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

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1. Trip description

Longline is the only fishing gear for the Chinese tuna fishery in the EPO. For the year 2018, China conducted ten longline observer trips in the IATTC convention area (east of 150°W), but one observer is still at sea. This report is the preliminary one for the nine-observer trips. More than 960 fishing days were observed during the nine trips (**Table 1**). The Chinese observer trips were mostly carried out in the second half year. This is the period in which Chinese observers are suitable to be sent out due to the availability of such observers. Some of the Chinese observer trips for the EPO area are shared with those for the WCPFC area (west of 150°W), i.e., the same observer with the same longline vessel does the observations across the boundary of longitude line 150°W. Sets of the observer trips deployed in the WCPO areas were removed.

The observed set stations for the completed trips are shown in **Figure 1**. These trips targeted albacore or bigeye tuna using the circle hooks.

Table 1 Information of four Chinese LL observer trips in the IATTC area in 2018

Trips	Observed fishing days	Observed hooks	Observation period	Observation area
Trip 1	90	261750	Feb 11,2018- Jul 03,2018	10~31°S,114~143°W
Trip 2	133	301359	Aug2,2018- Dec31,2018	2°N~18°S,116~149°W
Trip 3	124	232632	Jul 30,2018- Jan 11,2019	10°N~5°S,110~135°W
Trip 4	99	335,426	Aug27,2018- Dec 30,2018	6~20°S,116~ 149°W

Trip 5	83	256880	Sep14,2018- Dec31,2018	6°N~4°S,120~ 147°W
Trip 6	230	581621	May4,2018- Dec 31,2018	3°N~15°S,119~ 149°W
Trip 7	24	49200	Sep5,2018- Nov 22,2018	1~ 9°S,145~ 149°W
Trip 8	131	472609	Jun29,2018- Dec30,2018	8~ 34°S,101~ 145°W
Trip 9	54	154854	Sep 5,2018- Nov 4,2018	1~ 7°S,143~ 149°W

