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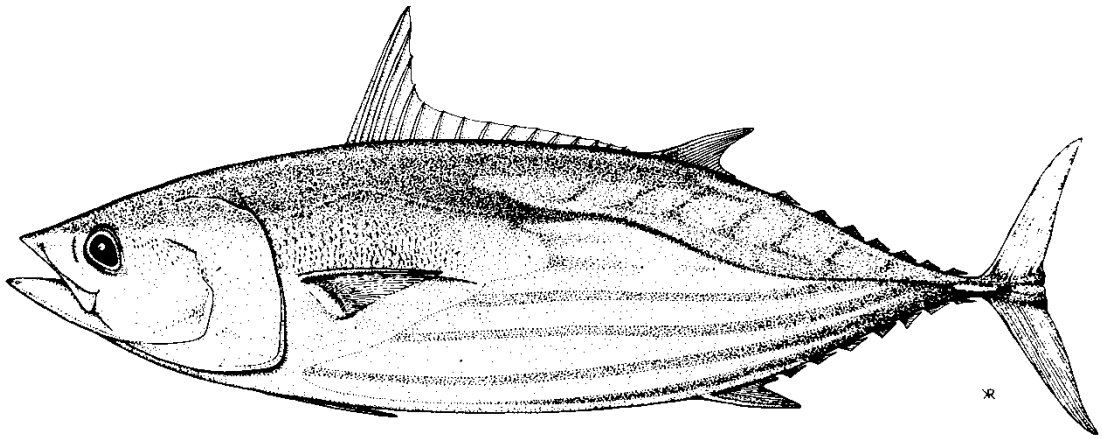
THE WESTERN AND CENTRAL PACIFIC TUNA FISHERY:

2010 OVERVIEW AND STATUS OF STOCKS



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Secretariat of the Pacific Community

Oceanic Fisheries Programme

Tuna Fisheries Assessment Report No. 11

Secretariat of the Pacific Community

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Preface

Tuna fisheries assessment reports provide current information on the tuna fisheries of the western and central Pacific Ocean and the fish stocks (mainly tuna) that are impacted by them. The information provided in this report is summary in nature, but a list of references (mostly accessible via the Internet) is included for those seeking further details.

This report focuses on the main tuna stocks targeted by the fishery — skipjack tuna (*Katsuwonus pelamis*), yellowfin tuna (*Thunnus albacares*), bigeye tuna (*T. obesus*), and South Pacific albacore tuna (*T. alalunga*).

The report is in three main parts: the first section provides an overview of the fishery, with emphasis on developments during the past few years; the second summarises the most recent information on the status of the stocks; and the third summarises information concerning the interaction between the tuna fisheries and the environment. The data used in compiling the report are those which were available to the Oceanic Fisheries Programme (OFP) at the time of publication and are subject to change as improvements continue to be made to recent and historical catch statistics from the region.[1] The fisheries statistics presented will usually be complete to the end of the year prior to publication; however, some minor revisions to statistics may be made for recent years from time to time. The stock assessment information presented is the most recent available, and is updated periodically for each species as new analyses are completed.

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For further information, including a complete online French version of this report, see the OFP webpage: http://www.spc.int/oceanfish/.

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1 The current fishery characterization includes significant revisions to the purse seine catch estimates due to improved species composition estimates associated with the spill sampling work.

Contents

1 The western and central Pacific tuna fishery

The tuna fishery in the western and central Pacific Ocean (WCPO), encompassed by the Convention Area of the Western and Central Pacific Fisheries Commission (WCP–CA) (Figure 1), is a diverse fishery ranging from small-scale, artisanal operations in the coastal waters of Pacific states to large-scale, industrial purse-seine, pole-and-line and longline operations in the exclusive economic zones of Pacific states as well as in international waters (high seas). The main species targeted by these fisheries are skipjack tuna (*Katsuwonus pelamis*), yellowfin tuna (*Thunnus albacares*), bigeye tuna (*T. obesus*) and albacore tuna (*T. alalunga*).

Annual total catches of the four main tuna species (skipjack, yellowfin, bigeye and albacore) in the WCP–CA increased steadily during the 1980s as the purse-seine fleet expanded, and remained relatively stable during most of the 1990s until the sharp increase in catch in 1998. Over the past seven years, there has been an upward trend in total tuna catch, primarily due to increases in purse-seine fishery catches (Figure 2 and Table 1). The provisional total WCP–CA tuna catch for 2010 was estimated at **2,421,113 metric tonnes (mt)**, the second highest annual catch recorded, and 71,673 mt lower than the record in 2009 (2,492,786 mt). In 2010, the purse-seine fishery accounted for an estimated 1,818,255 mt (75% of the total catch, and the third highest catch for this fishery), with pole-and-line taking an estimated 171,597 mt (7%), the longline fishery an estimated 248,589 mt (10%), and the remainder (7%) taken by troll gear and a variety of artisanal gears, mostly in eastern Indonesia and the Philippines. The WCP–CA tuna catch (2,421,113 mt) for 2010 represented 83% of the total Pacific Ocean catch of 2,911,918 mt, and 60% of the global tuna catch (the provisional estimate for 2010 is 4,017,600 mt).

The 2010 WCP–CA catch of skipjack (**1,610,578 mt** — 67% of the total catch) was the second highest recorded after the 2009 catch (Table 2). The WCP–CA yellowfin catch for 2010 (**558,761 mt** — 23%) was the third highest on record (the highest was in 2008: 647,825 mt). The WCP–CA bigeye catch for 2010 (**125,757 mt** — 5%) was the lowest since 1996, due to drops in 2010 provisional catch estimates for several fisheries. The 2010 WCP–CA albacore catch (**126,017 mt** — 5%) was the fifth highest on record, but included the highest ever catches on the south Pacific stock.

The 2010 purse-seine catch of **1,818,255 mt** was the third highest catch for this fishery behind 2009 and 2008 (Figure 3 and Table 1)[2]. The 2010 purse-seine skipjack catch (1,381,070 mt — 81% of the total skipjack catch) was the second highest on record after the 2009 catch. The 2009 purse-seine catch of yellowfin tuna (382,521 mt) was the third highest on record after the record catch taken in 2008 (499,133 mt). The provisional catch estimate for bigeye tuna for 2010 (54,356 mt) was lower than the recent five-year average and 27% smaller than the 2009 catch, but this figure will be revised once all observer data for 2010 have been received and processed.

The 2010 longline catch of **248,589 mt** was the second highest catch in the past 10 years and around 8% lower than the highest on record (2002 – 256,582 mt) (Figure 4 and Table 1). The WCP–CA albacore longline catch (100,846 mt – 41%) for 2010 was a record high and 9% higher than the previous high in 2009 and 25% higher than the 2000–2009 average. This increase was driven by increases in south Pacific removals. The provisional bigeye catch (64,117 mt — 26%) for 2010 was the lowest since 1996. The yellowfin catch for 2010 (82,485 mt — 33%) was the highest since 1988 and about 16% higher than the average over the period 2000–2009. (Note: the 2010 yellowfin longline catch statistics include for the first time a catch estimate from the Vietnam longline fishery which was 9513 mt.)

The 2010 pole-and-line catch of **171,597 mt** was slightly higher than the 2009 catch, and the second lowest annual catch for this fishery since the mid-1960s (Figure 5 and Table 1). Skipjack tends to account for the majority of the catch (~70–80% in recent years, but typically more than 85% of the total catch in tropical areas), and albacore (8–20% in recent years) is taken by the Japanese coastal and offshore fleets in the temperate waters of the northern Pacific Ocean. Yellowfin tuna (5–10%) and a small component of bigeye

2 The current fishery characterization includes significant revisions to the species-specific purse seine catch estimates which have resulted in reduced catch estimates for skipjack tuna and increases for yellowfin and bigeye tuna.

tuna (1–6%) make up the remainder of the catch. The Japanese distant-water and offshore fleets and the Indonesian fleets account for most of the WCP–CA pole-and-line catch.

The 2010 troll albacore catch in the South Pacific of 2,141 mt was only slightly higher (110 mt) than the 2009 catch, which was the lowest since 1984. The New Zealand troll fleet (165 vessels catching 1,790 mt in 2009) and the United States troll fleet (four vessels catching 237 mt in 2009) typically account for most of the albacore troll catch, with minor contributions coming from the Canadian, the Cook Islands and French Polynesian fleets.

2 Status of tuna stocks

The sections below provide a summary of the recent developments in fisheries for each species and the results from the most recent stock assessments. A summary of the important biological reference points for the four stocks is provided in Table 3.

2.1 Skipjack tuna

The 2010 WCP–CA skipjack catch of **1,610,578 mt** was the second highest after the 2009 record (Figure 6 and Table 4). As has been the case in recent years, the main determinant in the overall catch of skipjack is catch taken in the purse-seine fishery (1,381,070 mt in 2010 — 86%). The next highest proportion of the catch was taken by the pole-and-line gear (135,510,144 mt — 8%) and the 'unclassified' gears in the domestic fisheries of Indonesia, the Philippines and Japan (88,629 mt — 5%). The longline fishery accounted for less than 1% of the total catch.

The majority of the skipjack catch is taken in equatorial areas, and most of the remainder is taken in the seasonal home-water fishery of Japan. The domestic fisheries in Indonesia (purse-seine, pole-and-line and unclassified gears) and the Philippines (e.g. ring-net and purse-seine) account for the majority of the skipjack catch in the western equatorial portion of the WCP–CA.

The dominant mode of the WCP–CA skipjack catch (by weight) typically falls in the size range between 40 cm and 60 cm, corresponding to 1–2+ year-old fish (Figure 6). There was a greater proportion of medium-large (60–80 cm) skipjack caught in the purse-seine fishery during 2005 (unassociated, free-swimming school sets account for most of the large skipjack). In contrast, the WCP–CA skipjack purse-seine catch in 2004, 2007 and 2009 comprised younger fish, mainly from associated schools. There was a strong mode of skipjack at 48 cm from associated sets during 2009, but also a pulse of larger fish >70 cm from unassociated sets.

2.1.1 Stock assessment

The most recent assessment of skipjack in the WCPO was conducted in 2011 and included data from 1972 to 2010.

While estimates of fishing mortality for skipjack have increased over time, current fishing mortality rates for skipjack tuna are estimated to be about one-third the level of fishing mortality associated with maximum sustainable yield (F_{MSY}). Therefore, overfishing is not occurring (i.e. $F_{CURRENT} < F_{MSY}$) (Figure 7). Estimated recruitment shows an upward trend over time, but estimated biomass is declining over time to about 60% of the level predicted in the absence of fishing. Nevertheless, recent spawning biomass levels are estimated to be well above the SB_{MSY} level.

Based on these results, the WCPFC Scientific Committee noted that if recent fishing patterns continue, catch rate levels are likely to decline and catch should decrease as stock levels are fished down to MSY levels. Due to the rapid change of the fishing mortality and biomass indicators relative to MSY in recent years, increases of fishing effort should be monitored. The commission should consider developing limits on fishing for skipjack to limit the declines in catch rate associated with further declines in biomass.

2.2 Yellowfin tuna

The WCPC-CA yellowfin catch increased 4% in 2010 to **558,761 mt** as result of increases in both purse-seine and longline catches, but catches were still short of the record high in 2008 (647,825 mt) (Figure 8 and Table 5). The remainder of the yellowfin tuna catch comes from the pole-and-line fishery and the domestic Indonesian and Philippines 'other' gears. In recent years, the yellowfin longline catch has ranged from 75,000 mt to 82,000 mt, which is well below catches taken in the late 1970s to early 1980s (90,000–120,000 mt). The WCP–CA longline catch for 2010 was about 15% above the average catch level over the period 2000–2009 – in part due the inclusion of catch estimates from Vietnam, but also due to bycatch in the growing albacore longline fishery. The purse-seine catch of yellowfin tuna has attained a level of about five times the longline catch.

As with skipjack, the great majority of the yellowfin catch is taken in equatorial areas by large purse-seine vessels, and a variety of gears in the Indonesian and Philippine fisheries. The domestic surface fisheries of the Philippines and Indonesia take large numbers of small yellowfin in the range 20–50 cm. In the purse-seine fishery, smaller yellowfin are caught in log and FAD sets than in unassociated sets. A major portion of the purse-seine catch is adult (> 100 cm) yellowfin tuna, to the extent that the purse-seine catch (by weight) of adult yellowfin tuna is usually higher than the longline catch, which was the case in 2008, where exceptional catches of large yellowfin in the size range 120–130 cm were experienced in the purse-seine fishery.

2.2.1 Stock assessment

The most recent assessment of yellowfin tuna in the WCPO was conducted in 2011 and included data from 1952 to 2010.

Fishing mortality has increased in recent years, but is still estimated to be below F_{MSY}, indicating that overfishing is not occurring (Figure 9). Both biomass and recruitment have declined gradually over the duration of the fishery, but spawning biomass levels are estimated to still be above SB_{MSY}, so the stock is not considered to be in an overfished state. This optimism at the stock level must be tempered by the patterns observed at the subregional level within the stock assessment. Patterns of exploitation and fishery impacts are not the same across the entire model region, with much higher fishery impacts estimated for Region 3, western equatorial Pacific. This region, from which ~81% of catches are taken, is at least fully exploited, with no potential for increased catches. The WCPFC Scientific Committee reiterated early advice that there be no increase in fishing mortality in the western equatorial Pacific.

2.3 Bigeye tuna

The WCP–CA 2010 bigeye tuna catch was **125,757 mt**, which is about 16% lower than the average for the period 2000–2009 due to 2010 being a below average year for all the gears. Longline bigeye catches have fluctuated between 70,000 mt and 91,000 mt since 1999, but the 2010 longline catch (64,117 mt) was the lowest since 1996 (Figure 10 and Table 6). The provisional WCP–CA purse-seine bigeye catch for 2010 was estimated to be 54,356 mt. The WCP–CA pole-and-line fishery has generally accounted for between 2,800 mt and 6,600 mt of bigeye catch annually over the past decade. Estimates of catches for the Indonesian and Philippines domestic fisheries have recently been revised down to similar levels.

The majority of the WCP–CA catch is taken in equatorial areas, both by purse-seine and longline, but with some longline catch in sub-tropical areas (e.g. east of Japan and off the east coast of Australia). In the equatorial areas, much of the longline catch is taken in the central Pacific, contiguous with the important traditional bigeye longline area in the eastern Pacific.

As with skipjack and yellowfin tuna, the domestic surface fisheries of the Philippines and Indonesia take large numbers of small bigeye in the range 20–60 cm. The longline fishery clearly accounts for most of the catch (by weight) of large bigeye in the WCP–CA. This is in contrast to large yellowfin tuna, which (in

addition to the longline gear) are also taken in significant amounts from unassociated (free-swimming) schools in the purse-seine fishery and in the Philippines handline fishery. Large bigeye are very rarely taken in the WCPO purse-seine fishery and only a relatively small amount comes from the handline fishery in the Philippines. Bigeye sampled in the longline fishery are predominantly adult fish with a mean size of ~130 cm FL (range 80–160 cm FL).

2.3.1 Stock assessment

The most recent assessment of bigeye tuna in the WCPO was conducted in 2011 and included data from 1952 to 2010.

Fishing mortality is estimated to have increased through time, particularly in recent years, and current levels are far in excess of F_{MSY} level ($F_{CURRENT} > F_{MSY}$). Therefore, overfishing is occurring (Figure 11). The biomass of spawners is estimated to have declined over the duration of the fishery and is now approaching SB_{MSY}, and there is a possibility that bigeye tuna is already in an overfished state. The model estimates that recent catches have been sustained by higher-than-average levels of recruitment, which have also maintained biomass above the SB_{MSY} level.

