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THE FISHERY FOR TUNAS AND BILLFISHES IN THE EASTERN  
PACIFIC OCEAN IN 2006

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INTRODUCTION

This report provides a summary of the fishery for tunas in the eastern Pacific Ocean (EPO); it is based on data available to the IATTC staff in April 2007.

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 abbreviations are used:

Species:

ALB	Albacore tuna ( <i>Thunnus alalunga</i> )		<i>platypterus</i> )
BET	Bigeye tuna ( <i>Thunnus obesus</i> )	SKJ	Skipjack tuna ( <i>Katsuwonus pelamis</i> )
BIL	Unidentified Istiophorid billfishes	SKX	Unidentified elasmobranchs
BKJ	Black skipjack ( <i>Euthynnus lineatus</i> )	SSP	Shortbill spearfish ( <i>Tetrapturus angustirostris</i> )
BLM	Black marlin ( <i>Makaira indica</i> )	SWO	Swordfish ( <i>Xiphias gladius</i> )
BUM	Blue marlin ( <i>Makaira nigricans</i> )	TUN	Unidentified tunas
BZX	Bonito ( <i>Sarda</i> spp.)	YFT	Yellowfin tuna ( <i>Thunnus albacares</i> )
CAR	Chondrichthyes, cartilaginous fishes nei <sup>1</sup>		
CGX	Carangids (Carangidae)		
DOX	Dorado ( <i>Coryphaena</i> spp.)		
MLS	Striped marlin ( <i>Tetrapturus audax</i> )		
MZZ	Osteichthyes, marine fishes nei		
PBF	Pacific bluefin tuna ( <i>Thunnus orientalis</i> )		
SFA	Indo-Pacific sailfish ( <i>Istiophorus</i>		

Set types:

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

<sup>1</sup> not elsewhere included

**Flags:**

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BLZ	Belize
BOL	Bolivia
CAN	Canada
CHL	Chile
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
UNK	Unknown
URY	Uruguay
USA	United States of America
VEN	Venezuela
VUT	Vanuatu

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**Fishing gears:**

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FPN	Trap
GN	Gillnet
HAR	Harpoon
LL	Longline
LP	Pole-and-line
LTL	Troll
OTR	Other <sup>2</sup>
NK	Unknown
PS	Purse seine
RG	Recreational
TX	Trawl

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**Ocean areas:**

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EPO	Eastern Pacific Ocean
WCPO	Western and Central Pacific Ocean

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

This document summarizes the fisheries for species covered by the IATTC Convention (tunas and other fish 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 report 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 less complete.

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 large (>24 m) longline vessels of some nations 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, estimates derived from the species and size composition sampling program, reports from governments and other entities, and published reports.

## **1. 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 often 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. This information 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 the 2004 report, 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 2000-2006 are adjusted, based on estimates obtained for each year, by flag. The catch data for the previous years were adjusted by applying the average ratio by species from the 2000-2006 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 2006 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 longlines and other gears for 2005 and 2006 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 1976-2006 are shown in Table A-2. The catches of tunas and bonitos by all gears during 2002-2006, by gear and flag, are shown in Tables A-3a-e, and the purse-seine and pole-and-line catches and the recreational landings of tunas and bonitos during 2005-2006 are summarized by flag in Tables A-4a-b. 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 1998-2006. 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 3.

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. The effects of El Niño events and other environmental conditions on the fisheries of the EPO are discussed further in Section J.5, *Physical environment*.

## **1.1. Catches by species**

### **1.1.1. Yellowfin tuna**

The annual catches of yellowfin during 1977-2006 are shown in Table A-1 and Figure B-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 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. In the WCPO, the catches of yellowfin reached 353 thousand t in 1990, peaked at 462 thousand t in 1998, and remained high through 2003. Catches in the WCPO dropped to 367 thousand t in 2004, and in 2005 increased to 426 thousand t. The catches throughout the Pacific Ocean were high during 2001-2003. In the EPO, the catch of yellowfin in 2002, 443 thousand t, was the greatest on record, but in 2004 and 2005 it decreased substantially. The catches of yellowfin in the EPO of 173 thousand t during 2006 were the lowest since 1984.

The annual retained catches of yellowfin in the EPO by purse-seine and pole-and-line vessels during 1977-2006 are shown in Table A-2a. The average annual retained catch during 1991-2005 was 276 thousand t (range: 212 to 413 thousand t). The preliminary estimate of the retained catch in 2006, 167 thousand t, was 38% less than in 2005, and 39% less than the average for 1991-2005. The average amount of yellowfin discarded at sea during 1993-2005 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 1977-2006 are shown in Table A-2a. During 1991-2005 they remained relatively stable, averaging about 21 thousand t (range: 10 to 31 thousand t), or about 7% 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 1991-2005 they averaged about 2 thousand t.

Further information on yellowfin tuna is presented in Section B of this report.

### **1.1.2. Skipjack tuna**

The annual catches of skipjack during 1977-2006 are shown in Table A-1 and Figure C-1. Most of the skipjack catch in the Pacific is taken in the WCPO. The greatest reported catch in the WCPO, about 1.5

million t, occurred in 2005, while the greatest reported catch in the EPO, 318 thousand t, occurred in 2006.

The annual retained catches of skipjack in the EPO by purse-seine and pole-and-line vessels during 1977-2006 are shown in Table A-2a. During 1991-2005 the annual retained catch averaged 157 thousand t (range 64 to 275 thousand t). The preliminary estimate of the retained catch in 2006, 309 thousand t, is 97% greater than the average for 1991-2005, and 12% greater than the previous record-high catch of 2003. The average amount of skipjack discarded at sea during 1993-2005 was about 11% of the total catch of skipjack (range: 7 to 19%) (Table A-2a).

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

Further information on skipjack tuna is presented in Section C of this report.

### **1.1.3. Bigeye tuna**

The annual catches of bigeye during 1977-2006 are shown in Table A-1 and Figure D-1. Overall, the catches in both the EPO and WCPO have increased, but with considerable fluctuation. The catches in the EPO reached 105 thousand t in 1986, and have fluctuated between about 74 and 147 thousand t since then, with the greatest reported 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 116 thousand t. Catches increased significantly for bigeye in the WCPO in 2004 and 2005 (145 and 158 thousand t).

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 22 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 45 to 94 thousand t during 1995-2000. A preliminary estimate of the retained catch in the EPO in 2006 is 71 thousand t. The average amount of bigeye discarded at sea during 1993-2005 was about 5% of the purse-seine catch of bigeye (range: 2 to 9%). Small amounts of bigeye have been caught by pole-and-line vessels, as shown in Table A-2a.

During 1975-1993, prior to the increased use of FADs and the resulting greater catches of bigeye by purse-seine vessels, the longline fisheries accounted for about 88%, on average, of the retained catches of this species from the EPO. During 1994-2005 the annual retained catches of bigeye by the longline fisheries ranged from about 36 to 74 thousand t (average: 54 thousand t), or an average of 46% of the total catch of bigeye in the EPO (Table A-2a). The preliminary estimate of the longline catch in the EPO in 2006 is 30 thousand t (Table A-2a).

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

Further information on bigeye tuna is presented in Section D of this report.

### **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 and Figure E-1. 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 1977-2006, by gear, are shown in Table A-2. During 1991-2005 the annual retained catch of bluefin from the EPO by purse-seine and pole-and-line vessels averaged 3 thousand t (range 400 t to 9 thousand t). The preliminary estimate of the retained catch of bluefin in 2006, 10 thousand t, is 7 thousand t greater than the average for 1991-2005. Small amounts of bluefin are discarded at sea by purse-seine vessels (Table A-2a).

Further information on Pacific bluefin tuna is presented in Section E of this report.

### **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-6 and in Figures F-1a-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.

Further information on albacore tuna is presented in Section F of this report.

### **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 1977-2006 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, wahoo) along with the unidentified tunas. The total retained catch of these other species by these fisheries was about 6 thousand t in 2006, which is greater than the 1991-2005 annual average retained catch of about 2 thousand t (range: 500 t to 9 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 and in Figures G-1, H-1, and I-1.

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 1991-2005 was 13 thousand t, but during 2001-2005 was about 17 thousand t. It is not clear whether this is due to increasing effort directed toward swordfish.

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 1991-2005 were about 5 thousand and 3 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, but these are considered discarded, although some may be landed but not reported. These data are also included in Table A-2b.

Further information on swordfish, blue marlin, and striped marlin is presented in Sections G-I of this report.

### **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.

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 1996-2005, are shown in Figures A-1a, A-2a, and A-3a, and preliminary

estimates for 2006 are shown in Figures A-1b, A-2b, and A-3b. The catches of yellowfin were low in the Northern areas off Mexico and Central America in 2006, as in 2004 and 2005. Yellowfin catches off South America were also lower as compared to the average catch distributions shown for 1996-2005. Skipjack catches in 2006 were significantly greater than those of the 1996-2005 average catch distributions. Significant catches of skipjack were made throughout the year from about 5° N to 15° S. As was the case in 2004, and 2005, the catches of skipjack in the inshore areas off Mexico were greater, possibly due to changes in fishing strategy due to poor yellowfin fishing. Bigeye are not often caught north of about 7°N. 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, described above, the relative importance of the inshore areas has decreased, while that of the offshore areas has increased. The majority of the bigeye catches occur between 5°N and 5°S on FADs.

### **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 the Japanese longline fleet during 2000-2004 are shown in Figure A-4. Data for the Japanese longline fishery in the EPO during 1956-1997 is 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 all of its Annual Reports since that for 1954, 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 Report 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 2001-2006 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 2006, and the second shows the combined data for each year of the 2001-2006 period. For bluefin, the histograms show the 2001-2006 catches by commercial and recreational gear combined. For black skipjack, the histograms show the 2001-2006 catches by commercial gear. Only a small amount of catch was taken by pole-and-line vessels in 2006, 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 school) and one pole-and-line fishery are defined (Figure A-5). The last fishery includes all 13 sampling areas. Of the 1,053 wells sampled, 739 contained yellowfin. The estimated size compositions of the fish caught during 2006 are shown in Figure A-6a.

The majority of the yellowfin catch was taken by sets associated with dolphins, and sets on unassociated schools. Much of the larger yellowfin (>100 cm) were caught during the third and fourth quarters in the Northern and Inshore dolphin fishery, and during the first quarter in the Southern dolphin fishery. Larger fish were also caught in the Southern unassociated fishery, mostly during the fourth quarter. A small amount of large yellowfin was taken in the Southern floating object-fishery during the third quarter. A mode of smaller yellowfin (50 cm) was evident in all of the floating-object areas during the year and in unassociated sets in the South during the first and second quarters. Small amounts of yellowfin were caught in the floating-object fisheries throughout the year. The catches by pole-and-line vessels were negligible.

The estimated size compositions of the yellowfin caught by all fisheries combined during 2001-2006 are shown in Figure A-6b. The average weights of the yellowfin caught in 2006 were significantly lower than the previous five years shown in the figure.

For stock assessments of skipjack, seven purse-seine fisheries (four associated with floating objects, two unassociated school, 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 1,053 wells sampled, 877 contained skipjack. The estimated size compositions of the fish caught during 2006 are shown in Figure A-7a. Large amounts of skipjack in the 40 to 50 cm size range were caught in all of the floating-object areas and in the Southern unassociated area during the first, second, and third quarters of 2006. Larger skipjack in the 60 to 70 cm size range were caught primarily during the third and fourth quarters in the North and Equatorial floating object areas and in the Southern unassociated area. Lesser amounts of the larger skipjack were taken in the floating-object fishery during the first and second quarters and in the dolphin fishery throughout the year. Negligible amounts of skipjack were caught by pole-and-line vessels.

The estimated size compositions of the skipjack caught by all fisheries combined during 2001-2006 are shown in Figure A-7b. The average weights of skipjack are considerably less than during the previous five years.

For stock assessments of bigeye, six purse-seine fisheries (four associated with floating objects, one unassociated school, 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 1,053 wells sampled, 338 contained bigeye. The estimated size compositions of the fish caught during 2006 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 2006, as in 2004 and 2005, nearly equal amounts of bigeye were taken in the Northern, Equatorial, and Southern floating-object fisheries. Small amounts of bigeye were caught in sets on unassociated schools, in floating-object sets in the Inshore area, and in sets on schools associated with dolphins. There were no recorded catches of bigeye by pole-and-line vessels.

The estimated size compositions of the bigeye caught by all fisheries combined during 2001-2006 are shown in Figure A-8b. The average weight of the fish was greatest in 2000, when the greatest catch of bigeye was taken. From 2002 to 2005 the average weights of bigeye have been fairly constant. However, in 2006 the average weight of bigeye was considerably less. The smaller bigeye (40-60 cm) were caught in floating-object sets throughout the year, while most of the larger fish (>80 cm) were caught during the first, second and fourth quarters in floating-object sets from the Equatorial area, and from the Southern area during most of the year.

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 2006 bluefin were caught between 26°N and 31°N from March through August. The majority of the catches of bluefin by both commercial and recreational vessels were taken during June, July and August. In the past, commercial and recreational catches have been reported separately. In 2004, 2005, and 2006 however, small sample sizes make it infeasible to estimate the catches and size compositions separately. Therefore,



the commercial and recreational catches of bluefin were combined for each year of the 2001-2006 period. The estimated size compositions are shown in Figure A-9. The commercial catch of bluefin far exceeded the recreational catch, but the estimate for the latter is very preliminary.

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 catch is discarded at sea, but small amounts, mixed with the more desirable species, are sometimes retained. Fourteen samples of black skipjack were taken in 2006; the estimated size compositions 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 2000-2004 are shown in Figures A-11 and A-12. The average weights of both yellowfin and bigeye taken by that fishery have remained about the same throughout its existence. Information on the size compositions of fish caught by the Japanese longline fishery in the EPO during 1958-1997 is available in IATTC Bulletins describing that fishery.

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

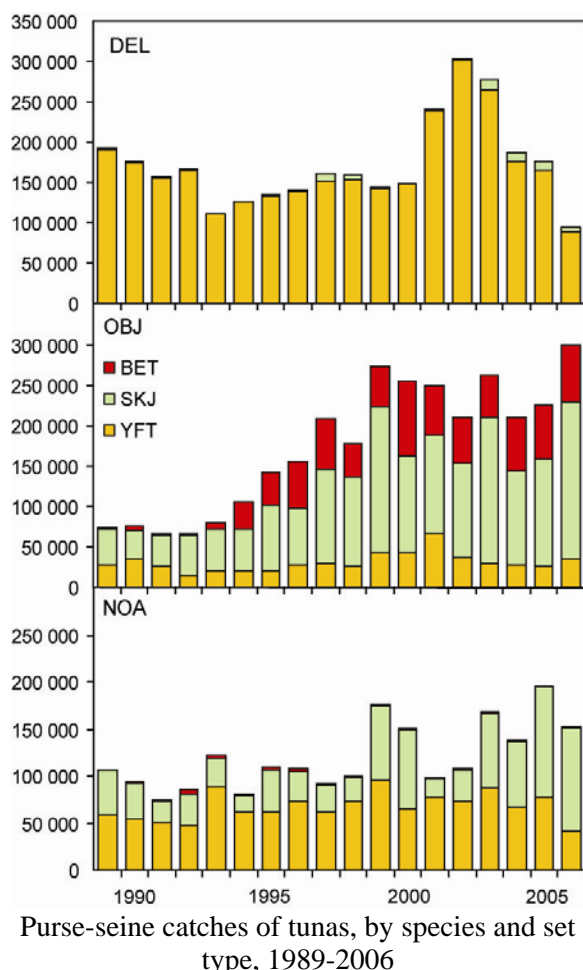
The annual retained catches of tunas and bonitos in the EPO during 2002-2006, by flag and gear, are shown in Tables A-3a-e. These tables include all of the known catches of tunas and bonitos compiled from records gathered from governments, fish-processing companies, logbooks, and import-export records. Similar information on tunas and bonitos prior to 2001, and historic data for tunas, billfishes, sharks, carangids, dorado, and miscellaneous fishes are available on the [IATTC website](#). The purse-seine, pole-and-line and recreational catches of tunas and bonitos in 2005 and 2006, by flag, are summarized in Tables A-4a-b (top panels).

### 1.5. Landings of tunas and bonitos by purse-seine and pole-and-line vessels

The landings are fish unloaded from fishing vessels during a calendar year, regardless of the year of catch. The country of landing is that in which the fish were unloaded or, in the case of transshipments, the country that received the transshipped fish. Preliminary landings data for 2005 and 2006 (Tables A-4a-b, lower panels) indicate that, of the 569 thousand t of tunas and bonitos landed in 2006, 59% was landed in Ecuador and 18% in Mexico. Other countries with significant landings of tunas and bonitos caught in the EPO included Colombia, and Venezuela (5%). It is important to note that, when final information is available, the landings currently assigned to various countries may change due to exports from storage facilities to processors in other nations.

### 1.6. Purse-seine catches per cubic meter of well volume

The total retained catch per cubic meter of well volume ( $C/m^3$ ) for the purse-seine vessels that fish for tunas in the EPO are presented in Table A-7 for the EPO, by vessel size group and species, for 2001-2006. To provide more detail in this index than would be available if the IATTC's historical six



classes of vessel capacity classification were used, the vessels are assigned to eight size groups. Yellowfin, skipjack, and bigeye contribute the most to the  $C/m^3$  for the larger vessels, while other species of tuna, such as black skipjack, make up an important part of the  $C/m^3$  of the smaller vessels in many years.

## **2. EFFORT**

### **2.1. Purse seine**

Tunas are caught by purse-seine vessels in three types of schools, those associated with dolphins, those associated with floating objects, such as flotsam or FADs, and those associated only with other fish (unassociated schools). Estimates of the numbers of purse-seine sets of each type in the EPO during the 1989-2006 period, and the retained catches of these sets, are shown in Table A-8 and in the figure on this previous page. The estimates for vessels  $\leq 363$  t carrying capacity were calculated from logbook data in the IATTC statistical data base, and those for vessels  $>363$  metric tons carrying capacity were calculated from the observer data bases of the IATTC, Ecuador, the European Union, Mexico, the United States, and Venezuela. The greatest numbers of sets on schools associated with floating objects and on unassociated schools of tuna 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 made on fish 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 12 years, and their relative importance has increased during this period, while that of flotsam has decreased, as shown by the data in Table A-9.

### **2.2. Longline**

The reported nominal longline fishing effort (in thousands of hooks), and the catches of the predominant tuna species by longline vessels in the EPO are shown in Table A-10.

## **3. THE FLEETS**

### **3.1. The purse-seine and pole-and-line fleets**

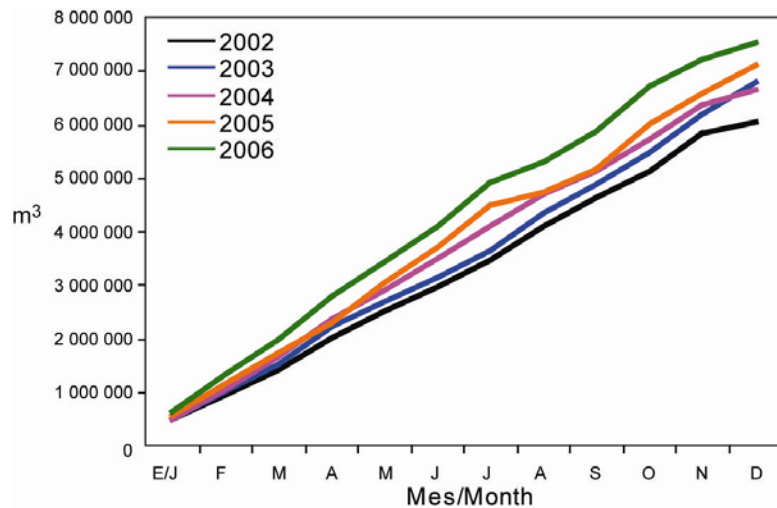
The IATTC maintains detailed records of gear, flag, and fish-carrying capacity for most of the vessels that fish with purse-seine or pole-and-line gear for yellowfin, skipjack, bigeye, and/or Pacific bluefin tuna in the EPO. The fleet described here includes purse-seine and pole-and-line vessels that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

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. The vessels were grouped, by carrying capacity, originally in short tons and later in metric tons, into six size classes.

