

INTER-AMERICAN TROPICAL TUNA COMMISSION

SCIENTIFIC ADVISORY COMMITTEE

12TH MEETING

(by videoconference)

10-14 May 2021

DOCUMENT SAC-12 INF-A(f)

2020 ANNUAL SCIENTIFIC OBSERVER REPORT FOR KOREA TUNA
LONGLINE FISHERY IN THE ANTIGUA CONVENTION AREA

FLEET INFORMATION (vessels >20m LOA)

| Period covered | | Both set types combined | | | | | | Shallow sets (<15 HPB/HBF ¹ or <100m max hook depth) | | | | | | Deep sets (15 HPB/HBF or 100m max hook depth) | | | | | |
|---|--|-------------------------|-------|------------|----------|------------|------|---|--------|----------|----------|------------|--------|---|-------|------------|----------|------------|------|
| | | From | | | To | | | From | | | To | | | From | | | To | | |
| | | Day | Month | Year | Day | Month | Year | Day | Month | Year | Day | Month | Year | Day | Month | Year | Day | Month | Year |
| Date range | | 1 | JAN | 2020 | 31 | DEC | 2020 | Select | Select | Select | Select | Select | Select | 1 | JAN | 2020 | 31 | DEC | 2020 |
| Area fished | | Longitude | | | Latitude | | | Longitude | | | Latitude | | | Longitude | | | Latitude | | |
| | | Deg. | Min. | Hem. | Deg. | Min. | Hem. | Deg. | Min. | Hem. | Deg. | Min. | Hem. | Deg. | Min. | Hem. | Deg. | Min. | Hem. |
| | | 114 | 55 | W | 149 | 59 | W | | | W | | | W | 114 | 55 | W | 149 | 59 | W |
| Date range | | 1 | JAN | 2020 | 31 | DEC | 2020 | Select | Select | Select | Select | Select | Select | 1 | JAN | 2020 | 31 | DEC | 2020 |
| Latitude | | Deg. | Min. | Hem. | Deg. | Min. | Hem. | Deg. | Min. | Hem. | Deg. | Min. | Hem. | Deg. | Min. | Hem. | Deg. | Min. | Hem. |
| Date range | | 8 | 34 | N | 15 | 12 | S | | | Select | | | Select | 8 | 34 | N | 15 | 12 | S |
| | | Total Fleet | | Observed | | % observed | | Total Fleet | | Observed | | % observed | | Total Fleet | | Observed | | % observed | |
| No. of vessels that fished | | 66 | | 6 | | 9 | | | | | | | | 66 | | 6 | | 9 | |
| No. of trips | | | | | | | | | | | | | | | | | | | |
| No. of effective days fishing | | 10115 | | 290 | | 3 | | | | | | | | 10115 | | 290 | | 3 | |
| No. of sets | | 10118 | | 265 | | 3 | | | | | | | | 10118 | | 265 | | 3 | |
| No. of hooks (in thousands) <i>(If unknown, approx. no. of hooks/set, using a *)</i> | | 23275 | | 427 | | 2 | | | | | | | | 23275 | | 427 | | 2 | |
| Predominant ² hook type/size (IATTC (IATTC code)) | | C 15, C 25 | | C 15, C 25 | | | | | | | | | | C 15, C 25 | | C 15, C 25 | | | |
| Predominant bait type ³ | | SQ & A & F | | SQ & A & F | | | | Select | | Select | | | | SQ & A & F | | SQ & A & F | | | |

¹ Hooks per basket / Hooks between floats

² "Predominant" means most common, i.e., >50%. [Click here for IATTC hook codes.](#)

³ Bait code: SQ – squid; F – fishes (e.g. Scomber spp.); A – artificial lure (e.g. plastic jig)

Add additional comments below

As data of Korean tuna longline fishery in 2020 are under review, 'Total Fleet' information related to 'efforts' are preliminary.
The final version will be re submitted to the Secretariat as soon as completing data review.