The WCPFC Scientific Committee recommended a reduction of at least 32% in fishing mortality from the average levels for 2006–2009 to return the fishing mortality rate to F_{MSY}. It was considered too early to quantitatively conclude whether the WCPFC Conservation and Management Measure (CMM2008-01) has reduced fishing mortality for bigeye tuna to the levels stated in the objective of the measure. Data for 2009 and 2010 have been incorporated into the stock assessments, but the data for these years are incomplete and estimates of fishing mortality in the final year of the model (2010) are particularly uncertain.

2.4 South Pacific albacore tuna

The South Pacific albacore catch in 2010 (81,217 mt) was the second successive record catch, 6.5% higher than the previous record in 2009 (Figure 12 and Table 7). This increase is being driven by increased longline catches. Longline fishing has accounted for most of the catch of this stock (> 75% in the 1990s, but > 90% in recent years), while the troll catch, for a season spanning November to April, has generally been in the range of 3,000–8,000 mt, although it has declined to <3,000 mt in recent years.

The longline catch is widely distributed in the South Pacific, but with catches concentrated in the western part of the Pacific. The Chinese-Taipei distant-water longline fleet catch is taken in all three regions, while the Pacific Island domestic longline fleet catch is restricted to latitudes 10°–25°S. Troll catches are distributed in New Zealand's coastal waters, mainly off the South Island, and along the sub-tropical convergence zone (STCZ). Less than 20% of the overall South Pacific albacore catch is usually taken east of 150°W.

The longline fishery takes adult albacore, mostly in the narrow size range 90–105 cm, and the troll fishery takes juvenile fish in the range 45–80 cm. Juvenile albacore also appear in the longline catch from time to time (e.g. fish in the range 60–70 cm sampled in the longline catch during 2004 and 2006).

2.4.1 Stock assessment

The most recent stock assessment for South Pacific albacore tuna was undertaken in 2011 and was based on data from 1960 to 2010.

The assessment indicates that fishing mortality on adult fish has increased considerably over the past decade, but that overall estimates of fishing mortality are well below $F_{MSY.}$ Therefore, overfishing is not occurring (Figure 13). Spawning biomass levels remain well above SB_{MSY}, so the stock is not in an overfished state. Nevertheless, the current level of longline catch is estimated to be having a considerably higher impact on

the portion of the stock vulnerable to the longline fishery. The assessment indicates that the current level of impact is about 70% for fish of the sizes taken in the northern longline fisheries, having increased sharply in recent years. From the results of the assessment, the WCPFC Scientific Committee concluded that the South Pacific albacore stock is currently not overfished nor is overfishing occurring, and current biomass levels are sufficient to support current levels of catch. Any increases in catch or effort are likely to result in catch rate declines, especially relating to longline catches of adult albacore, with associated impacts upon vessel profitability.

3 Ecosystem considerations

The Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean has identified ecosystem issues as an important element of the principles for conservation and management of the tuna resource in the WCP–CA. This section of the report provides a brief summary of the information available from the WCP–CA tuna fishery concerning associated and dependent species, including information on the species composition of the catch from the tuna fisheries and an assessment of the impact of the fishery on these species. It is important to note that most of these species have received limited attention to date and, consequently, it is possible to provide an assessment of the impact of the fishery for a few species only. The section also includes a summary review of recent and current research that is being undertaken to learn more about the relationship between the main tuna species and the pelagic ecosystem.

3.1 Catch composition

The tuna fisheries of the WCPO principally target four main tuna species: skipjack, yellowfin, bigeye and albacore tuna. However, the fisheries also catch a range of other species in association with these. Some of the associated species are of commercial value (by-products), while many others are of no value and are discarded. There are also incidents of the capture of species of ecological and/or social significance ('protected species'), including marine mammals, sea turtles and some species of shark (e.g. whale sharks).

The information concerning the catch composition of the main tuna fisheries in the WCPO comes largely from the various observer programmes operating in the region. Overall, catches from unassociated and associated purse-seine sets are dominated by tuna species (99.6% and 98.4%, respectively), and there has been limited interaction with protected species (Figure 14). Most of the observed interactions involved unidentified species of marine mammals, and few mortalities have been recorded.

Species composition of the catch has also been estimated for three main longline fisheries operating in the WCPO: the western tropical Pacific (WTP) shallow-setting longline fishery, the WTP deep-setting longline fishery, and the western South Pacific (WSP) albacore fishery. While estimates are uncertain due to the low level of observer coverage, some general conclusions are possible. The main tuna species account for 44%, 71% and 69% of the total catch (by weight) of the three fisheries respectively (Figure 14). Blue shark was in the top four-ranked species in the catch composition of all three fisheries. The WTP shallow fishery has a higher proportion of non-tuna species in the catch, principally shark and billfish species, while opah (moonfish) represents a significant component of the WSP albacore longline catch. There are also considerable differences in the species composition of the billfish catch in the three fisheries while, overall, the WTP shallow and WSP albacore fisheries catch a higher proportion of surface-orientated species than does the WTP deep-setting fishery.

Interactions with seabirds and marine mammals were very low in all three longline fisheries. Catches of five species of marine turtles were observed in the equatorial longline fishery, although the observed encounter rate was very low and most of the turtles caught were alive at the time of release.

3.2 Impact of catches

In addition to the main tuna species, annual catch estimates for the WCPO in 2010 are available for the main species of billfish (swordfish [17,785 mt], blue marlin [18,229 mt], striped marlin [3,623 mt] and black marlin [2,504 mt]). However, the catches of other associated species have not been accurately quantified. For the billfish species, preliminary stock assessments have been undertaken (Pacific-wide blue marlin, north Pacific swordfish, southwest Pacific swordfish, and southwest striped marlin), although they are hampered by limited information concerning species biology and stock structure. Nevertheless, the assessments generally indicate that these stocks are not overexploited at current levels of fishing effort. A revised stock assessment is almost complete for north Pacific striped marlin and there are concerns over the status of this stock.

Large-scale tagging experiments are required to provide the level of information (fishery exploitation rates and population size) necessary for tuna stock assessments of tropical tunas in the western and central Pacific Ocean. Tagging data have the potential to provide much information of relevance to stock assessment, either by way of stand-alone analyses or, preferably, through integration with other data directly in the stock assessment model. Tuna tagging has been a core activity of the Oceanic Fisheries Programme for the last 30 years, with tagging campaigns occurring in the 1970s, 1990s and, most recently, since 2006. This most recent campaign has now tagged and released over 300,000 tuna in the equatorial western and central Pacific Ocean with over 40,000 reported recaptures (Figure 15). A detailed summary of tag releases and recoveries is provided in Table 8.

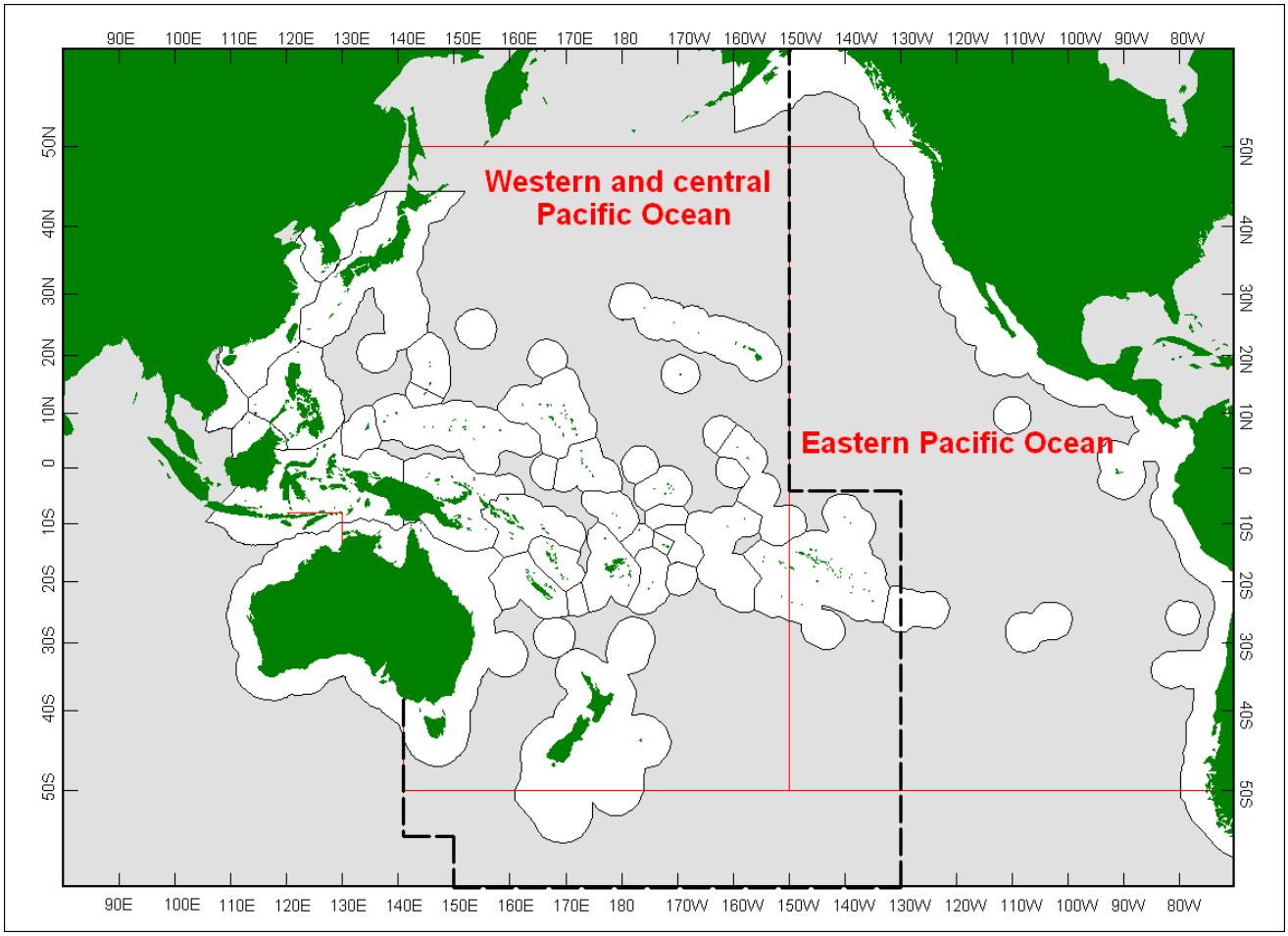
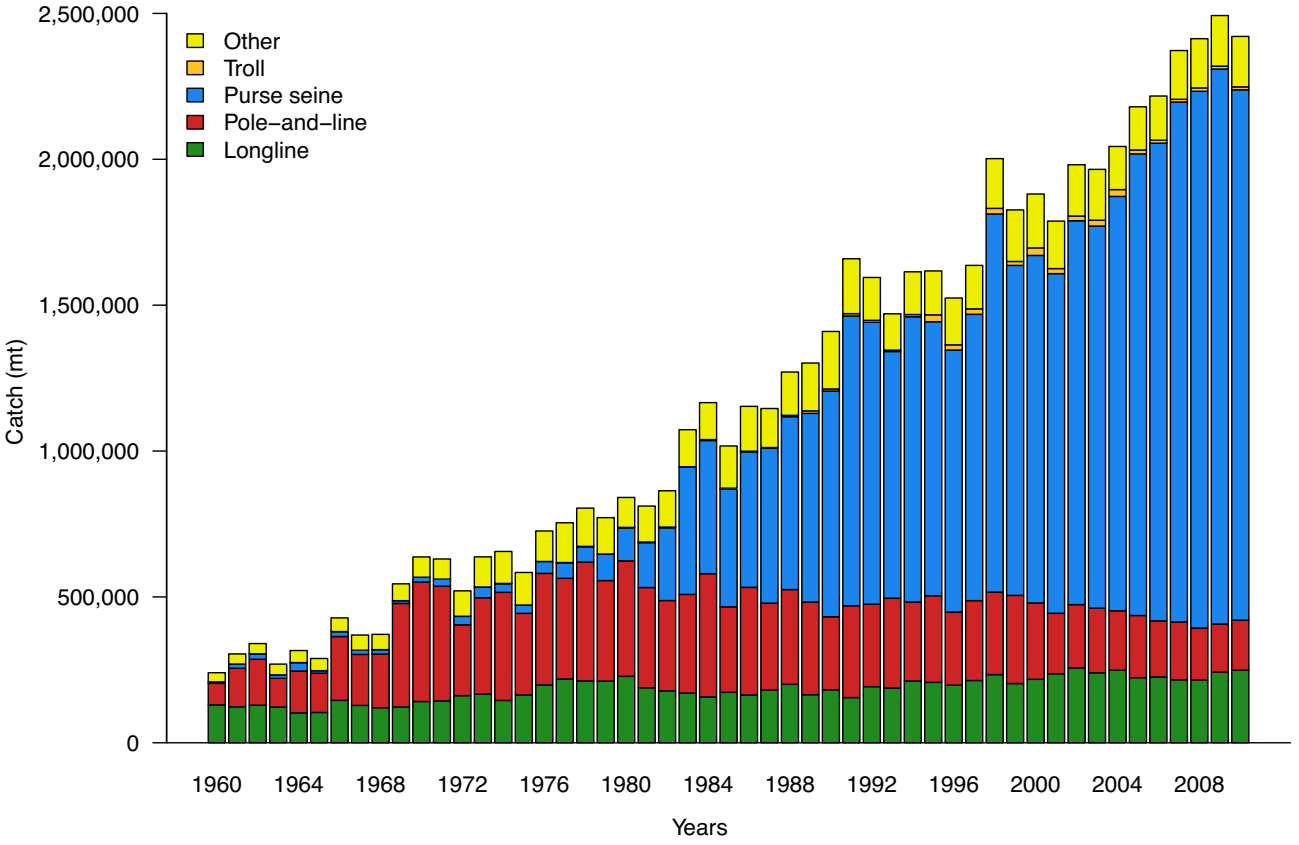


Figure 1: The western and central Pacific Ocean (WCPO), the eastern Pacific Ocean (EPO) and the WCPFC Convention Area boundary (WCP–CA in dashed lines).