Since 2000, the IATTC has used well volume, in cubic meters ( $m^3$ ), 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. 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



Cumulative capacity of the purse-seine and pole-and-line fleet at sea, by month, 2002-2006

about 691 m<sup>3</sup> per vessel (Table A-11; figure above).

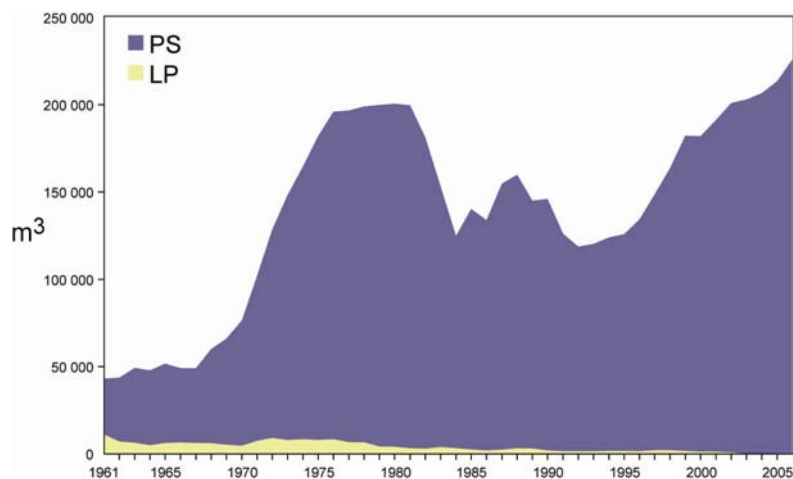
The catch rates in the EPO were low during 1978-1981, due to concentration of fishing effort on small fish, and the situation was exacerbated by a major El Niño event, which began in mid-1982 and persisted until late 1983 and made the fish less vulnerable to capture. The total well volume (purse-seine and pole-and-line) 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 125 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 119 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 2006 was 226 thousand m<sup>3</sup>.

The 2005 and preliminary 2006 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-12a-b. The fleet was dominated by vessels operating under the Mexican and Ecuadorian flags during 2006. The Ecuadorian fleet had about 26% and the Mexican fleet had about 25% of the total well volume during 2006, Panama about 15%, Venezuela about 14%, Colombia about 6%, Nicaragua and El Salvador about 4%, and Spain about 3%.

The cumulative capacity at sea during 2006 is compared to those of the previous four years in the figure on the right.

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 1995-2004, and the 2005

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 2006 the number of pole-and-line vessels decreased from 93 to 4, and their total well volume from about 11 thousand to about 500 m<sup>3</sup>. During the same period the number of purse-seine vessels increased from 125 to 225, and their total well volume from about 32 thousand to about 225 thousand m<sup>3</sup>, an average of about 1,000 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

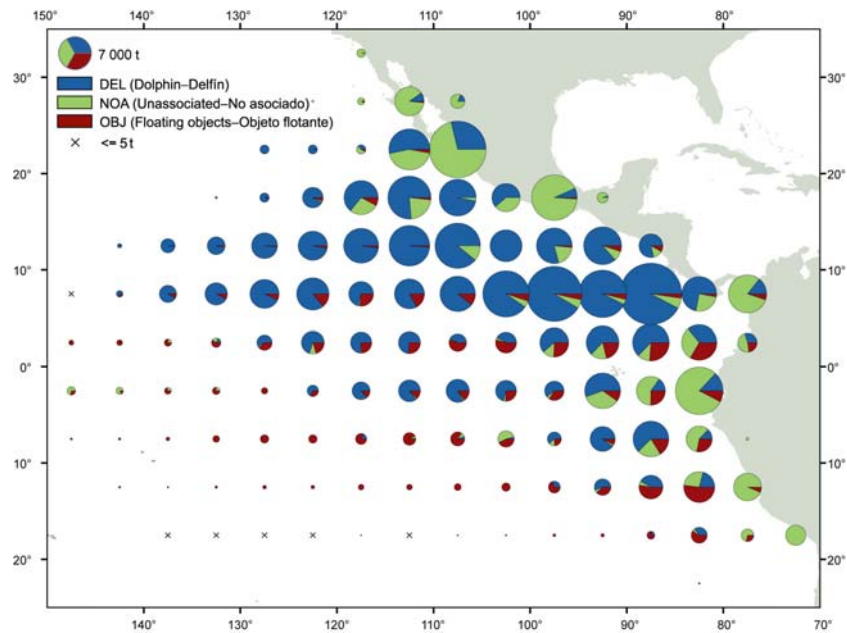


Carrying capacity, in cubic meters of well volume, of the purse-seine and pole-and-line fleets in the EPO, 1961-2006

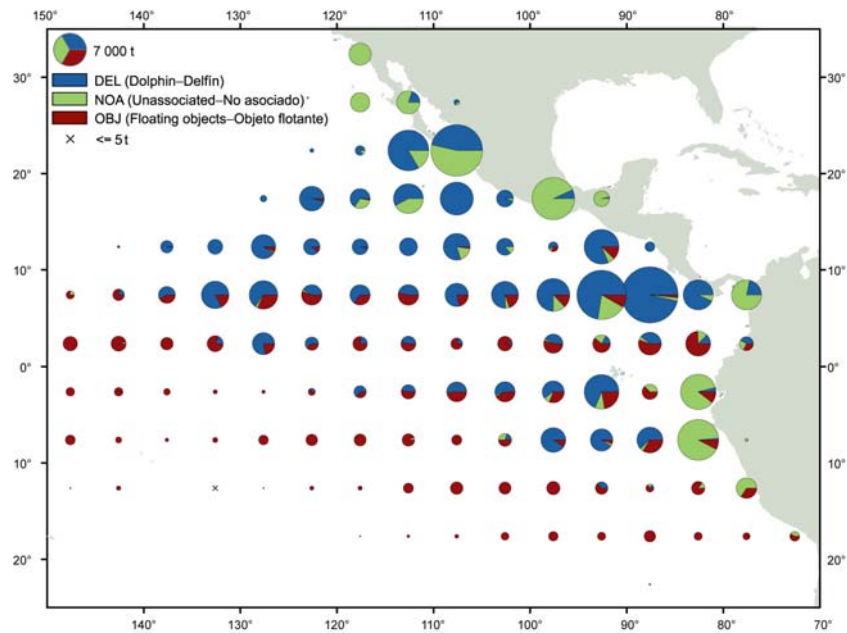
values, are shown in Table A-13. The monthly values are averages of the VAS estimated at weekly intervals by the IATTC staff. The fishery was regulated during some or all of the last four months of 1998-2006, so the VAS values for September-December 2006 are not comparable to the average VAS values for those months of 1995-2005. The average VAS values for 1996-2005 and 2006 were 109 thousand m<sup>3</sup> (60% of total capacity) and 146 thousand m<sup>3</sup> (64% of total capacity), respectively.

### **3.2. Other fleets of the EPO**

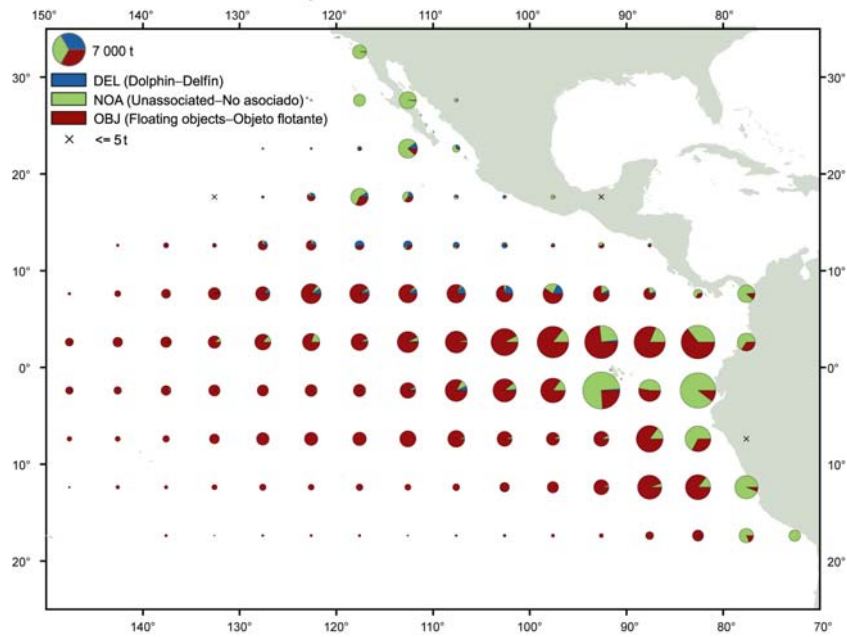
Information on other types of vessels that fish for tunas in the EPO is available on the IATTC's Regional Vessel Register, on the [IATTC web site](#). The Register is incomplete for small vessels. In some cases, particularly for large longline vessels, the Regional Vessel Register contains information for vessels authorized to fish in all areas of the world, which may not have fished in the EPO during 2006 or at all.



**FIGURE A-1a.** Average annual distributions of the purse-seine catches of yellowfin, by set type, 1996-2005. 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, 1996-2005. El tamaño de cada círculo es proporcional a la cantidad de aleta amarilla capturado en la cuadrícula de 5° x 5° correspondiente.

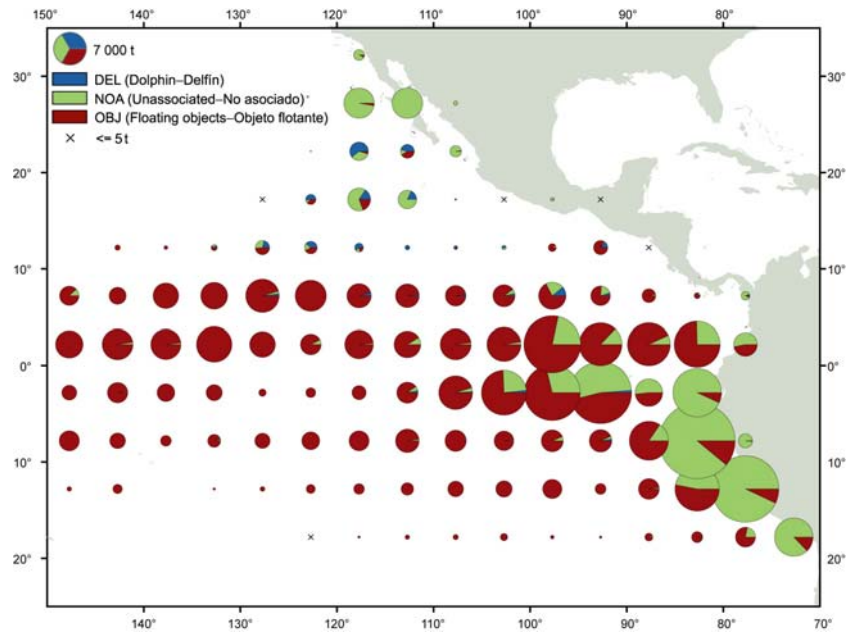


**FIGURE A-1b.** Annual distributions of the purse-seine catches of yellowfin, by set type, 2006. The sizes of the circles are proportional to the amounts of yellowfin caught in those 5° by 5° areas.  
**FIGURA A-1b.** Distribución anual de las capturas cerqueras de aleta amarilla, por tipo de lance, 2006. 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, 1996-2005. The sizes of the circles are proportional to the amounts of skipjack caught in those 5° by 5° areas.

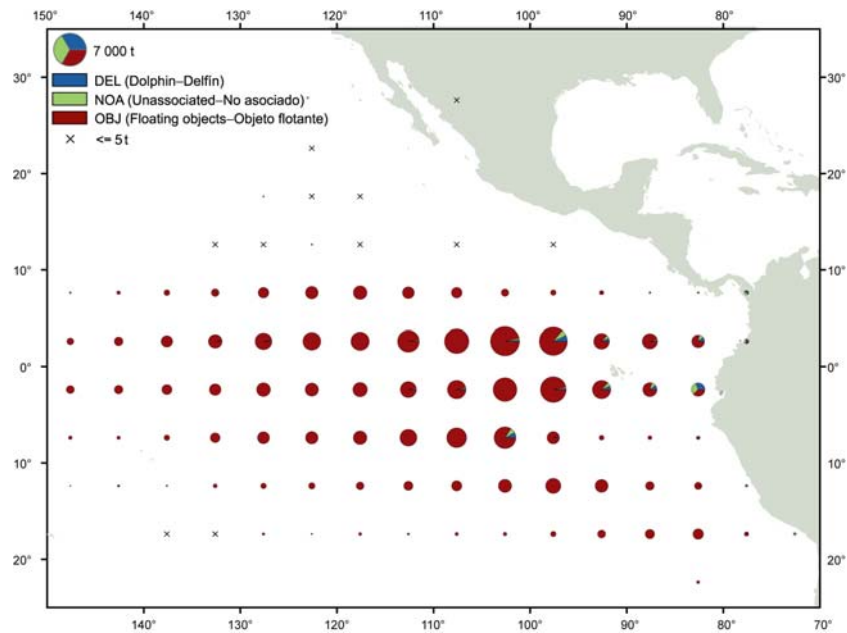
**FIGURA A-2a.** Distribución media anual de las capturas cerqueras de barrilete, por tipo de lance, 1996-2005. El tamaño de cada círculo es proporcional a la cantidad de barrilete capturado en la cuadrícula de 5° x 5° correspondiente.



**FIGURE A-2b.** Annual distributions of the purse-seine catches of skipjack, by set type, 2006. The sizes of the circles are proportional to the amounts of skipjack caught in those 5° by 5° areas.

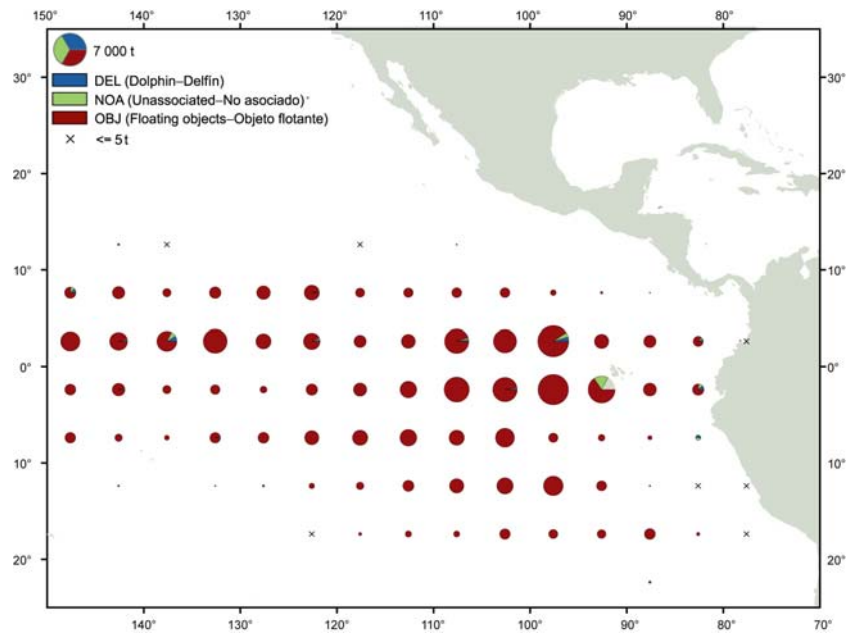
**FIGURA A-2b.** Distribución anual de las capturas cerqueras de barrilete, por tipo de lance, 2006. El tamaño de cada círculo es proporcional a la cantidad de barrilete capturado en la cuadrícula de 5° x 5° correspondiente.





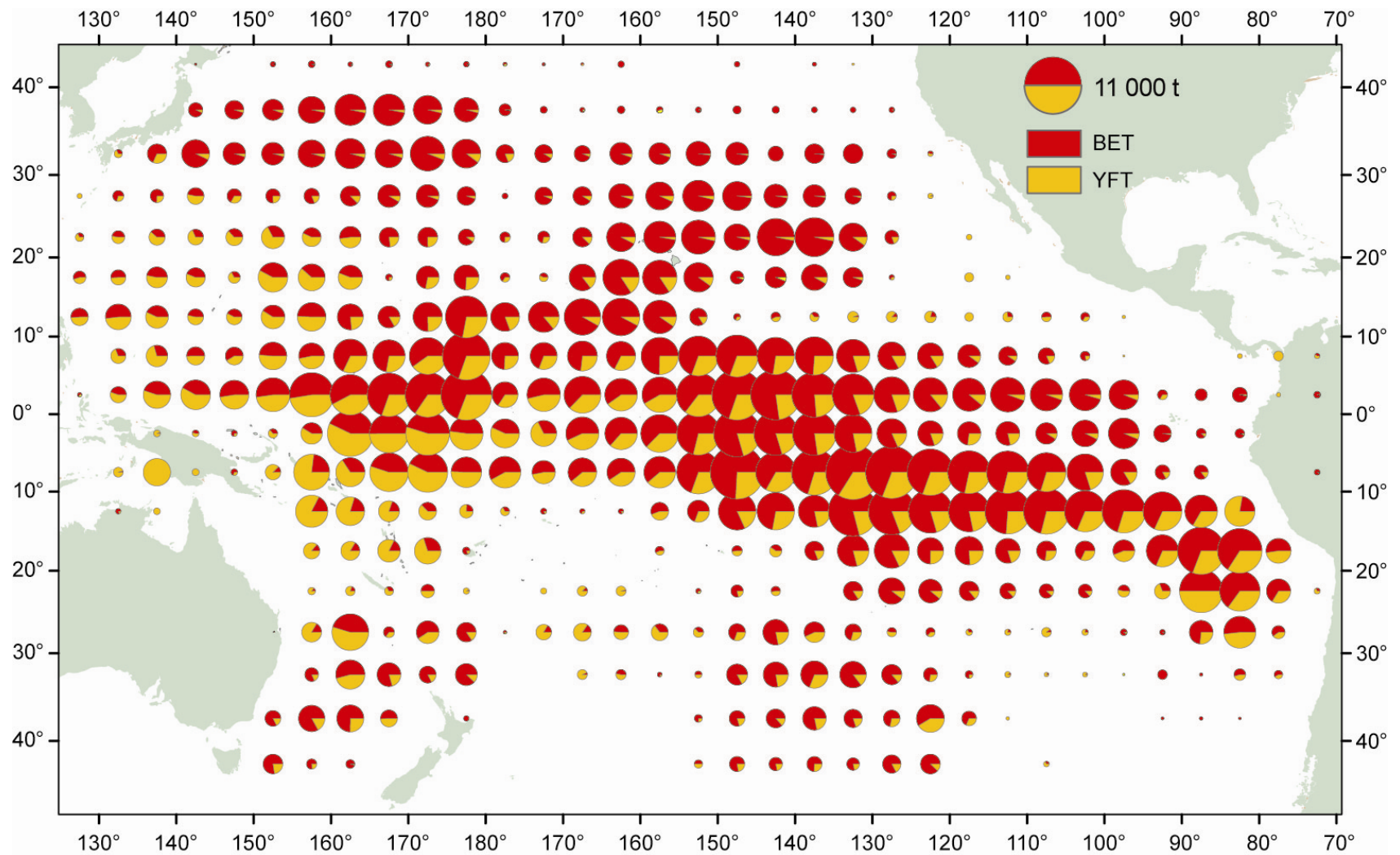
**FIGURE A-3a.** Average annual distributions of the purse-seine catches of bigeye, by set type, 1996-2005. The sizes of the circles are proportional to the amounts of bigeye caught in those 5° by 5° areas.

**FIGURA A-3a.** Distribución media anual de las capturas cerqueras de patudo, por tipo de lance, 1996-2005. 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, 2006. 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, 2006. El tamaño de cada círculo es proporcional a la cantidad de patudo capturado en la cuadrícula de 5° x 5° correspondiente.

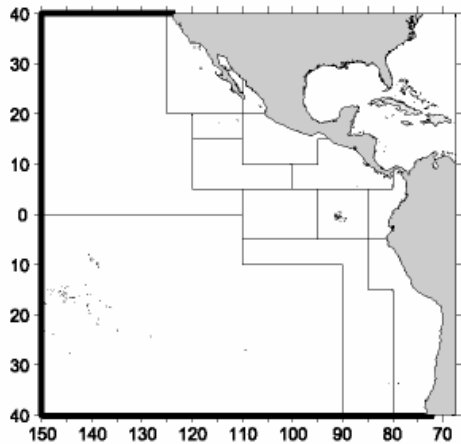


**FIGURE A-4.** Distributions of the catches of bigeye and yellowfin tunas in the Pacific Ocean, in metric tons, by longline fleets, 2000-2004. The sizes of the circles are proportional to the amounts of bigeye and yellowfin caught in those 5° by 5° areas.

