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**Report of scientific observer programme from China longline fishery
in the Pacific Ocean in 2013-2014**

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SUMMARY

During 2013-2014, nine scientific observer trips were conducted by Shanghai Ocean University. Observers are selected from undergraduate and graduate students whose majors are marine fisheries science and fisheries resources. Observers should be trained for three weeks including safety requirements, fish and sea turtle identification, catch and biological form filling (SPC observer Forms), fishing gears etc. before they are dispatched on board in the Pacific Ocean. Generally, observers are sent to two types of longline fisheries, ice fresh tuna longline targeting albacore and deep frozen tuna longline targeting bigeye tuna. Catch and biological data for all species are collected by observers as well as sea turtles. Size data are measured by observers.

Introduction

Longline fishery is important for China tuna fishery operating in the Pacific Ocean. Some vessels operated in the Pacific Island countries and some operated in the high seas. In order to abide by the CMM 2007-01 by WCPFC, China observer programme are launched during 2013. This document reports general information of nine observer trips.

Trip description

In order to carry out observer program, scientific observers are strictly trained for collecting fishery and biological data of all pelagic species by longline fishery including size data and sea turtle information. During 2013, nine scientific observers were sent on board in the whole Pacific Ocean.

Table 1 presented observer information of trip, fishing areas, periods, total hooks and hooks per basket etc.

Figure 1 showed position of Chinese scientific observer trip in Pacific Ocean during 2013-2014.

Catch information

For each trip, observers recorded effort (hooks), catch by species, and size composition by species for all the target and bycatch species including sharks, sea turtles and birds. About 90% hooks of each set are monitored for catch and biological sampling, and size measurements.

Table 2 presented the number of catch by species by trip collected by China LL observers in the Pacific Ocean during 2013-2014. Trip 1, Trip 2, Trip 7, Trip 8, Trip 9 were obviously targeting albacore due to its high catch proportion. Trip 4 also was targeting albacore but had low catch. Trip 3, Trip 5 and Trip 6 were targeting bigeye tuna,

Table 3 presents nominal CPUE of several shark species. Bigeye thresher and Oceanic whitetip sharks were released or discarded when they are incidentally caught. In fact, nominal CPUE of shark species is considered to be higher than observed

because some hooked sharks were discarded in the sea and is not recorded by observers.

Only three leatherback turtles were incidentally captured by entangled, hooked with forelimb and hind limb respectively. All the sea turtles are retrieved on board with proper treatment and are safely released at alive(with dehooker equipment based on Sea Turtle Handle Guideline).

No seabirds were captured in the all trips.