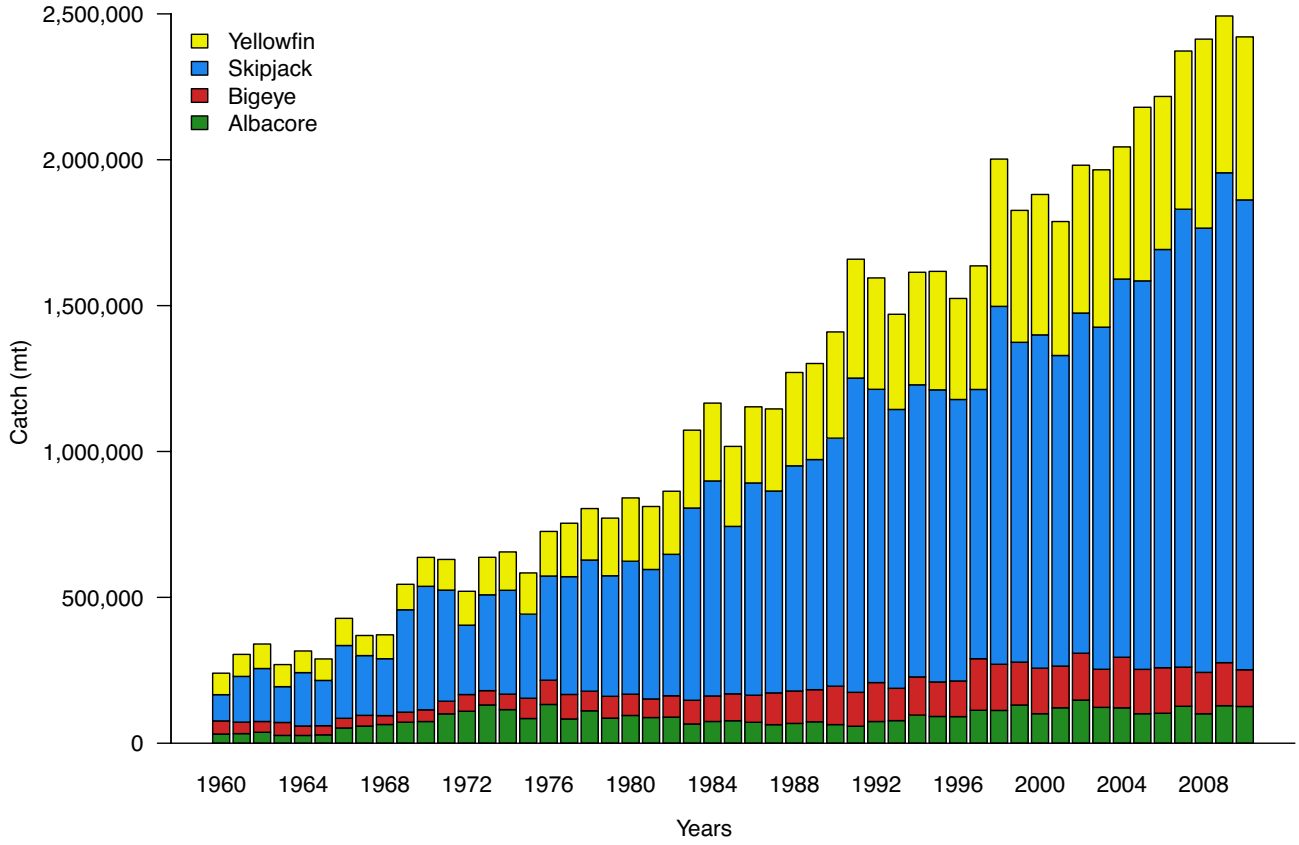


Figure 2: Catch (metric tonnes) by gear (top) and species (bottom) for the western and central Pacific region, 1960–2010. Note: data for 2010 are preliminary.

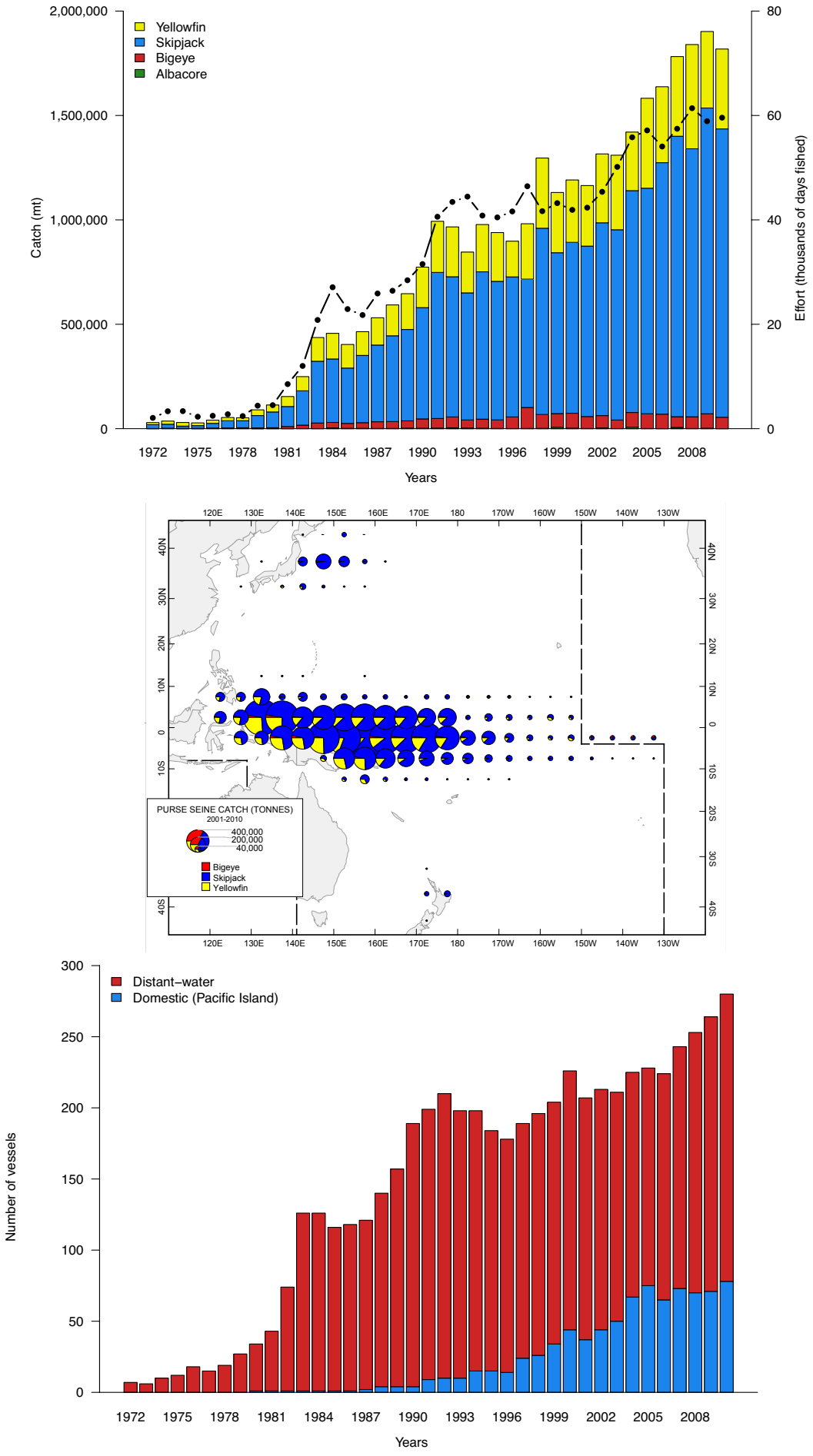


Figure 3: Time series of catch (mt) and effort (top), recent spatial distribution of catches (middle), and fleet sizes (bottom) for the purse-seine fishery in the western and central Pacific Ocean (WCPO).

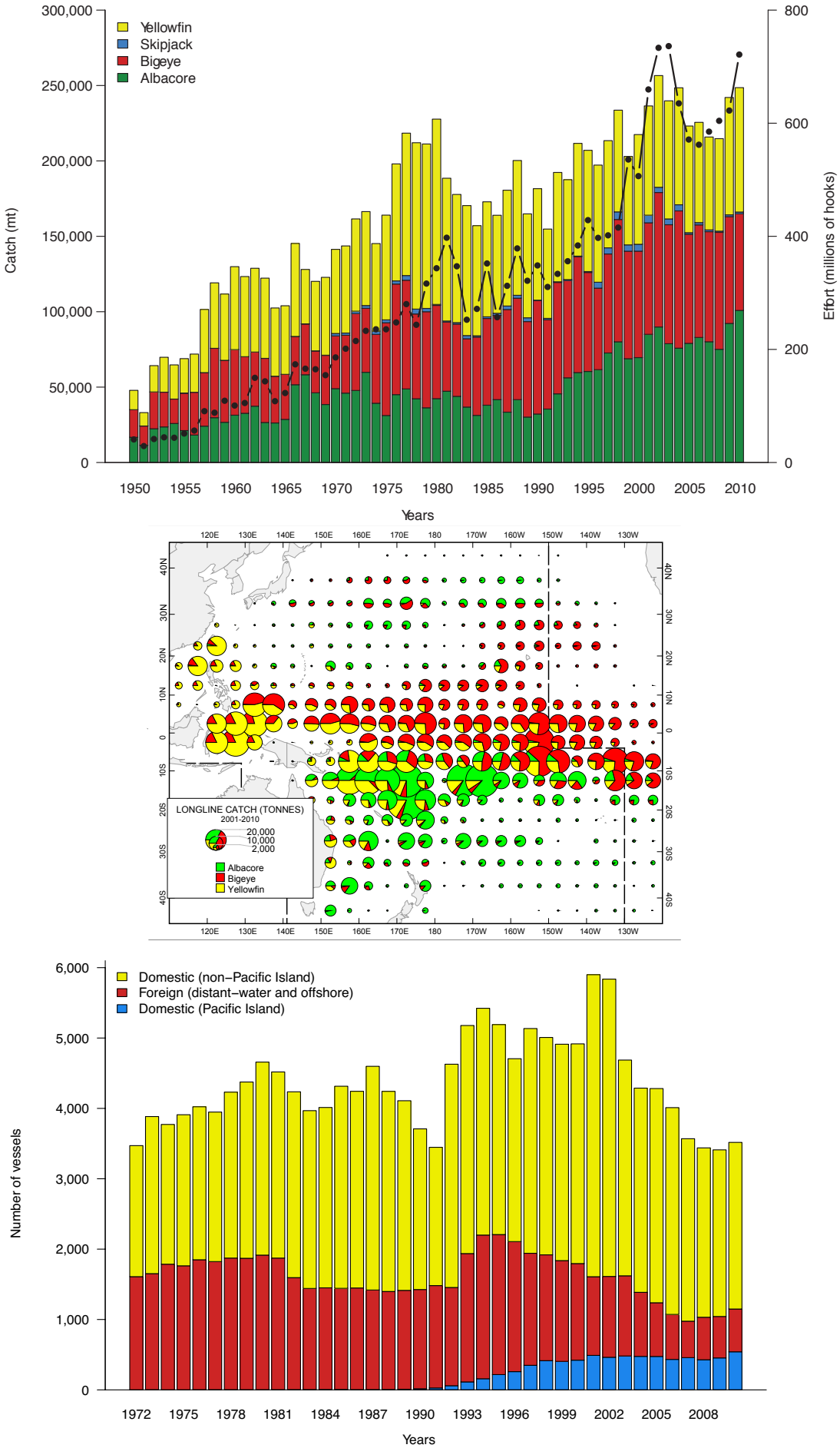


Figure 4: Time series of catch (mt) and effort (top), recent spatial distribution of catches (middle), and fleet sizes (bottom), for the longline fishery in the western and central Pacific Ocean (WCPO).

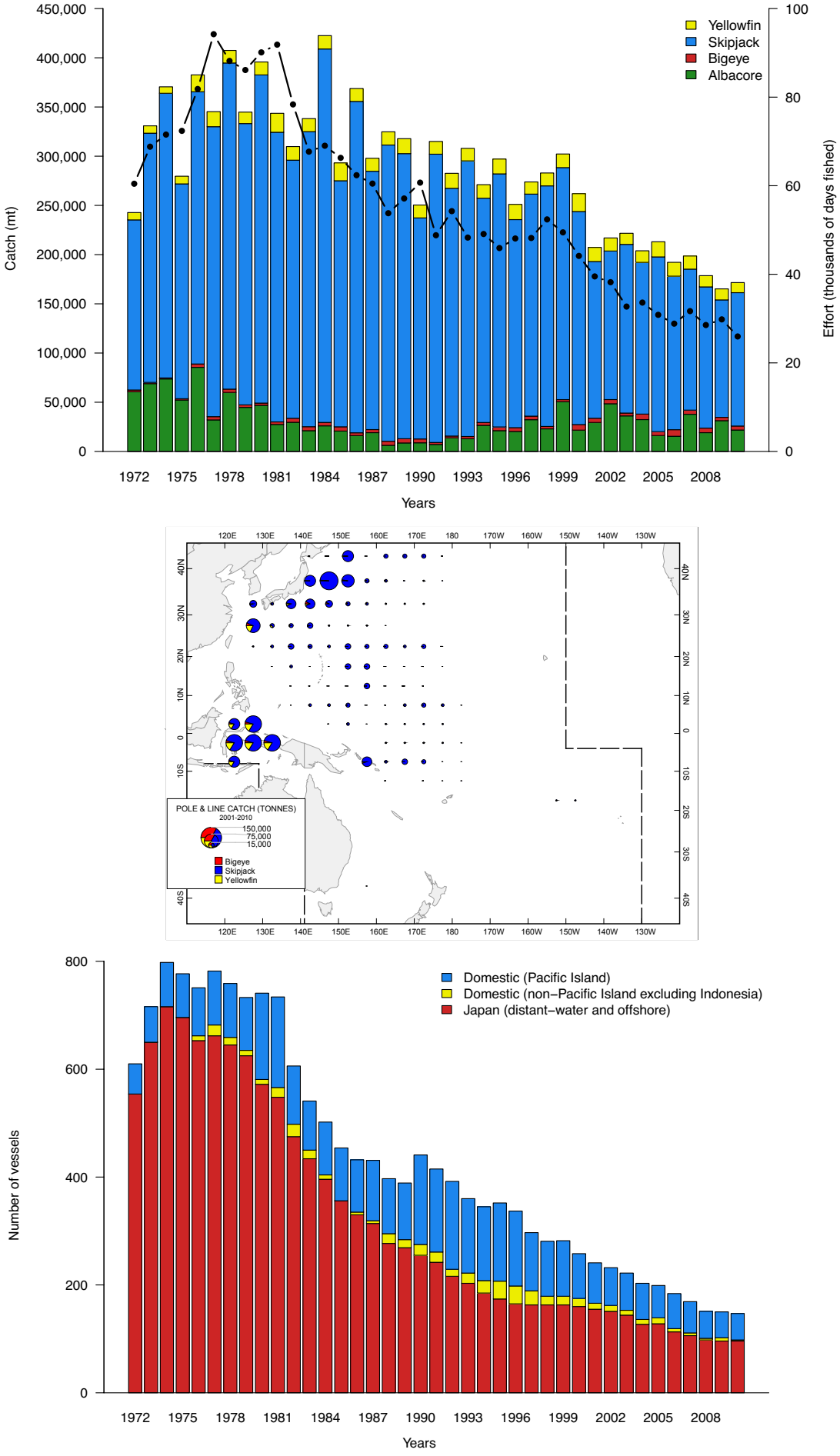
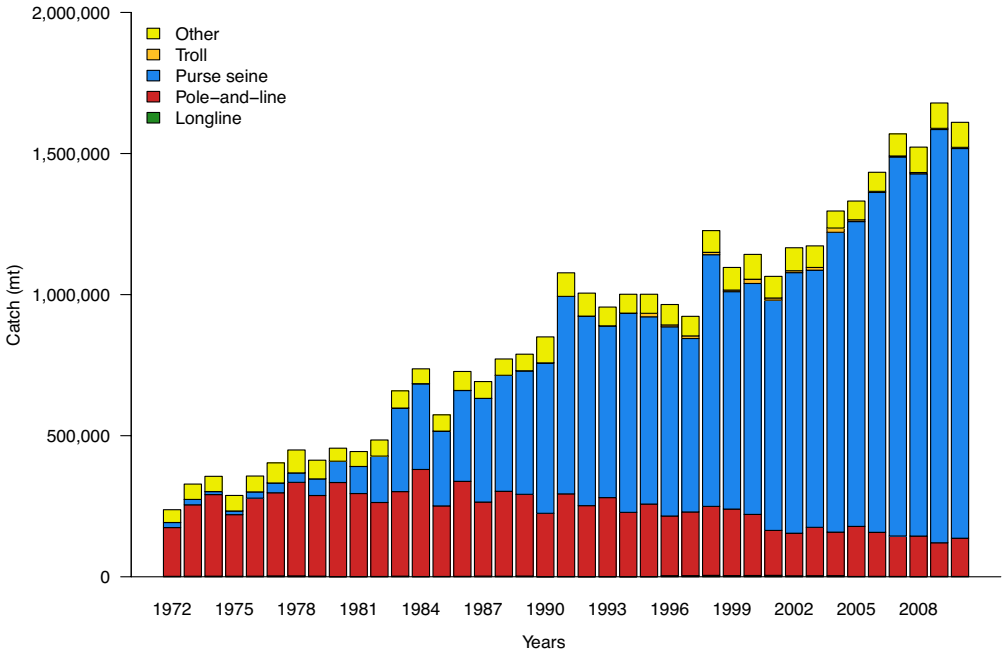
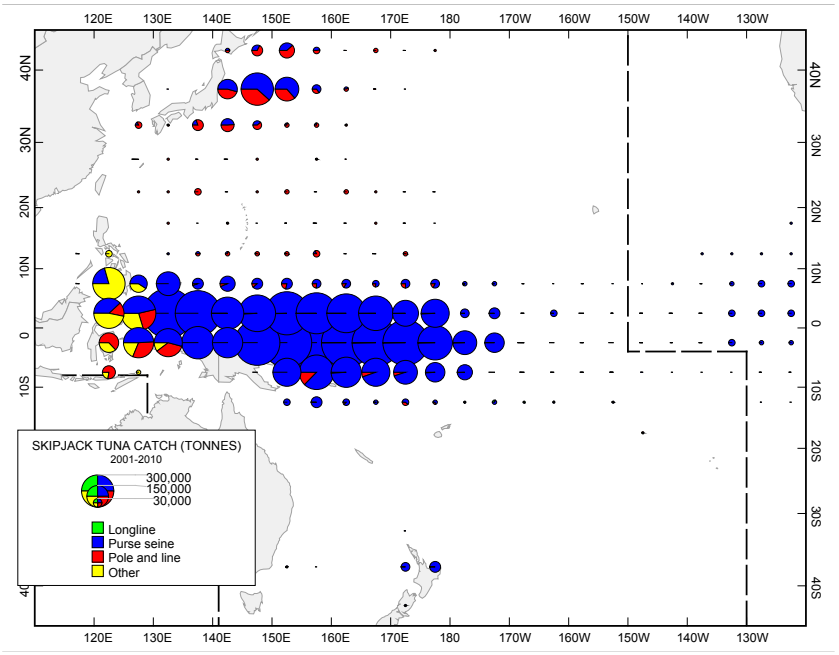