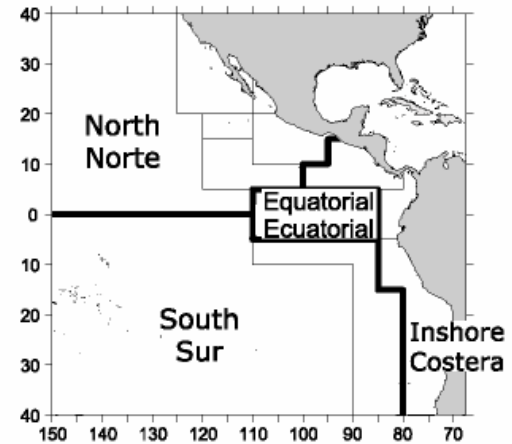
**FIGURA A-4.** Distribución de las capturas de atunes patudo y aleta amarilla en el Océano Pacífico, en toneladas métricas, por las flotas palangreras, 2000-2004. El tamaño de cada círculo es proporcional a la cantidad de patudo y aleta amarilla capturado en la cuadrícula de 5° x 5° correspondiente.



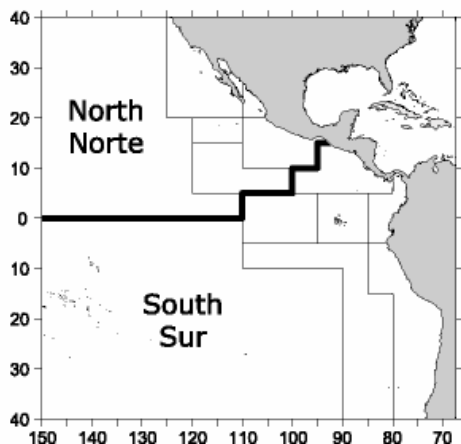
Unassociated – Bigeye, bluefin  
 Dolphin – Bigeye, skipjack  
 Pole-and-line vessels – All species  
 No asociado – Patudo y aleta azul  
 Delfín – Patudo y barrilete  
 Barcos cañeros – Todas especies



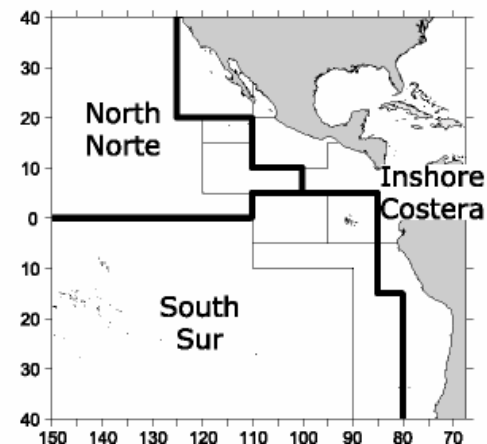
Floating objects – All species  
 Objetos flotantes – Todas especies



Unassociated – Skipjack, yellowfin  
 No asociado – Barrilete y aleta amarilla

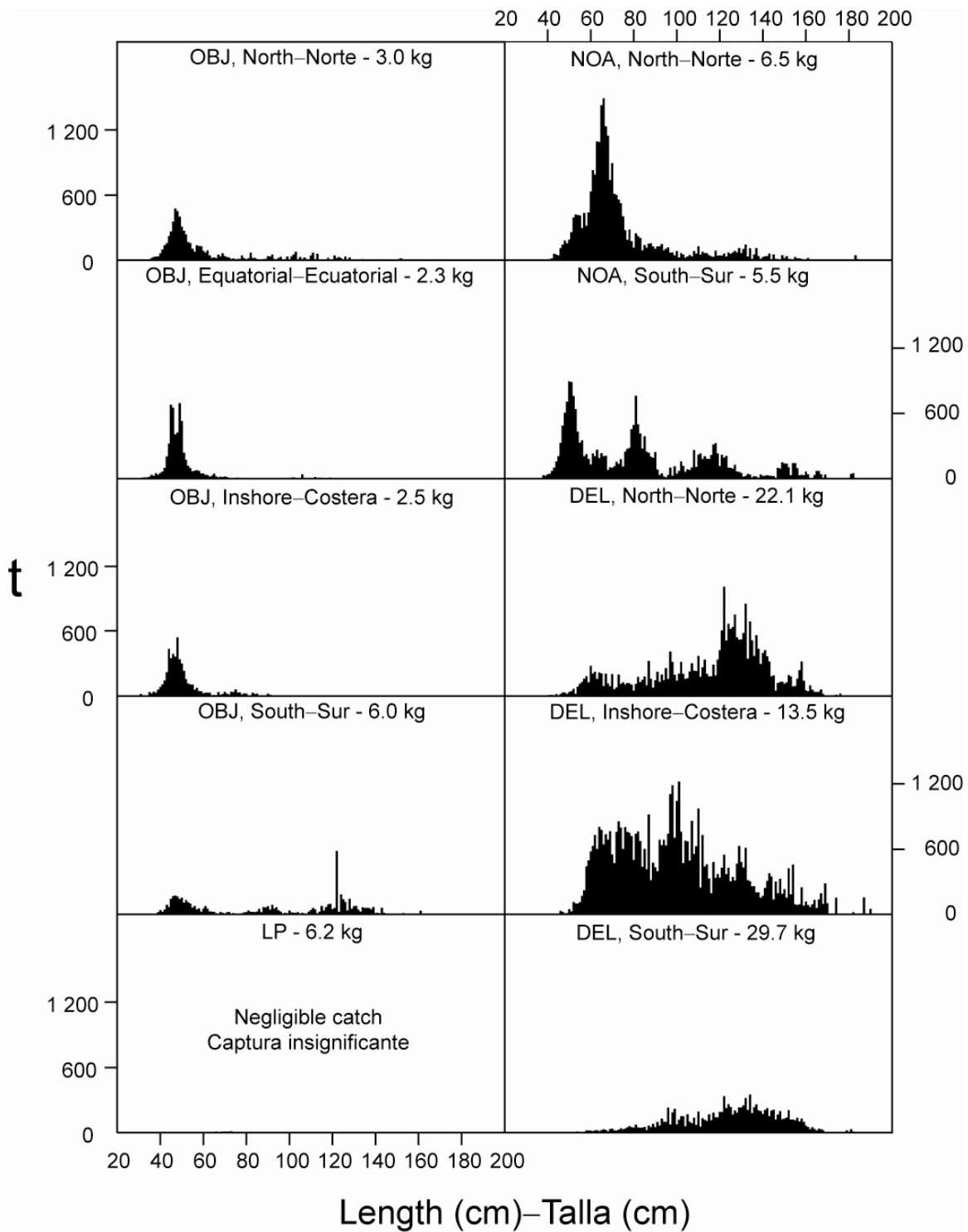


Dolphin – Yellowfin  
 Delfín – Aleta amarilla



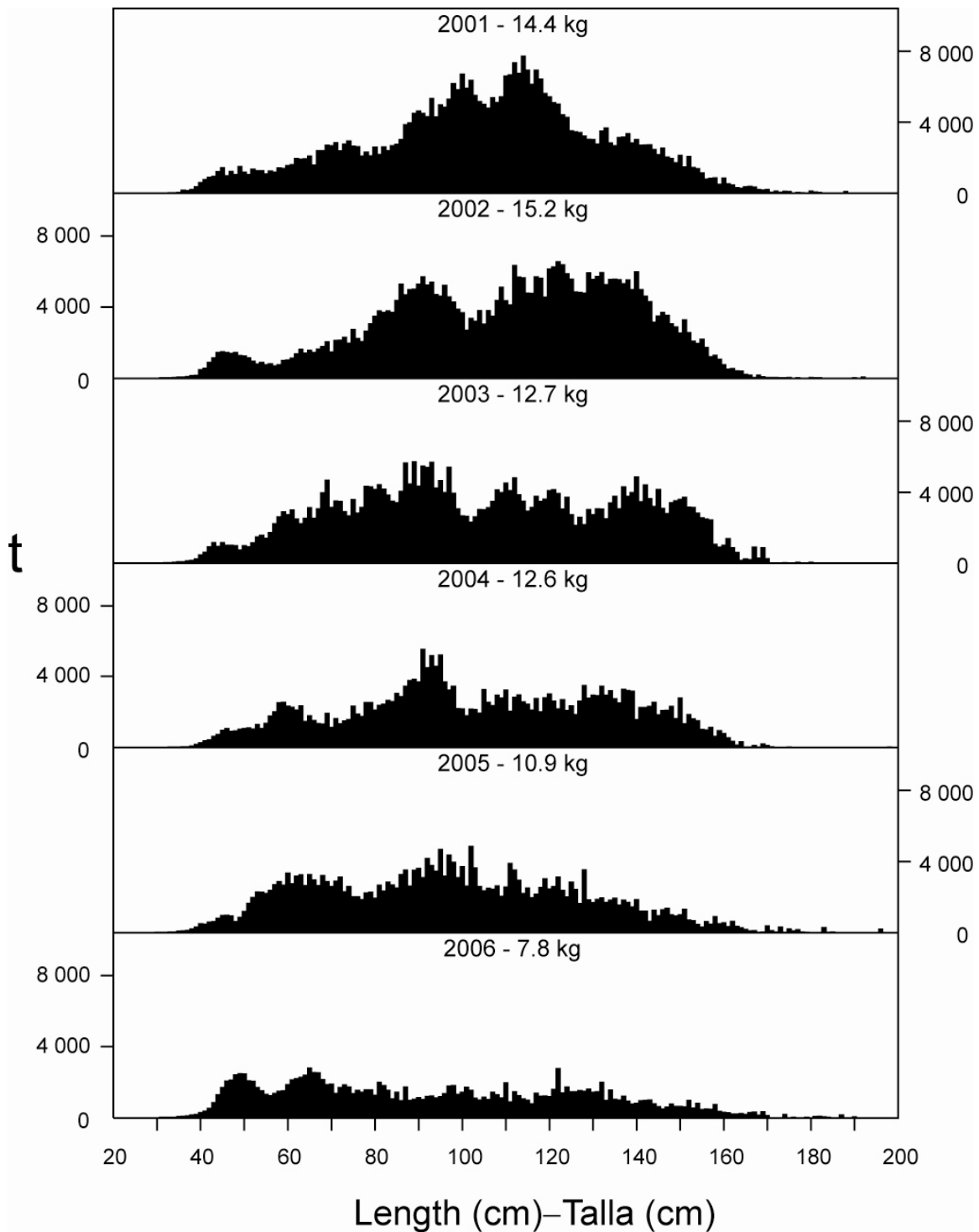
**FIGURE A-5.** The fisheries defined by the IATTC staff for stock assessment of yellowfin, skipjack, and bigeye in the EPO. The thin lines indicate the boundaries of the 13 length-frequency sampling areas, and the bold lines the boundaries of the fisheries.

**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.



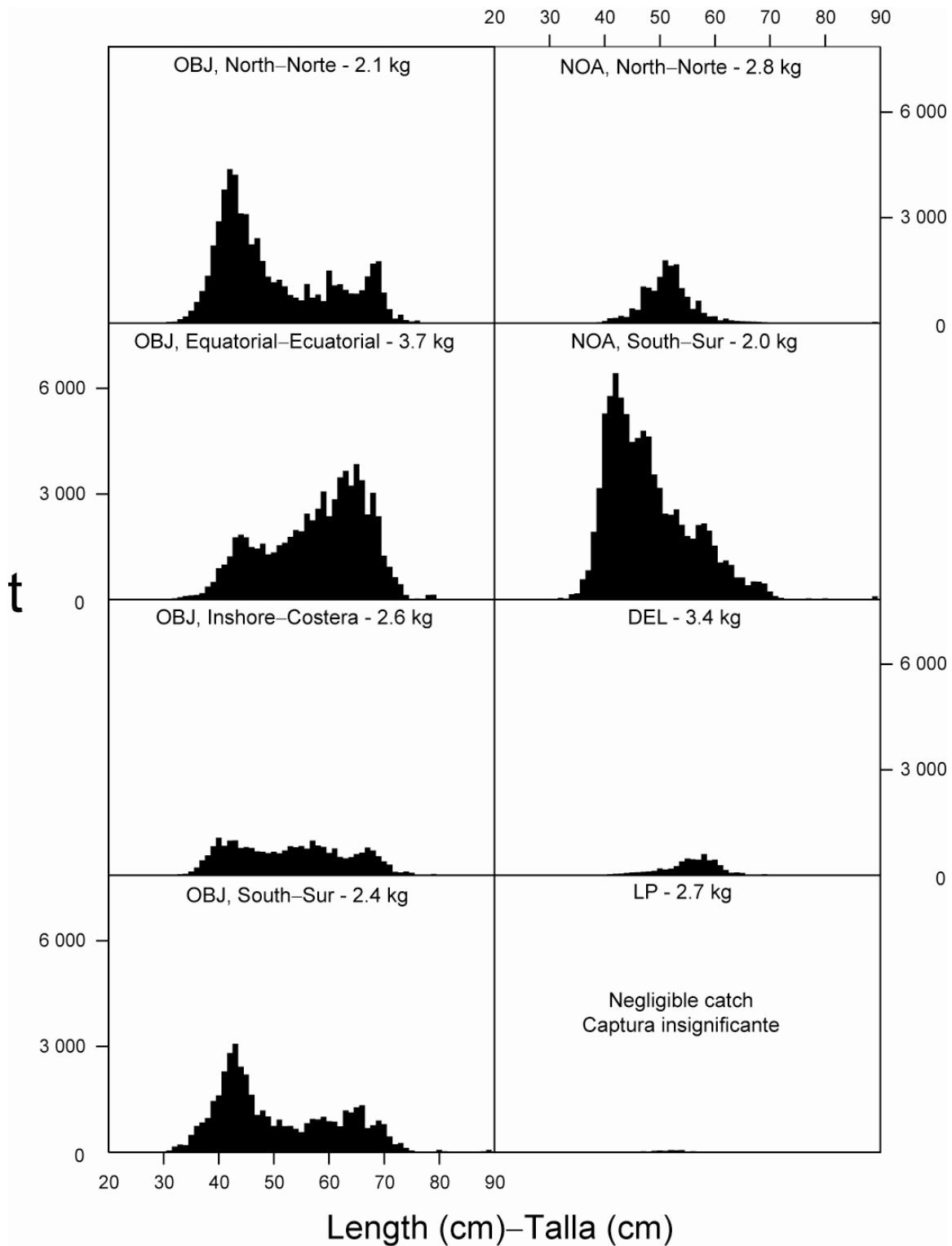
**FIGURE A-6a.** Estimated size compositions of the yellowfin caught in the EPO during 2006 for each fishery designated in Figure A-5. The average weights of the fish in the samples are given at the tops of the panels.

**FIGURA A-6a.** Composición por tallas estimada del aleta amarilla capturado en el OPO durante 2006 en cada pesquería ilustrada en la Figura A-5. En cada recuadro se detalla el peso promedio de los peces en las muestras.



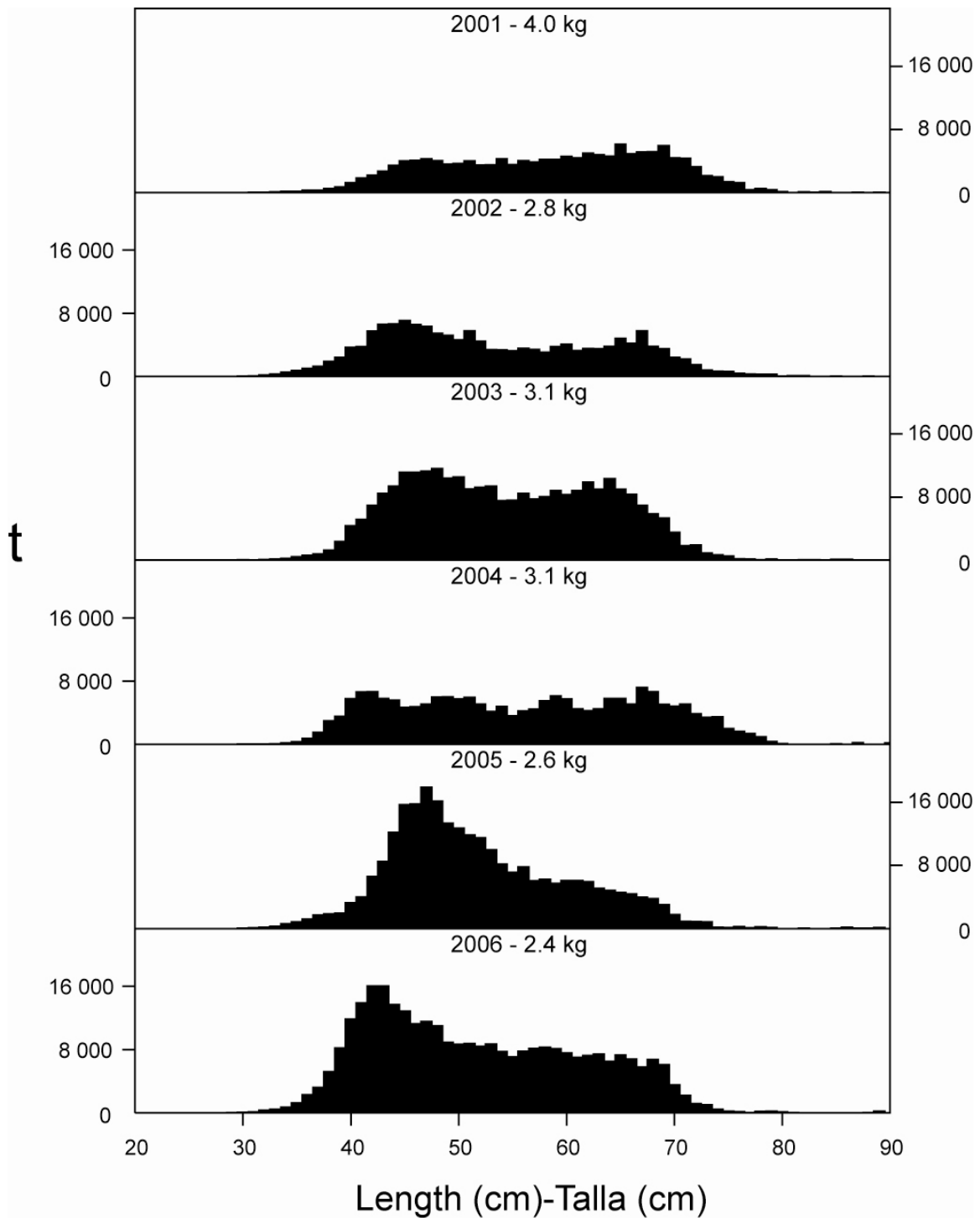
**FIGURE A-6b.** Estimated size compositions of the yellowfin caught by purse-seine and pole-and-line vessels in the EPO during 2001-2006. The average weights of the fish in the samples are given at the tops of the panels.

**FIGURA A-6b.** Composición por tallas estimada del aleta amarilla capturado por buques cerqueros y cañeros en el OPO durante 2001-2006. En cada recuadro se detalla el peso promedio de los peces en las muestras.