| | | | | | | | | | | |
|--|--|----|----|---|--|--|--|----|----|---|
| | Click to add a seabird species | | | | | | | | | |
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| For additional species caught, enter species code and species in rows below | | | | | | | | | | |
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| | | | | | | | | | | |
| Billfishes | | | | | | | | | | |
| SWO | Swordfish (<i>Xiphias gladius</i>) | 13 | 23 | | | | | 13 | 23 | |
| BUM | Blue marlin (<i>Makaira nigricans</i>) | | 2 | 2 | | | | | 2 | 2 |
| MLS | Striped marlin (<i>Kajikia audax</i>) | | 1 | | | | | | 1 | |
| BIL | Marlin, sailfish, spearfish, nei (<i>Istiophoridae</i> , <i>Xiphiidae</i>) | | 1 | | | | | | 1 | |
| | Click to add a billfish species | | | | | | | | | |

Add additional comments below

INTER-AMERICAN TROPICAL TUNA COMMISSION

SCIENTIFIC ADVISORY COMMITTEE

ELEVENTH MEETING

San Diego, California (USA)
2020*

DOCUMENT SAC-11 INF-A(i)

**2019 ANNUAL SCIENTIFIC OBSERVER REPORT FOR KOREA TUNA
LONGLINE FISHERY IN THE ANTIGUA CONVENTION AREA**

*Postponed until a later date to be determined

CPC Korea (KOR)

| FLEET INFORMATION (vessels >20m LOA) | | | | | | | | | | | | | | | | | | | | | | |
|--|--|-------------------------|-------|----------|------------|-------|-------------|--|----------|------------|----------|-------------|------|--|------------|------|----------|-------|------|------|------|------|
| Period covered | | Both set types combined | | | | | | Shallow sets (<15 HPB/HBF ¹ or <100m max hook depth) | | | | | | Deep sets (≥15 HPB/HBF or ≥100m max hook depth) | | | | | | | | |
| | | From | | | To | | | From | | | To | | | From | | | To | | | | | |
| | | Day | Month | Year | Day | Month | Year | Day | Month | Year | Day | Month | Year | Day | Month | Year | Day | Month | Year | | | |
| Date range | | 1 | JAN | 2019 | 31 | DEC | 2019 | | | | | | | | | | 1 | JAN | 2019 | 31 | DEC | 2019 |
| Area fished | | Longitude | | | Latitude | | | Longitude | | | Latitude | | | Longitude | | | Latitude | | | | | |
| | | Deg. | Min. | Hem. | Deg. | Min. | Hem. | Deg. | Min. | Hem. | Deg. | Min. | Hem. | Deg. | Min. | Hem. | Deg. | Min. | Hem. | Deg. | Min. | Hem. |
| | | 113 | 10 | W | 149 | 59 | W | | | | | | | | | | 113 | 10 | W | 149 | 59 | W |
| | | 5 | 59 | N | 15 | 5 | S | | | | | | | | | | 5 | 59 | N | 15 | 5 | S |
| | | Total Fleet | | Observed | % observed | | Total Fleet | | Observed | % observed | | Total Fleet | | Observed | % observed | | | | | | | |
| No. of vessels that fished | | 96 | | 7 | 7 | | | | | | | 96 | | 7 | 7 | | | | | | | |
| No. of trips | | | | | | | | | | | | | | | | | | | | | | |
| No. of effective days fishing | | 7605 | | 413 | 5 | | | | | | | 7605 | | 413 | 5 | | | | | | | |
| No. of sets | | 7647 | | 414 | 5 | | | | | | | 7647 | | 414 | 5 | | | | | | | |
| No. of hooks (in thousands) (If unknown, approx. no. of hooks/set, using a *) | | 17655 | | 754 | 4 | | | | | | | 17655 | | 754 | 4 | | | | | | | |
| Predominant ² hook type/size (IATTC [IATTC code]) | | C-14 | | C-14 | | | | | | | | C-14 | | C-14 | | | | | | | | |
| Predominant bait type ³ | | SQ & F | | SQ & F | | | Select | | Select | | | SQ & F | | SQ & F | | | | | | | | |

¹ Hooks per basket / Hooks between floats

² "Predominant" means most common, i.e., >50%. [Click here for IATTC hook codes.](#)

³ Bait code: SQ – squid; F – fishes (e.g. Scomber spp.); A – artificial lure (e.g. plastic jig)