Figure 5: Time series of catch (mt) and effort (top), recent spatial distribution of catches (middle), and fleet sizes (bottom), for the pole-and-line fishery in the western and central Pacific Ocean (WCPO).





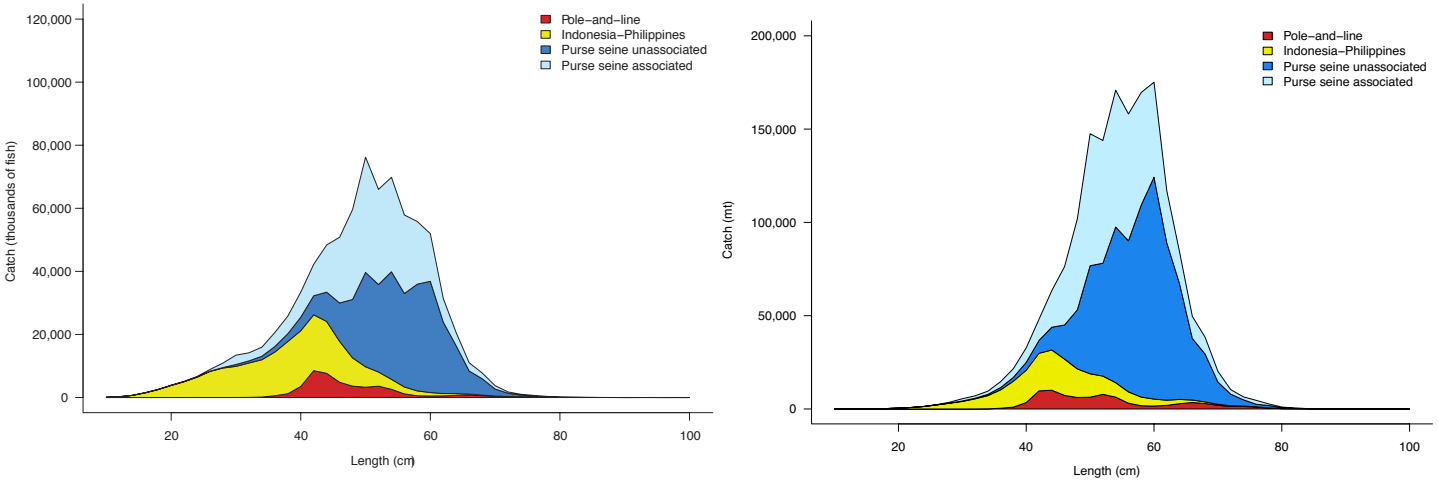


Figure 6: Time series (top), recent spatial distribution (middle), and size composition (bottom) of skipjack tuna catches (mt) by gear for the western and central Pacific Ocean (WCPO).

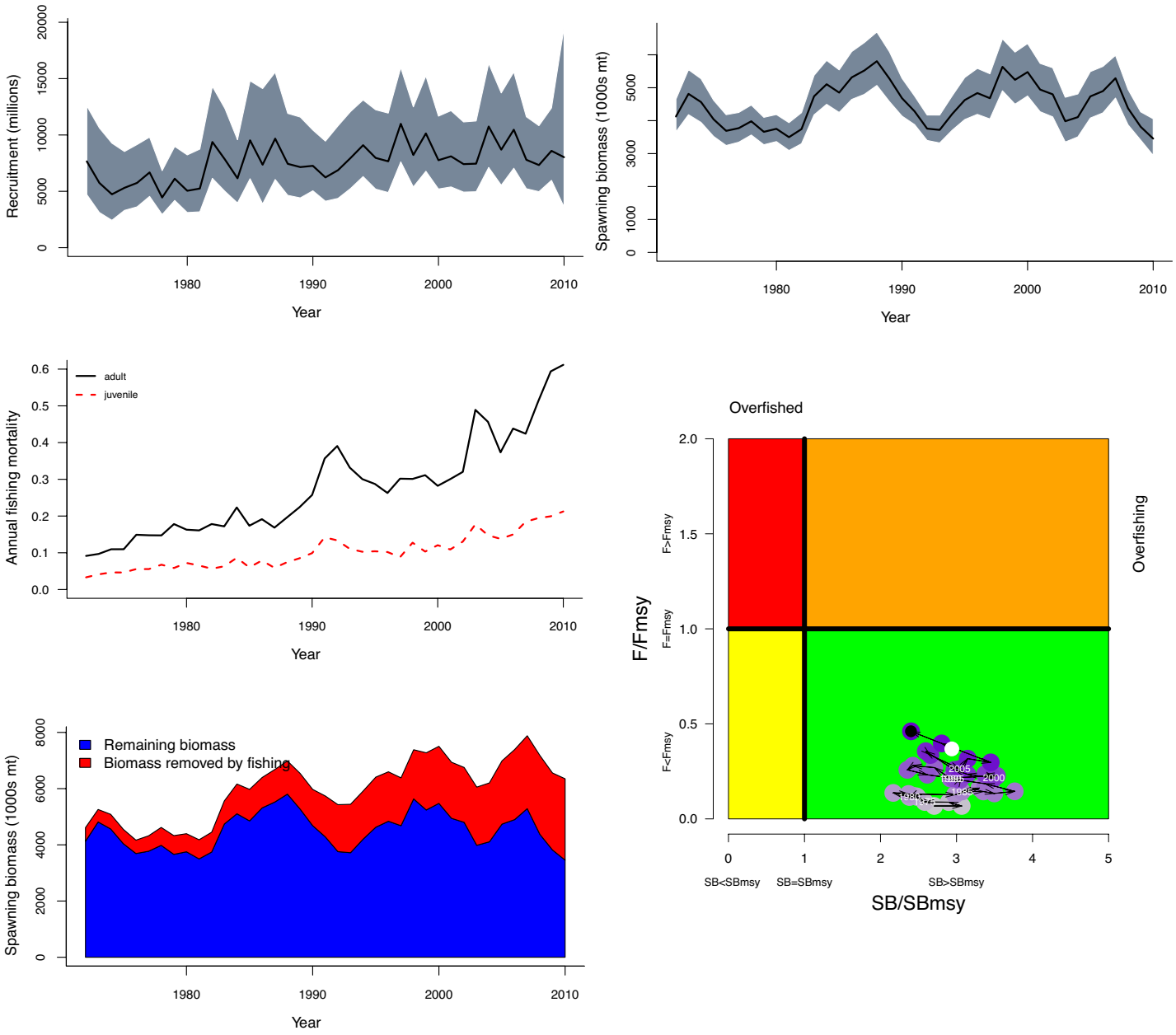
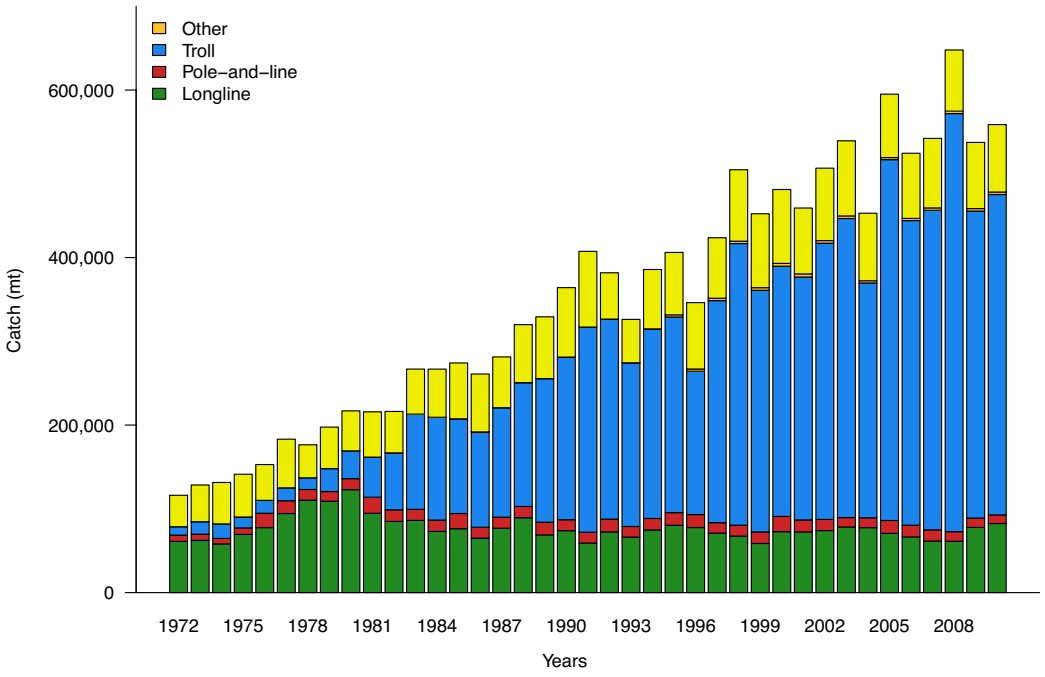
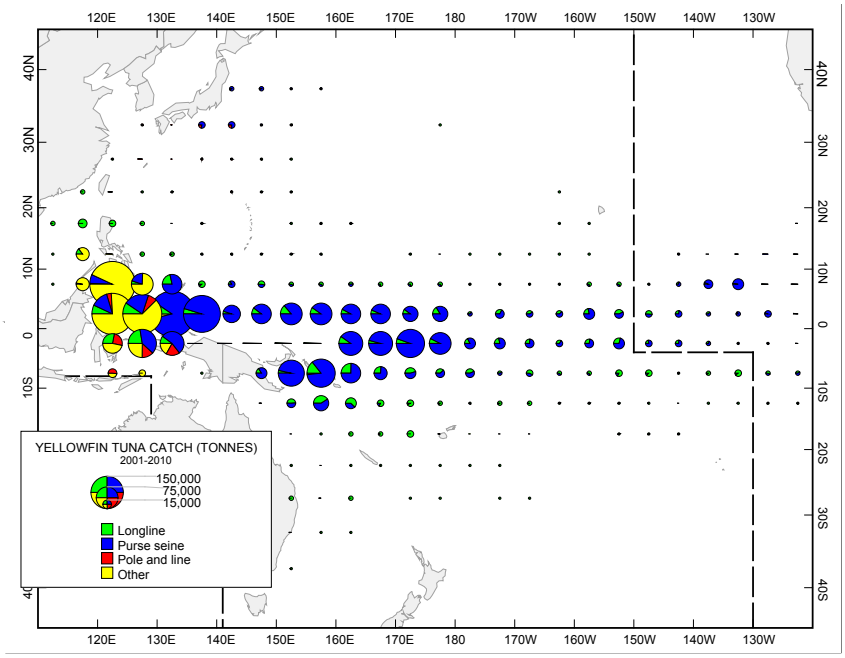


Figure 7: Estimated recruitment (top left), spawning biomass (top right), fishing mortality (middle left), stock status (middle right) and estimated spawning biomass with [blue] and without [red] fishing (bottom left) from the 2011 skipjack tuna stock assessment.





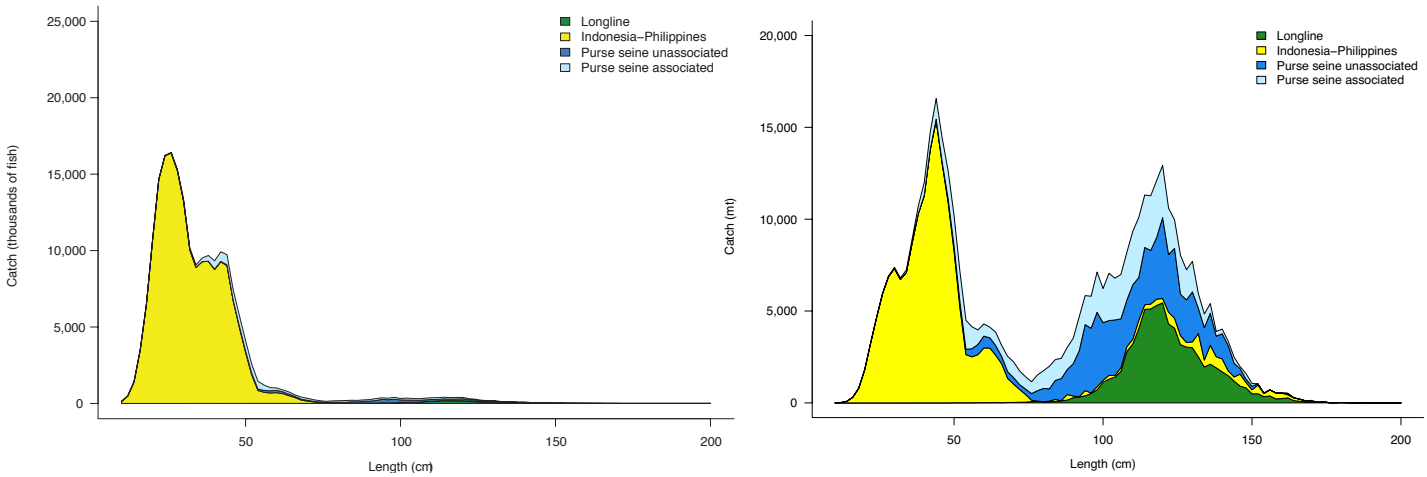


Figure 8: Time series (top), recent spatial distribution (middle), and size composition (bottom) of yellowfin tuna catches (mt) by gear for the western and central Pacific Ocean (WCPO).