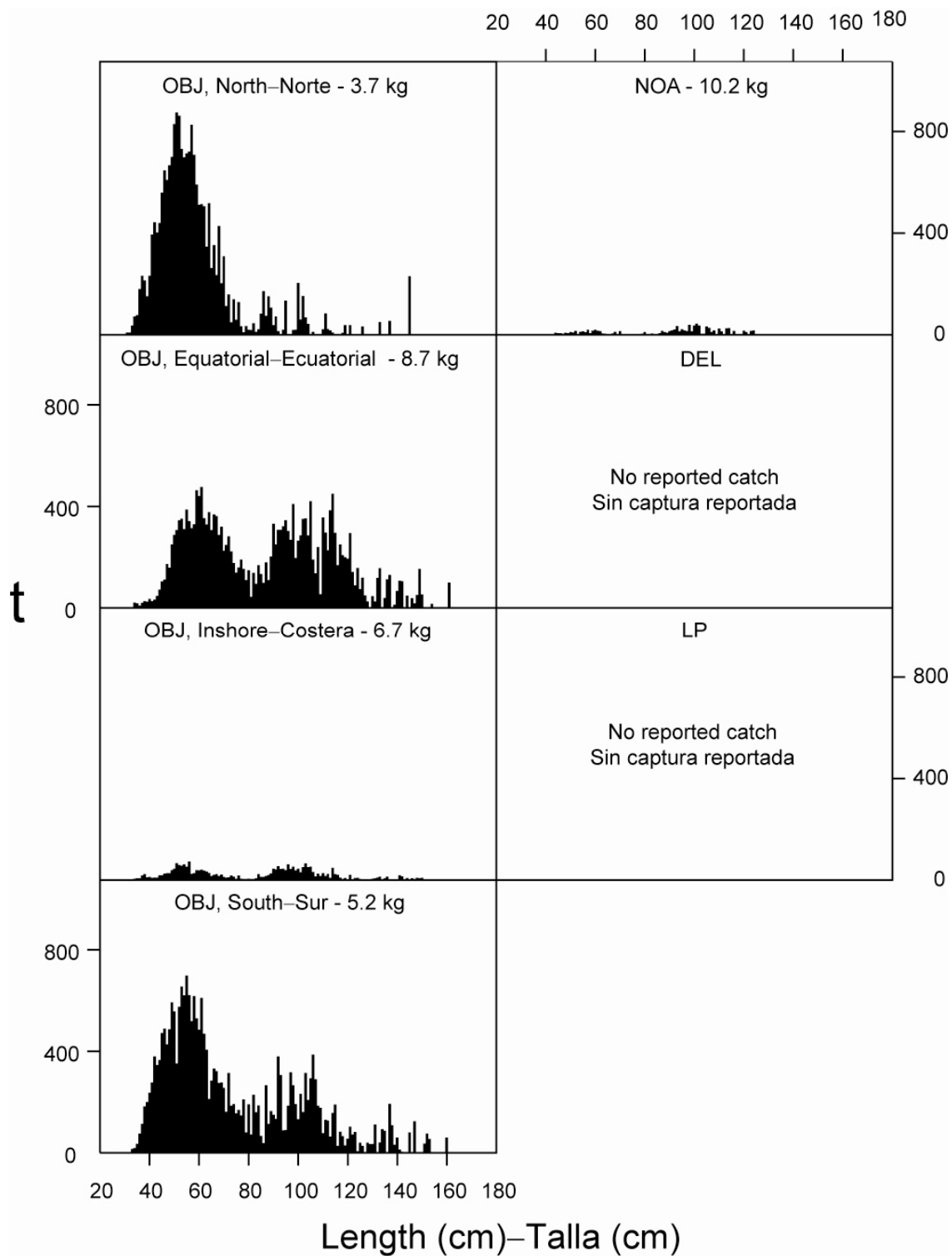
**FIGURE A-7a.** Estimated size compositions of the skipjack caught in the EPO during 2006 for each fishery designated in Figure A-5. The average weights of the fish in the samples are given at the tops of the panels.

**FIGURA A-7a.** Composición por tallas estimada del barrilete capturado en el OPO durante 2006 en cada pesquería ilustrada en la Figura A-5. En cada recuadro se detalla el peso promedio de los peces en las muestras.



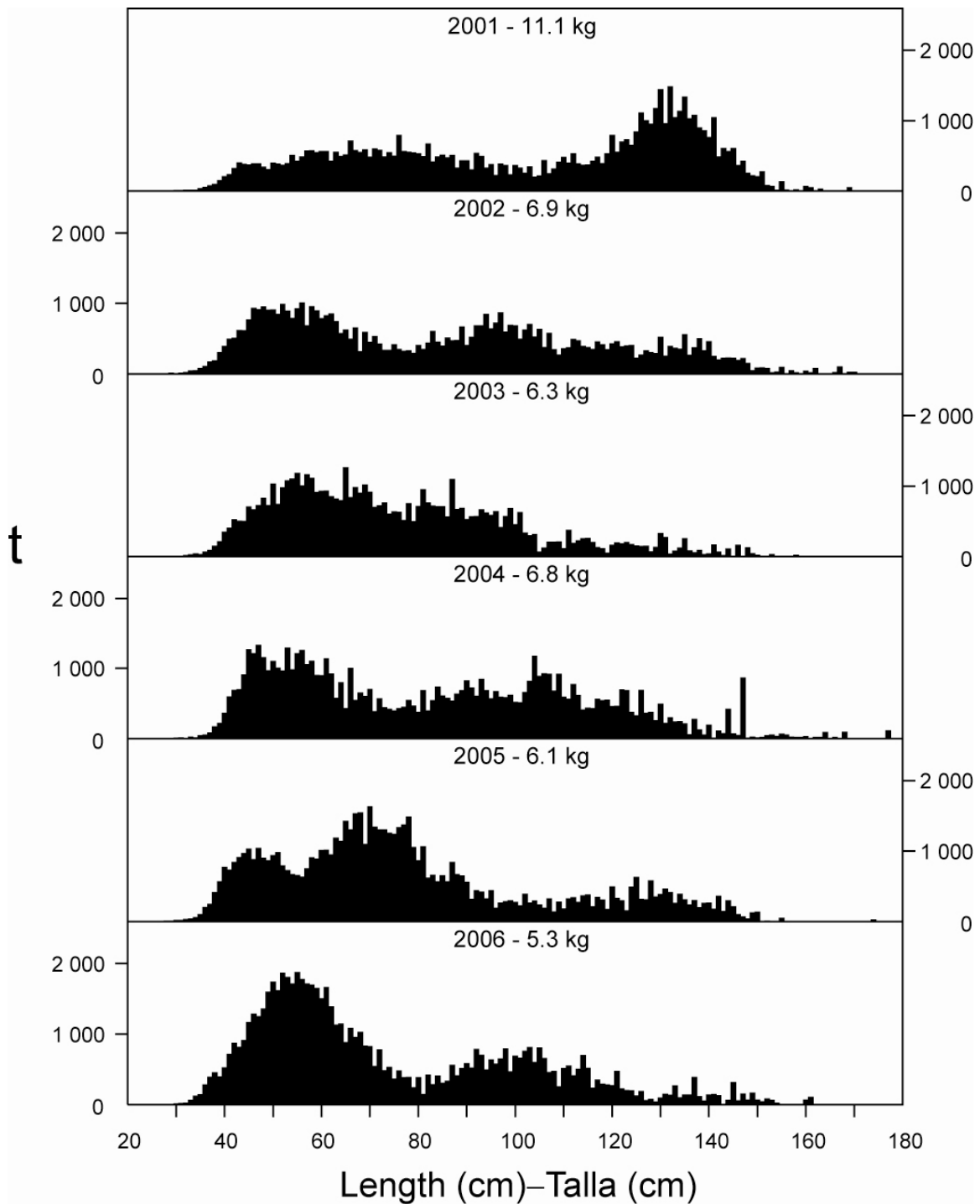
**FIGURE A-7b.** Estimated size compositions of the skipjack caught by purse-seine and pole-and-line vessels in the EPO during 2001-2006. The average weights of the fish in the samples are given at the tops of the panels.

**FIGURA A-7b.** Composición por tallas estimada del barrilete capturado por buques cerqueros y cañeros en el OPO durante 2001-2006. En cada recuadro se detalla el peso promedio de los peces en las muestras.

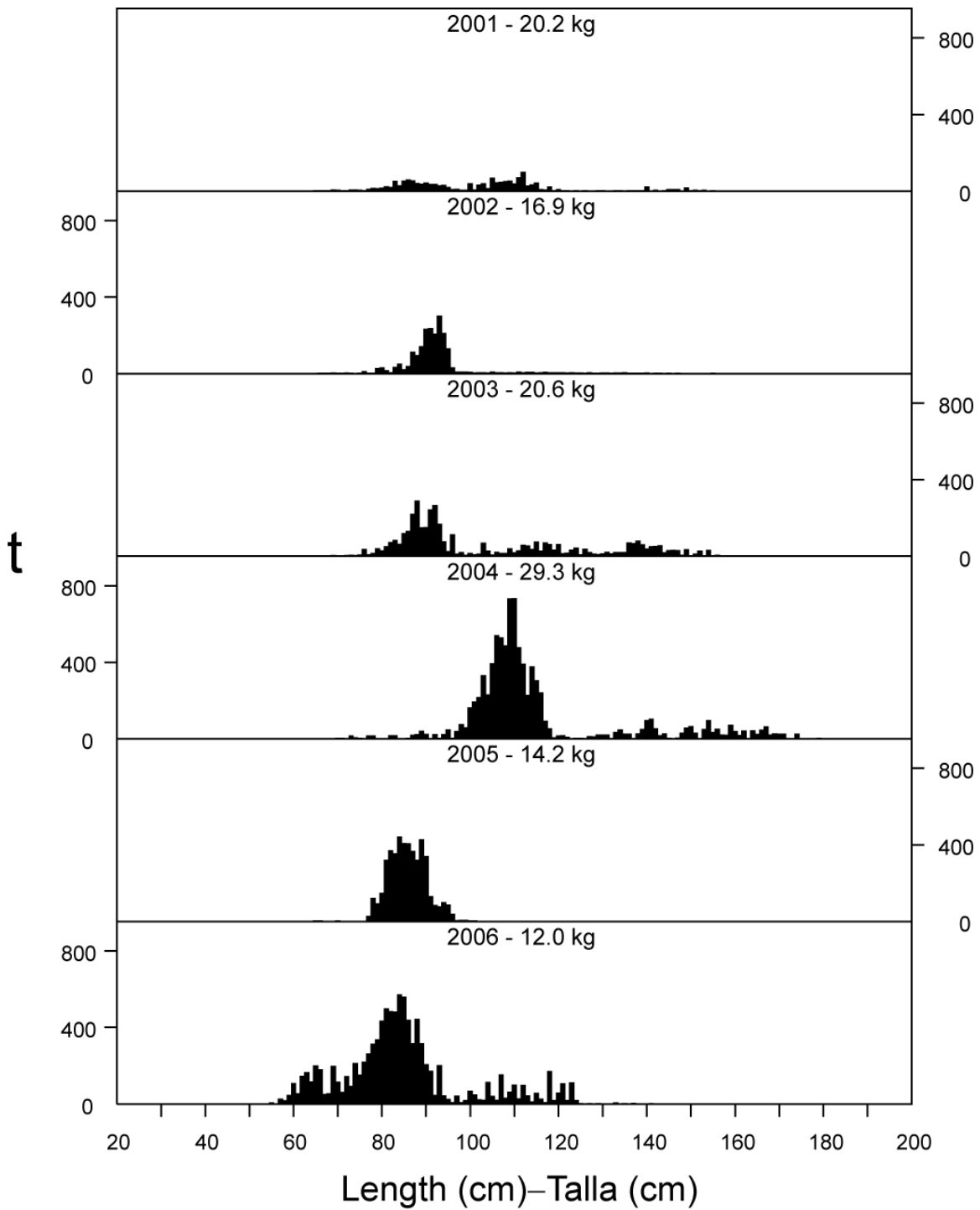


**FIGURE A-8a.** Estimated size compositions of the bigeye caught in the EPO during 2006 for each fishery designated in Figure A-5. The average weights of the fish in the samples are given at the tops of the panels.

**FIGURA A-8a.** Composición por tallas estimada del patudo capturado e en el OPO durante 2006 en cada pesquería ilustrada en la Figura A-5. En cada recuadro se detalla el peso promedio de los peces en las muestras.



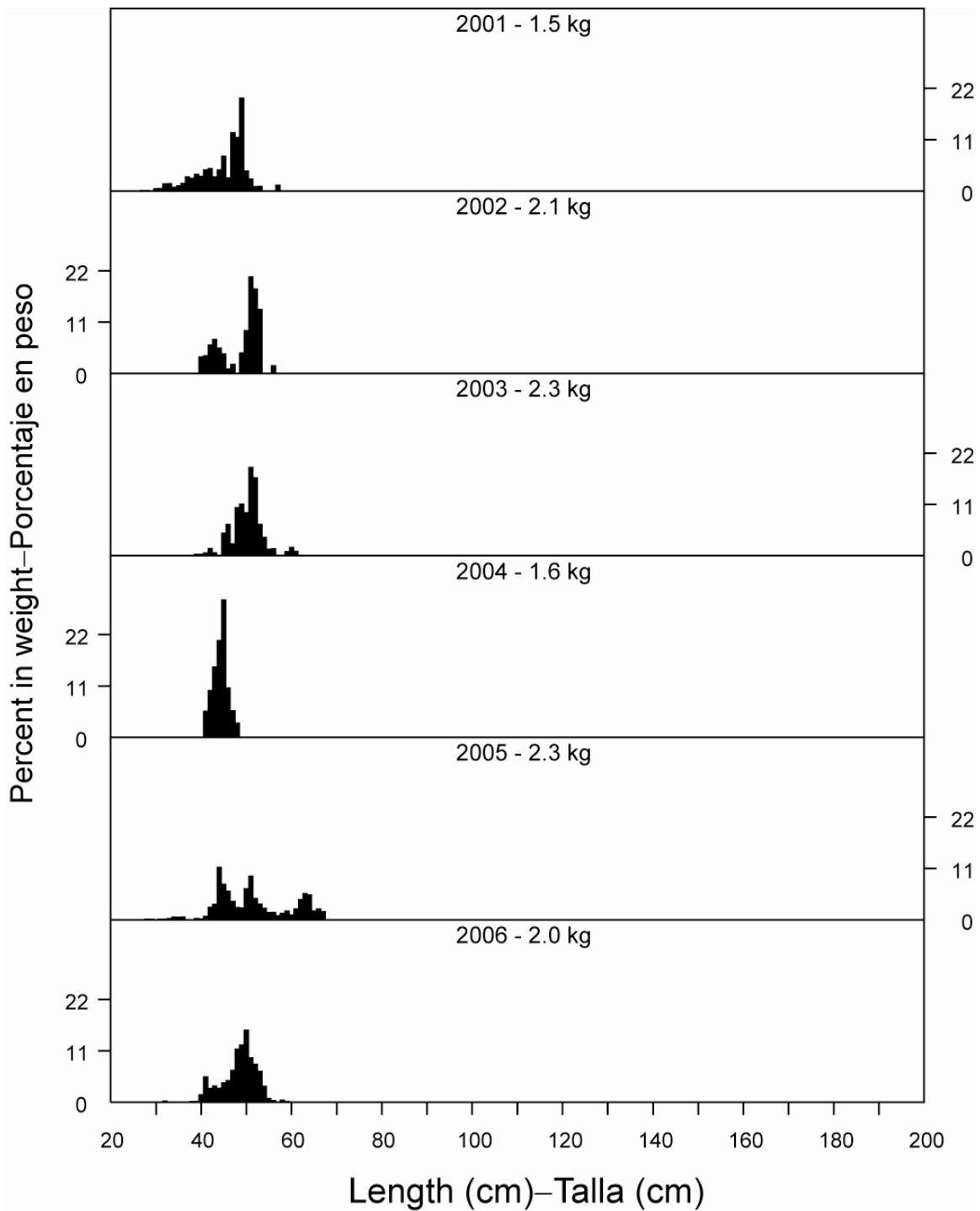
**FIGURE A-8b.** Estimated size compositions of the bigeye caught by purse-seine vessels in the EPO during 2001-2006. The average weights of the fish in the samples are given at the tops of the panels.  
**FIGURA A-8b.** Composición por tallas estimada del patudo capturado por buques cerqueros en el OPO durante 2001-2006. 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 2001-2006. The values at the tops of the panels are the average weights.

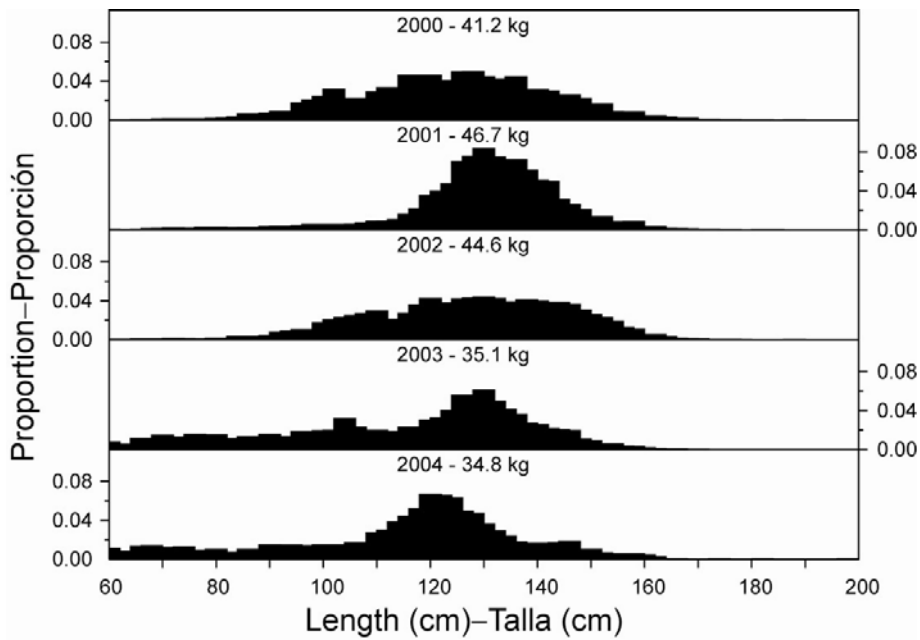
**FIGURA A-9.** Captura estimada de aleta azul del Pacífico con arte de cerco y deportiva en el OPO durante 2001-2006. El valor en cada recuadro representa el peso promedio.





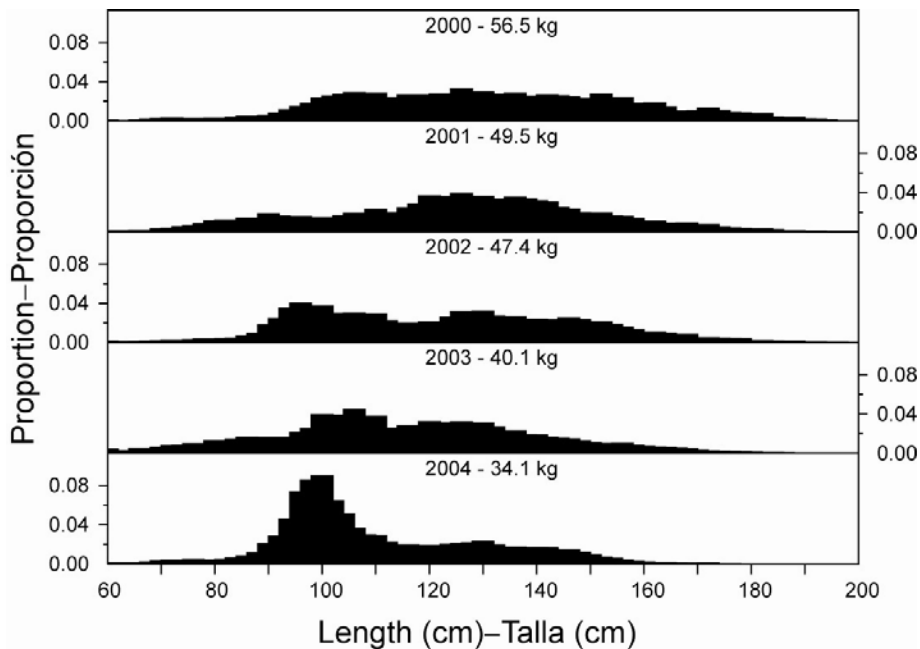
**FIGURE A-10.** Estimated size compositions of the catches of black skipjack by purse-seine vessels in the EPO during 2001-2006. The values at the tops of the panels are the average weights.

**FIGURA A-10.** Composición por tallas estimada del barrilete negro capturado por buques cerqueros en el OPO durante 2001-2006. 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, 2000-2004.

**FIGURA A-11.** Composición por tallas estimada de las capturas de atún aleta amarilla por la pesquería palangrera japonesa en el OPO, 2000-2004.



**FIGURE A-12.** Estimated size compositions of the catches of bigeye tuna by the Japanese longline fishery in the EPO, 2000-2004.

**FIGURA A-12.** Composición por tallas estimada de las capturas de atún patudo por la pesquería palangrera japonesa en el OPO, 2000-2004.