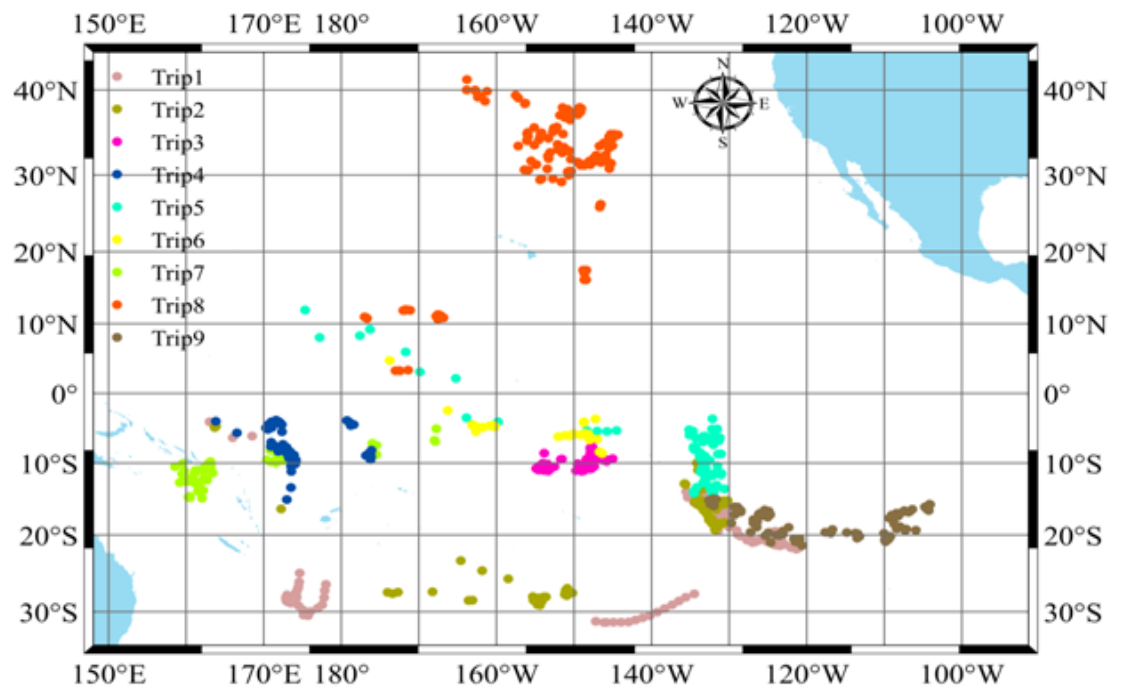


Figure 1 Position of China scientific observer trip in Pacific Ocean during 2013-2014

**Table 1 Trip information of Chinese LL observer
in the Pacific Ocean in 2013-2014**

Trip	Fishing areas	Period	Set	Total hooks	Observed Hooks	HPB	Type
T-1	S4°06' - S31°20', E163°02' -W130°12'	Jul.17,2013-Jan.19,2014	83	525965	440171	27	I
T-2	S4°45'- S29°12', E163°40'-W128°21'	Jul 18,2013-Jan 27,2014	126	455529	350355	25	I
T-3	S7°38' -S11°10' , W145°0.5'-W154°52'	Jul.22,2013-Jan.2,2014	151	398656	288880	16	D
T-4	S 3°51' -S 15°09' ; E 163°49' -W 176°27'	Aug.11-Oct.18,2013	53	132490	129000	30	I
T-5	N11°56' -S14°25', E175°20' -W128°11'	Aug.16,2013-Jan.4,2014	120	303038	183974	16	D
T-6	N4°45'-S8°40' , W174°14' -W146°22'	Sep.06-Nov.07,2013	38	99497	99365	23	D
T-7	S6°54' -S9°11' , W168°01' -W176°33' S09°48' -S15°18' , E158°33' -E172°30'	Sep.15-Dec.06,2013	61	261670	181957	29	I
T-8	N10°45'-N41°08' W150°12' -W176°59'	Oct.19,2013-Apr.15,2014	91	550665	390060	12	I
T-9	S15°00-S21°00 , W132°00-W104°00	Sep.20,2013-Jan.08,2014	86	328966	271608	26	I

Note: HPB-Hook Per Basket .

