Vol. (m <sup>3</sup> )	No.	Vol. (m <sup>3</sup> )	No.	Vol. (m <sup>3</sup> )
<b>1981</b>	251	196,484	41	3,308	292	199,792
<b>1982</b>	223	178,234	40	3,016	263	181,250
<b>1983</b>	215	149,404	60	3,940	275	153,344
<b>1984</b>	175	121,650	40	3,245	215	124,895
<b>1985</b>	178	137,814	25	2,574	203	140,387
<b>1986</b>	166	131,806	17	2,060	183	133,867
<b>1987</b>	177	152,351	29	2,376	206	154,727
<b>1988</b>	189	156,636	36	3,274	225	159,910
<b>1989</b>	178	141,956	30	3,135	208	145,091
<b>1990</b>	172	143,946	23	2,044	195	145,990
<b>1991</b>	155	124,501	19	1,629	174	126,131
<b>1992</b>	160	117,017	19	1,612	179	118,629
<b>1993</b>	152	118,730	15	1,543	167	120,272
<b>1994</b>	167	122,214	20	1,725	187	123,939
<b>1995</b>	175	124,096	20	1,784	195	125,880
<b>1996</b>	183	132,731	17	1,639	200	134,370
<b>1997</b>	194	146,533	23	2,105	217	148,637
<b>1998</b>	203	161,560	22	2,217	225	163,777
<b>1999</b>	208	180,652	14	1,656	222	182,308
<b>2000</b>	205	180,679	13	1,310	218	181,989
<b>2001</b>	205	189,897	10	1,259	215	191,156
<b>2002</b>	218	199,870	6	921	224	200,791
<b>2003</b>	215	202,755	3	338	218	203,093
<b>2004</b>	218	206,473	3	338	221	206,811
<b>2005</b>	222	213,286	4	498	226	213,784
<b>2006</b>	226	225,950	4	498	230	226,448
<b>2007</b>	229	226,985	4	380	233	227,365
<b>2008</b>	220	225,030	4	380	224	225,410
<b>2009</b>	214	223,995	4	380	218	224,375
<b>2010</b>	200	209,600	3	255	203	209,855

**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 2009, 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 2009, por bandera y arte de pesca. Se incluye cada buque en los totales de cada bandera bajo la cual pescó durante el año, pero solamente una vez en el “Total general”; por consiguiente, los totales generales no equivalen necesariamente a las sumas de las banderas individuales.

Flag Bandera	Gear Arte	Well volume — Volumen de bodega (m <sup>3</sup> )					Total	
		<401	401-800	801-1300	1301-1800	>1800	No.	Vol. (m <sup>3</sup> )
		Number—Número						
BOL	PS	1	-	-	-	-	1	222
COL	PS	2	2	7	3	-	14	14,860
ECU	PS	36	23	13	4	9	85	60,096
ESP	PS	-	-	-	-	4	4	10,116
GTM	PS	-	-	-	1	1	2	3,575
HND	PS	-	1	1	-	-	2	1,559
MEX	PS	5	5	20	16	-	46	50,254
	LP	4	-	-	-	-	4	380
NIC	PS	-	-	4	1	-	5	6,353
PAN	PS	-	4	8	10	2	24	31,225
PER	PS	-	2	-	-	-	2	1,000
SLV	PS	-	-	1	-	3	4	7,415
USA	PS	-	-	1	-	2	3	5,315
VEN	PS	-	-	11	8	2	21	29,403
VUT	PS	-	-	1	2	-	3	3,609
Grand total—	PS	44	35	67	45	23	214	
Total general	LP	4	-	-	-	-	4	
	PS + LP	48	35	67	45	23	218	
		Well volume — Volumen de bodega (m <sup>3</sup> )						
Grand total—	PS	11,591	20,517	75,251	66,101	50,535		223,995
Total general	LP	380	-	-	-	-		380
	PS + LP	11,971	20,517	75,251	66,101	50,535		224,375

- : none—ninguno

**TABLE A-11b.** Estimates of the numbers and well volumes (cubic meters) of purse-seine (PS) and pole-and-line (LP) vessels that fished in the EPO in 2010 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) y cañeros (LP) que pescaron en el OPO en 2010, por bandera y arte de pesca. Se incluye cada buque en los totales de cada bandera bajo la cual pescó durante el año, pero solamente una vez en el “Total general”; por consiguiente, los totales generales no equivalen necesariamente a las sumas de las banderas individuales.

Flag Bandera	Gear Arte	Well volume — Volumen de bodega (m <sup>3</sup> )					Total	
		<401	401-800	801-1300	1301-1800	>1800	No.	Vol. (m <sup>3</sup> )
		Number—Número						
BOL	PS	1	-	-	-	-	1	222
COL	PS	1	2	7	3	-	13	14,590
ECU	PS	34	25	13	4	9	85	60,685
ESP	PS	-	-	-	-	4	4	10,116
GTM	PS	-	-	1	1	1	3	4,819
HND	PS	-	1	1	-	-	2	1,559
MEX	PS	3	3	18	15	-	39	45,224
	LP	3	-	-	-	-	3	255
NIC	PS	-	-	4	1	-	5	6,353
PAN	PS	-	3	8	10	3	24	32,599
PER	PS	-	1	-	-	-	1	458
SLV	PS	-	-	1	-	3	4	7,415
VEN	PS	-	-	9	8	-	17	22,747
VUT	PS	-	-	1	2	-	3	3,609
Grand total—	PS	39	34	63	44	20	200	
Total general	LP	3	-	-	-	-	3	
	PS + LP	42	34	63	44	20	203	
		Well volume — Volumen de bodega (m <sup>3</sup> )						
Grand total—	PS	10,491	19,638	70,679	65,556	43,236		209,600
Total general	LP	255	-	-	-	-		255
	PS + LP	10,746	19,638	70,679	65,556	43,236		209,855

- : 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 2000-2009 and in 2010, 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 2000-2009 y en 2010 por mes.

Month Mes	2000-2009			2010
	Min	Max	Ave.-Prom.	
1	127.3	107.3	157.7	100.7
2	142.8	106.4	175.3	151.4
3	134.2	101.2	159.9	148.8
4	140.1	108.9	165.0	152.6
5	138.1	99.9	164.4	157.1
6	140.6	106.2	175.0	154.9
7	147.4	116.4	170.4	167.5
8	108.8	62.2	140.2	120.3
9	119.6	92.9	137.7	107.0
10	146.1	93.6	172.2	164.0
11	128.4	77.3	150.8	109.8
12	75.1	39.1	116.4	53.6
<b>Ave.-Prom.</b>	129.0	92.6	157.1	132.3