Add additional comments below

| NON-RETAINED SPECIES (vessels >20m LOA) | | | | | | | | | | | | |
|---|--|---|------|-----------------------------|-------|------|--|-------|------|--|---|--|
| Species code | | Species | | No. of individuals observed | | | | | | | | |
| | | | | Both set types combined | | | Shallow sets (<15 HPB/HBF ¹ or <100m max hook depth) | | | Deep sets (≥15 HPB/HBF or ≥100m max hook depth) | | |
| | | | | Released | | | Released | | | Released | | |
| | | Alive | Dead | Condition unknown | Alive | Dead | Condition unknown | Alive | Dead | Condition unknown | | |
| Sea turtles | | | | | | | | | | | | |
| DKK | | Leatherback turtle (<i>Dermochelys coriacea</i>) | 1 | 1 | | | | | 1 | 1 | | |
| LKV | | Olive ridley turtle (<i>Lepidochelys olivacea</i>) | 1 | 2 | | | | | 1 | 2 | | |
| | | | | | | | | | | | | |
| Sharks and Rays | | | | | | | | | | | | |
| BSH | | Blue shark (<i>Prionace glauca</i>) | 299 | 17 | 1 | | | | 299 | 17 | 1 | |
| MAK | | Mako shark, nei (<i>Isurus spp.</i>) | 6 | 1 | | | | | 6 | 1 | | |
| OCS | | Oceanic whitetip shark (<i>Carcharhinus longimanus</i>) | 23 | 11 | | | | | 23 | 11 | | |
| PTH | | Pelagic thresher shark (<i>Alopias pelagicus</i>) | 1 | | | | | | 1 | | | |
| SMA | | Short fin mako shark (<i>Isurus oxyrinchus</i>) | 6 | 2 | | | | | 6 | 2 | | |
| ALV | | Thresher shark (<i>Alopias vulpinus</i>) | 9 | 7 | | | | | 9 | 7 | | |
| SPL | | Scalloped hammerhead shark (<i>Sphyrna lewini</i>) | 5 | | | | | | 5 | | | |
| PSK | | Crocodile shark (<i>Pseudocarcharias kamoharai</i>) | 483 | 12 | | | | | 483 | 12 | | |
| LMA | | Longfin mako shark (<i>Isurus paucus</i>) | 7 | 3 | | | | | 7 | 3 | | |
| FAL | | Silky shark (<i>Carcharhinus falciformis</i>) | 89 | 46 | 1 | | | | 89 | 46 | 1 | |
| BTH | | Bigeye thresher shark (<i>Alopias superciliosus</i>) | 61 | 9 | | | | | 61 | 9 | | |
| RMV | | Manta ray, nei (<i>Mobula spp.</i>) | 2 | | | | | | 2 | | | |
| SPZ | | Smooth hammerhead shark (<i>Sphyrna zygaena</i>) | 2 | | | | | | 2 | | | |
| SKX | | Sharks, rays, skates, etc. nei (<i>Elasmobranchii</i>) | 11 | | | | | | 11 | | | |
| PLS | | Pelagic stingray (<i>Pteroplatytrygon violacea</i>) | 517 | 12 | | | | | 517 | 12 | | |
| | | | | | | | | | | | | |
| | | For additional species caught, enter species code and species in rows below | | | | | | | | | | |
| DGX | | Dogfish sharks nei | 1 | | | | | | 1 | | | |
| | | | | | | | | | | | | |
| Marine mammals | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | For additional species caught, enter species code and species in rows below | | | | | | | | | | |
| | | | | | | | | | | | | |
| Seabirds | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | For additional species caught, enter species code and species in rows below | | | | | | | | | | |
| | | | | | | | | | | | | |
| Billfishes | | | | | | | | | | | | |
| MLS | | Striped marlin (<i>Kajikia audax</i>) | 1 | 2 | | | | | 1 | 2 | | |
| BUM | | Blue marlin (<i>Makaira nigricans</i>) | 1 | 10 | | | | | 1 | 10 | | |
| BIL | | Marlin, sailfish, spearfish, nei (<i>Istiophoridae, Xiphiidae</i>) | 1 | 2 | | | | | 1 | 2 | | |
| SWO | | Swordfish (<i>Xiphias gladius</i>) | 42 | 138 | | | | | 42 | 138 | | |
| | | | | | | | | | | | | |

Add additional comments below

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

National Institute of Fisheries Science (NIFS)

216 Gijang-Haeanro, Gijang-eup, Gijang-gun, Busan 46083, Rep. of Korea

(PROVISIONAL VERSION)