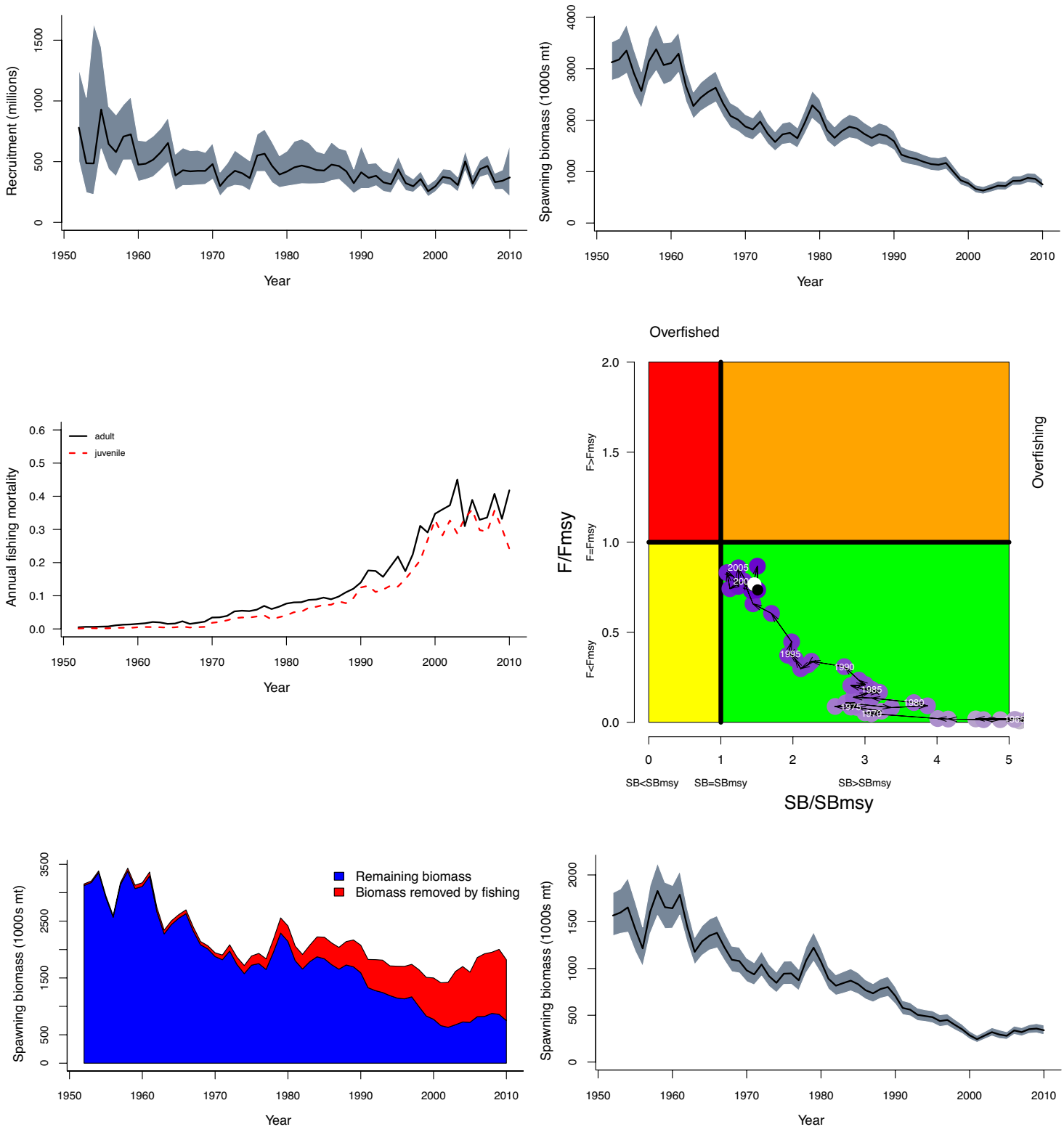


Figure 9: Estimated recruitment (top left), spawning biomass (top right), fishing mortality (middle left), stock status (middle right), estimated spawning biomass with [blue] and without [red] fishing (bottom left), and spawning biomass for the western equatorial region (bottom right) from the 2011 yellowfin tuna stock assessment.

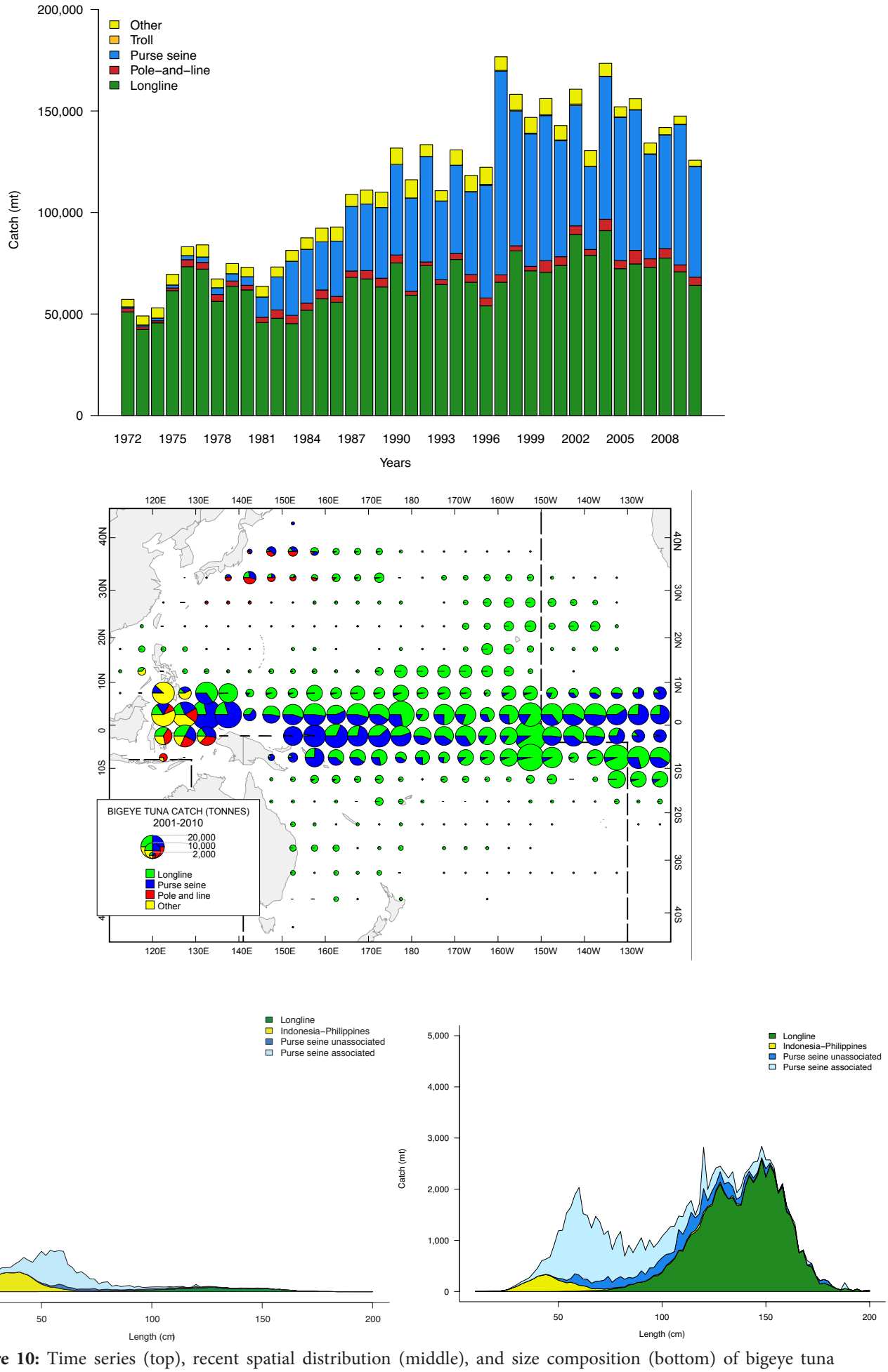


Figure 10: Time series (top), recent spatial distribution (middle), and size composition (bottom) of bigeye tuna catches (mt) by gear for the western and central Pacific Ocean (WCPO).

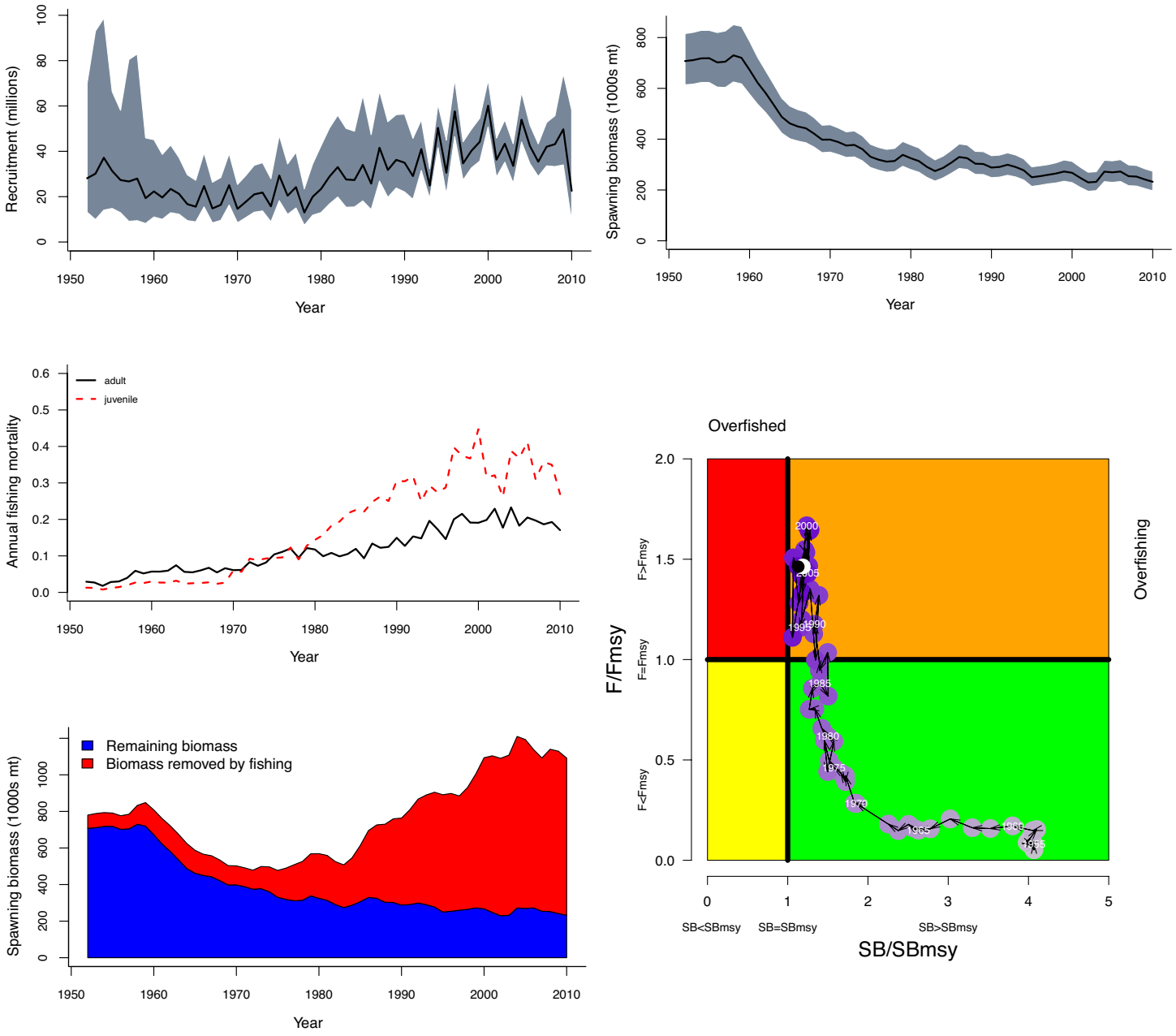
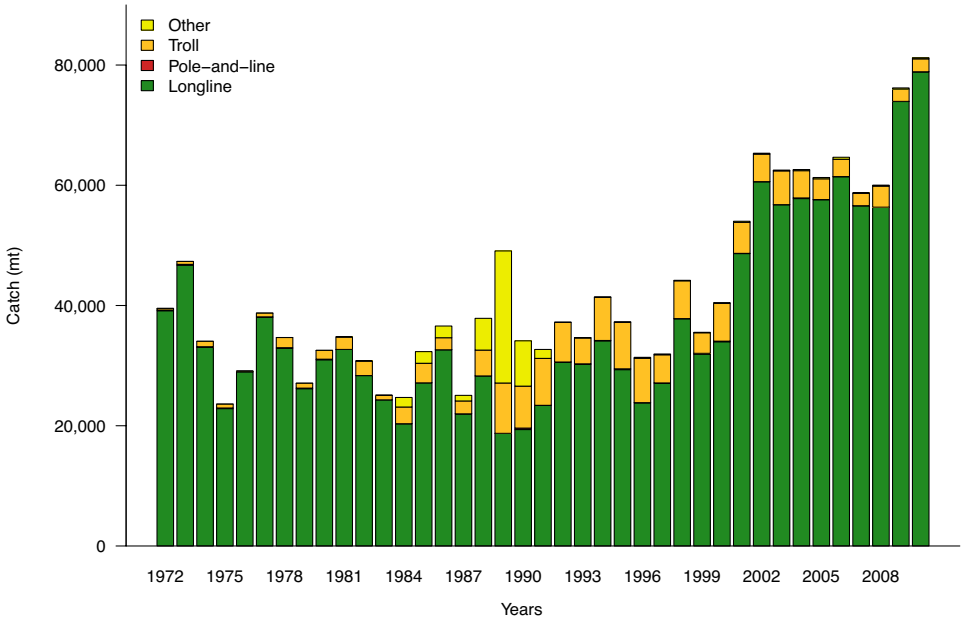
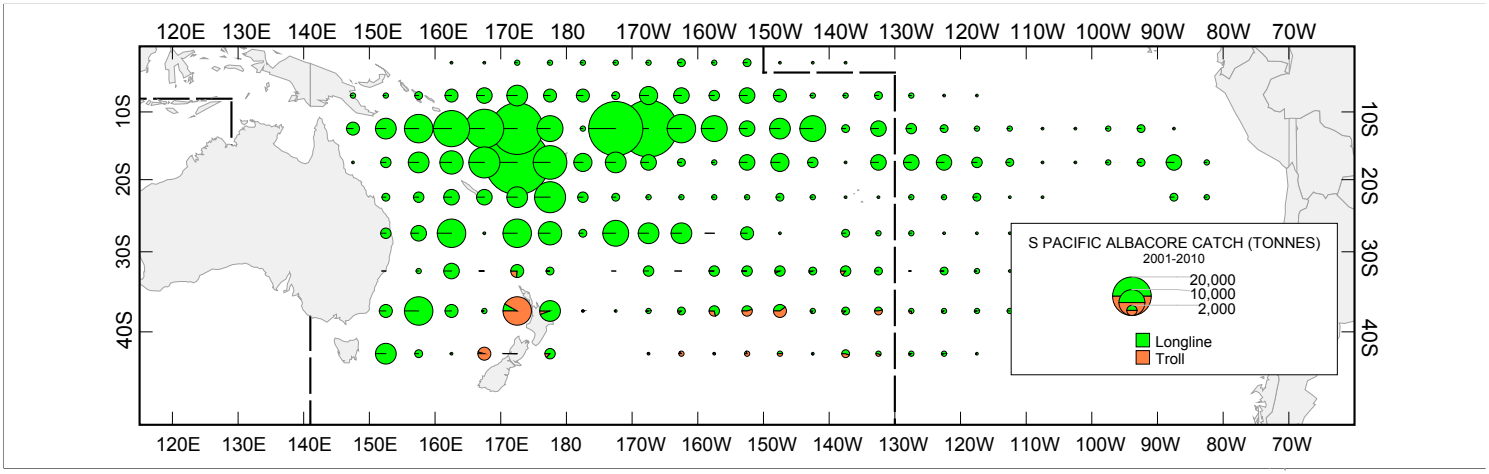


Figure 11: Estimated recruitment (top left), spawning biomass (top right), fishing mortality (middle left), stock status (middle right), and estimated spawning biomass with [blue] and without [red] fishing (bottom left) from the 2011 bigeye tuna stock assessment.





