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**2018 ANNUAL SCIENTIFIC OBSERVER REPORT
FOR KOREAN TUNA LONGLINE FISHERY
IN THE IATTC CONVENTION AREA**

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Summary

In accordance with IATTC Resolution C-11-08 and the Korean National Scientific Observer Program, 10 observers had been deployed to investigate Korean tuna longline vessel on fishing activities and collect the data on catch, effort, discards and other relevant scientific information in the IATTC convention area, 2018. They observed 379 days and their observer coverage were about 3.9%.

Observer tasks

The observer tasks are basically 1) recording and reporting fishing activities, verifying positions of the vessel, 2) observing and estimating catches as far as possible with a view to identifying catch composition and monitoring discards, bycatch and size frequency, 3) recording the gear type, mesh size and attachments employed by the master, 4) collecting information to enable the cross-checking entries made to the logbooks (species composition and quantities, live and processed weight and location, where available), 5) carrying out other scientific works.

Fishing operations

In 2018, the information from 10 Korean observers deployed on longline vessel operating in the IATTC convention area is as follows. They observed the effort of about 616 thousand hooks in 333 sets during 379 days (Table 1). The observed area during the trips were between 120-150°W of 6°N-15°S, which is shown in Fig. 1.

Table 1. Information on observer trip of Korean tuna longline fishery in the IATTC convention area, 2018

Observer	Observation period	Sets observed	Number of hooks	Day observed
A	8.28-12.8	94	184,195	103
B	10.3-12.20	70	127,271	79
C	11.1-12.31	50	99,322	61
D	11.8-12.13	31	44,428	36
E	11.29-12.30	25	39,712	31
F	12.12-12.31	18	35,832	20
G	12.15-12.31	15	29,660	17
H	12.17-12.31	14	25,776	16
I	12.22-12.31	10	16,128	10
J	3.19-3.24	6	13,650	6

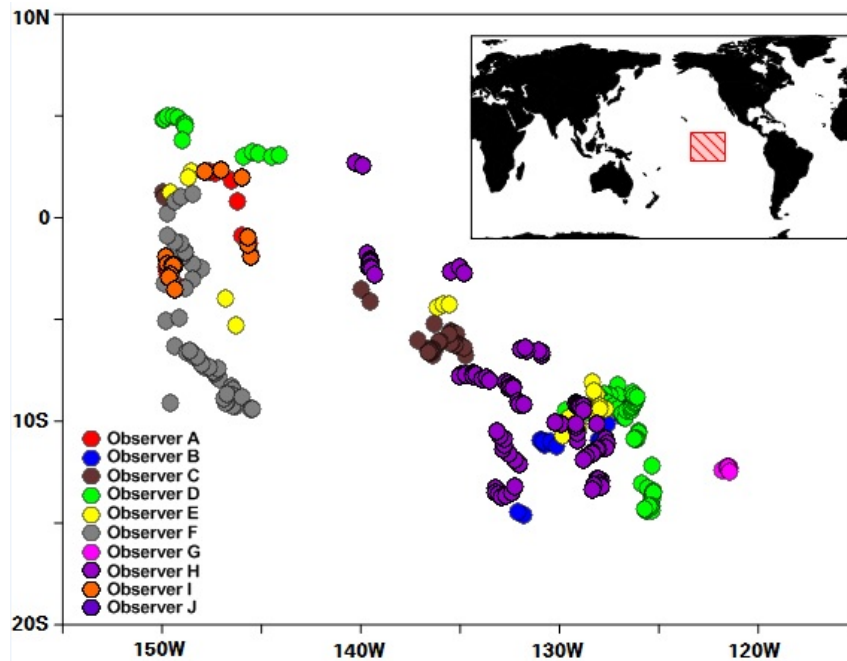


Fig. 1. Fishing positions of Korean tuna longline vessels observed during the each scientific observer trip in the IATTC convention area, 2018.

Catch observed and species composition

Table 2 shows the summary of the observer trips in the IATTC convention area, 2018. Tables 3 and 4 show retained catch and discards or releases by species during the observer trips in the IATTC convention area, respectively. During those trips, 8 mobulid rays, 2 olive ridley turtles, 1 green sea turtle, 2 leatherback sea turtles and 2 dolphins were caught incidentally, but promptly released and discarded. No seabird was caught.

Biological data collected

All the species, if possible, were measured and weighted on board. Stomach content and gonads for target and non-target species were observed.

Tagging

No individual was recaptured during the observer trips in 2018.

Table 2. Summary of the observer trips in the IATTC conventional area, 2018

Contents	2018
Total number of vessels in fleet	70
Number of vessels with observers	13
Total number of hooks for fleet	17,781,126
Total observed hooks	615,953
Total number of sets for fleet	8,499
Total sets observed	333
Total number of trips observed	10
Total catch of the longline fleet (mt)	8,802
Total retained catch observed (mt)	286
Predominant hook type	Circle hook
Predominant hook size	C14~15
Species composition of observed retained catch (in weight)	BET(61%), YFT(14%), ALB(8%), SKJ(1%), BUM(4%), SWO(7%), MLS(1%), OTH(4%)
Number of observed turtle caught	5
Number of observed turtle release	5
Number of observed ray caught *	8
Number of observed billfishes**	793
Number of observed seabird caught	0
Number of observed Oceanic whitetip shark release with fate information	10(alive), 11(dead)
Number of observed Manta ray release with fate information	3(alive), 1(dead)
Number of observed Mobula release with fate information	3(alive), 1(dead)

* All rays and turtles were incidentally caught and released promptly.