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 |

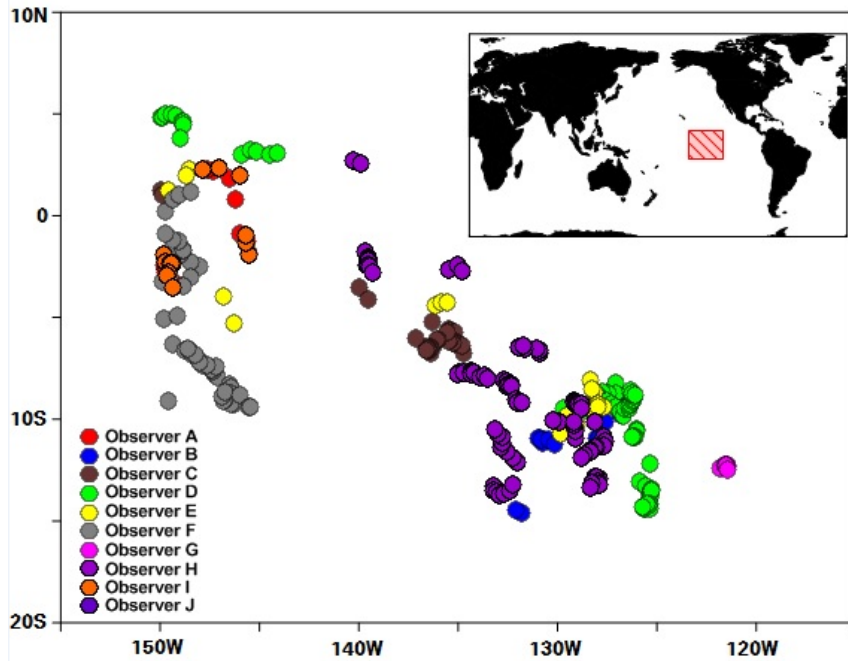


Fig. 1. Fishing positions of Korean tuna longline vessels observed during the each scientific observer trip in the IATTC convention area, 2018.

Catch observed and species composition

Tables 2 and 3 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. 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 2 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, escolars 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 3. 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 | | | | | | | |
| Mackerel sharks | | | | | | | | | | | 1 |
| Others | 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 | | |
| Others | 3 | 3 | 10 | | 2 | 5 | | | | 1 | 2 |
| Mobulid rays | Giant manta | | 4 | | | | | | | | |
| | Mobula nei. | 3 | | 1 | | | | | | | |
| Turtles | Olive ridley sea turtle | | 2 | | | | | | | | |
| | Green sea turtle | | | 1 | | | | | | | |
| | Leatherback sea turtle | | | | | | | | 2 | | |
| Marine mammals | Dolphins nei. | 2 | | | | | | | | | |
| Sum | | 1,207 | 1,191 | 739 | 18 | 24 | 47 | 20 | 201 | 20 | 38 |

**INTER-AMERICAN TROPICAL TUNA COMMISSION
SCIENTIFIC ADVISORY COMMITTEE**

NINTH MEETING

**La Jolla, California (USA)
14-18 May 2017**

DOCUMENT SAC-09 INF A(d)

**2017 ANNUAL SCIENTIFIC OBSERVER REPORT FOR
KOREAN TUNA LONGLINE FISHERY IN THE IATTC
CONVENTION AREA**

National Institute of Fisheries Science (NIFS)

216 Gijang-Haeanro, Gijang-eup, Gijang-gun, Busan 46083, Republic of Korea

Summary

In accordance with IATTC Resolution C-11-08 and the Korean National Scientific Observer Program, 7 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 in 2017. They observed 587 days and their observer coverage were about 4.1%.

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 2017, the information from 7 Korean observers deployed on longline vessel operating in the IATTC convention area is as follows. They observed the effort of about 870 thousand hooks in 497 sets during 587 days (Table 1). The observed area during the trips were between 105-150°W of 10°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, 2017

| Observer | Observation period | Sets observed | Number of hooks | Day observed |
|----------|--------------------|---------------|-----------------|--------------|
| A | 1.1-3.7 | 60 | 111,775 | 66 |
| B | 10.24-12.30 | 57 | 107,077 | 68 |
| C | 8.8-12.14 | 115 | 207,700 | 129 |
| D | 1.1-3.29 | 66 | 108,833 | 88 |
| E | 8.11-10.26 | 70 | 107,831 | 77 |
| F | 9.11-12.28 | 91 | 161,480 | 109 |
| G | 1.1-2.19 | 38 | 60,741 | 50 |