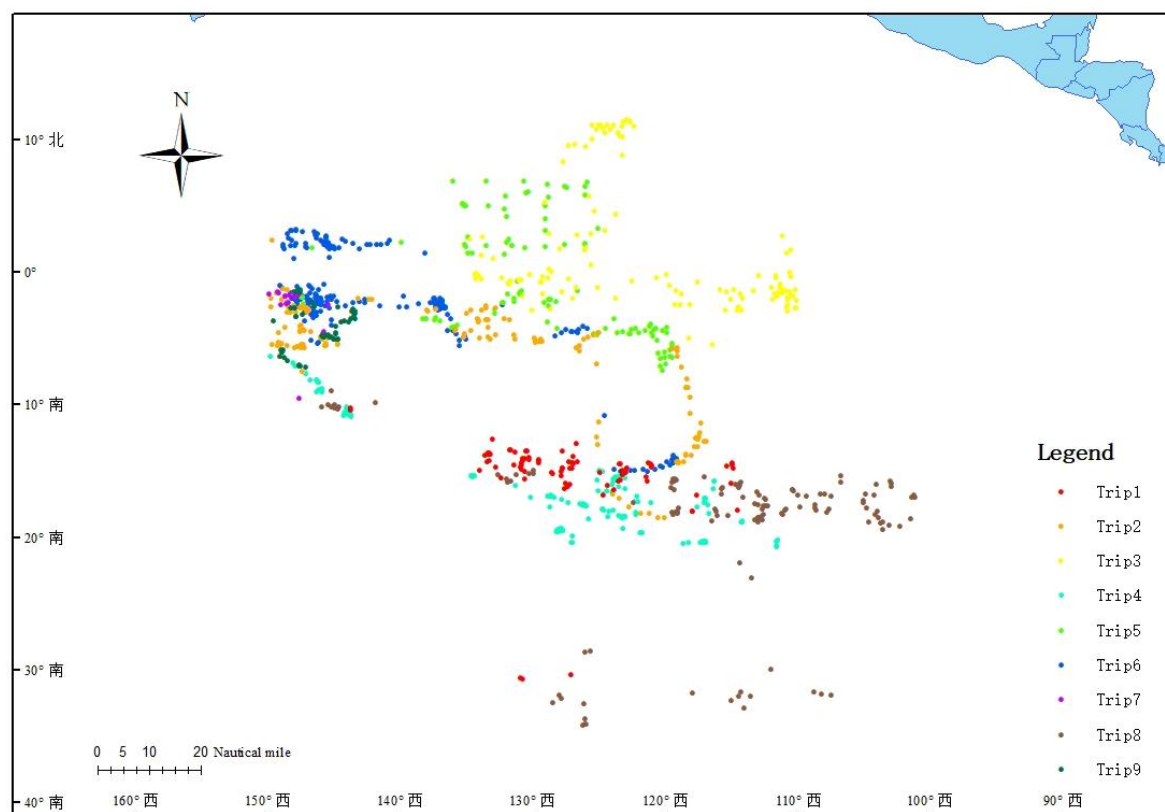


Fig. 1 Set stations of nine Chinese longline observer trips in 2018

2. Observer coverage

Because the total fishing effort of China for the fishing year 2018 has not been estimated yet, the observer coverage with fishing days will not be calculated until the fishery data compilation for the year 2018 is completed. Furthermore, deployed hooks, instead of fishing days, are generally reported as fishing effort in longline fishery statistics; therefore, it will take more time to estimate fishing days. For the coming years, we suggested that the observer annual report be submitted by the same deadline with fishery data.

3. Total catch and catch composition

For each trip, the on-board observer recorded effort (hooks), catch by species,

and size composition by species for all the target and bycatch species including sharks, sea turtles and birds. Gender and other biological information (e.g., maturity) were also examined for randomly sampled individuals. The proportion of baskets observed for each set was about 80-90%, due to long hauling time.

The observed catches in number for each trip, including target and bycatch species, are listed in **Table 2-10**.

There was one seabird incidentally captured in trip 8. Twenty-four turtles (ten green turtles, three olive ridley turtles and eleven leatherback turtles) were captured in trip 2, trip 3, trip4 and trip6. All the sea turtles are retrieved on board with proper treatment and are safely released alive (with dehooker equipment based on Sea Turtle Handle Guideline). There were two marine mammals incidentally captured. Oceanic whitetip sharks and silky sharks were released or discarded as soon as possible when they were incidentally caught.

Table 2 Observed catch and composition during observer trip 1

Scientific name	English name	Observed catch in number	Percentage (%)
<i>Thunnus alalunga</i>	Albacore*	2947	0.6993
<i>Thunnus albacares</i>	Yellowfin tuna	257	0.0610
<i>Thunnus obesus</i>	Bigeye tuna	206	0.0489
<i>Katsuwonus pelamis</i>	Skipjack tuna	239	0.0567
<i>Xiphias gladius</i>	Swordfish	7	0.0017
<i>Makaira nigricans</i>	Blue marlin	17	0.0040
<i>Tetrapturus angustirostris</i>	Shortbill spearfish	1	0.0002
<i>Tetrapturus audax</i>	Striped marlin	55	0.0131
<i>Acanthocybium solandri</i>	Wahoo	104	0.0247
<i>Lepidocybium flavobrunneum</i>	Escolar	34	0.0081
<i>Taractes rubescens</i>	Dagger pomfret	1	0.0002
<i>Taractichthys steindachneri</i>	Sickle pomfret	9	0.0021
<i>Brama brama</i>	Atlantic pomfret	4	0.0009
<i>Lampris guttatus</i>	Opah	11	0.0026
<i>Sphyrna barracuda</i>	Great barracuda	1	0.0002
<i>Alepisaurus ferox</i>	Longnose lancetfish	126	0.0299
<i>Promethichthys Prometheus</i>	Roundi escolar	1	0.0002
<i>Trachipterus fukuzakii</i>	Tapertail ribbonfish	1	0.0002
<i>Coryphaena hippurus</i>	Common dolphinfish	1	0.0002
<i>Gempylus serpens</i>	Snake mackerel	1	0.0002
<i>Ranzania laevis</i>	Truncated sunfish	1	0.0002
<i>Dasyatis violacea</i>	Sting ray	154	0.0365
<i>Prionace glauca</i>	Blue shark	34	0.0081
<i>Alopias superciliosus</i>	Bigeye thresher	2	0.0005
Total		4214	1