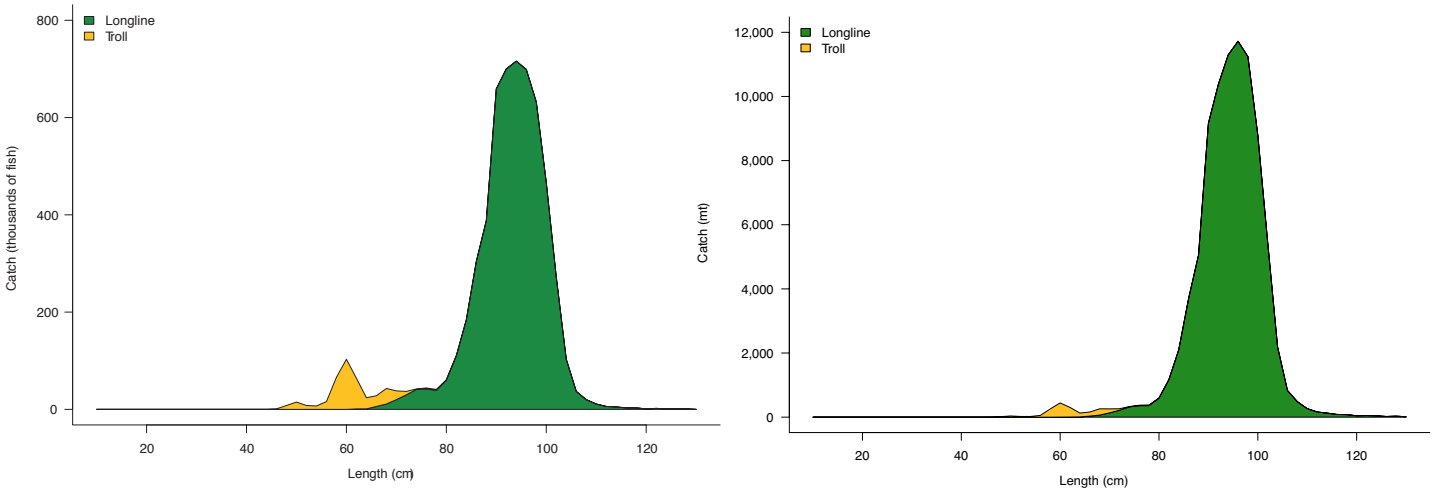


Figure 12: Time series (top), recent spatial distribution (middle), and size composition (bottom) of South Pacific albacore tuna catches (mt) by gear for the western and central Pacific Ocean (WCPO).

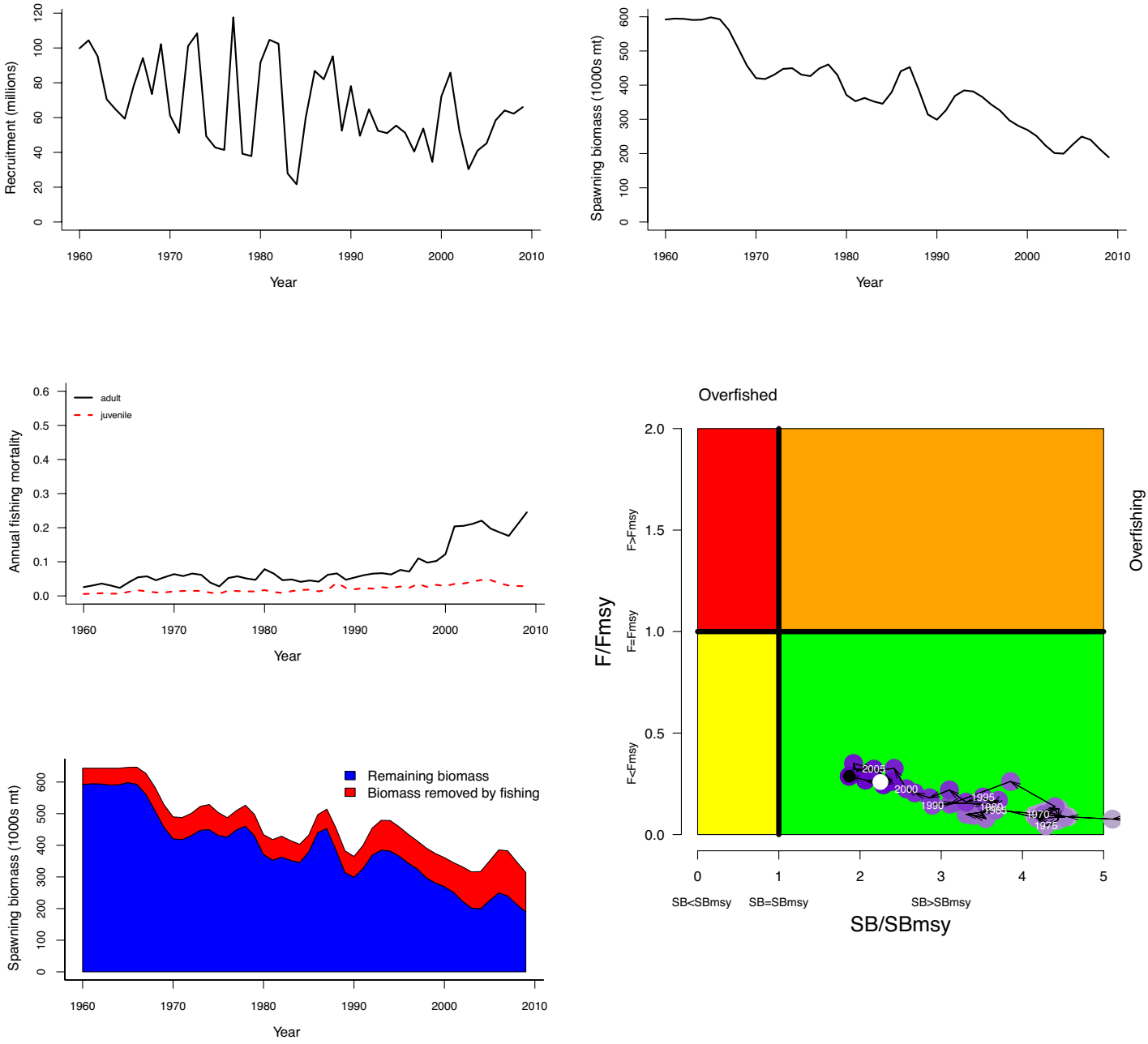


Figure 13: Estimated recruitment (top left), spawning biomass (top right), fishing mortality (middle left), stock status (middle right), and estimated spawning biomass with [blue] and without [red] fishing (bottom left) from the 2011 South Pacific albacore tuna stock assessment.

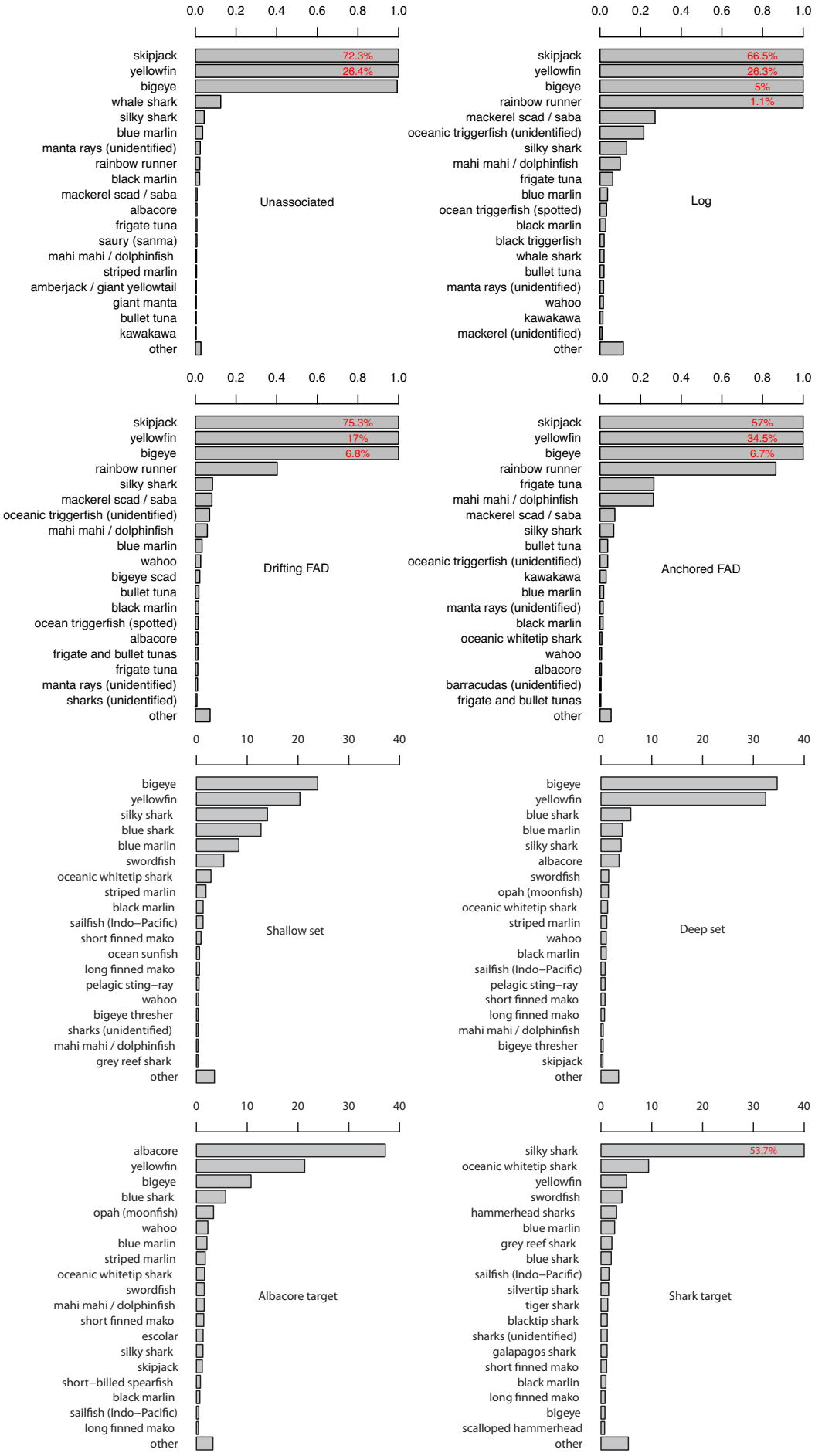


Figure 14: Catch composition of the various categories of purse-seine (top) and longline (bottom) fisheries operating in the WCPO based on observer data.

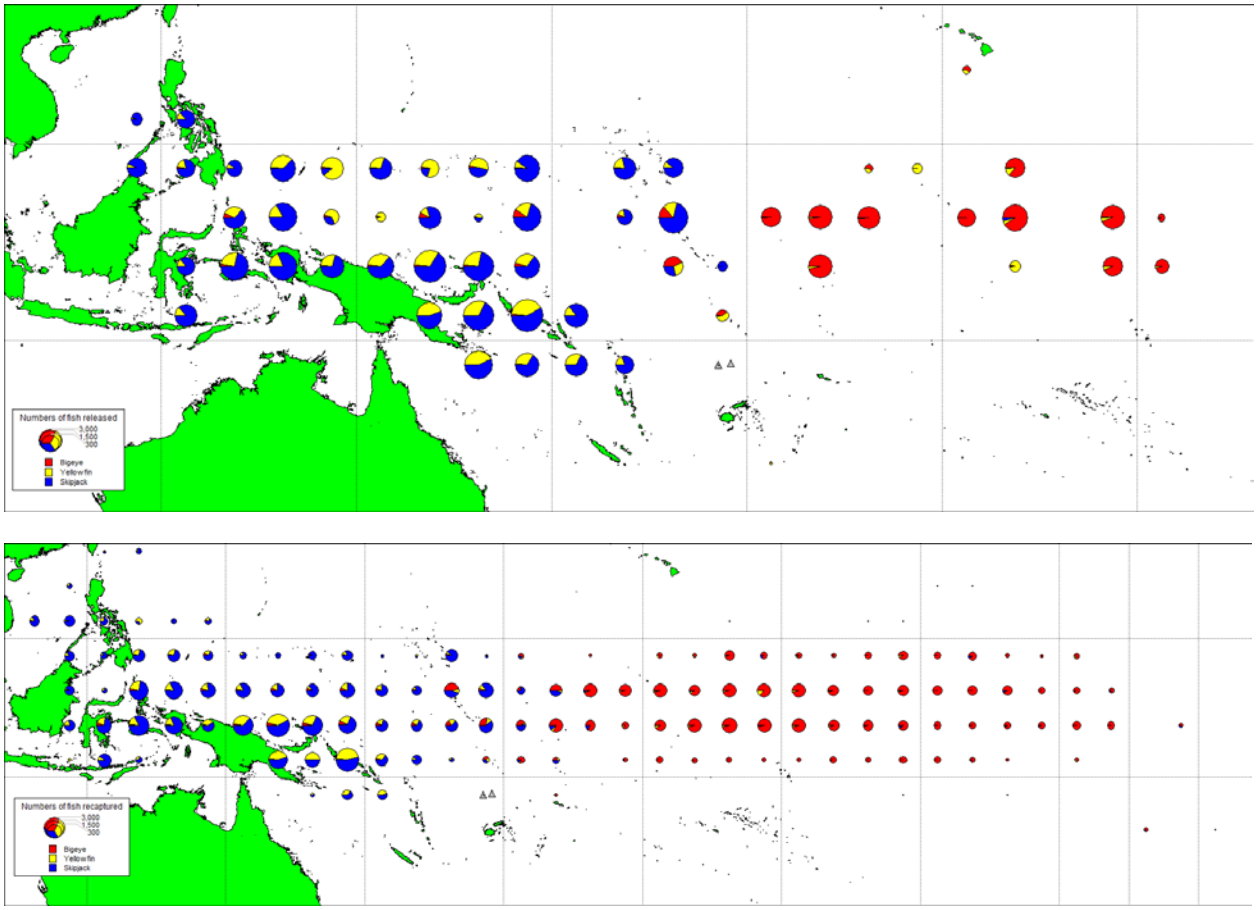


Figure 15: Tag releases (top) and recaptures (bottom) by species from the recent Pacific Tuna Tagging Programme (PTTP).

