



# Sri Lanka Longline FIP Bulletin No. 7

The new Sri Lanka longline fishery improvement project (FIP) is an initiative of the Seafood Exporters' Association of Sri Lanka (SEASL). The FIP is a tripartite collaboration by the SEASL with government authorities responsible for the regulation and management of the fishery and export promotion and the longline boat owners' associations engaged in harvesting **yellowfin** and **bigeye tuna** and **swordfish**. The FIP's goal is to ensure that these fisheries can continue indefinitely at a level that maintains the biological health & abundance of yellowfin and bigeye tuna and swordfish stocks and the diversity, structure and function of the habitats and ecosystem upon which these fisheries depend. The FIP aims to minimize any adverse effects the fishery may cause by means of a management system implemented in conformity with national and international laws. Details of actions recently implemented by the members of the new longline FIP to improve the fishery are described in the 7<sup>th</sup> edition of the Sri Lanka Longline FIP Bulletin.

**The following Sri Lankan seafood manufacturers, organisations, agencies are members of the longline FIP**

Ceylon Fresh Seafood



Tropic  
SRI LANKA



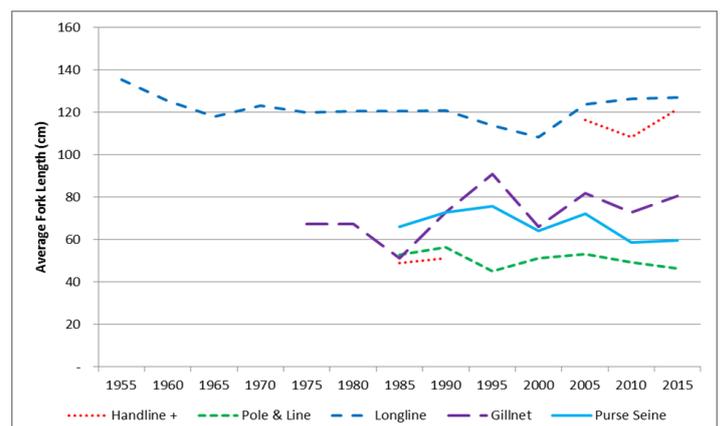
Longline Boat  
Owners' Associations

## Improvements to the biological status of the fisheries

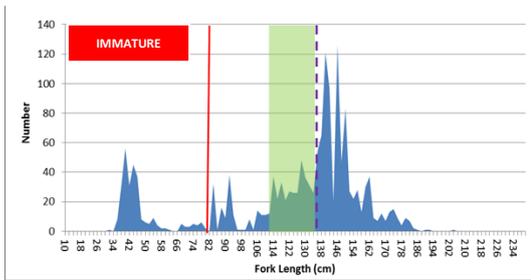
A paper entitled 'An application of length-based assessment methods to Indian Ocean fisheries for yellowfin tuna (*Thunnus albacares*) between 1955 and 2015: implications for sustainable fisheries management' was presented at the **22<sup>nd</sup> Working Party on Tropical Tunas** held between 19<sup>th</sup> and 23<sup>rd</sup> October<sup>1</sup>. The paper noted that conventional stock assessment methods require a lot of scientific knowledge and a large quantity of catch and effort data to assess the status of a simple fishery. The paper argued that the Indian Ocean yellowfin tuna (*Thunnus albacares*) fishery is not a simple 'fishery'; it is an assemblage of many different fisheries. The complexity, uncertainty and data deficiencies inherent in each of these fisheries makes it difficult to predict the impact of a fishery on the stock, using conventional stock assessment methods.

The authors then applied five length-based assessment methods (1) *Change in average length*; (2) *Percentage of mature fish* in the catch; (3) *Percentage of fish caught at optimum length*; (4) *Percentage of mega-spawners* in the catch and (5) *Length-based spawning potential ratio* to size frequency data from five IO YFT fisheries – handline and trolling line, pole and line, longline, gillnet and purse seine - between 1955 and 2015. The immediate objective was not to estimate the status of the stock at five yearly intervals, but to investigate what – *if anything* - these simple methods could tell fishery managers about the likely impact of these fisheries on the stock?