Note: * indicate target species

Table 3 Observed catch and composition during observer trip 2

Scientific name	English name	Observed catch in number	Percentage (%)
<i>Thunnus obesus</i>	Bigeye tuna*	732	0.1890
<i>Thunnus albacares</i>	Yellowfin tuna	152	0.0392
<i>Thunnus alalunga</i>	Albacore	214	0.0553
<i>Katsuwonus pelamis</i>	Skipjack tuna	94	0.0243
<i>Tetrapturusaudax</i>	Striped marlin	12	0.0031
<i>Tetrapturus angustirostris</i>	Shortbill spearfish	3	0.0008
<i>Istiophorus platypterus</i>	Indo-Pacific sailfish	4	0.0010
<i>Xiphias gladius</i>	Swordfish	146	0.0377
<i>Makaira nigricans</i>	Blue marlin	18	0.0046
<i>Ruvettus pretiosus</i>	Oilfish	5	0.0013
<i>Remora osteochir</i>	Marlinsucker	4	0.0010
<i>Lepidocybium flavobrunneum</i>	Escolar	260	0.0671
<i>Sphyrna barracuda</i>	Great barracuda	1	0.0003
<i>Taractichthys steindachneri</i>	Sickle pomfret	137	0.0354
<i>Lampris guttatus</i>	Opah	24	0.0062
<i>Alepisaurus ferox</i>	Long snouted lancetfish	309	0.0798
<i>Mola mola</i>	Ocean sunfish	1	0.0003
<i>Taractes rubescens</i>	Dagger pomfret	90	0.0232
<i>Coryphaena hippurus</i>	Common dolphinfish	39	0.0101
<i>Acanthocybium solandri</i>	Wahoo	45	0.0116
<i>Gempylus serpens</i>	Snake mackerel	351	0.0906
<i>Dasyatis violacea</i>	Pelagic stingray	331	0.0855
<i>Isurus paucus</i>	Longfin mako	2	0.0005
<i>Carcharhinus longimanus</i>	Oceanic whitetip shark	200	0.0516
<i>Pseudocarcharias kamoharai</i>	Crocodile shark	137	0.0354
<i>Scymnodon squamulosus</i>	Velvet dogfish	138	0.0356
<i>Alopias superciliosus</i>	Bigeye thresher	233	0.0602
<i>Prionace glauca</i>	Blue shark	165	0.0426
<i>Sphyrna zygaena</i>	Smooth hammerhead	17	0.0044
<i>Isurus oxyrinchus</i>	Shortfin mako	6	0.0015
<i>Carcharhinus falciformis</i>	Silky shark	2	0.0005
<i>Chelonia mydas</i>	Green turtle	1	0.0003
Total		3873	1

Note: * indicate target species

Table 4 Observed catch and composition during observer trip 3

Scientific name	English name	Observed catch in number	Percentage (%)
<i>Thunnus albacares</i>	Yellowfin tuna*	172	0.0497

<i>Thunnus obesus</i>	Bigeye tuna	134	0.0387
<i>Katsuwonus pelamis</i>	Skipjack tuna	8	0.0023
<i>Xiphias gladius</i>	Swordfish	901	0.2605
<i>Makaira nigricans</i>	Blue marlin	92	0.0266
<i>Tetrapturus audax</i>	Striped marlin	177	0.0512
<i>Tetrapturus angustirostris</i>	Shortbill spearfish	44	0.0127
<i>Lstiophorus platypterus</i>	Indo-pacific sailfish	11	0.0032
<i>Alepisaurus ferox</i>	Longnose lancetfish	8	0.0023
<i>Lepidocybium flavobrunneum</i>	Escolar	39	0.0113
<i>Gempylus serpens</i>	Snake mackerel	25	0.0072
<i>Acanthocybium solandri</i>	Wahoo	37	0.0107
<i>Coryphaena hippurus</i>	Common dolphinfish	595	0.1720
<i>Alopias superciliosus</i>	Bigeye thresher	101	0.0292
<i>Alopias pelagicus</i>	Pelagic thresher	162	0.0468
<i>Isurus oxyrinchus</i>	Shortfin mako	19	0.0055
<i>Prionace glauca</i>	Blue shark	330	0.0954
<i>Carcharhinus falciformis</i>	Silky shark	122	0.0353
<i>Carcharhinus longimanus</i>	Oceanic whitetip shark	56	0.0162
<i>Pseudocarcharias kamoharai</i>	Crocodile shark	48	0.0139
<i>Sphyrna zygaena</i>	Smooth hammerhead	51	0.0147
<i>Sphyrna lewini</i>	Scalloped hammerhead	3	0.0009
<i>Dasyatis violacea</i>	Pelagic stingray	281	0.0812
<i>Mobula japonica</i>	Spinetail mobula	26	0.0075
<i>Euthynnus affinis</i>	Kawakawa	2	0.0006
<i>Rhincodon typus</i>	Whale shark	2	0.0006
<i>Lepidochelys olivacea</i>	Olive ridley turtle	1	0.0003
<i>Chelonia mydas</i>	Green turtle	6	0.0017
<i>Dermochelys coriacea</i>	Leatherback turtle	5	0.0014
Delphinidae	Dolphin	1	0.0003
Total		3459	1