**TABLE A-1.** Annual catches of yellowfin, skipjack, and bigeye, by all types of gear combined, in the Pacific Ocean, 1977-2006. The EPO totals for 1993-2005 include discards from purse-seine vessels with a carrying capacity greater than 363 t.

**TABLA A-1.** Capturas anuales de aleta amarilla, barrilete, y patudo, por todas las artes combinadas, en el Océano Pacífico, 1977-2006. Los totales del OPO de 1993-2005 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
1977	199,380	181,538	380,918	94,108	397,147	491,255	85,249	76,788	162,037	378,737	655,473	1,034,210
1978	173,996	174,073	348,069	179,676	441,128	620,804	89,198	59,094	148,292	442,870	674,295	1,117,165
1979	187,137	194,442	381,579	141,504	405,327	546,831	67,533	66,372	133,905	396,174	666,141	1,062,315
1980	158,850	213,139	371,989	138,108	450,956	589,064	86,403	65,133	151,536	383,361	729,228	1,112,589
1981	178,514	225,922	404,436	126,001	430,522	556,523	68,339	53,346	121,685	372,854	709,790	1,082,644
1982	127,537	221,010	348,547	104,670	478,477	583,147	60,346	59,301	119,647	292,553	758,788	1,051,341
1983	100,013	256,532	356,545	62,150	669,602	731,752	64,755	59,896	124,651	226,918	986,030	1,212,948
1984	149,478	252,772	402,250	63,613	741,714	805,327	55,273	64,108	119,381	268,364	1,058,594	1,326,958
1985	226,036	259,164	485,200	52,000	595,086	647,086	72,404	68,706	141,110	350,440	922,956	1,273,396
1986	286,149	250,661	536,810	67,748	739,301	807,049	105,120	63,777	168,897	459,017	1,053,739	1,512,756
1987	286,359	303,346	589,705	66,464	675,053	741,517	101,314	79,269	180,583	454,137	1,057,668	1,511,805
1988	296,635	263,032	559,667	92,125	830,456	922,581	74,304	68,447	142,751	463,064	1,161,935	1,624,999
1989	299,739	313,793	613,532	98,930	808,902	907,832	72,993	77,237	150,230	471,662	1,199,932	1,671,594
1990	302,284	353,492	655,776	77,117	871,732	948,849	104,807	90,419	195,226	484,208	1,315,643	1,799,851
1991	266,091	394,712	660,803	65,895	1,097,899	1,163,794	109,116	73,768	182,884	441,102	1,566,379	2,007,481
1992	253,714	416,160	669,874	87,354	999,355	1,086,709	91,999	92,120	184,119	433,067	1,507,635	1,940,702
1993	256,675	386,142	642,817	100,521	904,841	1,005,362	82,834	79,885	162,719	440,030	1,370,868	1,810,898
1994	248,248	393,250	641,498	84,641	1,007,759	1,092,400	109,326	90,585	199,911	442,215	1,491,594	1,933,809
1995	244,601	372,482	617,083	150,670	1,042,219	1,192,889	108,209	82,932	191,141	503,479	1,497,633	2,001,112
1996	266,463	308,210	574,673	132,929	1,019,503	1,152,432	114,703	83,813	198,516	514,095	1,411,526	1,925,621
1997	278,264	429,336	707,600	188,530	966,501	1,155,031	122,348	109,403	231,751	589,142	1,505,240	2,094,382
1998	280,140	462,253	742,393	165,673	1,294,761	1,460,434	93,946	108,380	202,326	539,759	1,865,394	2,405,153
1999	304,939	412,789	717,728	292,070	1,150,572	1,442,642	93,300	116,830	210,130	690,309	1,680,191	2,370,500
2000	289,057	423,743	712,800	232,241	1,220,789	1,453,030	147,250	109,231	256,481	668,548	1,753,763	2,422,311
2001	423,767	425,102	848,869	159,160	1,121,695	1,280,855	131,475	105,943	237,418	714,402	1,652,740	2,367,142
2002	443,177	409,752	852,929	167,288	1,294,380	1,461,668	132,810	121,530	254,340	743,275	1,825,662	2,568,937
2003	413,612	449,450	863,062	301,882	1,288,418	1,590,300	116,474	107,332	223,806	831,968	1,845,200	2,677,168
2004	294,323	366,956	661,279	217,454	1,384,131	1,601,585	112,513	145,239	257,752	624,290	1,896,326	2,520,616
2005	287,491	425,692	713,183	283,878	1,451,906	1,735,784	114,534	157,534	272,068	685,903	2,035,132	2,721,035
2006	172,989	*	172,989	318,102	*	318,102	101,222	*	101,222	592,313	*	592,313

**TABLE A-2a.** Estimated retained catches, by gear type, and estimated discards, by purse-seine vessels with a carrying capacity greater than 363 t only, of tunas and bonitos, in metric tons, in the EPO, 1977-2006. 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 2005-2006 are preliminary.

**TABLA A-2a.** 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 atunes y bonitos, en toneladas métricas, en el OPO, 1977-2006. 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 2005-2006 son preliminares.

	Yellowfin—Aleta amarilla (YFT)						Skipjack—Barrilete (SKJ)						Bigeye—Patudo (BET)					
	PS		LP	LL	OTR	Total	PS		LP	LL	OTR	Total	PS		LP	LL	OTR	Total
	Ret.	Dis.					Ret.	Dis.					Ret.	Dis.				
1977	184,922	-	1,841	12,355	262	199,380	84,603	-	7,522	112	1,871	94,108	11,161	-	2	74,086	0	85,249
1978	158,801	-	3,888	10,188	1,119	173,996	172,294	-	6,047	61	1,274	179,676	18,539	-	-	70,659	0	89,198
1979	170,650	-	4,789	11,473	225	187,137	133,695	-	6,346	33	1,430	141,504	12,097	-	-	55,435	1	67,533
1980	143,042	-	1,481	13,477	850	158,850	130,912	-	5,225	26	1,945	138,108	21,938	-	-	64,335	130	86,403
1981	168,234	-	1,477	7,999	804	178,514	119,165	-	5,906	20	910	126,001	14,921	-	-	53,416	2	68,339
1982	114,755	-	1,538	10,961	283	127,537	100,499	-	3,760	28	383	104,670	6,939	-	42	53,365	0	60,346
1983	83,929	-	4,007	10,895	1,182	100,013	56,851	-	4,387	28	884	62,150	4,575	-	39	60,043	98	64,755
1984	135,785	-	2,991	10,345	357	149,478	59,859	-	2,884	32	838	63,613	8,861	-	2	46,394	16	55,273
1985	211,459	-	1,070	13,198	309	226,036	50,829	-	946	44	181	52,000	6,056	-	2	66,325	21	72,404
1986	260,512	-	2,537	22,808	292	286,149	65,634	-	1,921	58	135	67,748	2,686	-	-	102,425	9	105,120
1987	262,008	-	5,107	18,911	333	286,359	64,019	-	2,233	37	175	66,464	1,177	-	-	100,121	16	101,314
1988	277,293	-	3,723	14,660	959	296,635	87,113	-	4,325	26	661	92,125	1,535	-	5	72,758	6	74,304
1989	277,996	-	4,145	17,032	566	299,739	94,934	-	2,940	28	1,028	98,930	2,030	-	-	70,963	0	72,993
1990	263,253	-	2,676	34,633	1,722	302,284	74,369	-	823	41	1,884	77,117	5,921	-	-	98,871	15	104,807
1991	231,257	-	2,856	30,730	1,248	266,091	62,228	-	1,717	33	1,917	65,895	4,870	-	31	104,194	21	109,116
1992	228,121	-	3,789	18,527	3,277	253,714	84,283	-	1,957	24	1,090	87,354	7,179	-	-	84,799	21	91,999
1993	219,492	4,722	4,951	23,809	3,701	256,675	83,830	10,588	3,772	61	2,270	100,521	9,657	645	-	72,473	59	82,834
1994	208,408	4,691	3,625	29,545	1,979	248,248	70,126	10,472	3,240	73	730	84,641	34,899	2,261	-	71,359	807	109,326
1995	215,434	5,275	1,268	20,054	2,570	244,601	127,047	16,378	5,253	77	1,915	150,670	45,321	3,251	-	58,256	1,381	108,209
1996	238,607	6,314	3,762	16,425	1,355	266,463	103,973	24,837	2,555	52	1,512	132,929	61,311	5,689	-	46,957	746	114,703
1997	244,878	5,516	4,418	21,448	2,004	278,264	153,456	31,558	3,260	135	121	188,530	64,272	5,482	-	52,571	23	122,348
1998	253,959	4,718	5,085	14,212	2,166	280,140	140,631	22,856	1,684	294	208	165,673	44,129	2,853	-	46,347	617	93,946
1999	281,920	6,638	1,783	10,651	3,947	304,939	261,565	26,851	2,044	201	1,409	292,070	51,158	5,176	-	36,425	541	93,300
2000	255,025	6,796	2,431	22,772	2,034	289,057	205,459	26,415	231	68	67	232,241	93,753	5,649	0	47,579	269	147,250
2001	382,229	7,808	3,916	28,475	1,339	423,767	143,784	13,233	448	1,215	479	159,160	61,408	1,294	0	68,726	47	131,475
2002	412,407	4,019	950	24,002	1,799	443,177	153,398	12,625	616	261	388	167,288	57,437	937	0	74,405	31	132,810
2003	381,147	5,338	470	23,763	2,894	413,612	274,490	23,302	638	635	2,817	301,882	54,509	2,260	0	59,666	39	116,474
2004	269,463	2,853	1,884	16,970	3,153	294,323	198,678	16,420	528	712	1,116	217,454	67,337	1,612	0	43,354	210	112,513
2005	268,585	3,101	1,844	9,994	3,968	287,491	261,599	18,946	1,278	269	1,786	283,878	68,699	1,894	0	43,893	47	114,534
2006	166,739		693	2,264	3,293	172,989	308,148		429	120	9,405	318,102	71,195		0	30,019	8	101,222

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

	Pacific bluefin—Aleta azul del Pacífico (PBF)						Albacore—Albacore (ALB)						Black skipjack—Barrilete negro (BKJ)					
	PS		LP	LL	OTR	Total	PS		LP	LL	OTR	Total	PS		LP	LL	OTR	Total
	Ret.	Dis.					Ret.	Dis.					Ret.	Dis.				
1977	5,449	-	10	11	34	5,504	15	-	1,960	10,578	11,471	24,024	1,445	-	11	-	1	1,457
1978	5,389	-	4	9	8	5,410	156	-	1,577	11,939	17,436	31,108	2,165	-	3	-	-	2,168
1979	6,102	-	5	6	19	6,132	148	-	179	5,583	5,043	10,953	1,334	-	30	-	-	1,364
1980	2,909	-	-	0	31	2,940	194	-	407	5,319	5,649	11,569	3,653	-	30	-	-	3,683
1981	1,085	-	-	4	9	1,098	99	-	608	7,275	12,301	20,283	1,907	-	3	-	-	1,910
1982	3,145	-	-	7	12	3,164	355	-	198	8,407	3,562	12,522	1,337	-	-	-	-	1,337
1983	835	-	-	2	34	871	7	-	449	7,433	7,840	15,729	1,222	-	0	-	13	1,235
1984	840	-	0	3	65	908	3,910	-	1,441	6,712	9,794	21,857	662	-	-	-	3	665
1985	3,996	-	-	1	111	4,108	42	-	877	7,268	6,654	14,841	288	-	0	-	7	295
1986	5,040	-	-	1	66	5,107	47	-	86	6,450	4,701	11,284	568	-	-	-	18	586
1987	980	-	-	3	54	1,037	1	-	320	9,994	2,662	12,977	570	-	-	-	1	571
1988	1,380	-	-	2	49	1,431	17	-	271	9,934	5,549	15,771	957	-	-	-	311	1,268
1989	1,102	-	5	4	124	1,235	1	-	21	6,784	2,695	9,501	802	-	0	-	-	802
1990	1,430	-	61	12	90	1,593	39	-	170	6,536	4,105	10,850	784	-	-	-	4	788
1991	420	-	-	5	94	519	-	-	834	7,893	2,754	11,481	422	-	-	-	25	447
1992	1,928	-	-	21	116	2,065	-	-	255	17,080	5,740	23,075	104	-	-	-	3	107
1993	579	0	-	11	329	919	-	0	1	11,194	4,410	15,605	103	4,116	-	-	31	4,250
1994	969	0	-	12	121	1,102	-	0	85	10,390	10,154	20,629	188	834	-	-	40	1,062
1995	629	0	-	25	264	918	-	0	465	6,185	7,427	14,077	203	1,448	-	-	0	1,651
1996	8,223	0	-	19	80	8,322	11	0	72	7,631	8,398	16,112	706	2,304	-	-	12	3,022
1997	2,608	3	2	14	256	2,883	1	0	59	9,678	7,540	17,278	100	2,512	-	-	11	2,623
1998	1,772	0	0	94	504	2,370	42	0	81	12,635	13,158	25,916	488	1,876	39	-	0	2,403
1999	2,553	54	5.0	152	552	3,316	47	0.0	227	11,633	14,510	26,417	170	3,424	-	-	0	3,594
2000	3,712	0	61	46	374	4,193	71	0	86	9,663	13,453	23,273	294	1,877	-	-	0	2,170
2001	891	3	1	148	390	1,433	3	0	157	19,410	13,727	33,298	2,258	1,253	-	-	0	3,511
2002	1,708	6	3	70	358	2,146	31	0	381	15,289	14,433	30,135	1,459	2,207	8	-	-	3,674
2003	3,233	0	3	87	751	4,075	34	0	59	24,901	20,397	45,391	433	1,606	6	13	117	2,175
2004	8,880	19	0	15	59	8,974	105	0	126	18,444	22,011	40,687	883	351	-	27	862	2,123
2005	4,743	14	0	0	84	4,842	2	0	66	9,062	15,685	24,815	1,472	1,909	-	-	22	3,403
2006	9,795		0	-	96	9,891	109		-	5,742	6,506	12,357	2,000	-	-	-	-	2,000

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

	Bonito (BZX)						Unidentified tunas—Atunes no identificados (TUN)						Scombrids—Escómbridos TOTAL					
	PS		LP	LL	OTR	Total	PS		LP	LL	OTR	Total	PS		LP	LL	OTR	Total
	Ret.	Dis.					Ret.	Dis.					Ret.	Dis.				
1977	10,983	-	292	-	2,875	14,150	21	-	-	-	5,782	5,803	298,599	-	11,638	97,142	22,296	429,675
1978	4,801	-	35	-	2,419	7,255	188	-	-	-	6,677	6,865	362,333	-	11,554	92,856	28,933	495,676
1979	1,801	-	3	-	2,658	4,462	558	-	-	-	3,016	3,574	326,385	-	11,352	72,530	12,392	422,659
1980	6,089	-	36	-	2,727	8,852	442	-	-	-	836	1,278	309,179	-	7,179	83,157	12,168	411,683
1981	5,690	-	27	-	4,609	10,326	214	-	3	-	1,109	1,326	311,315	-	8,024	68,714	19,744	407,797
1982	2,122	-	-	-	6,776	8,898	52	-	-	-	382	434	229,204	-	5,538	72,768	11,398	318,908
1983	3,827	-	2	-	7,291	11,120	82	-	-	-	4,711	4,793	151,328	-	8,884	78,401	22,053	260,666
1984	3,514	-	-	-	7,291	10,805	7	-	-	-	2,524	2,531	213,438	-	7,318	63,486	20,888	305,130
1985	3,599	-	5	-	7,869	11,473	18	-	-	-	678	696	276,287	-	2,900	86,836	15,830	381,853
1986	232	-	258	-	1,889	2,379	177	-	4	-	986	1,167	334,896	-	4,806	131,742	8,096	479,540
1987	3,195	-	121	-	1,782	5,098	479	-	-	-	2,043	2,522	332,429	-	7,781	129,066	7,066	476,342
1988	8,811	-	739	-	947	10,497	258	-	-	-	2,939	3,197	377,364	-	9,063	97,380	11,421	495,228
1989	11,278	-	818	-	465	12,561	469	-	0	-	621	1,090	388,612	-	7,929	94,811	5,499	496,851
1990	13,641	-	215	-	371	14,227	373	-	0	-	692	1,065	359,810	-	3,945	140,093	8,883	512,731
1991	1,207	-	82	-	242	1,531	4	-	-	0	192	196	300,408	-	5,520	142,855	6,493	455,276
1992	977	-	-	-	318	1,295	120	-	-	2	1,071	1,193	322,712	-	6,001	120,453	11,636	460,802
1993	599	12	1	-	436	1,048	12	2,288	-	2	4,082	6,384	314,272	22,370	8,725	107,550	15,318	468,235
1994	8,331	147	362	-	185	9,025	9	1,279	-	0	464	1,752	322,930	19,683	7,312	111,379	14,480	475,784
1995	7,929	55	81	-	54	8,119	12	1,394	-	1	1,004	2,411	396,575	27,800	7,067	84,598	14,615	530,655
1996	647	1	7	-	16	671	36	1,756	-	1	1,038	2,831	413,514	40,900	6,396	71,085	13,157	545,052
1997	1,097	4	8	-	34	1,143	75	4,580	-	1	1,437	6,093	466,487	49,655	7,747	83,847	11,426	619,162
1998	1,330	4	7	-	588	1,929	15	2,294	-	3	18,158	20,470	442,366	34,601	6,896	73,585	35,399	592,847
1999	1,719	0	-	24	369	2,112	29	3,470	-	2,107	4,279	9,885	599,161	45,614	4,059	61,193	25,607	735,634
2000	636	0	0	75	56	767	190	2,191	-	1,987	1,468	5,837	559,139	42,929	2,809	82,190	17,721	704,788
2001	17	0	0	34	19	71	206	2,806	-	2,423	56	5,490	590,797	26,398	4,523	120,431	16,057	758,205
2002	0	0	0	42	1	43	576	3,408	-	3,103	1,422	8,509	627,017	23,202	1,958	117,173	18,432	787,782
2003	0	0	1	0	25	26	81	2,537	-	188	750	3,556	713,927	35,044	1,177	109,253	27,790	887,190
2004	15	47	1	8	3	73	259	2,783	-	186	258	3,487	545,620	24,086	2,539	79,717	27,672	679,634
2005	313	18	0	0	11	342	190	4,014	-	156	427	4,787	605,604	29,896	3,187	63,376	22,030	724,092
2006	3,477		12	0	0	3,488	99		-	3	232	334	561,562	0	1,133	38,148	19,540	620,384

**TABLE A-2b.** Estimated retained catches, by gear type, and estimated discards, by purse-seine vessels with a carrying capacity greater than 363 t only, of billfishes, in metric tons, in the EPO, 1977-2006. Data for 2005-2006 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, 1977-2006. Los datos de 2005-2006 son preliminares. PS dis. = descartes por buques cerqueros.