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3 All WCPFC documents can be obtained by visiting the WCPFC website (www.wcpfc.int) and navigating to the meeting where the document was presented, e.g. WCPFC-SC6-GN-WP-1 can be found on the webpage of documents presented to the 6th session of the Scientific Committee. (http://www.wcpfc.int/meetings/2010/6th-regular-session-scientific-committee)

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Table 1: Catch (metric tonnes) by gear for the western and central Pacific region, 1960–2010. Note: data for 2010 are preliminary.

YEAR	LONGLINE		POLE-AND-LINE		PURSE SEINE		TROLL		OTHER		TOTAL
	TONNES	%	TONNES	%	TONNES	%	TONNES	%	TONNES	%	
1960	129,874	54	73,800	31	5,224	2	0	0	31,195	13	240,093
1961	123,330	41	132,070	43	14,540	5	0	0	34,536	11	304,476
1962	128,804	38	157,412	46	18,875	6	0	0	34,947	10	340,038
1963	122,263	45	98,628	37	11,934	4	0	0	36,795	14	269,620
1964	102,481	32	143,323	45	29,012	9	0	0	41,334	13	316,150
1965	103,955	36	134,621	47	8,621	3	0	0	41,727	14	288,924
1966	145,278	34	218,900	51	16,913	4	0	0	46,993	11	428,084
1967	128,047	35	174,774	47	14,508	4	5	0	52,006	14	369,340
1968	120,136	32	183,954	50	15,143	4	14	0	52,327	14	371,574
1969	122,806	23	354,784	65	9,483	2	0	0	57,703	11	544,776
1970	141,360	22	409,754	64	16,222	3	50	0	69,633	11	637,019
1971	143,625	23	392,914	62	24,511	4	0	0	68,925	11	629,975
1972	161,533	31	242,745	47	29,030	6	268	0	87,209	17	520,785
1973	166,399	26	330,841	52	36,268	6	484	0	103,281	16	637,273
1974	145,192	22	370,499	57	29,548	5	898	0	109,578	17	655,715
1975	164,049	28	279,663	48	27,686	5	646	0	111,669	19	583,713
1976	198,013	27	382,627	53	40,770	6	25	0	104,582	14	726,017
1977	218,413	29	345,257	46	53,491	7	621	0	136,322	18	754,104
1978	212,059	26	407,482	51	52,040	6	1,686	0	131,084	16	804,351
1979	211,221	27	344,799	45	90,102	12	814	0	124,684	16	771,620
1980	227,707	27	395,746	47	113,266	13	1,489	0	102,645	12	840,853
1981	188,516	23	343,584	42	153,907	19	2,118	0	123,315	15	811,440
1982	177,765	21	309,802	36	249,231	29	2,552	0	124,409	14	863,759
1983	170,385	16	338,181	32	436,509	41	949	0	127,088	12	1,073,112
1984	157,072	13	422,512	36	456,468	39	3,124	0	126,690	11	1,165,866
1985	172,886	17	293,206	29	403,252	40	3,468	0	144,604	14	1,017,416
1986	163,964	14	368,730	32	464,461	40	2,284	0	153,694	13	1,153,133
1987	180,581	16	297,935	26	531,143	46	2,350	0	133,813	12	1,145,822
1988	200,281	16	324,805	26	592,610	47	4,671	0	148,481	12	1,270,848
1989	164,878	13	317,802	24	646,443	50	8,687	1	163,829	13	1,301,639
1990	181,591	13	250,390	18	773,730	55	7,219	1	196,934	14	1,409,864
1991	154,805	9	314,979	19	993,150	60	8,004	0	188,156	11	1,659,094
1992	192,364	12	282,598	18	966,313	61	6,844	0	146,840	9	1,594,959
1993	187,553	13	307,966	21	845,647	58	4,612	0	124,526	8	1,470,304
1994	211,638	13	271,071	17	977,652	61	7,493	0	146,462	9	1,614,316
1995	207,042	13	297,106	18	939,172	58	23,585	1	150,516	9	1,617,421
1996	197,234	13	251,053	16	897,905	59	17,807	1	160,522	11	1,524,521
1997	213,450	13	273,844	17	981,362	60	18,732	1	148,946	9	1,636,334
1998	233,645	12	282,965	14	1,296,105	65	19,099	1	170,528	9	2,002,342
1999	202,973	11	302,239	17	1,131,138	62	13,476	1	176,635	10	1,826,461
2000	217,465	12	261,937	14	1,191,103	63	25,845	1	184,693	10	1,881,043
2001	236,468	13	207,308	12	1,164,300	65	17,332	1	162,814	9	1,788,222
2002	256,582	13	216,944	11	1,315,807	66	16,129	1	175,812	9	1,981,274
2003	239,841	12	221,676	11	1,309,713	67	19,875	1	174,382	9	1,965,487
2004	248,490	12	203,903	10	1,420,338	69	23,445	1	147,804	7	2,043,980
2005	223,146	10	213,055	10	1,582,426	73	13,293	1	148,021	7	2,179,941
2006	225,573	10	192,178	9	1,637,623	74	10,098	0	151,474	7	2,216,946
2007	215,854	9	198,590	8	1,781,998	75	9,249	0	167,047	7	2,372,738
2008	214,772	9	178,611	7	1,839,716	76	11,740	0	168,605	7	2,413,444
2009	242,069	10	165,176	7	1,902,191	76	9,894	0	173,456	7	2,492,786
2010	248,589	10	171,597	7	1,818,255	75	9,988	0	172,684	7	2,421,113

Table 2: Catch (metric tonnes) by species for the four main tuna species taken in the western and central Pacific region, 1960–2010. Note: data for 2010 are preliminary.

YEAR	ALBACORE		BIGEYE		SKIPJACK		YELLOWFIN		TOTAL
	TONNES	%	TONNES	%	TONNES	%	TONNES	%	
1960	31,463	13	45,025	19	89,938	37	73,667	31	240,093
1961	32,922	11	39,380	13	156,736	51	75,438	25	304,476
1962	37,602	11	36,868	11	181,624	53	83,944	25	340,038
1963	26,815	10	44,346	16	122,703	46	75,756	28	269,620
1964	26,687	8	32,391	10	182,918	58	74,154	23	316,150
1965	28,735	10	31,333	11	155,221	54	73,635	25	288,924
1966	52,284	12	33,187	8	249,514	58	93,099	22	428,084
1967	58,822	16	36,750	10	204,837	55	68,931	19	369,340
1968	64,213	17	30,434	8	195,060	52	81,867	22	371,574
1969	72,106	13	34,363	6	351,026	64	87,281	16	544,776
1970	74,350	12	40,102	6	423,348	66	99,219	16	637,019
1971	100,737	16	43,274	7	380,791	60	105,173	17	629,975
1972	109,655	21	57,202	11	237,743	46	116,185	22	520,785
1973	131,149	21	49,044	8	328,587	52	128,493	20	637,273
1974	115,162	18	52,994	8	356,064	54	131,495	20	655,715
1975	84,651	15	69,523	12	288,220	49	141,319	24	583,713
1976	132,947	18	83,126	11	357,034	49	152,910	21	726,017
1977	83,171	11	84,034	11	403,714	54	183,185	24	754,104
1978	111,161	14	67,274	8	449,448	56	176,468	22	804,351
1979	86,007	11	74,827	10	413,186	54	197,600	26	771,620
1980	95,156	11	72,948	9	455,747	54	217,002	26	840,853
1981	88,095	11	63,687	8	443,844	55	215,814	27	811,440
1982	89,496	10	73,150	8	484,818	56	216,295	25	863,759
1983	65,988	6	81,321	8	658,910	61	266,893	25	1,073,112
1984	74,540	6	87,485	8	737,000	63	266,841	23	1,165,866
1985	77,060	8	92,270	9	573,931	56	274,155	27	1,017,416
1986	71,757	6	92,839	8	727,584	63	260,953	23	1,153,133
1987	63,645	6	108,938	10	691,821	60	281,418	25	1,145,822
1988	67,948	5	111,027	9	771,919	61	319,954	25	1,270,848
1989	73,533	6	110,020	8	788,820	61	329,266	25	1,301,639
1990	63,872	5	131,723	9	850,180	60	364,089	26	1,409,864
1991	58,322	4	116,123	7	1,077,253	65	407,396	25	1,659,094
1992	74,452	5	133,417	8	1,005,275	63	381,815	24	1,594,959
1993	77,496	5	110,732	8	955,895	65	326,181	22	1,470,304
1994	96,461	6	130,822	8	1,001,281	62	385,752	24	1,614,316
1995	91,750	6	118,247	7	1,001,299	62	406,125	25	1,617,421
1996	91,140	6	122,259	8	964,898	63	346,224	23	1,524,521
1997	112,900	7	176,706	11	923,039	56	423,689	26	1,636,334
1998	112,465	6	158,195	8	1,226,826	61	504,856	25	2,002,342
1999	131,066	7	146,828	8	1,096,259	60	452,308	25	1,826,461
2000	101,161	5	156,097	8	1,142,508	61	481,277	26	1,881,043
2001	121,550	7	142,846	8	1,064,684	60	459,142	26	1,788,222
2002	147,782	7	160,712	8	1,166,061	59	506,719	26	1,981,274
2003	122,938	6	130,462	7	1,172,738	60	539,349	27	1,965,487
2004	121,266	6	173,458	8	1,296,330	63	452,926	22	2,043,980
2005	101,170	5	152,052	7	1,331,657	61	595,062	27	2,179,941
2006	102,796	5	156,031	7	1,433,590	65	524,529	24	2,216,946
2007	126,606	5	134,211	6	1,569,642	66	542,279	23	2,372,738
2008	101,006	4	141,864	6	1,522,749	63	647,825	27	2,413,444
2009	128,673	5	147,483	6	1,679,165	67	537,465	22	2,492,786
2010	126,017	5	125,757	5	1,610,578	67	558,761	23	2,421,113

Table 3: Biological reference points from the latest stock assessments for South Pacific albacore, bigeye, skipjack, and yellowfin tunas. All biomasses are in metric tonnes (mt). B0 is the average estimated unfished biomass; B_{CURR} is the average biomass over the last 3-4 years; MSY is the maximum sustainable yield based on recent patterns of fishing; F_{CURR}/F_{MSY} is the ratio of recent fishing mortality to that which will support the MSY; and SB_{CURR}/SB_{MSY} is the ratio of recent spawning biomass to that will support the MSY.

	S. Pacific albacore	**Bigeye**	**Skipjack**	**Yellowfin**
B0	1,140,000	1,432,000	6,147,000	3,740,000
B_{CURR}	761,570	623,121	5,018,049	1,881,625
MSY	85,200	76,760	1,503,600	538,800
F_{CURR}/F_{MSY}	0.26	1.46	0.37	0.77
SB_{CURR}/SB_{MSY}	2.25	1.19	2.94	1.47

Table 4: Skipjack tuna catch (metric tonnes) by gear type for the western and central Pacific region, 1950–2010. Note: data for 2010 are preliminary.

YEAR	LONGLINE		POLE-AND-LINE		PURSE SEINE		TROLL		OTHER		TOTAL
	TONNES	%	TONNES	%	TONNES	%	TONNES	%	TONNES	%	
1950	34	0	33,386	84	0	0	0	0	6,483	16	39,903
1951	12	0	96,214	90	1,748	2	0	0	8,602	8	106,576
1952	54	0	78,518	85	3,716	4	0	0	10,014	11	92,302
1953	1	0	65,546	82	3,371	4	0	0	11,403	14	80,321
1954	0	0	88,073	85	4,534	4	0	0	11,554	11	104,161
1955	157	0	92,524	85	2,906	3	0	0	12,664	12	108,251
1956	0	0	91,950	86	2,145	2	0	0	13,094	12	107,189
1957	17	0	92,156	86	2,813	3	0	0	11,955	11	106,941
1958	0	0	131,441	84	10,698	7	0	0	15,244	10	157,383
1959	33	0	145,447	82	16,941	10	0	0	14,853	8	177,274
1960	0	0	70,428	78	3,728	4	0	0	15,782	18	89,938
1961	0	0	127,011	81	11,693	7	0	0	18,032	12	156,736
1962	4	0	152,387	84	11,674	6	0	0	17,559	10	181,624
1963	0	0	94,757	77	9,592	8	0	0	18,354	15	122,703
1964	5	0	137,106	75	25,006	14	0	0	20,801	11	182,918
1965	11	0	129,933	84	4,657	3	0	0	20,620	13	155,221
1966	52	0	215,600	86	10,949	4	0	0	22,913	9	249,514
1967	124	0	168,846	82	10,937	5	0	0	24,930	12	204,837
1968	83	0	162,379	83	7,669	4	0	0	24,929	13	195,060
1969	130	0	315,795	90	5,031	1	0	0	30,070	9	351,026
1970	1,608	0	379,074	90	7,451	2	0	0	35,215	8	423,348
1971	1,475	0	333,284	87	13,603	4	0	0	32,429	9	380,791
1972	1,544	1	172,827	73	18,004	8	0	0	45,368	19	237,743
1973	1,861	1	253,217	77	19,074	6	0	0	54,435	17	328,587
1974	2,124	1	289,202	81	10,716	3	0	0	54,022	15	356,064
1975	1,919	1	218,271	76	13,011	5	0	0	55,019	19	288,220
1976	2,096	1	276,582	77	22,249	6	0	0	56,107	16	357,034
1977	3,127	1	294,641	73	34,706	9	0	0	71,240	18	403,714
1978	3,233	1	331,401	73	33,585	7	0	0	81,229	18	449,448
1979	2,179	1	285,859	69	59,006	14	0	0	66,142	16	413,186
1980	632	0	333,457	73	75,488	16	12	0	46,158	10	455,747
1981	756	0	294,292	67	95,887	22	17	0	52,892	12	443,844
1982	1,015	0	262,244	53	164,394	34	64	0	57,101	12	484,818
1983	2,144	0	299,762	44	295,915	43	154	0	60,935	9	658,910
1984	870	0	379,474	50	303,840	40	284	0	52,532	7	737,000
1985	1,108	0	250,010	41	264,953	44	146	0	57,714	10	573,931
1986	1,439	0	336,695	45	321,972	43	219	0	67,259	9	727,584
1987	2,329	0	262,467	38	367,324	53	168	0	59,533	9	691,821
1988	1,937	0	301,031	35	410,804	48	299	0	57,848	7	771,919
1989	2,507	0	289,706	35	437,723	53	244	0	58,640	7	788,820
1990	363	0	224,592	25	532,995	59	176	0	92,054	10	850,180
1991	885	0	292,950	26	699,745	61	148	0	83,525	7	1,077,253
1992	432	0	251,717	24	671,507	65	168	0	81,451	8	1,005,275
1993	573	0	280,066	30	608,647	65	175	0	66,434	7	955,895
1994	379	0	227,921	22	705,848	68	228	0	66,905	6	1,001,281
1995	598	0	257,147	24	663,673	62	12,298	1	67,583	6	1,001,299
1996	3,935	0	211,408	20	670,653	64	6,514	1	72,388	7	964,898
1997	4,070	0	225,612	23	614,804	62	9,218	1	69,335	7	923,039
1998	5,030	0	244,447	18	892,009	66	8,316	1	77,024	6	1,226,826
1999	4,208	0	235,739	20	770,586	64	5,660	0	80,066	7	1,096,259
2000	4,559	0	216,458	17	818,442	66	15,005	1	88,044	7	1,142,508
2001	5,059	0	159,225	14	816,221	72	7,539	1	76,640	7	1,064,684
2002	3,450	0	150,933	11	923,536	70	6,796	1	81,346	6	1,166,061
2003	3,824	0	171,403	13	911,285	70	9,721	1	76,505	6	1,172,738
2004	4,051	0	154,161	11	1,062,606	76	15,118	1	60,394	4	1,296,330
2005	1,084	0	177,474	12	1,080,289	73	6,302	0	66,508	4	1,331,657
2006	1,528	0	155,995	10	1,204,498	77	3,987	0	67,582	4	1,433,590
2007	1,170	0	143,272	9	1,343,320	80	3,598	0	78,282	5	1,569,642
2008	811	0	143,476	9	1,283,841	78	4,572	0	90,049	6	1,522,749
2009	1,225	0	119,302	7	1,464,575	80	4,251	0	89,812	5	1,679,165
2010	1,141	0	135,510	8	1,381,070	81	4,228	0	88,629	5	1,610,578

Table 5: Yellowfin tuna catch (metric tonnes) by gear type for the western and central Pacific region, 1950–2010. Note: data for 2010 are preliminary.

YEAR	LONGLINE		POLE-AND-LINE		PURSE SEINE		TROLL		OTHER		TOTAL
	TONNES	%	TONNES	%	TONNES	%	TONNES	%	TONNES	%	
1950	12,844	57	799	4	0	0	0	0	8,919	40	22,562
1951	8,862	44	900	4	938	5	0	0	9,395	47	20,095
1952	17,453	54	2,595	8	2,565	8	0	0	9,901	30	32,514
1953	23,139	58	5,228	13	1,260	3	0	0	10,440	26	40,067
1954	22,662	54	4,268	10	4,001	10	0	0	11,013	26	41,944
1955	22,800	55	3,983	10	2,944	7	0	0	11,624	28	41,351
1956	25,336	59	4,399	10	724	2	0	0	12,274	29	42,733
1957	41,911	72	1,669	3	1,496	3	0	0	12,967	22	58,043
1958	43,421	68	2,934	5	3,338	5	0	0	13,705	22	63,398
1959	43,965	66	4,119	6	4,316	6	0	0	14,495	22	66,895
1960	55,020	75	1,872	3	1,438	2	0	0	15,337	21	73,667
1961	53,166	70	3,259	4	2,777	4	0	0	16,236	22	75,438
1962	55,547	66	4,225	5	6,975	8	0	0	17,197	20	83,944
1963	53,185	70	2,071	3	2,277	3	0	0	18,223	24	75,756
1964	45,247	61	5,074	7	3,647	5	0	0	20,186	27	74,154
1965	45,493	62	3,434	5	3,752	5	0	0	20,956	28	73,635
1966	61,654	66	2,192	2	5,844	6	0	0	23,409	25	93,099
1967	36,083	52	3,125	5	3,420	5	0	0	26,303	38	68,931
1968	46,070	56	2,706	3	7,006	9	0	0	26,085	32	81,867
1969	51,627	59	5,166	6	3,876	4	0	0	26,612	30	87,281
1970	55,806	56	4,606	5	7,874	8	0	0	30,933	31	99,219
1971	57,766	55	5,248	5	9,265	9	0	0	32,894	31	105,173
1972	61,175	53	7,465	6	10,039	9	0	0	37,506	32	116,185
1973	62,291	49	7,458	6	14,916	12	0	0	43,828	34	128,493
1974	58,116	44	6,582	5	17,356	13	0	0	49,441	38	131,495
1975	69,462	49	7,801	6	13,027	9	0	0	51,029	36	141,319
1976	77,570	51	17,186	11	15,388	10	0	0	42,766	28	152,910
1977	94,414	52	15,257	8	15,444	8	0	0	58,070	32	183,185
1978	110,329	63	12,767	7	13,971	8	0	0	39,401	22	176,468
1979	109,043	55	11,638	6	27,354	14	0	0	49,565	25	197,600
1980	122,875	57	13,168	6	33,201	15	9	0	47,749	22	217,002
1981	94,665	42	19,270	8	47,798	21	16	0	54,065	24	215,814
1982	84,988	38	13,835	6	67,995	31	54	0	49,423	22	216,295
1983	86,187	33	13,266	5	113,568	44	51	0	53,821	21	266,893
1984	73,036	28	13,558	5	122,710	47	67	0	57,470	22	266,841
1985	76,265	29	18,156	7	113,048	43	69	0	66,617	25	274,155
1986	65,019	26	13,074	5	113,726	45	62	0	69,072	27	260,953
1987	76,812	25	13,243	4	130,704	43	48	0	60,611	20	281,418
1988	89,400	33	13,433	5	147,784	55	76	0	69,261	26	319,954
1989	68,908	22	15,169	5	171,365	54	73	0	73,751	23	329,266
1990	73,917	21	13,103	4	194,113	56	68	0	82,888	24	364,089
1991	59,224	16	12,921	3	244,823	65	51	0	90,377	24	407,396
1992	72,508	19	15,225	4	238,736	63	98	0	55,248	15	381,815
1993	66,244	18	12,698	3	195,330	53	141	0	51,768	14	326,181
1994	74,779	20	13,743	4	226,280	60	101	0	70,849	19	385,752
1995	80,407	22	15,063	4	233,584	65	2,570	1	74,501	21	406,125
1996	77,682	27	15,479	5	171,181	59	2,636	1	79,246	27	346,224
1997	71,081	17	12,362	3	265,174	64	2,838	1	72,234	17	423,689
1998	67,450	16	13,110	3	336,179	78	2,806	1	85,311	20	504,856
1999	58,645	16	13,817	4	288,432	78	3,162	1	88,252	24	452,308
2000	72,760	18	18,179	4	298,761	73	3,343	1	88,234	21	481,277
2001	72,460	18	14,342	3	289,990	71	3,716	1	78,634	19	459,142
2002	74,072	19	13,297	3	329,719	85	3,172	1	86,459	22	506,719
2003	78,320	19	11,278	3	357,030	85	3,101	1	89,620	21	539,349
2004	77,563	20	11,787	3	280,304	73	2,706	1	80,566	21	452,926
2005	70,727	15	15,401	3	430,757	92	2,508	1	75,669	16	595,062
2006	66,465	16	14,075	3	363,609	86	2,607	1	77,773	18	524,529
2007	61,600	14	13,339	3	381,514	85	2,854	1	82,972	18	542,279
2008	61,333	11	11,421	2	499,133	92	2,903	1	73,035	14	647,825
2009	77,815	19	11,200	3	366,457	88	3,024	1	78,969	19	537,465
2010	82,485	17	10,262	2	382,521	80	2,963	1	80,530	17	558,761

Table 6: Bigeye tuna catch (metric tonnes) by gear type for the western and central Pacific region, 1950–2010. Note: data for 2010 are preliminary.

YEAR	LONGLINE		POLE-AND-LINE		PURSE SEINE		TROLL		OTHER		TOTAL
	TONNES	%	TONNES	%	TONNES	%	TONNES	%	TONNES	%	
1950	18,244	97	646	3	0	0	0	0	0	0	18,890
1951	12,808	88	729	5	1,095	7	0	0	0	0	14,632
1952	24,355	89	2,100	8	1,039	4	0	0	0	0	27,494
1953	23,025	88	2,400	9	619	2	0	0	0	0	26,044
1954	16,204	87	2,100	11	360	2	0	0	0	0	18,664
1955	24,749	85	4,000	14	285	1	0	0	0	0	29,034
1956	28,342	84	4,400	13	908	3	0	0	0	0	33,650
1957	35,463	87	5,200	13	49	0	0	0	0	0	40,712
1958	45,994	92	4,200	8	48	0	0	0	0	0	50,242
1959	41,067	96	1,700	4	36	0	0	0	0	0	42,803
1960	43,467	97	1,500	3	58	0	0	0	0	0	45,025
1961	37,517	95	1,800	5	63	0	0	0	0	0	39,380
1962	35,895	97	800	2	173	0	0	0	0	0	36,868
1963	42,540	96	1,800	4	6	0	0	0	0	0	44,346
1964	30,989	96	1,143	4	231	1	0	0	28	0	32,391
1965	29,848	95	1,254	4	201	1	0	0	30	0	31,333
1966	31,984	96	1,108	3	9	0	0	0	86	0	33,187
1967	33,632	92	2,803	8	62	0	0	0	253	1	36,750
1968	27,757	91	2,272	7	201	1	0	0	204	1	30,434
1969	32,571	95	1,675	5	55	0	0	0	62	0	34,363
1970	34,965	87	1,589	4	580	1	0	0	2,968	7	40,102
1971	38,359	89	931	2	741	2	0	0	3,243	8	43,274
1972	51,040	89	1,762	3	710	1	0	0	3,690	6	57,202
1973	42,412	87	1,258	3	925	2	0	0	4,449	9	49,044
1974	45,653	86	1,039	2	1,315	2	0	0	4,987	9	52,994
1975	61,488	89	1,334	2	1,489	2	0	0	5,212	8	69,523
1976	73,325	89	3,423	4	2,024	2	0	0	4,354	5	83,126
1977	72,083	87	3,325	4	2,672	3	0	0	5,954	7	84,034
1978	56,237	87	3,337	5	3,369	5	0	0	4,331	7	67,274
1979	63,704	87	2,540	3	3,617	5	0	0	4,966	7	74,827
1980	61,857	88	2,278	3	4,248	6	0	0	4,565	6	72,948
1981	45,823	80	2,596	5	9,970	17	0	0	5,298	9	63,687
1982	47,886	77	4,108	7	16,281	26	0	0	4,875	8	73,150
1983	45,270	71	4,055	6	26,676	42	0	0	5,320	8	81,321
1984	51,889	74	3,465	5	26,538	38	0	0	5,593	8	87,485
1985	57,501	77	4,326	6	23,718	32	0	0	6,725	9	92,270
1986	55,804	77	2,865	4	27,221	37	0	0	6,949	10	92,839
1987	68,042	77	3,134	4	31,910	36	0	0	5,852	7	108,938
1988	67,250	78	4,125	5	32,814	38	0	0	6,838	8	111,027
1989	63,316	72	4,298	5	34,834	40	0	0	7,572	9	110,020
1990	75,141	76	3,918	4	44,627	45	0	0	8,037	8	131,723
1991	59,237	71	1,991	2	45,930	55	0	0	8,965	11	116,123
1992	73,873	74	1,757	2	51,966	52	0	0	5,821	6	133,417
1993	64,553	75	2,331	3	38,781	45	0	0	5,067	6	110,732
1994	76,851	79	2,951	3	43,498	44	0	0	7,522	8	130,822
1995	65,649	74	3,776	4	40,738	46	145	0	7,939	9	118,247
1996	54,027	61	3,864	4	55,490	63	432	0	8,446	10	122,259
1997	65,656	56	3,611	3	100,316	85	412	0	6,711	6	176,706
1998	81,123	68	2,446	2	66,363	56	507	0	7,756	7	158,195
1999	71,286	60	2,176	2	65,248	55	316	0	7,802	7	146,828
2000	70,574	57	5,648	5	71,492	57	397	0	7,986	6	156,097
2001	73,938	63	4,274	4	57,115	49	408	0	7,111	6	142,846
2002	89,177	68	4,242	3	59,249	45	713	1	7,331	6	160,712
2003	78,914	67	2,869	2	40,771	34	142	0	7,766	7	130,462
2004	91,051	67	5,590	4	70,228	52	232	0	6,357	5	173,458
2005	72,309	59	4,018	3	70,530	58	220	0	4,975	4	152,052
2006	74,662	58	6,679	5	69,152	54	157	0	5,381	4	156,031
2007	73,009	60	4,194	3	51,482	42	187	0	5,339	4	134,211
2008	77,549	57	4,642	3	55,917	41	212	0	3,544	3	141,864
2009	70,795	57	3,390	3	69,082	55	175	0	4,041	3	147,483
2010	64,117	56	4,054	4	54,356	48	244	0	2,986	3	125,757

Table 7: Albacore tuna catch (metric tonnes) by gear type for the south Pacific Ocean, 1960–2010. Note: data for 2010 are preliminary.

YEAR	SOUTH PACIFIC OCEAN				
	LONGLINE	POLE-AND-LINE	TROLL	OTHER	SUBTOTAL
1960	22,248	45	0	0	22,293
1961	23,742	0	0	0	23,742
1962	35,219	0	0	0	35,219
1963	31,095	16	0	0	31,111
1964	22,824	0	0	0	22,824
1965	25,455	0	0	0	25,455
1966	38,661	0	0	0	38,661
1967	43,952	0	5	0	43,957
1968	32,368	0	14	0	32,382
1969	24,805	0	0	0	24,805
1970	34,775	100	50	0	34,925
1971	38,530	100	0	0	38,630
1972	39,131	122	268	0	39,521
1973	46,705	141	484	0	47,330
1974	33,039	112	898	0	34,049
1975	22,849	105	646	0	23,600
1976	28,957	100	25	0	29,082
1977	38,019	100	621	0	38,740
1978	32,890	100	1,686	0	34,676
1979	26,162	100	814	0	27,076
1980	30,972	101	1,468	0	32,541
1981	32,694	0	2,085	5	34,784
1982	28,347	1	2,434	6	30,788
1983	24,309	0	744	39	25,092
1984	20,340	2	2,773	1,589	24,704
1985	27,138	0	3,253	1,937	32,328
1986	32,641	0	2,003	1,946	36,590
1987	21,979	9	2,134	930	25,052
1988	28,288	0	4,296	5,283	37,867
1989	18,738	0	8,370	21,968	49,076
1990	19,368	245	6,975	7,538	34,126
1991	23,385	14	7,805	1,489	32,693
1992	30,592	11	6,578	65	37,246
1993	30,229	74	4,296	70	34,669
1994	34,118	67	7,164	89	41,438
1995	29,332	139	7,716	104	37,291
1996	23,816	30	7,379	156	31,381
1997	27,103	21	4,679	133	31,936
1998	37,791	36	6,280	85	44,192
1999	31,909	138	3,419	74	35,540
2000	33,968	102	6,269	139	40,478
2001	48,638	37	5,142	199	54,016
2002	60,590	18	4,574	150	65,332
2003	56,769	12	5,612	130	62,523
2004	57,787	110	4,531	188	62,616
2005	57,597	29	3,451	215	61,292
2006	61,422	29	2,883	326	64,660
2007	56,590	17	2,082	60	58,749
2008	56,347	12	3,502	160	60,021
2009	73,932	21	2,031	211	76,195
2010	78,872	14	2,141	190	81,217

Table 8: Total of bigeye, skipjack, and yellowfin tuna tagged during the three major tropical tuna tagging projects in the western and central Pacific region. Separate EEZ results are provided for any region with more than 10,000 releases in any single programme. SSAP – Skipjack Survey and Assessment Programme (1977-1981); RTTP – Regional Tuna Tagging Programme (1989-1992); and PTTP – Pacific Tuna Tagging Programme (2006-present).

	PTTP		RTTP		SSAP	
EEZ	**Releases**	**Recoveries**	**Releases**	**Recoveries**	**Releases**	**Recoveries**
Fiji	-	1	5,004	528	28,988	2,659
FSM	24,761	963	11,782	1,774	8,791	320
Indonesia	40,255	6,093	8,959	3,260	-	49
Kiribati	25,660	1,377	34,532	3,275	5,212	418
New Zealand	-	-	-	3	15,026	1,000
Papua New Guinea	141,054	11,716	44,758	3,738	9,675	1,073
French Polynesia	-	-	-	1	29,692	128
Palau	7,304	272	7,495	150	8,663	114
Solomon Islands	56,515	7,121	15,472	2,321	7,275	597
Other	13,630	16,319	23,666	2,367	48,958	602
TOTAL	309,179	43,861	151,668	17,417	162,280	6,960