Note: * indicate target species

Table 5 Observed catch and composition during observer trip 4

Scientific name	English name	Observed catch in number	Percentage (%)
<i>Thunnus alalunga</i>	Albacore*	3949	0.8531
<i>Thunnus albacares</i>	Yellowfin tuna	88	0.0190
<i>Thunnus obesus</i>	Bigeye tuna	113	0.0244
<i>Katsuwonus pelamis</i>	Skipjack tuna	89	0.0192
<i>Xiphias gladius</i>	Swordfish	10	0.0022
<i>Makaira nigricans</i>	Blue marlin	1	0.0002
<i>Xiphias gladius</i>	Shortbill Spearfish	39	0.0084
<i>Tetrapturus audax</i>	Striped Marlin	4	0.0009
<i>Makaira indica</i>	Black marlin	6	0.0013

<i>Alepisaurus feroxlowe</i>	Longnose lancetfish	76	0.0164
<i>Lampris guttatus</i>	Opah	3	0.0006
<i>Taractes rubescens</i>	Dagger pomfret	4	0.0009
<i>Lepidocybium flavobrunneum</i>	Escolar	55	0.0119
<i>Acanthocybium solandri</i>	Wahoo	88	0.0190
<i>Coryphaena hippurus</i>	Common dolphinfish	3	0.0006
<i>Dasyatis violacea</i>	Pelagic stingray	98	0.0212
<i>Mola mola</i>	Ocean sunfish	1	0.0002
<i>Prionace glauca</i>	Blue shark	2	0.0004
Total		4629	1

Note: * indicate target species

Table 5 Observed catch and composition during observer trip 5

Scientific name	English name	Observed catch in number	Percentage (%)
<i>Thunnus obesus</i>	Bigeye tuna*	340	0.1659
<i>Thunnus albacares</i>	Yellowfin tuna	171	0.0834
<i>Katsuwonus pelamis</i>	Skipjack tuna	31	0.0151
<i>Xiphias gladius</i>	Swordfish	293	0.1429
<i>Makaira nigricans</i>	Blue marlin	35	0.0171
<i>Tetrapturus audax</i>	Striped marlin	69	0.0337
<i>Istiophorus platypterus</i>	Sailfish	2	0.0010
<i>Istiophorus platypterus</i>	Indo-Pacific sailfish	3	0.0015
<i>Alepisaurus feroxlowe</i>	Longnose lancetfish	195	0.0951
<i>Lampris guttatus</i>	Opah	11	0.0054
<i>Taractes rubescens</i>	Dagger pomfret	27	0.0132
<i>Taractichthys steindachneri</i>	Sickle pomfret	54	0.0263
<i>Lepidocybium flavobrunneum</i>	Escolar	75	0.0366
<i>Gempylus serpens</i>	Snake mackerel	154	0.0751
<i>Eumegistus illustris</i>	Lustrous pomfret	3	0.0015
<i>Ruvettus pretiosus</i>	Oilfish	4	0.0020
<i>Acanthocybium solandri</i>	Wahoo	15	0.0073
<i>Coryphaena hippurus</i>	Dolphinfish	29	0.0141
<i>Sphyrna barracuda</i>	Great barracuda	2	0.0010
<i>Zameus squamulosus</i>	Velvet dogfish	64	0.0312
<i>Alopias superciliosus</i>	Bigeye thresher	25	0.0122
<i>Isurus paucus</i>	Longfin mako	4	0.0020
<i>Isurus oxyrinchus</i>	Shortfin mako	5	0.0024
<i>Alopias pelagicus</i>	Pelagic thresher	6	0.0029
<i>Prionace glauca</i>	Blue shark	393	0.1917
<i>Carcharhinus falciformis</i>	Silky shark	34	0.0166
<i>Carcharhinus longimanus</i>	Oceanic whitetip shark	58	0.0283
<i>Pseudocarcharias kamoharai</i>	Crocodile shark	81	0.0395
<i>Sphyrna zygaena</i>	Smooth hammerhead	2	0.0010