	Swordfish—Pez espada (SWO)				Blue marlin—Marlín azul (BUM)				Black marlin—Marlín negro (BLM)				Striped marlin—Marlín rayado (MLS)			
	PS dis.	LL	OTR	Total	PS dis.	LL	OTR	Total	PS dis.	LL	OTR	Total	PS dis.	LL	OTR	Total
1977	-	4,298	788	5,086	-	3,016	-	3,016	-	621	-	621	-	3,145	0	3,145
1978	-	4,103	2,205	6,308	-	3,570	-	3,570	-	417	-	417	-	2,495	0	2,495
1979	-	2,658	614	3,272	-	4,528	-	4,528	-	332	-	332	-	4,137	0	4,137
1980	-	3,746	1,107	4,853	-	4,016	-	4,016	-	335	-	335	-	4,827	0	4,827
1981	-	3,070	1,134	4,204	-	4,476	-	4,476	-	247	-	247	-	4,876	0	4,876
1982	-	2,604	1,551	4,155	-	4,745	-	4,745	-	213	-	213	-	4,711	0	4,711
1983	-	3,341	2,338	5,679	-	4,459	-	4,459	-	240	-	240	-	4,472	0	4,472
1984	-	2,752	3,336	6,088	-	5,197	-	5,197	-	248	-	248	-	2,662	0	2,662
1985	-	1,885	3,768	5,653	-	3,588	-	3,588	-	180	-	180	-	1,599	0	1,599
1986	-	3,286	3,294	6,580	-	5,278	-	5,278	-	297	-	297	-	3,540	0	3,540
1987	-	4,676	3,740	8,416	-	7,282	-	7,282	-	358	-	358	-	7,647	0	7,647
1988	-	4,916	5,642	10,558	-	5,662	-	5,662	-	288	-	288	-	5,283	0	5,283
1989	-	5,202	6,072	11,274	-	5,392	-	5,392	-	193	-	193	-	3,473	0	3,473
1990	-	5,807	5,066	10,873	-	5,540	-	5,540	-	223	-	223	-	3,260	0	3,260
1991	17	10,564	4,414	14,995	69	6,462	257	6,788	58	246	-	304	76	2,805	188	3,069
1992	4	9,793	4,294	14,091	52	6,426	201	6,679	95	228	-	323	69	2,907	147	3,123
1993	6	6,167	4,434	10,607	56	6,279	292	6,627	64	217	-	281	35	3,332	243	3,610
1994	4	4,963	3,849	8,816	73	8,609	418	9,100	118	256	-	374	35	3,126	270	3,431
1995	6	4,466	3,003	7,475	83	6,944	344	7,371	82	158	-	240	21	2,943	306	3,270
1996	2	6,756	2,801	9,559	84	3,396	200	3,680	90	99	-	189	22	2,981	237	3,240
1997	6	9,508	2,853	12,367	134	5,468	340	5,942	124	153	-	277	25	4,201	272	4,498
1998	2	9,381	3,665	13,048	137	4,477	580	5,194	113	168	-	281	18	3,277	281	3,576
1999	3	7,470	2,064	9,537	188	3,010	680	3,878	138	94	-	232	31	2,287	334	2,652
2000	3	8,523	2,789	11,315	134	3,028	606	3,768	104	105	-	209	17	1,698	191	1,906
2001	5	15,354	2,617	17,976	163	3,554	643	4,359	138	123	-	261	20	1,687	274	1,981
2002	1	16,960	2,757	19,718	208	2,818	662	3,688	143	78	-	221	73	1,946	214	2,233
2003	6	17,879	641	18,526	187	3,140	876	4,203	160	72	-	232	31	1,773	138	1,942
2004	3	15,197	488	15,688	149	3,353	416	3,919	75	38	-	113	20	1,311	234	1,565
2005	3	8,838	4,490	13,331	423	2,512	820	3,755	100	146	-	246	32	1,290	328	1,650
2006		469	222	691		-	156	156		0	-	0		-	92	92

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

	Shortbill spearfish—Marlín trompa corta (SSP)				Sailfish—Pez vela (SFA)				Unidentified Istiophorid billfishes—Picudos Istiofóridos no identificados (BIL)				Billfishes—Peces picudos TOTAL			
	PS dis.	LL	OTR	Total	PS dis.	LL	OTR	Total	PS dis.	LL	OTR	Total	PS dis.	LL	OTR	Total
1977	-	-	-	-	-	753	-	753	-	15	-	15	-	11,848	788	12,636
1978	-	-	-	-	-	878	-	878	-	3	-	3	-	11,466	2,205	13,671
1979	-	-	-	-	-	251	-	251	-	6	-	6	-	11,912	614	12,526
1980	-	-	-	-	-	244	-	244	-	0	-	0	-	13,168	1,107	14,275
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	-	0	-	0	-	192	-	192	-	51	-	51	-	14,503	6,072	20,575
1990	-	-	-	-	-	6	-	6	-	123	-	123	-	14,959	5,066	20,025
1991	0	1	-	1	40	10	707	757	-	112	-	112	260	20,200	5,566	26,026
1992	1	1	-	2	41	741	610	1,392	-	1,120	-	1,120	262	21,216	5,252	26,730
1993	0	1	-	1	36	1,145	1,121	2,302	24	1,650	-	1,674	221	18,791	6,090	25,102
1994	0	144	-	144	27	878	804	1,709	13	1,028	-	1,041	270	19,004	5,341	24,615
1995	0	155	-	155	31	237	1,114	1,382	8	232	-	240	231	15,135	4,767	20,133
1996	0	126	-	126	24	197	541	762	10	308	1	319	232	13,863	3,780	17,875
1997	1	141	-	142	28	799	418	1,245	4	1,324	-	1,328	322	21,594	3,883	25,799
1998	0	200	-	200	50	394	988	1,432	9	575	52	636	329	18,472	5,566	24,367
1999	1	278	-	279	42	107	1,109	1,258	9	1,135	-	1,144	412	14,381	4,187	18,980
2000	1	285	-	286	58	138	1,239	1,435	3	877	136	1,016	320	14,654	4,961	19,936
2001	0	304	-	304	37	189	1,614	1,840	6	1,716	204	1,925	369	22,926	5,352	28,647
2002	0	273	-	273	44	393	1,416	1,853	5	2,430	14	2,449	474	24,898	5,063	30,435
2003	1	289	-	290	105	162	1,012	1,278	4	1,285	-	1,289	494	24,600	2,668	27,762
2004	0	200	-	200	39	156	1,261	1,456	4	1,167	-	1,172	290	21,423	2,399	24,112
2005	1	276	-	277	45	37	782	864	8	650	-	658	612	13,750	6,420	20,782
2006		-	-	0		26	593	619		355	-	355	0	850	1,063	1,913



**TABLE A-2c.** Estimated retained catches, by gear type, and estimated discards, by purse-seine vessels with a carrying capacity greater than 363 t only, of other species, in metric tons, in the EPO, 1977-2006. Data for 2005-2006 are preliminary.

**TABLA A-2c.** 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 otras especies, en toneladas métricas, en el OPO, 1977-2006. Los datos de 2005-2006 son preliminares.

	Unidentified carangids—Carángidos no identificados (CGX)						Dorado ( <i>Coryphaena</i> spp.) (DOX)						Unidentified elasmobranchs—Elasmobranchios no identificados (SKX)						Unidentified fishes—Peces no identificados (MZZ)					
	PS		LP	LL	OTR	Total	PS		LP	LL	OTR	Total	PS		LP	LL	OTR	Total	PS		LP	LL	OTR	Total
	Ret.	Dis.					Ret.	Dis.					Ret.	Dis.					Ret.	Dis.				
1977	1,099	-	-	-	-	1,099	167	-	0	-	827	994	233	-	-	34	267	427	-	-	-	-	-	427
1978	238	-	1	-	-	239	87	-	-	-	738	825	145	-	-	390	535	148	-	-	-	-	-	148
1979	81	-	0	-	-	81	124	-	-	-	927	1,051	7	-	17	1,290	1,314	478	-	-	7	-	-	485
1980	224	-	2	-	-	226	124	-	0	-	1,001	1,125	16	-	7	858	881	301	-	-	-	-	-	301
1981	111	-	17	-	-	128	410	-	-	-	628	1,038	49	-	120	1,211	1,380	201	-	3	51	-	-	255
1982	122	-	-	-	-	122	274	-	-	-	980	1,254	22	-	30	215	864	1,131	284	-	-	59	-	343
1983	1,240	-	-	-	-	1,240	88	-	-	-	3,374	3,462	34	-	85	695	814	267	-	1	-	-	-	268
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	77	-	-	7	-	-	84
1986	188	-	19	-	-	207	632	-	-	-	1,828	2,460	29	-	1	1,979	2,009	94	-	-	0	-	-	94
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	141	-	-	360	-	-	501
1989	60	-	2	-	-	62	210	-	-	-	1,680	1,890	29	-	66	1,025	1,120	237	-	-	152	-	-	389
1990	234	-	0	-	1	235	63	-	-	-	1,491	1,554	0	-	1	1,095	1,096	240	-	-	260	13	-	513
1991	116	-	-	-	0	116	57	-	-	7	613	677	1	-	6	73	1,346	1,426	462	-	1	457	-	920
1992	116	-	-	-	0	116	69	-	-	37	708	814	-	-	-	311	1,190	1,501	445	-	-	182	-	627
1993	17	73	-	-	2	92	36	909	-	17	724	1,686	24	1,458	-	218	916	2,616	223	459	2	182	-	866
1994	7	47	-	-	16	70	279	1,571	-	46	3,459	5,355	113	1,166	-	893	1,314	3,486	10	362	-	251	-	623
1995	11	58	-	-	9	78	110	1,592	-	39	2,127	3,868	20	1,213	-	554	1,075	2,862	-	588	-	209	-	797
1996	55	230	-	-	57	342	119	1,902	-	43	183	2,247	3	1,176	-	521	2,151	3,851	5	358	-	455	-	818
1997	2	179	-	-	39	220	36	1,899	-	564	9,411	11,910	22	1,615	-	532	2,360	4,529	14	449	-	847	-	1,310
1998	57	214	-	-	4	275	15	1,293	-	39	11,656	13,003	6	1,649	-	686	4,484	6,825	65	1,032	-	1,338	-	2,435
1999	35	260	1	-	-	296	75	1,758	-	2,333	5,111	9,277	-	1,144	-	4,286	2,144	7,574	86	884	-	973	-	1,943
2000	57	160	-	4	4	225	109	2,164	-	3,537	1,041	6,850	3	1,027	-	6,731	406	8,167	1	284	-	1,487	0	1,772
2001	0	222	-	18	26	266	148	3,053	-	4,721	14,046	21,968	0	1,058	-	9,677	117	10,852	0	233	-	1,719	1	1,953
2002	0	180	-	15	20	216	45	2,690	-	3,974	11,969	18,678	0	1,069	-	8,133	3,751	12,953	0	198	-	1,756	0	1,954
2003	0	199	-	54	-	253	23	1,692	-	1,079	4,263	7,057	0	1,264	-	7,060	4,903	13,227	0	232	-	4,391	0	4,623
2004	0	213	-	-	-	213	99	2,274	-	1,649	6,965	10,987	0	992	9	5,788	2,190	8,979	14	312	-	335	0	661
2005	61	197	-	-	-	258	111	2,559	-	686	11,828	15,184	0	844	4	5,564	2,410	8,822	195	226	-	205	0	627
2006	133	-	-	-	-	133	132	-	-	227	13,583	13,942	0	-	-	2,884	881	3,765	494	-	-	1	0	495

**TABLE A-3a.** Estimates of the retained catches of tunas and bonitos, by flag, gear type, and species, in metric tons, in the EPO, 2002. The purse-seine and pole-and-line data for yellowfin, skipjack, and bigeye tunas have been adjusted to the species composition estimates and are preliminary.

**TABLA A-3a.** Estimaciones de las capturas retenidas de atunes y bonitos, por bandera, arte de pesca, y especie, en toneladas métricas, en el OPO, 2002. Los datos de los atunes aleta amarilla, barrilete, y patudo de las pesquerías cerco y cañera fueron ajustados a la estimación de composición por especie, y son preliminares.

2002		YFT	SKJ	BET	PBF	ALB	BKJ	BZX	TUN	Total
BLZ	LL	1,447	0	1,459	67	438	0	0	0	3,411
CAN	LTL	0	0	0	0	4,753	0	0	0	4,753
CHL	NK	15	0	7	0	40	0	0	0	62
CHN	LL	1,457	0	7,614	0	1,327	0	0	0	10,398
COK	LTL	0	0	0	0	27	0	0	0	27
COL	PS	29,725	2,613	300	0	0	0	0	284	32,922
CRI	NK	1,563	0	19	0	0	0	0	0	1,582
ECU	NK	0	0	5	0	0	0	0	0	5
	PS	30,930	80,806	26,934	0	0	877	0	84	139,631
ESP	PS	5,021	20,404	8,106	0	0	0	0	0	33,531
JPN	LL	8,513	66	34,193	2	2,627	0	0	0	45,401
KOR	LL	3,626	44	10,358	1	341	0	0	0	14,370
MEX	GN	1	0	0	0	0	0	0	0	1
	LL	4	0	0	1	0	0	0	0	5
	LP	950	616	0	1	0	8	0	0	1,575
	PS	153,172	6,312	2	1,708	28	358	0	0	161,581
PAN	LL	907	59	6	0	13	0	0	312	1,297
	PS	20,188	7,105	2,465	0	0	5	0	0	29,763
PER	NK	195	109	0	0	0	0	0	1,422	1,726
PYF	LL	278	27	388	0	2,545	0	0	0	3,238
SLV	PS	3,130	5,966	6,841	0	0	0	0	0	15,937
TWN	LL	7,360	64	17,253	0	7,096	0	0	0	31,773
USA	GN	1	0	0	7	0	0	1	0	9
	LL	5	1	132	0	0	0	0	1	139
	LP	0	0	0	2	381	0	0	0	383
	LTL	0	0	0	0	7,256	0	0	0	7,256
	PS	8,494	3,383	2,618	0	3	214	0	194	14,906
	RG	24	279	0	351	2,357	0	0	0	3,011
VEN	PS	121,919	2,631	0	0	0	0	0	0	124,550
VUT	LL	290	0	2,995	0	902	0	0	0	4,187
	PS	5,529	6,283	2,860	0	0	0	0	0	14,672
OTR <sup>1</sup>	LL <sup>2</sup>	115	0	7	0	0	0	42	2,790	2,955
	PS	34,299	17,895	7,311	0	0	5	0	14	59,524

<sup>1</sup> This category is used to avoid revealing the operations of individual vessels or companies—Se usa esta categoría para no revelar información sobre las actividades de buques o empresas individuales.

<sup>2</sup> Includes El Salvador, Guatemala, Honduras, and Nicaragua—Incluye El Salvador, Guatemala, Honduras, y Nicaragua.

<sup>3</sup> Includes Belize, Bolivia, Guatemala, Honduras, Nicaragua, Peru, and Unknown—Incluye Belice, Bolivia, Guatemala, Honduras, Nicaragua, Perú, y Desconocido.

**TABLE A-3b.** Estimates of the retained catches of tunas and bonitos, by flag, gear type, and species, in metric tons, in the EPO, 2003. The purse-seine and pole-and-line data for yellowfin, skipjack, and bigeye tunas have been adjusted to the species composition estimates and are preliminary.

**TABLA A-3b.** Estimaciones de las capturas retenidas de atunes y bonitos, por bandera, arte de pesca, y especie, en toneladas métricas, en el OPO, 2003. 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.

2003		YFT	SKJ	BET	PBF	ALB	BKJ	BZX	TUN	Total
BLZ	LL	353	0	604	42	600	0	0	0	1,599
CAN	LTL	0	0	0	0	6,295	0	0	0	6,295
CHL	LL	0	0	0	0	0	13	0	0	13
	NK	73	0	14	0	1	0	24	0	112
CHN	LL	2,739	0	10,066	0	1,743	0	0	0	14,548
COK	LTL	0	0	0	0	251	0	0	0	251
COL	PS	17,482	6,249	261	0	0	0	0	0	23,992
CRI	NK	1,418	0	18	0	0	0	0	0	1,436
ECU	LL	148	293	0	0	0	0	0	0	441
	NK	0	93	0	0	0	0	0	0	93
	PS	33,094	139,052	24,824	0	0	61	0	38	197,069
ESP	LL	0	0	58	0	0	0	0	0	58
	PS	3,760	28,606	7,983	0	0	0	0	0	40,349
JPN	LL	9,133	50	24,796	3	2,122	0	0	0	36,104
KOR	LL	4,911	25	10,272	0	343	0	0	0	15,551
MEX	LL	365	0	0	43	0	0	0	0	408
	LP	468	637	0	0	0	6	0	0	1,111
	PS	172,208	8,752	8	3,211	29	193	0	0	184,401
PAN	PS	25,042	13,473	4,674	0	0	3	0	10	43,202
PER	NK	806	2,575	0	0	0	117	0	750	4,248
PYF	LL	462	60	346	0	3,233	0	0	144	4,246
TWN	LL	3,477	172	12,016	0	12,663	0	0	0	28,328
USA	GN	0	9	6	14	16	0	1	0	46
	LL	5	1	232	0	24	0	0	4	266
	LP	2	1	0	3	59	0	1	0	66
	LTL	0	0	0	0	11,622	0	0	0	11,622
	PS	915	8,190	2,810	22	3	163	0	25	12,128
	RG	597	140	1	737	2,212	0	0	0	3,687
VEN	PS	95,137	7,913	439	0	0	0	0	0	103,489
VUT	LL	699	0	1,258	0	4,133	0	0	0	6,090
	PS	2,943	21,057	6,583	0	0	13	0	0	30,596
OTR <sup>1</sup>	LL <sup>2</sup>	1,472	33	18	0	40	0	0	39	1,602
	PS <sup>3</sup>	30,566	41,198	6,927	0	2	0	0	8	78,701

<sup>1</sup> This category is used to avoid revealing the operations of individual vessels or companies—Se usa esta categoría para no revelar información sobre las actividades de buques o empresas individuales.

<sup>2</sup> Includes Honduras, Nicaragua, and Panama—Incluye Honduras, Nicaragua, y Panamá.

<sup>3</sup> Includes Belize, Bolivia, El Salvador, Guatemala, Honduras, Peru, and Unknown—Incluye Belice, Bolivia, El Salvador, Guatemala, Honduras, Perú, y Desconocido.

**TABLE A-3c** Estimates of the retained catches of tunas and bonitos, by flag, gear type, and species, in metric tons, in the EPO, 2004. The purse-seine and pole-and-line data for yellowfin, skipjack, and bigeye tunas have been adjusted to the species composition estimates and are preliminary.

**TABLA A-3c.** Estimaciones de las capturas retenidas de atunes y bonitos, por bandera, arte de pesca, y especie, en toneladas métricas, en el OPO, 2004. 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.

2004		YFT	SKJ	BET	PBF	ALB	BKJ	BZX	TUN	Total
BLZ	LL	190	26	120	*	296	*	*	*	632
CAN	LTL	*	*	*	*	7,676	*	*	*	7,676
CHL	LL	86	*	9	*	8	27	8	*	138
CHN	LL	798	*	2,645	*	590	*	*	*	4,034
COK	LTL	*	*	*	*	99	*	*	*	99
CRI	NK	1,701	*	21	*	*	*	*	*	1,722
ECU	LL	*	*	312	*	*	*	*	*	312
	NK	*	*	185	*	*	*	*	*	185
	PS	40,501	88,470	30,647	*	*	97	7	12	159,733
ESP	LL	*	*	5	*	*	*	*	*	5
HND	PS	1,058	3,634	1,858	*	*	*	*	1	6,551
JPN	LL	7,240	96	21,132	1	2,264	*	*	*	30,733
KOR	LL	2,997	31	10,729	*	783	*	*	*	14,540
MEX	LL	32	*	*	14	*	*	*	*	46
	LP	1,882	528	*	*	*	*	*	*	2,410
	PS	90,897	24,972	*	8,880	104	418	8	54	125,332
NIC	LL	43	*	*	*	*	*	*	*	43
PAN	LL	2,802	148	48	*	143	*	*	11	3,152
	PS	31,308	20,365	11,434	*	*	25	*	2	63,134
PER	NK	291	1,098	*	*	*	862	*	258	2,509
PYF	LL	767	56	405	*	1,802	*	*	143	3,173
TWN	LL	1,824	339	7,384	*	9,988	*	*	*	19,535
USA	GN	1	*	*	10	12	*	3	*	26
	LL	6	3	149	*	8	*	*	1	167
	LP	2	*	*	*	126	*	1	*	129
	LTL	1	*	*	*	12,718	*	*	*	12,719
	PS	2,529	5,117	3,746	*	1	296	*	178	11,867
	RG	1,159	18	4	49	1,506	*	*	*	2,736
VEN	PS	54,220	13,058	1,056	*	*	47	*	1	68,382
VUT	LL	171	*	407	*	2,554	*	*	*	3,132
	PS	1,625	8,387	5,174	*	*	*	*	*	15,186
OTR <sup>1</sup>	LL	15	13	9	*	8	*	*	31	76
	PS <sup>2</sup>	47,325	34,675	13,422	*	*	1	*	12	95,435

<sup>1</sup> This category is used to avoid revealing the operations of individual vessels or companies—Se usa esta categoría para no revelar información sobre las actividades de buques o empresas individuales.

<sup>2</sup> Includes Bolivia, Colombia, El Salvador, Guatemala, Nicaragua, Spain, and Unknown—Incluye Bolivia, Colombia, El Salvador, España, Guatemala, Nicaragua, y Desconocido.

**TABLE A-3d.** Estimates of the retained catches of tunas and bonitos, by flag, gear type, and species, in metric tons, in the EPO, 2005. The purse-seine and pole-and-line data for yellowfin, skipjack, and bigeye tunas have been adjusted to the species composition estimates and are preliminary.