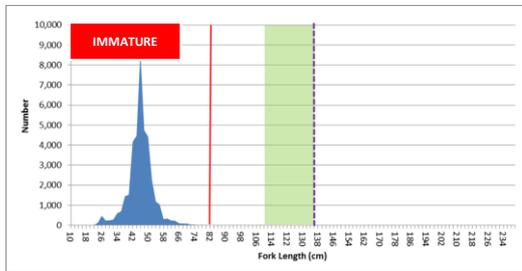
**Change in average length:** A constant or increasing average size indicates a stable / positive / sustainable impact on the stock. Decreasing average size is a sign a negative impact on the stock. The average length of YFT caught using longline has remained reasonably constant since 1965 ( $\approx 120$  cm). The size of YFT caught using trolling line and handlines has increased since 2010 ( $\approx 110$  cm). The average size of YFT caught using gillnet increased from  $\approx 55$ cm in 1985 to 80 cm in 2015. The average size of YFT caught using pole and line ( $\approx 50$  cm) and purse seine ( $\approx 65$  cm) has decreased since 1985



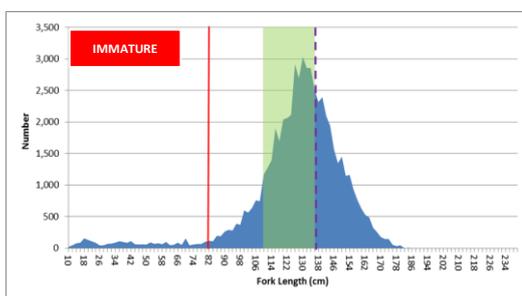
<sup>1</sup> <https://iotc.org/documents/WPTT/2202/22>



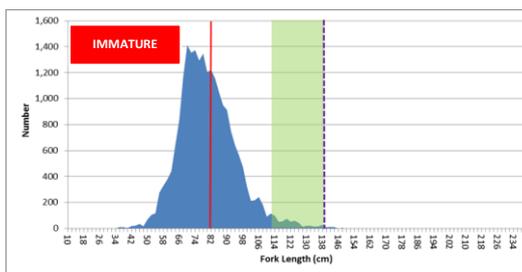
**Handline and trolling line fisheries:** No mature fish, no YFT caught at optimum length and no mega-spawners were observed in the catch in the 1980s. However, by 2015 (see left) XX% of fish caught using handlines and trolling lines were mature (to the right of the Red Line); 24% were caught at optimum size (Green Box) and 50% were mega-spawners (to the right of Purple Line).



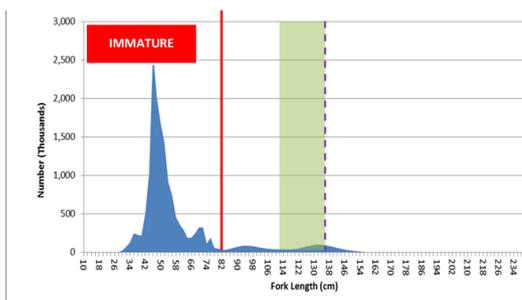
**Pole and line fisheries:** Mature fish were rarely caught (12%) or absent entirely (0%) in the catch after 1995. Less than 2% of the catch was harvested at optimum length between 1995 and 2015. Mega-spawners were rarely seen catch between 1985 and 2005. 99.98% of YFT caught using pole and line were immature in 2015 (see left). No fish were caught at optimum size and there were no meg-spawners in the catch.



**Longline fisheries:** The percentage of mature fish in the catch remained above 84% between 1955 and 2015 and above 95% after 2005. The percentage of YFT harvested at optimum length was around 50% between 1955 and 2015. Since 2005 the percentage of mega-spawners in the catch increased steadily, reaching 34% in 2015 (see left). 50% of YFT were caught at the Optimum Size in 2015 and 95% of the fish caught were mature.



**Gillnet fisheries:** The percentage of mature fish harvested using gillnet increased from 15% in 2000 to 38% in 2015 (see left). The percentage of YFT caught at Optimum Sized declined to 3% in the gillnet catch in 2015. Mega-spawners were rarely harvested using gillnet (maximum 3% in 1995). Only 0.3% of the fish caught by gillnet fisheries in 2015 were mega-spawners.



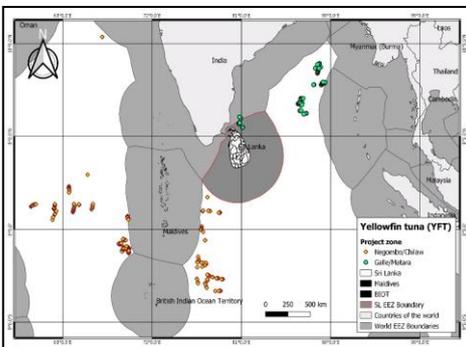
**Purse seine fisheries:** The percentage of mature YFT harvested by purse seine fisheries peaked in 1995 (33%), then declined steady to its lowest value of 8% in 2010. Only 12% of the fish harvested by purse seine fisheries were mature in 2015 (see left). The percentage of fish caught at Optimum Size declined to 5% by 2015. Mega-spawners were rarely harvested between 1985 and 2015 (maximum 7% in 1985). Only 2% of the YFT harvested using purse seine in 2015 were mega-spawners.