<i>Dasyatis violacea</i>	Sting ray	201	0.0980
<i>Mola mola</i>	Ocean sunfish	1	0.0005
<i>Lepidochelys olivacea</i>	Olive ridley turtle	2	0.0010
<i>Dermochelys coriacea</i>	Leatherback turtle	1	0.0005
Total		2050	1

Note: * indicate target species

Table 7 Observed catch and composition during observer trip 6

Scientific name	English name	Observed catch in number	Percentage (%)
<i>Thunnus obesus</i>	Bigeye tuna*	1196	0.1466
<i>Thunnus albacares</i>	Yellowfin tuna	253	0.0310
<i>Thunnus alalunga</i>	Albacore	385	0.0472
<i>Katsuwonus pelamis</i>	Skipjack tuna	61	0.0075
<i>Xiphias gladius</i>	Swordfish	437	0.0536
<i>Istiophorus platypterus</i>	Indo-Pacific sailfish	16	0.0020
<i>Tetrapturus audax</i>	Striped marlin	28	0.0034
<i>Tetrapturus angustirostris</i>	Shortbill spearfish	33	0.0040
<i>Makaira nigricans</i>	Blue marlin	81	0.0099
<i>Alepisaurus ferox</i>	Longnose lancetfish	1084	0.1329
<i>Taractichthys steindachneri</i>	Sickle pomfret	52	0.0064
<i>Eumegistus illustris</i>	Lustrous pomfret	37	0.0045
<i>Sphyrna barracuda</i>	Great barracuda	14	0.0017
<i>Lepidocybium flavobrunneum</i>	Escolar	348	0.0427
<i>Coryphaena hippurus</i>	Common dolphinfish	64	0.0078
<i>Gempylus serpens</i>	Snake mackerel	529	0.0649
<i>Acanthocybium solandri</i>	Wahoo	85	0.0104
<i>Lagocephalus lagocephalus</i>	Rabbit Puffer	1	0.0001
<i>Ruvettus pretiosus</i>	Oilfish	33	0.0040
<i>Taractes rubescens</i>	Dagger pomfret	275	0.0337
<i>Zu elongates</i>	Tapertail ribbonfish	1	0.0001
<i>Mola mola</i>	Ocean sunfish	2	0.0002
<i>Lampris guttatus</i>	Opah	24	0.0029
<i>Dasyatis violacea</i>	Pelagic stingray	1363	0.1671
<i>Carcharhinus longimanus</i>	Oceanic whitetip shark	477	0.0585
<i>Isurus paucus</i>	Longfin mako	5	0.0006
<i>Pseudocarcharias kamoharai</i>	Crocodile shark	360	0.0441
<i>Zameus squamulosus</i>	Velvet dogfish	249	0.0305
<i>Isurus oxyrinchus</i>	Shortfin mako	19	0.0023
<i>Alopias vulpinus</i>	Thresher shark	8	0.0010
<i>Mobula japonica</i>	Spinetail mobula	4	0.0005
<i>Alopias superciliosus</i>	Bigeye thresher	14	0.0017
<i>Prionace glauca</i>	Blue shark	329	0.0403
<i>Sphyrna zygaena</i>	Smooth hammerhead	17	0.0021

<i>Carcharhinus falciformis</i>	Silky shark	263	0.0322
<i>Chelonia mydas</i>	Green turtle	3	0.0004
<i>Dermochelys coriacea</i>	Leatherback turtle	5	0.0006
<i>Grand dauphin</i>	Common bottle-nose dolphin	1	0.0001
Total		8156	1

Note: * indicate target species

Table 8 Observed catch and composition during observer trip 7

Scientific name	English name	Observed catch in number	Percentage (%)
<i>Thunnus obesus</i>	Bigeye tuna*	214	0.5107
<i>Katsuwonus pelamis</i>	Skipjack tuna	3	0.0072
<i>Tetrapturus audax</i>	Striped marlin	14	0.0334
<i>Makaira indica</i>	Black marlin	3	0.0072
<i>Istiophorus platypterus</i>	Indo-Pacific sailfish	3	0.0072
<i>Xiphias gladius</i>	Swordfish	74	0.1766
<i>Taractichthys steindachneri</i>	Sickle pomfret	23	0.0549
<i>Lampris guttatus</i>	Opah	1	0.0024
<i>Alepisau rusferox</i>	Long snouted lancetfish	32	0.0764
<i>Lepidocybium flavobrunneum</i>	Escolar	26	0.0620
<i>Acanthocybium solandri</i>	Wahoo	1	0.0024
<i>Dasyatis violacea</i>	Pelagic stingray	1	0.0024
<i>Isurus oxyrinchus</i>	Shortfin mako	3	0.0072
<i>Scymnodon squamulosus</i>	Velvet dogfish	1	0.0024
<i>Pseudocarcharias kamoharai</i>	Crocodile shark	5	0.0119
<i>Alopias superciliosus</i>	Bigeye thresher	4	0.0095
<i>Sphyrna zygaena</i>	Smooth hammerhead	1	0.0024
<i>Prionace glauca</i>	Blue shark	10	0.0239
Total		419	1