**TABLA A-3d.** Estimaciones de las capturas retenidas de atunes y bonitos, por bandera, arte de pesca, y especie, en toneladas métricas, en el OPO, 2005. Los datos de los atunes aleta amarilla, barrilete, y patudo de las pesquerías cerco y cañera fueron ajustados a la estimación de composición por especie, y son preliminares.

2005		YFT	SKJ	BET	PBF	ALB	BKJ	BZX	TUN	Total
BLZ	LL	164	16	112	*	46	*	*	*	338
CAN	LTL	*	*	*	*	4,799	*	*	*	4,799
CHL	NK	110	*	24	*	7	22	11	*	174
CHN	LL	682	*	2,104	*	895	*	*	*	3,681
COK	LTL	*	*	*	*	71	*	*	*	71
CRI	NK	1,791	*	23	*	*	*	*	*	1,814
ECU	LL	*	*	39	*	*	*	*	*	39
	PS	40,214	137,102	30,568	*	*	141	40	28	208,093
HND	PS	2,246	5,498	3,714	*	*	*	*	*	11,458
JPN	LL	4,303	50	21,137	0	2,805	*	*	*	28,295
KOR	LL	532	*	11,580	*	172	*	*	*	12,284
MEX	LP	1,844	1,278	*	*	*	*	*	*	3,121
	PS	111,543	31,601	*	4,542	*	1,193	273	92	149,245
NIC	LL	18	*	*	*	*	*	*	*	18
	PS	7,008	2,511	34	*	*	*	*	*	9,553
PAN	LL	1,782	94	30	*	91	*	*	*	1,997
	PS	30,311	28,534	13,370	*	*	8	*	8	72,231
PER	NK	458	365	*	*	*	*	*	427	1,250
	OTR	708	1,398	*	*	*	*	*	*	2,106
PYF	LL	530	14	398	*	1,572	*	*	146	2,661
SLV	PS	7,001	5,347	1,016	*	*	73	*	60	13,497
TWN	LL	1,974	94	6,901	*	3,293	*	*	*	12,262
USA	GN	2	*	*	5	20	*	*	*	27
	LL	7	1	536	*	9	*	*	9	562
	LP	*	*	*	*	66	*	*	*	66
	LTL	*	*	*	*	9,069	*	*	*	9,069
	RG	899	23	*	79	1,719	*	*	*	2,720
VEN	PS	42,180	14,254	120	*	*	41	*	2	56,597
VUT	LL	*	*	1,056	*	179	*	*	*	1,235
OTR <sup>1</sup>	LL	2	*	*	*	*	*	*	1	3
	PS <sup>2</sup>	28,082	36,752	19,877	201	2	16	*	*	84,930

<sup>1</sup> This category is used to avoid revealing the operations of individual vessels or companies—Se usa esta categoría para no revelar información sobre las actividades de buques o empresas individuales.

<sup>2</sup> Includes Colombia, Guatemala, Spain, United States, Vanuatu, and Unknown —Incluye Colombia, España, Estados Unidos, Guatemala, Vanuatú, y Desconocido.

**TABLE A-3e.** Estimates of the retained catches of tunas and bonitos, by flag, gear type, and species, in metric tons, in the EPO, 2006. The purse-seine and pole-and-line data for yellowfin, skipjack, and bigeye tunas have been adjusted to the species composition estimates and are preliminary.

**TABLA A-3e.** Estimaciones de las capturas retenidas de atunes y bonitos, por bandera, arte de pesca, y especie, en toneladas métricas, en el OPO, 2006. 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.

2006		YFT	SKJ	BET	PBF	ALB	BKJ	BZX	TUN	Total
BLZ	LL	100	6	66	*	8	*	*	*	180
CAN	LTL	*	*	*	*	6,130	*	*	*	6,130
CRI	NK	642	*	8	*	*	*	*	*	650
ECU	PS	26,152	143,094	34,176	*	*	79	*	67	203,568
HND	PS	1,694	6,483	3,061	*	*	*	*	*	11,238
JPN	LL	*	*	13,618	*	278	*	*	*	13,896
KOR	LL	*	*	8,694	*	58	*	*	*	8,752
MEX	LP	693	429	*	*	*	*	12	*	1,133
	PS	67,859	19,118	*	9,795	109	1,897	3,229	31	102,038
NIC	PS	7,257	5,371	1,878	*	*	*	*	1	14,507
PAN	LL	2,164	114	37	*	110	*	*	*	2,425
	PS	23,673	46,742	10,645	*	*	8	*	*	81,068
PER	NK	2,010	9,389	*	*	*	*	*	232	11,631
TWN	LL	*	*	6,878	*	3,600	*	*	*	10,478
USA	LL	*	*	78	*	*	*	*	*	78
	RG	641	16	*	96	376	*	*	*	1,129
VEN	PS	17,226	25,725	4,135	*	*	11	248	*	47,345
VUT	LL	*	*	648	*	1,688	*	*	*	2,336
OTR <sup>1</sup>	LL	0	*	*	*	*	*	*	3	3
	PS <sup>2</sup>	22,878	61,615	17,300	*	*	5	*	*	101,798

<sup>1</sup> This category is used to avoid revealing the operations of individual vessels or companies—Se usa esta categoría para no revelar información sobre las actividades de buques o empresas individuales.

<sup>2</sup> Includes Bolivia, Colombia, El Salvador, Guatemala, Spain, United States and Vanuatu—Incluye Bolivia, Colombia, El Salvador, España, Estados Unidos, Guatemala y Vanuatu

**TABLE A-4a** Preliminary estimates of the retained catches and landings, in metric tons, of tunas and bonitos caught by purse-seine, pole-and-line, and recreational vessels in 2005, by species and vessel flag (upper panel) and locations where processed (lower panel). The purse-seine and pole-and-line data for yellowfin, skipjack, and bigeye tunas have been adjusted to the species composition estimates and are preliminary.

**TABLA A-4a.** Estimaciones preliminares de las capturas retenidas y descargas de atunes y bonitos capturado por buques cerqueros, cañeros y deportivos en el OPO en 2005, por especie y bandera del buque (panel superior) y localidad donde fue procesado (panel inferior), en toneladas métricas. Los datos de los atunes aleta amarilla, barrilete, y patudo de las pesquerías cerquera y cañera fueron ajustados a las estimaciones de composición por especie, y son preliminares.

	YFT	SKJ	BET	PBF	ALB	BKJ	BZX	TUN	Total	%
<b>Retained catches–Capturas retenidas</b>										
ECU	40,214	137,102	30,568	*	*	141	40	28	208,093	34.0
HND	2,246	5,498	3,714	*	*	*	*	*	11,458	1.9
MEX	113,387	32,879	*	4,542	*	1,193	273	92	152,366	24.9
NIC	7,008	2,511	34	*	*	*	*	*	9,553	1.6
PAN	30,311	28,534	13,370	*	*	8	*	8	72,231	11.8
SLV	7,001	5,347	1,016	*	*	73	*	60	13,497	2.2
VEN	42,180	14,254	120	*	*	41	*	2	56,597	9.3
OTR	28,981	36,775	19,877	280	1,787	16	*	*	87,716	14.3
<b>Total</b>	<b>271,328</b>	<b>262,900</b>	<b>68,699</b>	<b>4,822</b>	<b>1,787</b>	<b>1,472</b>	<b>313</b>	<b>190</b>	<b>611,511</b>	
<b>Landings–Descargas</b>										
COL	35,968	14,317	3,817	*	*	*	*	2	54,104	8.9
CRI	14,931	5,380	668	*	*	*	*	*	20,979	3.5
ECU	66,038	188,021	57,331	*	*	165	40	37	311,632	51.5
MEX	109,700	32,074	292	4,513	*	1,193	273	92	148,137	24.5
VEN	16,503	3,633	*	*	*	*	*	*	20,136	3.3
OTR	26,139	17,447	3,704	388	1,787	114	*	60	49,639	8.2
<b>Total</b>	<b>269,279</b>	<b>260,872</b>	<b>65,812</b>	<b>4,901</b>	<b>1,787</b>	<b>1,472</b>	<b>313</b>	<b>191</b>	<b>604,627</b>	

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

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

<sup>2</sup> Includes El Salvador, Guatemala, Peru, Spain, United States and Unknown. This category is used to avoid revealing the operations of individual vessels or companies.

<sup>2</sup> Incluye El Salvador, España, Estados Unidos, Guatemala, Perú, and Desconocido. Se usa esta categoría para no revelar información sobre las actividades de buques o empresas individuales.

**TABLE A-4b** Preliminary estimates of the retained catches and landings, in metric tons, of tunas and bonitos caught by purse-seine, pole-and-line, and recreational vessels in the EPO in 2006, by species and vessel flag (upper panel) and locations where processed (lower panel). The purse-seine and pole-and-line data for yellowfin, skipjack, and bigeye tunas have been adjusted to the species composition estimates and are preliminary.

**TABLA A-4b.** Estimaciones preliminares de las capturas retenidas y descargas de atunes y bonitos capturado por buques cerqueros, cañeros y deportivos en el OPO en 2006, por especie y bandera del buque (panel superior) y localidad donde fue procesado (panel inferior), en toneladas métricas. Los datos de los atunes aleta amarilla, barrilete, y patudo de las pesquerías cerquera y cañera fueron ajustados a las estimaciones de composición por especie, y son preliminares.

	YFT	SKJ	BET	PBF	ALB	BKJ	BZX	TUN	Total	%
<b>Retained catches–Capturas retenidas</b>										
ECU	26,152	143,094	34,176	*	*	79	*	67	203,568	36.1
HND	1,694	6,483	3,061	*	*	*	*	*	11,238	2.0
MEX	68,552	19,547	*	9,795	109	1,897	3,240	31	103,171	18.3
NIC	7,257	5,371	1,878	*	*	*	*	1	14,507	2.6
PAN	23,673	46,742	10,645	*	*	8	*	*	81,068	14.4
VEN	17,226	25,725	4,135	*	*	11	248	*	47,345	8.4
OTR	23,519	61,631	17,300	96	376	5	*	*	102,927	18.3
<b>Total</b>	168,073	308,593	71,195	9,891	485	2,000	3,488	99	563,824	
<b>Landings–Descargas</b>										
COL	11,549	15,416	2,845	*	*	8	*	*	29,818	5.2
ECU	52,921	223,969	57,252	*	*	81	248	67	334,538	58.8
MEX	68,209	18,733	*	9,795	109	1,897	3,240	31	102,014	17.9
VEN	12,116	15,623	1,500	*	*	11	*	*	29,250	5.1
OTR	33,068	31,750	8,362	96	376	3	*	1	73,656	12.9
<b>Total</b>	177,863	305,491	69,959	9,891	485	2,000	3,488	99	569,276	

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

<sup>2</sup> Includes Costa Rica, El Salvador, Guatemala, Peru, United States, and Unknown. This category is used to avoid revealing the operations of individual vessels or companies.

<sup>2</sup> Incluye Costa Rica, El Salvador, Estados Unidos, Guatemala, Perú, y Desconocido. 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. Data for 2005 and 2006 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 2005 y 2006 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	USA <sup>2</sup>		MEX		Sub-total	
	PS	LP	LL	OTR	PS	OTR	PS	LL	OTR		PS	OTR	PS	OTR		
1977	5,110	2,256	712	5,519	-	-	-	131	-	13,727	3,259	21	2,186	-	5,467	19,194
1978	10,427	1,154	1,049	9,486	-	-	-	66	-	22,183	4,663	5	545	-	5,213	27,396
1979	13,881	1,250	1,223	9,418	-	-	-	58	-	25,830	5,889	12	213	-	6,114	31,944
1980	11,327	1,392	1,170	5,945	-	-	-	114	-	19,948	2,327	8	582	-	2,917	22,865
1981	25,430	754	796	6,428	-	-	-	179	-	33,587	867	21	218	-	1,107	34,693
1982	19,234	1,777	880	4,161	31	-	-	207	11	26,302	2,639	11	506	-	3,156	29,458
1983	14,784	356	707	3,883	13	-	9	175	12	19,939	622	155	214	-	991	20,930
1984	4,433	587	360	4,797	4	-	5	477	-	10,664	673	65	166	-	904	11,569
1985	4,162	1,817	496	5,475	1	-	80	210	67	12,308	3,320	210	676	-	4,206	16,514
1986	7,412	1,086	249	4,944	344	-	16	70	81	14,202	4,851	346	189	-	5,386	19,588
1987	8,672	1,565	346	3,536	89	-	21	365	87	14,681	861	135	119	-	1,115	15,796
1988	3,601	907	241	2,436	32	-	197	108	431	7,953	923	85	447	1	1,456	9,409
1989	6,166	754	440	1,977	71	-	259	205	578	10,450	1,046	135	57	-	1,237	11,687
1990	2,959	536	396	2,359	132	-	149	189	454	7,174	1,380	205	50	-	1,635	8,809
1991	4,336	286	285	3,994	265	-	-	342	107	9,614	410	68	9	-	487	10,101
1992	4,255	166	573	3,102	288	-	73	464	76	8,998	1,928	221	-	-	2,149	11,147
1993	5,156	129	857	1,645	40	-	1	471	4	8,302	580	217	-	-	797	9,099
1994	7,345	162	1,138	4,887	50	-	-	559	-	14,141	906	184	63	2	1,155	15,296
1995	5,334	270	769	6,702	821	-	-	335	2	14,233	619	215	11	-	845	15,077
1996	5,540	94	978	4,628	102	-	-	956	-	12,299	4,523	100	3,700	-	8,323	20,622
1997	6,137	34	1,383	3,817	1054	-	-	1814	-	14,239	2,240	175	367	-	2,783	17,021
1998	2,715	85	1,260	3,663	188	-	-	1910	-	9,820	1,771	484	1	-	2,256	12,076
1999	11,619	35	1,155	4,411	256	-	-	3089	-	20,565	184	482	2,369	35	3,070	23,635
2000	8,193	102	1,005	5,763	794	-	-	2780	2	18,638	693	281	3,019	99	4,092	22,730
2001	3,139	180	1,004	4,947	995	10	-	1839	104	12,218	28	273	863	-	1,164	13,382
2002	4,171	99	889	4,023	674	1	-	1523	4	11,384	0	360	1,708	2	2,070	13,454
2003	945	44	1,230	3,246	1591	-	-	1863	21	8,940	22	246	3,211	43	3,522	12,462
2004	4,792	132	1,311	4,054	636	-	-	1714	-	12,639	0	45	8,880	14	8,939	21,578
2005	3,927	549	1,824	8,702	950	-	-	1368	-	17,319	201	84	4,542	*	4,827	22,147
2006	3,780	108	1,037	5,049	*	-	-	1148	-	11,123	*	97	9,795	*	9,892	21,014

<sup>1</sup> Source: International Scientific Committee, Report of the Fifth ISC Pacific Bluefin Tuna Working Group—Fuente: Comité Científico Internacional, Informe del Quinto Grupo de Trabajo sobre el Atún Aleta Azul del Pacífico.

**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). Data for 2005 and 2006 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 2005 y 2006 son preliminares.

ALB (N)	Eastern Pacific Ocean Océano Pacífico o oriental						Western and central Pacific Ocean Océano Pacífico occidental y central					Total
	LL	LP	LTL	PS	OTR	Subtotal	LL	LP	LTL	OTR	Subtotal	
1977	811	1,960	9,968	15	543	13,297	16,347	34,822	54	2,336	53,559	66,856
1978	790	1,577	16,613	156	821	19,957	12,610	57,018	23	10,419	80,070	100,027
1979	1,394	179	4,955	148	74	6,750	13,163	45,635	2,347	6,970	68,115	74,865
1980	1,268	407	5,421	194	168	7,458	14,245	43,495	2,347	7,511	67,598	75,056
1981	2,040	608	12,039	99	227	15,013	16,517	26,375	798	21,597	65,287	80,300
1982	1,971	198	3,303	355	257	6,084	15,693	29,744	3,410	26,154	75,001	81,085
1983	1,572	449	7,751	7	87	9,866	14,416	20,155	1,833	14,337	50,741	60,607
1984	2,592	1,441	8,343	3,910	1,427	17,713	12,972	25,928	1,011	26,266	66,177	83,890
1985	1,312	877	5,308	42	1,176	8,715	13,252	21,967	1,163	24,878	61,260	69,975
1986	698	86	4,282	47	196	5,309	12,349	14,525	456	18,603	45,933	51,242
1987	1,114	320	2,300	1	171	3,906	14,171	19,103	570	18,242	52,086	55,992
1988	899	271	4,202	17	64	5,453	14,417	7,839	165	27,923	50,344	55,797
1989	957	21	1,852	1	160	2,991	12,921	11,241	148	26,789	51,099	54,090
1990	1,139	170	2,440	39	24	3,812	15,034	13,944	465	32,154	61,597	65,409
1991	1,514	834	1,783	-	6	4,137	15,984	5,729	201	15,052	36,966	41,103
1992	1,635	255	4,515	-	2	6,407	17,788	14,774	419	19,952	52,933	59,340
1993	1,772	1	4,331	-	25	6,129	28,777	12,844	2,417	3,132	47,170	53,299
1994	2,356	85	9,581	-	106	12,128	28,386	30,439	3,553	3,804	66,182	78,310
1995	1,381	465	7,308	-	102	9,256	31,496	22,619	3,450	1,981	59,546	68,802
1996	1,675	72	8,195	11	88	10,041	37,614	22,551	13,654	720	74,539	84,580
1997	1,365	59	6,056	1	1,018	8,499	46,528	35,056	12,618	2,056	96,258	104,757
1998	1,730	81	11,939	42	1,208	15,000	46,101	27,797	8,135	1,663	83,696	98,696
1999	2,701	227	10,801	47	3,621	17,397	43,360	54,817	3,052	7,476	108,705	126,102
2000	1,880	86	10,874	71	1,798	14,709	38,989	21,767	4,371	2,956	68,083	82,792
2001	1,822	157	11,570	3	1,635	15,187	34,468	29,254	5,168	1,472	70,362	85,549
2002	1,226	381	11,904	31	2,357	15,899	21,852	49,575	4,419	3,904	79,750	95,649
2003	1,125	59	17,749	34	2,228	21,195	28,662	34,648	4,137	1,465	68,912	90,107
2004	919	126	20,162	105	1,518	22,830	21,832	34,911	2,011	7,597	66,351	89,181
2005	395	66	13,758	2	1,739	15,960	24,825	34,971	5,383	873	66,052	82,012
2006	641	*	6,130	109	376	7,256	*	*	*	*	*	7,256

**TABLE A-6b.** Annual retained catches of South Pacific albacore by region, in metric tons. Compiled from IATTC data (EPO) and SPC data (WCPO). Data for 2005 and 2006 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 2005 y 2006 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	
1977	9,767	-	960	10,727	28,247	100	621	-	28,968	39,695
1978	11,149	-	2	11,151	21,739	100	1,686	-	23,525	34,676
1979	4,189	-	14	4,203	21,968	100	814	-	22,882	27,085
1980	4,050	-	60	4,110	26,917	101	1,468	-	28,486	32,596
1981	5,235	-	35	5,270	27,458	-	2,085	-	29,543	34,813
1982	6,436	-	2	6,438	21,911	1	2,434	4	24,350	30,788
1983	5,862	-	2	5,864	18,447	-	744	37	19,228	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	26,885	-	1,929	1,797	30,611	36,586
1987	8,880	188	3	9,071	13,089	9	1,946	927	15,971	25,042
1988	9,035	1,282	-	10,317	19,249	-	3,014	5,283	27,546	37,863
1989	5,828	593	90	6,511	12,396	-	7,777	21,878	42,051	48,562
1990	5,397	1,336	306	7,039	13,969	245	5,639	7,232	27,085	34,124
1991	6,380	795	170	7,345	17,005	14	7,010	1,319	25,348	32,693
1992	15,446	1,205	18	16,669	15,146	11	5,373	47	20,577	37,246
1993	9,423	35	19	9,477	20,807	74	4,261	51	25,193	34,670
1994	8,034	446	22	8,502	26,252	67	6,718	67	33,104	41,606
1995	4,804	2	15	4,821	24,576	139	7,706	89	32,510	37,331
1996	5,956	94	21	6,071	17,906	57	7,273	135	25,371	31,442
1997	8,313	465	-	8,778	18,821	21	4,214	133	23,189	31,967
1998	10,905	11	-	10,916	26,941	47	6,247	85	33,320	44,236
1999	8,932	81	7	9,020	23,021	138	3,310	67	26,536	35,556
2000	7,783	778	3	8,564	26,197	102	5,342	136	31,777	40,341
2001	17,589	516	5	18,110	31,095	37	4,535	194	35,861	53,971
2002	14,064	131	40	14,235	46,932	18	4,364	112	51,426	65,661
2003	23,776	420	1	24,197	31,937	12	4,876	137	36,962	61,159
2004	17,525	331	-	17,856	42,810	110	3,907	124	46,951	64,807
2005	8,668	181	7	8,856	45,693	109	3,400	130	49,332	58,188
2006	5,101	*	*	5,101	*	*	*	*	*	5,101

**TABLE A-7.** Catches per cubic meter of well volume for the purse-seine fleet in the EPO, by species and vessel capacity group. All = YFT, SKJ, BET, PBF, ALB, BKJ, BZX, and TUN (see Table A-2a).