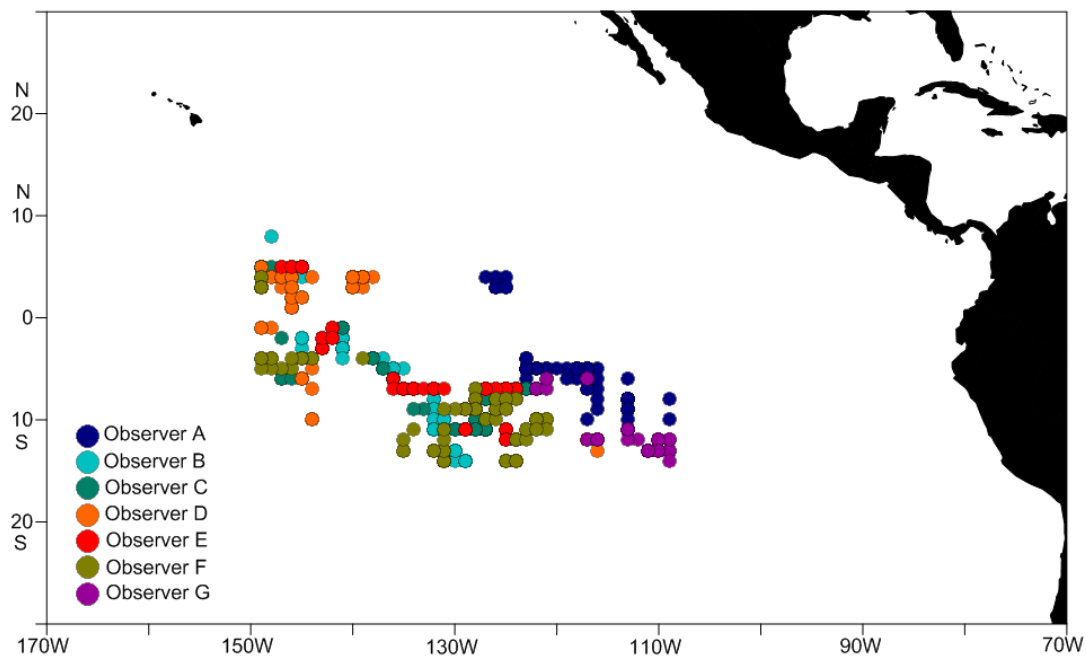


Fig. 1. Fishing positions of Korean tuna longline vessel during observer trips in the IATTC convention area, 2017.

Catch observed and species composition

Tables 2 and 3 show retained catch and discards or releases by species during the observer trips in the IATTC convention area, respectively. During those trips, 12 olive ridley turtles, 1 green sea turtle and 2 leatherback sea turtles were caught incidentally, and 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 those observer trips in 2017.

Table 2. Total retained catch by species recorded during observer trip in the IATTC convention area, 2017

| Group | Species | Observer A | | Observer B | | Observer C | | Observer D | |
|------------|------------------------|------------|---------------|------------|---------------|--------------|----------------|--------------|---------------|
| | | Number | Weight | Number | Weight | Number | Weight | Number | Weight |
| Tunas | Albacore | | | 67 | 1,189 | 151 | 2,371 | 46 | 814 |
| | Bigeye tuna | 561 | 31,372 | 521 | 25,976 | 1,087 | 67,213 | 668 | 42,068 |
| | Skipjack | 30 | 270 | 16 | 151 | 44 | 337 | 40 | 360 |
| | Yellowfin tuna | 78 | 3,961 | 49 | 1,680 | 403 | 14,917 | 82 | 2,886 |
| Billfishes | Black marlin | | | | | | | 1 | 78 |
| | Blue marlin | 17 | 1,489 | 11 | 917 | | | 44 | 2,854 |
| | Indo-Pacific sailfish | | | | | 33 | 3,065 | 9 | 178 |
| | Shortbill spearfish | 9 | 134 | 9 | 145 | 29 | 381 | 1 | 15 |
| | Striped marlin | 21 | 938 | 4 | 195 | 12 | 385 | 5 | 226 |
| | Swordfish | 183 | 12,655 | 87 | 5,938 | 149 | 8,710 | 54 | 3,368 |
| Sharks | Blue shark | | | 42 | 678 | | | | |
| | Pelagic thresher shark | | | 2 | 149 | | | | |
| | Bigeye thresher shark | | | 1 | 25 | | | | |
| | Silky shark | | | | | 49 | 1,845 | | |
| Others | Escolar | | | 94 | 1,463 | | | | |
| | Ocean sunfish | | | | | 1 | 100 | | |
| | Opah | 29 | 1,620 | 13 | 754 | 20 | 1,054 | 13 | 844 |
| | Smith's escolar | 56 | 762 | | | 333 | 4,711 | 25 | 258 |
| | Wahoo | 14 | 173 | 20 | 252 | 81 | 1,094 | 19 | 235 |
| | Other fishes | | | 3 | 65 | 11 | 75 | | |
| Sum | | 998 | 53,373 | 939 | 39,577 | 2,403 | 106,258 | 1,007 | 54,183 |