Note: * indicate target species

Table 9 Observed catch and composition during observer trip 8

Scientific name	English name	Observed catch in number	Percentage (%)
<i>Thunnus alalunga</i>	Albacore*	8262	0.7836
<i>Thunnus obesus</i>	Bigeye tuna	222	0.0211
<i>Katsuwonus pelamis</i>	Skipjack tuna	269	0.0255
<i>Thunnus albacares</i>	Yellowfin tuna	482	0.0457
<i>Xiphias gladius</i>	Swordfish	21	0.0020
<i>Tetrapturus audax</i>	Striped marlin	44	0.0042
<i>Tetrapturus angustirostris</i>	Shortbill spearfish	236	0.0224
<i>Makaira indica</i>	Black marlin	9	0.0009
<i>Lepidocybium lavobrunneum</i>	Escolar	162	0.0154

<i>Coryphaena hippurus</i>	Common dolphinfish	47	0.0045
<i>Acanthocybium solandri</i>	Wahoo	172	0.0163
<i>Lampris guttatus</i>	Opah	244	0.0231
<i>Omosudis lowei</i>	Omosudid	1	0.0001
<i>Assurger anzac</i>	Razorback scabbardfish	1	0.0001
<i>Dasyatis violacea</i>	Pelagic stingray	1	0.0001
<i>Remora remora</i>	Sharksucker	7	0.0007
<i>Alepisaurus ferox</i>	Long snouted lancetfish	106	0.0101
<i>Gasterochisma melampus</i>	Butterfly kingfish	4	0.0004
<i>Taractes rubescens</i>	Dagger pomfret	8	0.0008
<i>Dasyatis violacea</i>	Sting ray	227	0.0215
<i>Isurus oxyrinchus</i>	Shortfin mako	1	0.0001
<i>Pseudocarcharias kamoharai</i>	Crocodile shark	6	0.0006
<i>Scymnodon squamulosus</i>	Velvet dogfish	1	0.0001
<i>Isurus paucus</i>	Longfin mako	1	0.0001
<i>Prionace glauca</i>	Blue shark	1	0.0001
	Unidentified Shark	8	0.0008
	Seabird	1	0.0001
Total		10544	1

Note: * indicate target species

Table 10 Observed catch and composition during observer trip 9

Scientific name	English name	Observed catch in number	Percentage (%)
<i>Thunnus obesus</i>	Bigeye tuna*	192	0.2379
<i>Thunnus alalunga</i>	Albacore	4	0.0050
<i>Thunnus albacares</i>	Yellowfin tuna	24	0.0297
<i>Katsuwonus pelamis</i>	Skipjack tuna	48	0.0595
<i>Xiphias gladius</i>	Swordfish	40	0.0496
<i>Makaira nigricans</i>	Blue marlin	14	0.0173
<i>Tetrapturus audax</i>	Striped marlin	12	0.0149
<i>Tetrapturus angustirostris</i>	Shortbill spearfish	3	0.0037
<i>Lepidocybium flavobrunneum</i>	Escolar	10	0.0124
<i>Gempylus serpens</i>	Snake mackerel	25	0.0310
<i>Sphyrna barracuda</i>	Great barracuda	77	0.0954
<i>Alepisaurus feroxlowe</i>	Longnose lancetfish	182	0.2255
<i>Taractichthys steindachneri</i>	Sickle pomfret	23	0.0285
<i>Lampris guttatus</i>	Opah	5	0.0062
<i>Dasyatis violacea</i>	Sting ray	3	0.0037
<i>Prionace glauca</i>	Blue shark	54	0.0669
<i>Mobula japonica</i>	Spinetail mobula	75	0.0929
<i>Carcharhinus galapagensis</i>	Galapagos shark	16	0.0198
Total		807	1

Note: * indicate target species