The results of the study suggest that different fisheries have different impacts on the stock. Longline and hand line / trolling lines fisheries most closely corresponded to the Target Reference Points for sustainable fishing. Pole and line and purse seine generated the least favourable results for all five assessment methods. Equipped with such knowledge fishery managers can formulate locally appropriate harvest control tools to reduce their fisheries' impact on the IO YFT stock. Extrapolating from the results suggested that 207,170 MT of the *T. albacares* harvested in 2015 (407,573 MT) were immature (52%) and only 47,147 MT were caught at Optimum Size (12%). The paper argued that although the annual yield in 2015 was numerically similar to the IOTC's estimate of MSY (403,000 MT), it is unlikely that this yield was sustainable due to the composition of the catch (i.e. 52% immature / 12% optimum size). The results cast doubt on whether the harvest control tools proposed by IOTC analysts and lobbyists to rebuild the IO YFT stock and achieve MSY (i.e. catch reductions of 5% - 25%) will be effective, if the harvest strategies used to catch IO YFT remain unchanged.

## Improvements to the ecological status of the fisheries

Seventeen (17) skippers operating < 24 m longline multi-day fishing vessels were trained by pelagikos pvt ltd to collect IOTC fisheries data and information using a new Local Observer (LO) information and data collection protocol between July 2020 and December 2020. In the third phase of the LO programme data was collected from twenty-one (21) fishing trips. LO returned with independently verifiable digital (*see right and below*) for one or more longline sets. Most of the skippers collected data from two trips. The third phase of the LO programme was conducted in four fisheries districts, Negombo and Chilaw on the west coast and Matara and Galle on the south coast. Eleven (11) skippers were trained in Negombo/Chilaw and six (6) skippers were trained in Matara/Galle fisheries districts respectively.

The updated, improved protocol enabled LOs to collect more fisheries information and data as required by the IOTC data collection sheet (59 variables) compared to previous deployment of LOs (40 variables in 2<sup>nd</sup> phase and 36 variables in 1<sup>st</sup> phase). 100% of the IOTC's minimum reporting requirements for tuna and tuna-like species in the IOTC's area of competence were successfully collected from 66 sets over a period of six months. Using the updated, improved protocol LOs collected 100% Observer and deployment information, 94% of the trip information, 93% of the gear information, 98% of the set information, 174% of the catch data and 97% of the scientific data required by the IOTC for longline catch reporting. The size of yellowfin tuna (YFT) caught ranged from 72 - 192 cm. The average length was 127 cm  $\pm$  0.86. The average weight of YFT caught was 37 kg  $\pm$  0.59.



The results of the 3<sup>rd</sup> phase of the LOs further demonstrated the effectiveness of the LO information and data collection protocol to collect independently verifiable catch and other scientific data related to fisheries from Sri Lanka's large fleet (> 400) of small-scale (< 24 m) longline fishing vessels, which fish beyond Sri Lanka's EEZ. Information and data about endangered, threatened and protected (ETP) species (e.g. oceanic whitetip shark and turtles see *bottom right*) accidentally caught by longline fishing vessels is also collected and analysed using the LO protocol.

Over past two years the FIP has systematically collected and analysed information and data from 154 longline sets using the LO protocol. The information and data describing the retained and discarded catch – including ETP species - suggests that Sri Lanka's longline fisheries for yellowfin and bigeye tuna and swordfish has a good chance to move from **FAIL** to a **PASS with conditions** against the Marine Stewardship Council's Principal Indicators 2.3.1 (ETP Outcome) and 2.3.3 (ETP Information) in early 2021.



## Improvements to the management of the fisheries

Officers from the MFAR, DFAR and NARA participated in the 6<sup>th</sup> Session of the Technical Committee on Allocation Criteria (15/09/2020 to 16/09/2020); the 16<sup>th</sup> Working Party on Ecosystems and Bycatch (15/09/2020 to 16/09/2020); the 18<sup>th</sup> Working Party on Billfish (07/09/2020 to 10/09/2020) and the IOTC's 11<sup>th</sup> Working Party on Methods (14/11/20 to 12/11/20) during the reporting period. The DFAR presented a paper entitled 'a new protocol to collect verified scientific data on catch including bycatch information using crew-based observers on small size longline tuna fishing vessels (<24m) in Sri Lanka' at the 16<sup>th</sup> Working Party on Data and Statistics (30/11/20 to 02/12/20)<sup>2</sup>. The paper summarized the research and development of the Local Observer (LO) protocol that has been used by the FIP to collect independently verifiable information and scientific data from < 24 m longline fishing vessels. The LO protocol received support from coastal states as well as the IOTC Secretariat, as an alternative approach to meet the IOTC's commitment for Observers on < 24 m vessels. The MFAR submitted Sri Lanka's report to the 17<sup>th</sup> Session of the Compliance Committee in October<sup>3</sup> and Sri Lanka's National Report at the 23<sup>rd</sup> Session of the Scientific Committee in December<sup>4</sup>.

## Status Update – Marine Stewardship Council and Fisheryprogress

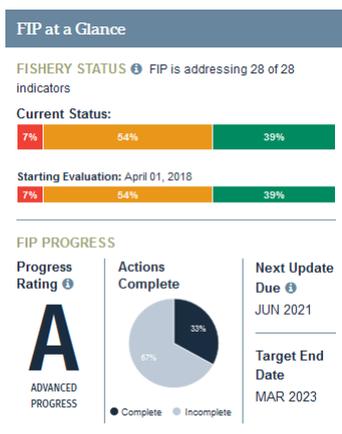
### Marine Stewardship Council's (MSC) Fishery Standard

Performance Indicators	Overall	≥80	60-79	<60
Yellowfin Tuna	0.68	12	14	02
Bigeye Tuna	0.69	12	13	02
Swordfish	0.69	12	13	02

Information and scientific data collected by the FIP using the LO protocol suggests that Sri Lanka's longline fishery for yellowfin and bigeye tuna and swordfish have a good chance to pass a Full Assessment against the MSC Fishery Standard in 2021. The results of a Pre Assessment (PA) in 2018

suggested the fisheries were operating at a level consistent with a **PASS with conditions** of MSC's Fishery Standard (SG > 0.60), but all three fisheries **FAILED** the PA because two PIs for ETP species scored < 0.60. The PA was conducted by MSC approved consultants at **Cap Marine (Pty) Ltd**, co-financed by **New England Seafood International Pvt Ltd**.

### Fisheryprogress.org



The progress made by the FIP to improve the biological and ecological status and the management of Sri Lanka's longline fisheries for yellowfin and bigeye tuna and swordfish was uploaded to the fisheryprogress.org web site at the end of December. The FIP's Progress Rating is A (Advanced Progress). 53% of the FIP's Actions have been completed. The next update is due in June 2021. The following actions are necessary to further improve Sri Lanka's longline fishery

- 1) Continue to collect IOTC fisheries information and scientific data using the Local Observer protocol with LOs on the west and south coasts
- 2) Develop and introduce a procedure that will ensure the successful live release of ETP species accidentally caught by the longline fishery
- 3) Develop and implement a policy / procedure to respond to IOTC's Harvest Control Strategy, Rules & Tools for yellowfin and bigeye tuna and swordfish
- 4) Improve the collection and analysis of IOTC fisheries information and data by the National Observer Programme on > 24 m vessels
- 5) Review and update the NPOA IUU Fishing 2018 – 2022

Seven of Sri Lanka's leading seafood manufacturers are Corporate Members of the longline FIP  
**Ceylon Fresh Seafood Pvt Ltd, Global Seafood Pvt Ltd, Jay Seafood Processing Pvt Ltd, John Seafood Pvt Ltd, Lihini Seafood Pvt Ltd, North West Fisheries Pvt Ltd and Tropic Sri Lanka Pvt Ltd**

Soft copies of this and previous editions of the Sri Lanka Longline FIP Bulletin are available in English and Sinhala. To obtain copies of the bulletins or more details about the new Sri Lanka longline FIP please email [steve@pelaqikos.lk](mailto:steve@pelaqikos.lk)

<sup>2</sup> <https://iotc.org/documents/WPDCS/16/12>

<sup>3</sup> <https://iotc.org/sites/default/files/documents/2020/08/IOTC-2020-CoC17-IR26EF-LKA.pdf>

<sup>4</sup> [https://iotc.org/sites/default/files/documents/2020/11/IOTC-2020-SC23-NR21\\_-\\_Sri\\_Lanka.pdf](https://iotc.org/sites/default/files/documents/2020/11/IOTC-2020-SC23-NR21_-_Sri_Lanka.pdf)