Table 2 cont.. Total retained catch by species recorded during observer trip in the IATTC convention area, 2017

| Group | Species | Observer E | | Observer F | | Observer G | |
|------------|------------------------|------------|---------------|--------------|---------------|------------|---------------|
| | | Number | Weight | Number | Weight | Number | Weight |
| Tunas | Albacore | 34 | 590 | 314 | 5,363 | 181 | 2,710 |
| | Bigeye tuna | 375 | 23,020 | 924 | 49,892 | 279 | 18,349 |
| | Skipjack | 15 | 140 | 34 | 257 | 25 | 221 |
| | yellowfin tuna | 100 | 4,222 | 239 | 7,357 | 32 | 1,355 |
| Billfishes | Black marlin | | | | | | |
| | Blue marlin | 1 | 94 | 31 | 2,389 | 12 | 1,103 |
| | Indo-Pacific sailfish | 12 | 974 | | | | |
| | Shortbill spearfish | 28 | 394 | 18 | 255 | 12 | 67 |
| | Striped marlin | 7 | 344 | 3 | 139 | 6 | 259 |
| | Swordfish | 37 | 2,495 | 151 | 11,300 | 45 | 3,332 |
| Sharks | Blue shark | | | | | | |
| | Pelagic thresher shark | | | | | | |
| | Bigeye thresher shark | | | | | | |
| | Silky shark | | | | | | |
| Others | Escolar | 83 | 1,113 | 400 | 4,697 | 21 | 377 |
| | Ocean sunfish | 3 | 148 | | | | |
| | Opah | 17 | 885 | 8 | 283 | 17 | 872 |
| | Smith's escolar | | | | | | |
| | Wahoo | 14 | 207 | 67 | 846 | 10 | 154 |
| | Other fishes | 4 | 44 | 11 | 152 | | |
| Sum | | 730 | 34,670 | 2,200 | 82,930 | 640 | 28,799 |

Table 3. Number of discarded or released species during observer trip in the IATTC convention area, 2017

| Group | Species | Observer A | Observer B | Observer C | Observer D | Observer E | Observer F | Observer G |
|-------------------|----------------------------|------------|------------|------------|------------|------------|------------|------------|
| Tunas | Albacore | | | | 1 | | 5 | |
| | Bigeye tuna | 53 | 16 | 4 | 27 | 10 | 18 | 2 |
| | Skipjack | 1 | | | 1 | | 1 | |
| | Yellowfin tuna | 2 | 2 | 5 | 16 | 3 | 4 | 1 |
| Billfishes | Blue marlin | 1 | 3 | | 3 | | 4 | |
| | Indo-Pacific sailfish | | | | | | | |
| | Shortbill spearfish | | 1 | 2 | | | 1 | |
| | Striped marlin | | | | 2 | | | |
| | Swordfish | 15 | 10 | 13 | 34 | 6 | 24 | |
| Sharks | Bigeye sandtiger shark | | | | | | | |
| | Bigeye thresher shark | 14 | 2 | 41 | 39 | | 22 | |
| | Blue shark | 133 | 28 | 146 | 43 | 7 | 96 | 4 |
| | Common thresher shark | 2 | | | | | 19 | |
| | Crocodile shark | 176 | 24 | 217 | 103 | 57 | 385 | 1 |
| | Longfin Mako shark | | 1 | | 2 | | 1 | |
| | Oceanic whitetip shark | 10 | 1 | 16 | 8 | | 3 | |
| | Pelagic Thresher Shark | 4 | 8 | | 3 | 7 | | |
| | Sandbar shark | | | | | | 11 | |
| | Scalloped hammerhead shark | | 1 | 14 | | | | |
| | Hammerhead Shark | | | | | | 21 | |
| | Shortfin mako shark | 1 | | 5 | | | 1 | |
| | Silky shark | 6 | 1 | | 31 | 1 | 3 | |
| | Smalltooth shark | | | | 1 | | | |
| | Smooth Hammerhead Shark | 2 | | 1 | | | | |
| | Thresher sharks | | | | 1 | | | |
| | Velvet dogfish | 25 | 12 | 27 | 275 | 14 | 26 | |
| Other sharks | | | | | | 4 | | |
| Turtles | Olive ridley sea turtle | 12 | | | | | | |
| | Green sea turtle | 1 | | | | | | |
| | Leatherback sea turtle | 2 | | | | | | |
| Sum | | 460 | 110 | 491 | 590 | 105 | 649 | 8 |