I - Ice fresh tuna longline; D- Deep frozen tuna longline

**Table 2 Number of Catch by species by trip collected by China LL observers
in the Pacific Ocean during 2013-2014**

Species	Trip1	Trip2	Trip3	Trip4	Trip5	Trip6	Trip7	Trip8	Trip9
Bigeye tuna	163	288	2616	238	562	458	131	868	357
Yellowfin tuna	51	261	375	339	107	56	299	65	131
Albacore	7159	4922	202	171	264	47	1778	6683	4474
Skipjack	162	169	8	20	62	27	240	2	104
Blue marlin	24	6	262	63	13	19	17	7	11
Striped marlin	12	16	49	0	9	11	2	0	43
Black marlin	8	25	0	0	4	0	14	0	1
Swordfish	25	49	6	25	234	74	8	38	56
Indo-Pacific sailfish	4	0	0	11	0	0	6	1	0
Shortbill spearfish	128	88	42	0	192	36	14	0	234
Oceanic whitetip shark	4	2	3	2	36	3	0	1	2
Silky shark	5	4	11	42	3	4	21	1	0
Blue shark	20	75	179	23	173	33	4	45	54
Shortfin mako	11	6	2	20	3	3	0	14	12
Longfin mako	1	0	5	2	4	5	0	1	0
Bigeye thresher	1	0	24	2	0	12	0	13	0
Pelagic thresher	0	0	0	0	0	0	0	0	0
Crocodile shark	3	0	9	0	63	42	0	0	8
Whale shark	0	0	0	0	0	0	0	0	0
Tiger shark	0	0	0	0	1	0	0	0	0
Velvet dogfish	0	0	0	0	2	9	0	0	0
Scalloped hammerhead	1	0	0	0	1	0	0	0	0
Smooth hammerhead	1	0	0	0	0	0	0	1	0
Longnose lancetfish	1427	211	0	19	272	30	128	1	1297
shortnose lancetfish	0	0	0	19	0	0	0	0	0
Sickle pomfret	4	19	0	21	0	69	8	4	24
Bigscale pomfret	15	0	0	0	2	0	0	0	0
Dagger pomfret	2	3	78	0	145	7	0	33	3
Atlantic pomfret	248	3	0	0	0	0	2	0	0
Common dolphinfish	19	36	13	82	74	3	91	28	28
Wahoo	220	161	164	105	234	36	279	7	233
Escolar	67	127	365	37	328	66	71	11	228
Snake mackerel	34	92	6	3	9	52	14	1	316

Oilfish	0	0	6	0	0	0	0	1	1
Roudi escolar	1	0	13	0	0	0	1	0	4
Black gemfish	1	0	0	0	0	0	0	0	3
Opah	64	58	30	3	22	3	5	170	71
Spinetail mobula	0	0	3	3	3	1	0	0	0
Pelagic stingray	83	86	2	56	145	45	75	2	106
Ocean sunfish	2	1	2	0	1	0	0	2	0
Slender sunfish	0	3	21	6	2	0	12	0	0
Dealfish	0	0	0	3	2	0	0	1	10
Great barracuda	1	1	1	0	0	1	65	0	1
Sixline soapfish	0	0	0	11	0	0	8	0	0
Rainbow runner	0	0	1	1	0	0	0	0	0
Razorbach scabbardfish	0	0	1	0	1	0	0	0	0
Crestfish	0	0	0	0	0	0	1	0	0
Slender tuna	0	0	0	0	0	0	0	0	0
Leatherback turtle	0	0	0	0	2	0	0	1	0

Table 3 Nominal CPUE of Several Shark Species by trip from China Observer

Programme during 2013-2014 (No. per 1000 hooks)

SPECIES	Trip1	Trip2	Trip3	Trip4	Trip5	Trip6	Trip7	Trip8	Trip9
Oceanic whitetip shark	0.0091	0.0057	0.0104	0.0155	0.1957	0.0302	0.0000	0.0026	0.0074
Silky shark	0.0114	0.0114	0.0381	0.3256	0.0163	0.0403	0.1154	0.0026	0.0000
Blue shark	0.0454	0.2141	0.6196	0.1783	0.9404	0.3321	0.0220	0.1154	0.1988
Shortfin mako	0.0250	0.0171	0.0069	0.1550	0.0163	0.0302	0.0000	0.0359	0.0442
Longfin mako	0.0023	0.0000	0.0173	0.0155	0.0217	0.0503	0.0000	0.0026	0.0000
Bigeye thresher	0.0023	0.0000	0.0831	0.0155	0.0000	0.1208	0.0000	0.0333	0.0000
Crocodile shark	0.0068	0.0000	0.0312	0.0000	0.3424	0.4227	0.0000	0.0000	0.0295
Velvet dogfish	0.0000	0.0000	0.0000	0.0000	0.0109	0.0906	0.0000	0.0000	0.0000
Scalloped hammerhead	0.0023	0.0000	0.0000	0.0000	0.0054	0.0000	0.0000	0.0000	0.0000
Smooth hammerhead	0.0023	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0026	0.0000