** Retained, release and discard information were included.

Table 3. Total retained catch by species recorded during the observer trip in the IATTC convention area, 2018

Group	Species	Observer A		Observer B		Observer C		Observer D		Observer E	
		Number	Weight	Number	Weight	Number	Weight	Number	Weight	Number	Weight
Tunas	Albacore	840	13,458	437	7,093	7	148	10	174	29	505
	Bigeye tuna	818	48,715	636	35,393	679	31,763	211	12,542	195	10,100
	Skipjack	45	454	89	674	34	317	31	270	3	24
	Yellowfin tuna	224	8,501	242	9,040	204	9,539	177	7,121	58	2,183
Billfishes	Black marlin	1									
	Blue marlin	32	2,711	41	2,829	47	3,548	8	505	9	692
	Indo-Pacific sailfish					2	59				
	Shortbill spearfish	23	359	21	314	4	64	4	59		
	Striped marlin	16	793	3	179	3	156	3	130		
	Swordfish	106	7,041	51	3,115	44	3,085	30	2,196	22	1,499
Sharks	Silky shark	27	882								
	Smooth hammerhead shark	3	158								
Others	Common dolphinfish			1	11						
	Escolar	230	4,130	70	967	26	315	34	447		
	Ocean sunfish					1					
	Oilfish										
	Opah	9	454	15	658	4	197	2	107	2	120
	Short snouted lancetfish										
	Sickle pomfret										
	Snake mackerels, escolars nei									3	52
	Velvet dogfish							1			
	Wahoo	72	1,172	37	580	13	172	7	85		
Total		2,446	88,828	1,643	60,854	1,068	49,360	518	23,636	321	15,175

Table 3 cont.. Total retained catch by species recorded during the observer trip in the IATTC convention area, 2018

Group	Species	Observer F		Observer G		Observer H		Observer I		Observer J	
		Number	Weight	Number	Weight	Number	Weight	Number	Weight	Number	Weight
Tunas	Albacore	131	2,331					12	153		
	Bigeye tuna	151	8,958	79	4,931	140	9,372	116	8,216	84	4,876
	Skipjack	17	165	32	248	28	219	2	11	4	26
	Yellowfin tuna	32	1,172	14	523	26	1,030	3	102	6	235
Billfishes	Black marlin										
	Blue marlin	3	176	1	121	7	665			2	167
	Indo-Pacific sailfish										
	Shortbill spearfish	2	22	1	12			2	29		
	Striped marlin	2	150	1	56	1	45	1	46		
	Swordfish	14	842	1	101	21	1,479	3	168	6	332
Sharks	Silky shark										
	Smooth hammerhead shark										
Others	Common dolphinfish										
	Escolar			1	16					2	8
	Ocean sunfish										
	Oilfish							4	31		
	Opah	1	58					2	92		
	Short snouted lancetfish	1	7								
	Sickle pomfret	1	6								
	Snake mackerels, escolar's nei	7	79			28	309	1	27		
	Velvet dogfish					2	15				
	Wahoo	7	115			6	82			3	31
Total		370	14,081	130	6,007	259	13,216	146	8,875	107	5,675

Table 4. Number of discarded or released species during the observer trip in the IATTC convention area, 2018

(unit : number of fish)

Group	Species	Obs. A	Obs. B	Obs. C	Obs. D	Obs. E	Obs. F	Obs. G	Obs. H	Obs. I	Obs. J
Tunas	Albacore	7	23				1				
	Bigeye tuna	73	40	31		1	2	3	6		1
	Skipjack	2	23	13		1			1		
	Yellowfin tuna	14	22	5		1	1		2		2
Billfishes	Blue marlin	4	7	2					1		
	Shortbill spearfish	2		1						2	
	Swordfish	63	89	87		2	1		4		
Sharks	Bigeye sandtiger shark		1								
	Bigeye thresher shark	23	17			1			2		3
	Blue shark	172	119	39	2		3	1	1	5	3
	Longfin Mako shark	3		2				1	3		
	Oceanic whitetip shark	5	5	8					2		1
	Pelagic thresher shark	11		1		2					
	Shortfin mako shark	8	4	1							
	Silky shark	5	29	43		6			13		
	Smooth hammerhead shark			2							
	Thresher sharks			11							
Others	Mackerel sharks										1
	Common dolphinfish	14	1						1		
	Escolar	219	77	71	1		5	2	53		
	Great barracuda			2		1					
	Lancetfishes nei.	45		26	1		5				
	Long snouted lancetfish		62						5		3
	Oilfish	8	3	6			1		1		
	Pelagic stingray	289	494	230		1	13	7	12	12	11
	Pomfrets, Ocean breams nei	32	44	19	5	4	2		18		1
	Roudi escolar	10	1								
	Short snouted lancetfish		5								
	Sickle pomfret	98	8	14	5		2	1	2		4
	Snake mackerel	48	62	76		2	6	5	15		6
	Velvet dogfish	29	41	34	4				56		
	Wahoo	15	5	3					1		
Mobulid rays	Others	3	3	10		2	5			1	2
	Giant manta		4								
Turtles	Mobula nei.	3		1							
	Olive ridley sea turtle		2								
Marine mammals	Green sea turtle			1							
	Leatherback sea turtle								2		
Dolphins nei.		2									
Sum		1,207	1,191	739	18	24	47	20	201	20	38