**TABLA A-7.** Capturas por metro cúbico de volumen de bodega de la flota cerquera en el OPO, por especie y clase de arqueo del buque. All = YFT, SKJ, BET, PBF, ALB, BKJ, BZX, y TUN (ver Tabla A-2a).

	Species — Especie	Well volume—Volumen de bodega (m <sup>3</sup> )								Total
		<401	401-800	801-1100	1101-1300	1301-1500	1501-1800	1801-2100	>2100	
<b>2001</b>	YFT	2.3	1.4	1.4	3.0	2.0	2.6	0.8	0.6	2.0
	SKJ	1.2	1.0	0.9	0.2	0.6	0.4	1.3	1.2	0.7
	BET	0.0	0.3	0.3	0.1	0.3	0.1	0.6	0.5	0.2
	All	3.7	2.8	2.6	3.3	3.1	3.0	2.8	2.2	3.0
<b>2002</b>	YFT	1.7	1.6	1.1	3.3	2.6	2.3	0.7	0.5	2.0
	SKJ	1.3	1.3	0.9	0.3	0.7	0.2	1.3	1.4	0.8
	BET	0.0	0.1	0.2	0.1	0.3	0.1	0.5	0.5	0.2
	All	3.2	3.1	2.2	3.7	3.5	2.5	2.5	2.4	3.0
<b>2003</b>	YFT	1.7	1.8	1.1	3.0	2.1	2.0	0.8	0.6	1.9
	SKJ	2.9	2.4	1.8	0.6	0.9	0.4	1.8	1.3	1.3
	BET	0.0	0.2	0.3	0.1	0.2	0.1	0.5	0.4	0.2
	All	4.9	4.4	3.2	3.7	3.2	2.5	3.1	2.4	3.5
<b>2004</b>	YFT	1.1	1.2	1.0	1.8	1.6	1.2	0.6	0.8	1.3
	SKJ	1.7	1.6	1.3	0.6	0.8	0.5	1.3	1.3	0.9
	BET	0.1	0.3	0.3	0.1	0.3	0.1	0.6	0.6	0.2
	All	3.2	3.0	2.7	2.6	2.6	1.8	2.4	2.7	2.6
<b>2005</b>	YFT	1.2	1.2	0.8	1.7	1.4	1.5	0.8	0.7	1.3
	SKJ	3.0	2.1	1.6	0.7	0.9	0.8	2.1	1.6	1.3
	BET	0.0	0.2	0.3	0.1	0.2	0.1	0.6	0.9	0.2
	All	4.5	3.5	2.8	2.5	2.5	2.4	3.4	3.3	2.9
<b>2006</b>	YFT	0.9	0.7	0.6	1.0	0.9	0.9	0.5	0.6	0.8
	SKJ	2.4	2.1	1.6	0.8	0.8	1.1	2.3	1.3	1.4
	BET	0.1	0.3	0.3	0.1	0.2	0.2	0.6	0.6	0.3
	All	3.8	3.3	2.7	2.0	2.1	2.2	3.4	2.5	2.5

**TABLE A-8.** 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 2006 are preliminary. The data for yellowfin, skipjack, and bigeye tunas have been adjusted to the species composition estimate and are preliminary.

**TABLA A-8.** Números estimados de lances, por tipo de lance y categoría de capacidad de buque<sup>Error!</sup>, y capturas retenidas estimadas, en toneladas métricas, de atunes aleta amarilla, barrilete, y patudo en el OPO. Los datos de 2006 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>					
1989	33	12,827	12,860	191,623	1,728	26
1990	31	10,997	11,028	173,894	1,350	0
1991	0	9,661	9,661	155,283	1,332	0
1992	26	10,398	10,424	165,647	1,262	0
1993	34	6,953	6,987	110,893	587	51
1994	5	7,804	7,809	125,345	1,106	1
1995	0	7,185	7,185	132,710	2,548	1
1996	14	7,472	7,486	138,466	1,761	57
1997	43	8,977	9,020	152,240	8,160	0
1998	0	10,645	10,645	154,528	4,998	6
1999	0	8,648	8,648	143,166	1,705	5
2000	0	9,235	9,235	147,618	542	15
2001	0	9,823	9,823	238,094	1,805	6
2002	0	12,446	12,446	301,401	3,180	2
2003	0	13,839	13,839	264,599	13,323	1
2004	0	11,783	11,783	175,792	10,824	3
2005	0	12,173	12,173	165,131	11,716	4
2006	0	8,923	8,923	89,183	4,942	0
<b>OBJ</b>	<b>Sets on fish associated with floating objects Lances sobre peces asociados con objetos flotantes</b>					
1989	974	2,339	3,313	28,377	44,664	1,527
1990	719	2,558	3,277	35,527	35,552	3,995
1991	819	2,165	2,984	25,501	39,036	2,747
1992	868	1,763	2,631	15,010	49,144	2,048
1993	493	2,063	2,556	19,614	53,009	6,141
1994	668	2,770	3,438	20,843	51,125	33,960
1995	707	3,521	4,228	21,146	80,010	41,873
1996	1,230	4,007	5,237	27,842	69,614	58,371
1997	1,699	5,653	7,352	30,009	116,806	62,704
1998	1,198	5,481	6,679	26,286	110,297	41,909
1999	630	4,620	5,250	43,052	181,547	49,330
2000	504	3,916	4,420	42,688	121,036	91,474
2001	801	5,744	6,545	66,353	122,752	60,627
2002	857	5,781	6,638	37,797	116,656	55,916
2003	704	5,497	6,201	29,798	181,326	52,705
2004	615	5,083	5,698	27,595	117,669	65,829
2005	641	5,122	5,763	26,238	132,483	67,510
2006	1,086	7,140	8,226	35,642	194,679	69,564

TABLE A-8. (continued)  
 TABLA A-8 (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 Lances sobre cardúmenes no asociados</b>					
<b>1989</b>	2,955	5,878	8,833	57,996	48,542	477
<b>1990</b>	3,683	5,397	9,080	53,832	37,467	1,926
<b>1991</b>	3,571	3,612	7,183	50,473	21,860	2,123
<b>1992</b>	4,010	4,079	8,089	47,463	33,876	5,131
<b>1993</b>	5,739	6,267	12,006	88,985	30,234	3,465
<b>1994</b>	5,440	5,064	10,504	62,220	17,895	938
<b>1995</b>	6,120	4,782	10,902	61,578	44,489	3,447
<b>1996</b>	5,807	5,118	10,925	72,299	32,598	2,883
<b>1997</b>	5,334	4,693	10,027	62,629	28,490	1,568
<b>1998</b>	5,700	4,631	10,331	73,145	25,336	2,214
<b>1999</b>	5,632	6,143	11,775	95,702	78,313	1,823
<b>2000</b>	5,439	5,482	10,921	64,719	83,881	2,264
<b>2001</b>	3,958	3,030	6,988	77,782	19,227	775
<b>2002</b>	4,923	3,409	8,332	73,209	33,562	1,519
<b>2003</b>	7,284	5,083	12,367	86,750	79,841	1,803
<b>2004</b>	4,935	5,698	10,633	66,076	70,185	1,505
<b>2005</b>	6,099	7,857	13,956	77,216	117,400	1,185
<b>2006</b>	6,003	8,463	14,466	41,914	108,527	1,631
<b>ALL</b>	<b>Sets on all types of schools Lances sobre todos tipos de cardumen</b>					
<b>1989</b>	3,962	21,044	25,006	277,996	94,934	2,030
<b>1990</b>	4,433	18,952	23,385	263,253	74,369	5,921
<b>1991</b>	4,390	15,438	19,828	231,257	62,228	4,870
<b>1992</b>	4,904	16,240	21,144	228,121	84,283	7,179
<b>1993</b>	6,266	15,283	21,549	219,492	83,830	9,657
<b>1994</b>	6,113	15,638	21,751	208,408	70,126	34,899
<b>1995</b>	6,827	15,488	22,315	215,434	127,047	45,321
<b>1996</b>	7,051	16,597	23,648	238,607	103,973	61,311
<b>1997</b>	7,076	19,323	26,399	244,878	153,456	64,272
<b>1998</b>	6,898	20,757	27,655	253,959	140,631	44,129
<b>1999</b>	6,262	19,411	25,673	281,920	261,565	51,158
<b>2000</b>	5,943	18,633	24,576	255,025	205,459	93,753
<b>2001</b>	4,759	18,597	23,356	382,229	143,784	61,408
<b>2002</b>	5,780	21,636	27,416	412,407	153,398	57,437
<b>2003</b>	7,988	24,419	32,407	381,147	274,490	54,509
<b>2004</b>	5,550	22,564	28,114	269,463	198,678	67,337
<b>2005</b>	6,740	25,152	31,892	268,585	261,599	68,699
<b>2006</b>	7,089	24,526	31,615	166,739	308,148	71,195

**TABLE A-9.** Types of floating objects on which sets were made. The 2006 data are preliminary.

**TABLA A-9.** Tipos de objetos flotantes sobre los que se hicieron lances. Los datos de 2006 son preliminares.

<b>OBJ</b>	<b>Flotsam Naturales</b>		<b>FADs Plantados</b>		<b>Unknown Desconocido</b>		<b>Total</b>
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	
<b>1992</b>	1,087	61.7	556	31.5	120	6.8	1,763
<b>1993</b>	1,138	55.2	825	40.0	100	4.8	2,063
<b>1994</b>	773	27.9	1,899	68.6	98	3.5	2,770
<b>1995</b>	729	20.7	2,704	76.8	88	2.5	3,521
<b>1996</b>	537	13.4	3,447	86.0	23	0.6	4,007
<b>1997</b>	832	14.7	4,768	84.3	53	0.9	5,653
<b>1998</b>	752	13.7	4,627	84.4	102	1.9	5,481
<b>1999</b>	833	18.0	3,758	81.4	29	0.6	4,620
<b>2000</b>	488	12.5	3,381	86.3	47	1.2	3,916
<b>2001</b>	567	9.9	5,076	88.4	102	1.8	5,744
<b>2002</b>	756	13.1	4,953	85.7	72	1.2	5,781
<b>2003</b>	713	13.0	4,744	86.3	40	0.7	5,497
<b>2004</b>	590	11.6	4,469	87.9	24	0.5	5,083
<b>2005</b>	593	11.6	4,421	86.3	108	2.1	5,122
<b>2006</b>	740	10.4	6,339	88.8	61	0.8	7,140

**TABLE A-10.** 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-10.** 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	
1977	0	0	132,875	83,725	10,958	5,628	0	0	11,973	7,789	0	0	0
1978	0	0	140,006	79,320	8,571	7,012	0	0	8,743	6,525	0	0	0
1979	0	0	137,769	67,932	5,021	2,305	0	0	3,138	2,293	0	0	0
1980	0	0	138,141	75,639	11,788	5,907	0	0	3,000	1,611	0	0	0
1981	0	0	131,275	59,226	19,731	6,539	0	0	5,952	2,949	0	0	0
1982	0	0	116,200	61,370	18,612	7,488	0	0	8,117	3,910	0	0	0
1983	0	0	127,176	69,563	14,675	6,479	0	0	4,850	2,311	0	0	49
1984	0	0	119,635	57,261	11,767	4,491	0	0	3,730	1,734	0	0	0
1985	0	0	106,758	74,348	19,785	10,508	0	0	3,126	1,979	0	0	2
1986	0	0	160,553	111,672	30,765	17,432	0	0	4,874	2,569	0	0	68
1987	0	0	188,393	104,053	36,436	19,405	0	0	12,267	5,335	0	0	273
1988	0	0	182,694	82,383	43,056	10,172	0	0	9,567	4,590	0	0	234
1989	0	0	170,373	84,961	43,365	4,879	0	0	16,360	4,962	0	0	9
1990	0	0	178,419	117,923	47,167	17,415	0	0	12,543	4,755	0	0	0
1991	0	0	200,365	112,337	65,024	24,644	0	0	17,969	5,862	43	12	0
1992	0	0	191,284	93,011	45,634	13,104	500	89	33,025	14,142	325	106	0
1993	0	0	159,955	87,977	46,375	12,843	2,605	79	18,064	6,566	417	81	2
1994	0	0	163,976	92,606	44,788	13,250	3,410	574	12,588	4,883	302	25	41
1995	0	0	129,598	69,435	54,979	12,778	3,452	559	2,910	1,639	823	180	7
1996	0	0	103,653	52,298	40,290	14,121	4,219	931	5,830	3,553	507	182	0
1997	0	0	96,383	59,325	30,493	16,663	5,490	1,941	8,720	5,673	462	215	28
1998	0	0	106,569	50,167	51,817	15,089	6,415	2,858	10,586	5,039	1,020	406	24
1999	0	0	80,958	32,886	54,269	13,294	9,190	4,446	23,247	7,865	1,680	469	100
2000	0	0	79,311	45,216	33,585	18,759	10,230	4,382	18,152	7,809	1,076	204	3,758
2001	13,056	5,162	102,219	54,775	72,261	18,201	11,200	5,086	53,224	20,060	1,400	238	14,452
2002	36,756	10,398	103,919	45,401	96,273	14,370	10,700	3,238	77,051	31,773	236	139	8,710
2003	43,289	14,548	101,242	36,104	71,006	15,551	14,048	4,101	74,322	28,328	1,314	262	10,159
2004	15,889	4,034	76,739	30,733	55,861	14,540	17,865	3,030	51,317	19,535	1,040	166	7,458
2005	16,895	3,681	71,679	28,295	16,828	12,284	13,359	2,515	50,000	12,262	2,601	553	3,629

<sup>1</sup> Includes the catch of—Incluye la captura de: Belize, Chile, Ecuador, El Salvador, Guatemala, Honduras, México, Nicaragua, Panamá, Vanuatu



**TABLE A-11.** Numbers and well volumes, in cubic meters, of purse-seine and pole-and line vessels of the EPO tuna fleet, 1976-2006. The data for 2006 are preliminary.

**TABLA A-11.** Número y volumen de bodega, en metros cúbicos, de buques cerqueros y cañeros de la flota atunera del OPO, 1976-2006. Los datos de 2006 son preliminares.

	PS		LP		Total	
	No.	Vol. (m <sup>3</sup> )	No.	Vol. (m <sup>3</sup> )	No.	Vol. (m <sup>3</sup> )
<b>1976</b>	254	187,512	137	8,471	391	195,983
<b>1977</b>	253	189,967	116	6,780	369	196,746
<b>1978</b>	271	192,259	118	6,736	389	198,995
<b>1979</b>	282	195,494	50	4,341	332	199,835
<b>1980</b>	270	196,476	50	4,186	320	200,662
<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	180,625	13	1,311	218	181,936
<b>2001</b>	205	189,966	10	1,259	215	191,225
<b>2002</b>	218	200,075	6	925	224	201,000
<b>2003</b>	215	202,674	3	338	218	203,012
<b>2004</b>	217	206,302	3	338	220	206,640
<b>2005</b>	220	213,005	4	498	224	213,503
<b>2006</b>	225	225,397	4	498	229	225,895

**TABLE A-12a.** 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 2005, 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-12a.** Estimaciones del número y volumen de bodega (metros cúbicos) de buques cerqueros (PS) y cañeros (LP) que pescaron en el OPO en 2005, 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	Total (no.)	Well volume — Volumen de bodega (m <sup>3</sup> )					Total (m <sup>3</sup> )
			<401	401-800	801-1300	1301-1800	>1800	
COL	PS	13	2	1	7	3	-	14,439
ECU	PS	81	36	18	16	4	7	55,075
ESP	PS	3	-	-	-	-	3	6,955
GTM	PS	1	-	-	-	1	-	1,475
HND	PS	3	-	1	2	-	-	2,810
MEX	PS	59	10	12	20	17	-	56,163
	LP	4	4	-	-	-	-	498
NIC	PS	6	-	-	4	2	-	8,060
PAN	PS	25	2	4	9	6	4	32,320
SLV	PS	4	-	1	1	-	2	6,324
UNK	PS	1	1	-	-	-	-	222
USA	PS	2	1	-	1	-	-	1,365
VEN	PS	26	-	-	19	7	-	33,839
VUT	PS	2	-	-	1	1	-	2,163
<b>Grand totals – Totales generales</b>								
Number Número	PS	220	52	37	76	39	16	
	LP	4	4	-	-	-	-	
	PS + LP	224	56	37	76	39	16	
Well volume Volumen de bodega	PS		13,345	22,271	85,251	58,025	34,113	213,005
	LP		498	-	-	-	-	498
	PS + LP		13,843	22,271	85,251	58,025	34,113	213,503

- : none—ninguno

**TABLE A-12b.** 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 2006 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-12b.** Estimaciones del número y volumen de bodega (metros cúbicos) de buques cerqueros (PS) y cañeros (LP) que pescaron en el OPO en 2006, 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	Total (no.)	Well volume — Volumen de bodega (m <sup>3</sup> )					Total (m <sup>3</sup> )
			<401	401-800	801-1300	1301-1800	>1800	
BOL	PS	1	1	-	-	-	-	222
COL	PS	13	2	1	7	3	-	14,439
ECU	PS	84	36	19	17	4	8	58,087
ESP	PS	3	-	-	-	-	3	6,955
GTM	PS	1	-	-	-	1	-	1,475
HND	PS	3	-	1	2	-	-	2,729
MEX	PS	57	8	11	22	16	-	55,830
	LP	4	4	-	-	-	-	498
NIC	PS	7	-	1	4	2	-	8,308
PAN	PS	26	2	4	9	6	5	34,624
SLV	PS	5	-	1	1	-	3	8,184
USA	PS	1	-	-	-	1	-	1,593
VEN	PS	22	-	-	11	9	2	30,788
VUT	PS	2	-	-	1	1	-	2,163
<b>Grand totals – Totales generales</b>								
Number Número	PS	225	49	38	74	43	21	
	LP	4	4	-	-	-	-	
	PS + LP	229	53	38	74	43	21	
Well volume Volumen de bodega	PS		12,539	22,428	82,451	62,694	45,285	225,397
	LP		498	-	-	-	-	498
	PS + LP		13,037	22,428	82,451	62,694	45,285	225,895

- : none—ninguno

**TABLE A-13.** Minimum, maximum, and average capacity, in thousands of metric tons, of purse-seine and pole-and-line vessels at sea in the EPO during 1996-2005 and in 2006, by month.

**TABLA A-13.** Capacidad mínima, máxima, y media, en miles de toneladas métricas, de los buques cerqueros y cañeros en el mar en el OPO durante 1996-2005 y en 2006 por mes.

<b>Month Mes</b>	<b>1996-2005</b>			<b>2006</b>
	<b>Min</b>	<b>Max</b>	<b>Ave-Prom</b>	
1	67.0	144.3	103.9	157.7
2	67.9	150.8	113.5	175.3
3	70.3	149.8	110.8	159.4
4	75.9	143.0	114.9	164.2
5	65.3	147.9	111.0	164.4
6	78.2	162.9	113.9	161.4
7	73.3	155.5	117.1	167.6
8	62.2	140.2	105.3	96.6
9	78.9	137.7	109.2	137.7
10	75.1	172.2	119.3	168.2
11	76.6	145.0	111.2	127.4
12	33.1	116.4	75.0	66.2
<b>Ave-Prom</b>	68.7	147.1	108.8	145.5