Report of the National Observer Programs for pelagic fisheries under the IATTC Convention Area

Observer Program

Reporting CPC: **Corea** Name of the program: **Korean National Scientific Observer Program**
 Scientific contact: **Doo Nam Kim** Email: **doonam@korea.kr**
 Year start: **2017** Vessel type monitored: **Longline**
 Average number of vessels Observed per year: **10**

Observer Program: Data Recorded from interactions with fishing operations

Level data record: **By set or fishing operation** Other:
 Frequency record: **ALL set operation including zero catch** Other:

| Data recorded please check if the following information is recorded | target species | Non-target commercial spp | Other bycatch spp |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| | Catch estimates (Kg/No.) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Dead discards | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Releases alive | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Species identification | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

| Main taxa groups monitor by Observers | <input checked="" type="checkbox"/> YES |
|---------------------------------------|---|
| Fish target spp | <input checked="" type="checkbox"/> |
| All fish species (sharks/rays) | <input checked="" type="checkbox"/> |
| Sea turtles | <input checked="" type="checkbox"/> |
| Seabirds | <input checked="" type="checkbox"/> |
| Mammals | <input checked="" type="checkbox"/> |
| Other taxa (specify) | |

| Record on conditions of discards and reasons for | <input checked="" type="checkbox"/> YES |
|--|---|
| Reason(s) for discard of commercial catches | <input checked="" type="checkbox"/> |
| General state of live discards | <input checked="" type="checkbox"/> |

| Biological sampling and samples collections | target sp | Non-target sp | Bycatch |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| Species identification (photo) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Size & weight measurement | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Sex and/or fecundity status | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Hard parts (otoliths, spines) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Tissues (muscle, gonads, blood) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Tagging (release) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| Vessel information recorded | <input checked="" type="checkbox"/> YES |
|-----------------------------|---|
| ID, Name | <input checked="" type="checkbox"/> |
| IMO Number | <input checked="" type="checkbox"/> |
| LOA, GRT, HP | <input checked="" type="checkbox"/> |
| Main gear(s) operation | <input checked="" type="checkbox"/> |
| Electronics (GPS, sonar) | <input checked="" type="checkbox"/> |
| Home port | <input checked="" type="checkbox"/> |

| At fishing operation please check if the following information is recorded | <input checked="" type="checkbox"/> YES | Start operation | End operation |
|--|---|-------------------------------------|-------------------------------------|
| | Fishing on FADs or not | <input type="checkbox"/> | |
| Gear type | <input checked="" type="checkbox"/> | | |
| Geo-position (lat - lon) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Date/Type operation | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Bait type | <input checked="" type="checkbox"/> | | |
| Crew number | <input checked="" type="checkbox"/> | | |

| Environmental data recorded | <input checked="" type="checkbox"/> YES |
|-----------------------------|---|
| Sea surface temperature | <input checked="" type="checkbox"/> |
| At gear catch sea temp. | <input checked="" type="checkbox"/> |
| Depth of gear operation | <input checked="" type="checkbox"/> |
| Wind speed and direction | <input checked="" type="checkbox"/> |
| Other environmental data | |

Observer Program: Qualifications and Training

| Observers qualifications and training | Before enter obs. program | Eval. during prg. |
|--|-------------------------------------|-------------------------------------|
| Minimum qualifications describe | | |
| Training course | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Training materials and forms | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Observer evaluation(s) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Validation of data recorded | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| On vessel training/supervision | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |