



**SCIENTIFIC COMMITTEE  
NINTH REGULAR SESSION**

6-14 August 2013  
Pohnpei, Federated States of Micronesia

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**ANNUAL REPORT TO THE COMMISSION  
PART 1: INFORMATION ON FISHERIES, RESEARCH, AND STATISTICS**

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**WCPFC-SC9-AR/CCM-05**

**EUROPEAN UNION**



**MINISTERIO  
DE ECONOMÍA  
Y COMPETITIVIDAD**

**INSTITUTO ESPAÑOL  
DE OCEANOGRAFÍA**

**CENTRO  
OCEANOGRÁFICO  
DE CANARIAS**

## 1.- PURSE SEINE

### 1.1.- Annual catch and effort by primary species in the WCPFC Convention Area.

Fishing vessels operating in the eastern Pacific Ocean have 100% coverage of onboard observers, in line with the Agreement on the International Dolphin Conservation Program (AIDCP). Although this agreement applies to vessels operating in the IATTC convention area, the four EC-flagged purse seiners operating in the Pacific Ocean have carried out their activity in both the IATTC and WCPFC Convention Areas during 2012, and have carried observers of the APICD in c. 65% of the trips. Information from trips not covered by observers of the APICD is obtained from logbooks. Total catches reported by the observers and logbooks, catches to the east of 150°W and discards of the three main target species during 2012, as well as in previous years, are shown in Table I-PS.

	2012			
	WCPFC	WCPFC east of 150°W	Discards	No. Sets
BET	5423	108	18	
SKJ	20579	257	742	555
YFT	6169	10	30	

	2011				2010			
	WCPFC	east of 150°W	Discards	No. Sets	WCPFC	east of 150°W	Discards	No. Sets
BET	7367	72	18		4912	4	36	
SKJ	27907	507	97	593	20520	53	258	446
YFT	4177	112	4		4041	21	9	

	2009				2008			
	WCPFC	east of 150°W	Discards	No. Sets	WCPFC	east of 150°W	Discards	No. Sets
BET	3817	35	50		5865	97	114	
SKJ	19712	198	1026	417	25277	664	575	434
YFT	3071	22	62		4779	94	20	

Table I-PS.- Total catches (in metric tonnes) of BET, SKJ and YFT from EC-Spain purse seiners in the WCPFC convention area, in the WCPFC-CA east of the 150°W meridian, estimated discards and number of sets during the last 5 years.

## 1.2.- Number of vessels by size

As in previous years, 4 EC-Spain flagged purse seiners fished in the WCPFC-CA in 2012, with gross register tonnages of 1562, 2468, 2502 and 3200 GRT. Tuna are mainly caught by sets on FADs, but also on free schools. Catches are frozen onboard in salt vats. Table II-PS summarizes the number of vessels and total gross register tonnages from the beginning of the fishery in the WCPFC-CA.

<b>Year</b>	<b>GRT</b>	<b>No. vessels</b>
<b>1996</b>	1351	1
<b>1997</b>	1351	1
<b>1998</b>	4419	3
<b>1999</b>	8176	4
<b>2000</b>	6887	4
<b>2001</b>	9172	4
<b>2002</b>	9172	4
<b>2003</b>	10678	5
<b>2004</b>	6532	3
<b>2005</b>	6532	3
<b>2006</b>	6532	3
<b>2007</b>	9732	4
<b>2008</b>	9732	4
<b>2009</b>	9732	4
<b>2010</b>	9732	4
<b>2011</b>	9732	4
<b>2012</b>	9732	4

**Table II-PS.-** Number of EC-Spain purse seiners and total gross register tonnage in the WCPFC-CA by year.

### 1.3.- Fishing patterns

Figure 1-PS shows the distribution of the catches ( $5^\circ \times 5^\circ$ ) of EU purse seiners in the WCPFC-CA during 2012 and 2011. An increase of the catches to the west took place during 2011 in relation to previous years, probably due to the moderate La Niña conditions during most of the year. In 2012, as the ENSO neutral conditions returned, catches to the west of  $180^\circ\text{W}$  decreased significantly. Catches of SKJ and BET were reduced in 2012, while catches of YFT increased by *c.* 50% in relation to 2011, possibly due to the change in ENSO conditions, as well.

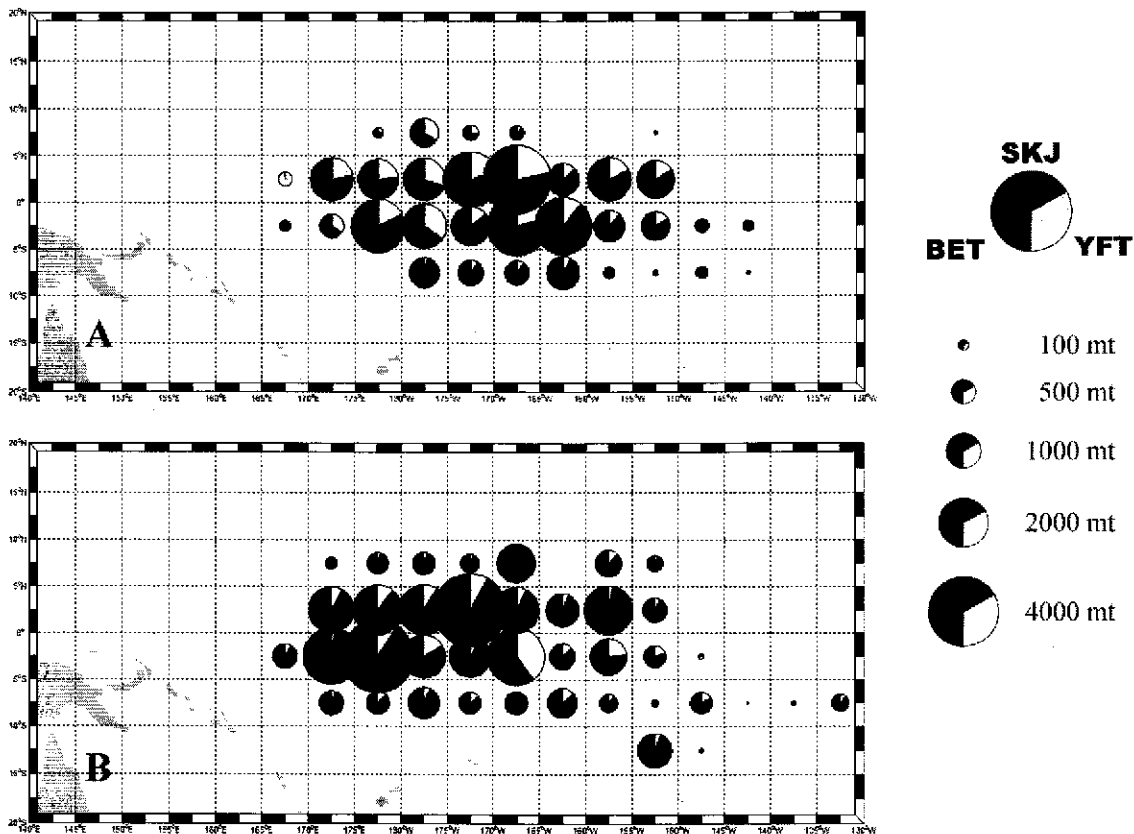
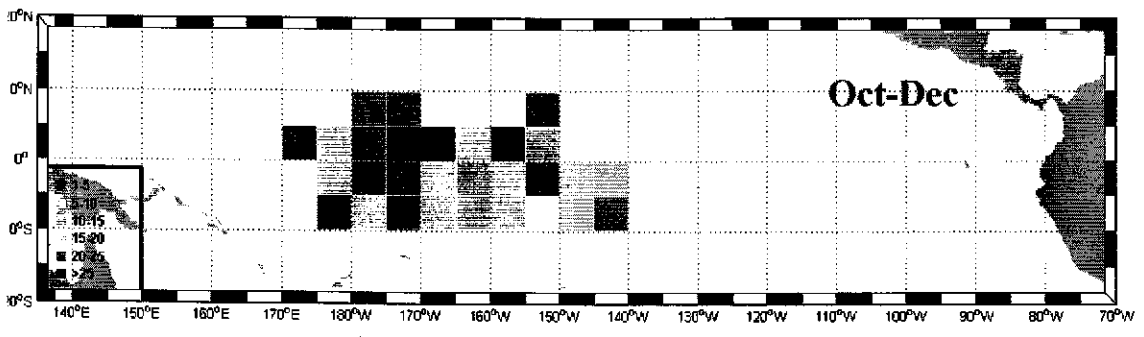
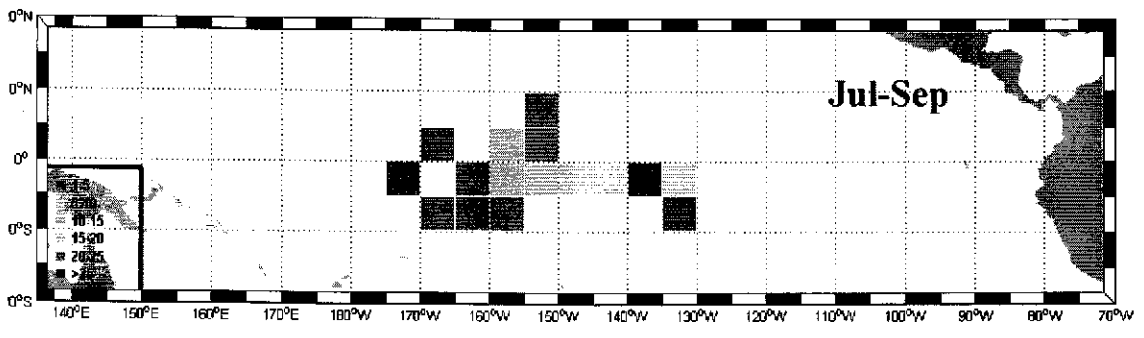
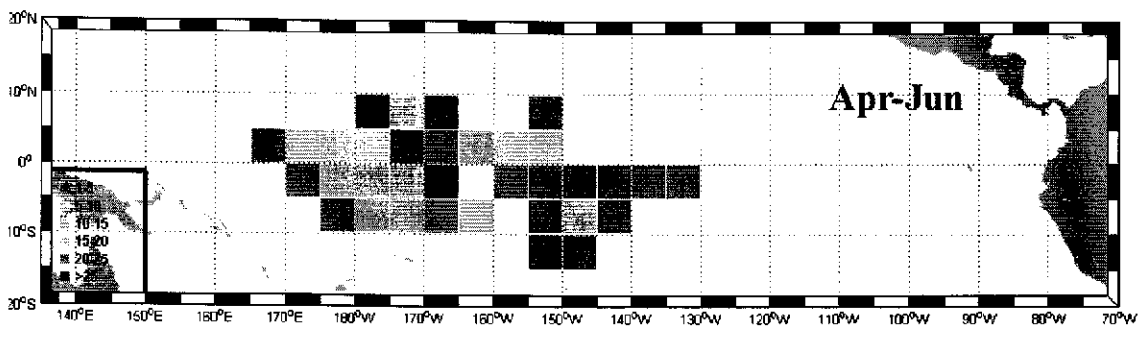
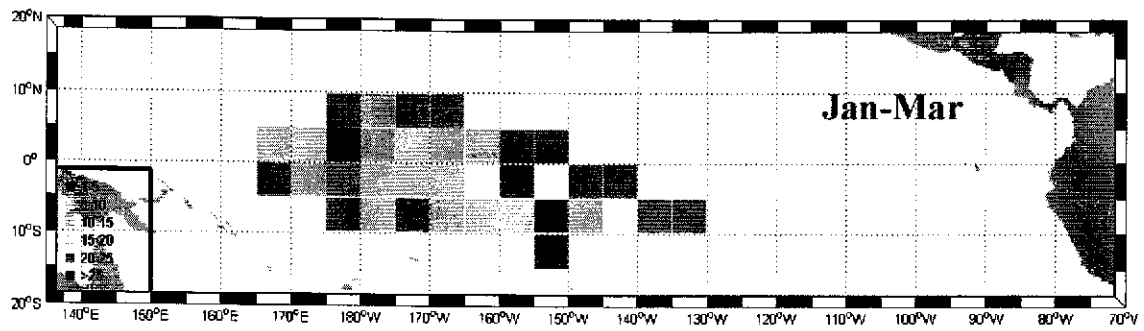
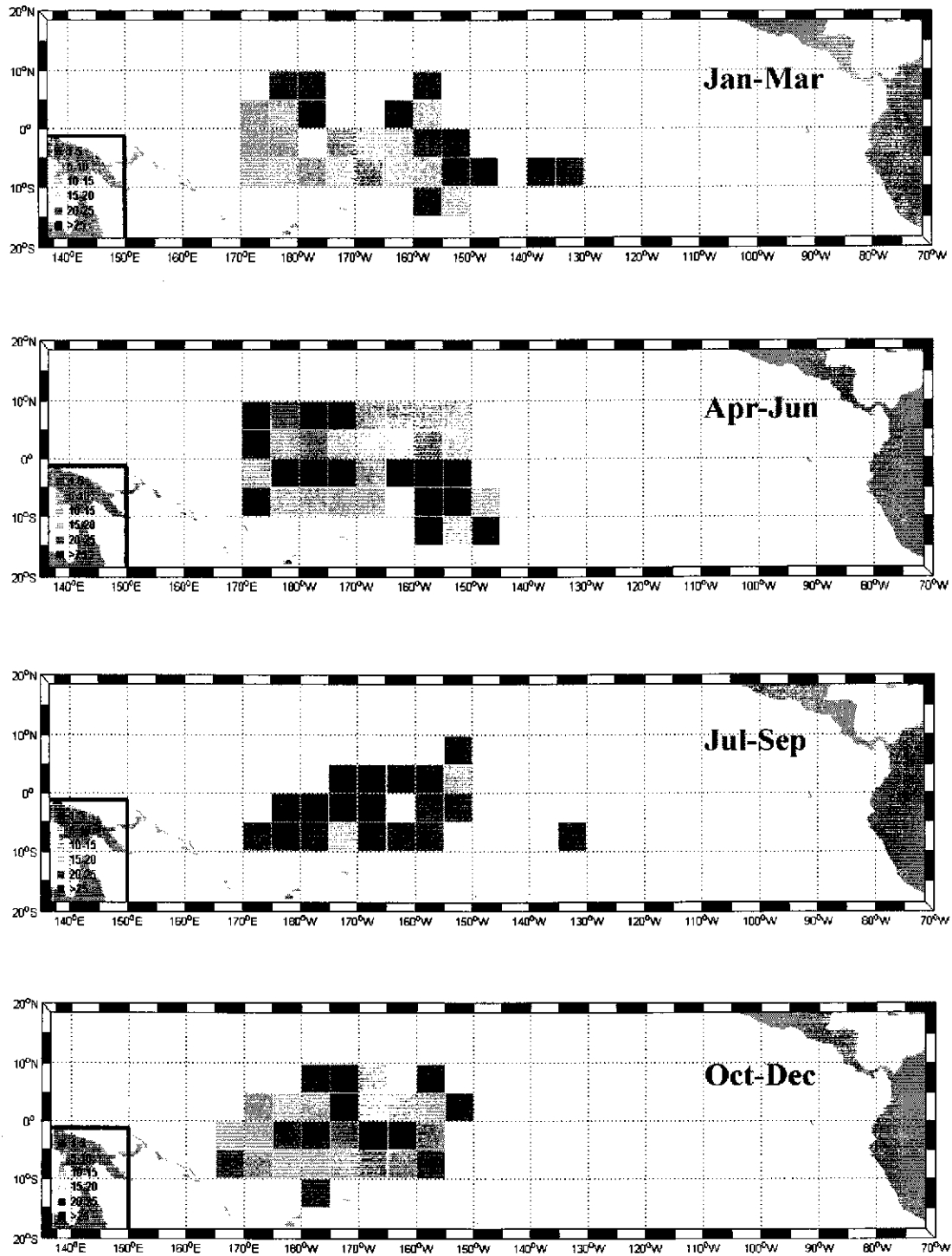


Fig. 1-PS.- Distribution of catches by area ( $5^\circ \times 5^\circ$ ) and species in 2012 (A) and 2011 (B).

The distribution of fishing effort during 2012 and 2011, by quarter, is shown in figures 2-PS and 3-PS, respectively. The fishing effort is seen to be mainly distributed around the equator ( $10^\circ\text{S}$  to  $10^\circ\text{N}$ ). During the first quarter of 2012, effort peaked in the western area traditionally fished by the EU fleet and progressively moved to the east. This trend seems to be driven, as indicated above, by the oceanographic conditions related to the ENSO. Effort during the third quarter was low, due to the FAD closure, although it was slightly higher than in previous years, probably reflecting a shift to free schools targeting.



**Fig. 2-PS.-** Distribution of the purse seine effort, in fishing days, by area (5°x5°) and quarter in 2012.



**Fig. 3-PS.-** Distribution of the purse seine effort, in fishing days, by area (5°x5°) and quarter in 2011.

#### **1.4.- Estimated total catches of non-target, associated and dependent species.**

Table III-PS summarizes the purse seine bycatch by species in 2012 in the WCPFC-CA. In most cases, only the number of fish of each species per set is recorded by the observers. The total weight has been estimated by multiplying the number of fish in each size category (small, medium, large) by an average weight for the purse seine fishery provided by the IATTC (N. Vogel, pers. comm.).

Around 30% of the *Carcharinus falciformis*, the main shark species bycatch of the purse seine fleet, as well as 60% of the *C. longimanus* bycatch included in table III-PS was released alive.

There is a mandatory Spanish protocol for releasing marine turtles caught by purse seine alive. All turtles involved in fishing operations must be released in the best conditions as soon as possible. In 2012, no marine turtle was involved in purse seine fishing operations within the WCPFC-CA (observer coverage: 65% of the total catch in weight).

Purse seine bycatch in the WCPFC-CA for 2011 is provided in Table IV-PS.



	Species	WCPFC	East of 150 ° W
BILLFISH	<i>Istiophorus platypterus</i>	0,09	0
	<i>Makaira indica</i>	1,15	0
	<i>Makaira nigricans</i>	16,22	0,29
	<i>Makaira, Tetrapturus</i>	0,34	0
	<i>Tetrapturus angustirostris</i>	0,03	0,02
	<i>Xiphias gladius</i>	0,04	0
SHARKS & RAYS	<i>Carcharhinus falciformis</i>	22,93	0,12
	<i>Carcharhinus longimanus</i>	0,44	0
	<i>Mobula spp.</i>	0,16	0
	<i>Mobulidae</i>	0,28	0
	<i>Mobulidae, Dasyatidae</i>	0,01	0
	Sharks, nei	0,02	0
	<i>Sphyrna zygaena</i>	0,16	0
OTHER FISH	<i>Ablennes hians</i>	<0,01	0
	<i>Acanthocybium solandri</i>	12,72	0,36
	<i>Aluterus monoceros</i>	0,06	0
	<i>Aluterus scriptus</i>	<0,01	0
	<i>Balistidae</i>	0,1	0
	<i>Balistidae, Monacanthidae</i>	0,09	0
	<i>Canthidermis maculatus</i>	7,67	0,15
	<i>Caranx caballus</i>	<0,01	0
	<i>Caranx sexfasciatus</i>	<0,01	0
	<i>Caranx spp.</i>	<0,01	0
	<i>Coryphaena equiselis</i>	4,37	0
	<i>Coryphaena hippurus</i>	15,5	0,34
	<i>Coryphaenidae</i>	0,15	0
	<i>Decapterus macarellus</i>	0,11	0
	<i>Elagatis bipinnulata</i>	7,44	0,02
	<i>Kyphosus analogus</i>	<0,01	0
	<i>Kyphosus elegans</i>	0,05	<0,01
	<i>Kyphosus spp.</i>	<0,01	0
	<i>Lobotes surinamensis</i>	0,02	<0,01
	<i>Mola mola</i>	6,02	3,81
	<i>Naucrates ductor</i>	<0,01	0
	<i>Sectator ocyurus</i>	0,75	0,11
	<i>Seriola rivoliana</i>	0,09	0
	<i>Seriola, Caranx spp.</i>	0,04	0
	<i>Sphyraena barracuda</i>	0,52	<0,01
	<i>Uraspis helvola</i>	0,01	0
	Others, NEI	0,43	0,02

Table III-PS.- Purse seine bycatch in metric tonnes in the WCPFC-CA and in the WCPFC-CA east of meridian 150°W during 2012. These figures have been estimated from the bycatch records of the trips carrying observers of the AIDCP (65.74% of the total catch in weight in the WCPFC-CA), assuming a similar composition of the bycatch in trips without observers onboard.

	Species	WCPFC	East of 150 ° W
BILLFISH	<i>Istiophoridae, Xiphiidae</i>	0,35	0
	<i>Istiophorus platypterus</i>	0,05	0
	<i>Makaira indica</i>	5,29	0
	<i>Makaira nigricans</i>	21,88	0
	<i>Makaira, Tetrapturus</i>	9,07	0
	<i>Tetrapturus audax</i>	0,32	0
SHARKS & RAYS	<i>Alopias spp.</i>	0,22	0
	<i>Carcharhinus falciformis</i>	66,31	1,28
	<i>Carcharhinus longimanus</i>	0,16	0
	<i>Carcharhinus spp.</i>	1,09	0,12
	<i>Mobula japonica</i>	0,21	0
	<i>Mobula spp.</i>	0,47	0
	<i>Mobula thurstoni</i>	0,08	0
	<i>Mobulidae</i>	0,04	0
	<i>Pteroplatytrygon violacea</i>	0,01	0
	Sharks, nei	2,28	0
	<i>Sphyrna spp.</i>	0,24	0
	<i>Sphyrna zygaena</i>	0,06	0
	OTHER FISH	<i>Ablennes hians</i>	<0,01
<i>Acanthocybium solandri</i>		5,68	0,26
<i>Aluterus monoceros</i>		<0,01	<0,01
<i>Aluterus scriptus</i>		<0,01	0
<i>Aluterus spp.</i>		<0,01	0
<i>Balistidae</i>		<0,01	0
<i>Canthidermis maculatus</i>		2,84	0,05
<i>Caranx sexfasciatus</i>		0,02	0
<i>Caranx spp.</i>		<0,01	0
<i>Coryphaena equisetis</i>		0,06	0
<i>Coryphaena hippurus</i>		12,71	0,5
<i>Coryphaenidae</i>		6,68	0
<i>Decapterus macarellus</i>		0,09	0
<i>Elagatis bipinnulata</i>		15,66	0,03
<i>Kyphosus analogus</i>		<0,01	0
<i>Kyphosus elegans</i>		0,03	0
<i>Kyphosus spp.</i>		<0,01	<0,01
Large fish, unidentified		0,01	0
<i>Lobotes surinamensis</i>		<0,01	0
<i>Mola mola</i>		0,97	0
<i>Naucrates ductor</i>		<0,01	0
<i>Sectator ocyurus</i>		0,02	0
<i>Seriola rivoliana</i>		<0,01	0
<i>Seriola, Caranx spp.</i>		<0,01	0
<i>Sphyraena barracuda</i>		0,43	0,08
<i>Uraspis helvola</i>		0,02	0
Others, NEI		0,13	0

Table IV-PS.- Purse seine bycatch in metric tonnes in the WCPFC-CA and in the WCPFC-CA east of meridian 150°W during 2011. These figures have been estimated from the bycatch records of the trips carrying observers of the AIDCP (53% of the total catch in weight in the WCPFC-CA), assuming a similar composition of the bycatch in trips without observers onboard.

### WCPFC Part I reports- Portuguese Contribution

In 2012, nine Portuguese tuna longliners (LLD) have got licenses for the Pacific Ocean, but only the vessel “ARTICO” fished in the WCPFC Convention Area. This vessels had a special fishing permit conditioning the fishing activity in the WCPFC area to the mandatory installation of ALC equipment and corresponding certification (VTAF).

“ARTICO” is a surface longliner with 50,75 m (LOA) and 764 GT targeting tuna and tuna like species.

In 2012, “ARTICO” fished in the WCPFC-CA during seven months, corresponding to 143 fishing days as indicated in the table below:

MONTH	FISHING DAYS
6	1
7	30
8	28
9	28
10	16
11	29
12	11
Total	143

The gear used is the monofilament surface longline (Florida style modified), using an average of around 1100 hooks per set. The characteristics of this vessel were the same as in years before.

Total catches were 539,37 t, as indicated in the following table, being blue marlin (BLM) and blue shark (BSH) the main species caught. Albacore catches were a by-catch for this vessel and no catches of swordfish were taken in WCPFC area.

SPECIES	Ton
ALB	0,74
BET	17,23
BIL	31,36
BLM	222,4
BSH	176,1
LEC	12,14
SMA	79,4
Total	539,37

The operator of “ARTICO” is permanently informed of all the measures adopted by WCPFC including those taken to mitigate the impact on seabirds of fishing for species covered by WCPFC and to avoid by-catches of sea turtles.

Concerning mitigation measures on seabirds, the following procedures have been indicated by the vessel:

- Deep-setting line shooter: The vessel uses hydraulic equipment to begin the fisheries operations with the main line less than 1 m from the stern so the hooks can sink rapidly;



- *Tori lines*: The vessel uses the lines as described in CMM 2007-04 since the begging of the fishing operations;
- Weighted branch lines: The vessel uses weights of 80 g attached to within 3,5 ms of the hook, for all hooks of the main line;



- Blue dyed bait: The bait used is dyed in blue;



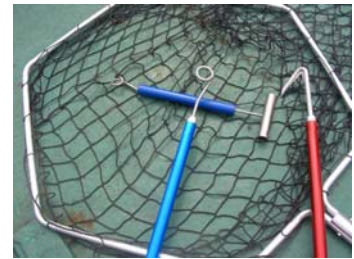
- Management of offal discharge: practice of strategic offal discharge from the opposite side of the boat to hauling. When setting no offal discharge is done so that birds are kept away;
- Logbook for registration of any by-catches of seabirds is ensured.

Concerning mitigation measures to avoid catches of sea turtles:

- circle hooks are already being used at a rate of 50% in longline sets;



- Deeper setting: hooks are set at depths around 80 meters (deeper than turtle abundance, less than 40 m), the hydraulic equipment make hooks sink rapidly and branch lines are weighted (use of weights of 80 g attached to within 3,5 ms of the hook, for all hooks of the main line);
- Night setting: the lines are set during the night with the vessels' lights off and all operations are done in lower level;
- Use of blue dyed bait as to avoid attracting sea turtles;
- Release techniques with line cutters and de-hooker sticks;



- Fishermen have information on handling methods to assess the condition of the turtles before releasing, identifying the species name, return to the sea, ensuring higher survival rates and reducing post-release mortality. The Interaction is recorded on logbook.

Registers of interactions with turtles and seabirds:

**Marine turtles captures in 2012**

Marine turtles	dead	alive	Released/discarded
leatherback		11	11

**Seabird captures in 2012, by species and area**

Species	South of 30°S	North of 23°N	23°N - 30°S
E.g. Black browed albatross	X		
E.g. Flesh footed shearwater	X		
E.g. White chinned petrel	X		