
ANNOTATED AGENDA FOR THE 20TH WORKING PARTY ON ECOSYSTEMS AND BYCATCH: DATA PREPARATORY MEETING

Last updated: March 2024

Date: 22-26 April 2024

Location: Online

Time: 12:00 – 16:00 (Seychelles time, GMT+4)

Chair: Dr Mariana Tolotti (EU, France)

Vice-Chairs: Mr Mohammed Koya (India) and Dr Charlene da Silva (South Africa)

1. OPENING OF THE MEETING (Chair)

2. ADOPTION OF THE AGENDA AND ARRANGEMENTS FOR THE SESSION (Chair)

- IOTC-2024-WPEB20(DP)-01a: Agenda of the 20th Working Party on Ecosystems and Bycatch (Data Preparatory Meeting)
- IOTC-2024-WPEB20(DP)-01b: Annotated agenda of the 20th Working Party on Ecosystems and Bycatch (Data Preparatory Meeting)
- IOTC-2024-WPEB20(DP)-02: List of documents of the 20th Working Party on Ecosystems and Bycatch (Data Preparatory Meeting)

3. LONGLINE BYCATCH MITIGATION MEASURES WORKSHOP

3.1. All/several measures combined/overview

3.1.1 All taxa

- IOTC-2024-WPEB20(DP)-04: A review of reported effects of pelagic longline fishing gear configurations on target, bycatch and vulnerable species (C. C. Santos, D. Rosa, J. M. S. Gonçalves and R. Coelho)
- IOTC-2024-WPEB20(DP)-05: A cross-taxa assessment of pelagic longline bycatch mitigation measures: conflicts and mutual benefits to elasmobranchs (E. Gilman, M. Chaloupka, Y. Swimmer and S. Piovano)
- IOTC-2024-WPEB20(DP)-07: What's the catch? Examining optimal longline fishing gear configurations to minimise negative impacts on non-target species (M. Scott, E. Cardona, K. Scidmore-Rossing, M. Royer, J. Stahl and M. Hutchinson)
- IOTC-2024-WPEB20(DP)-08: Technical mitigation techniques to reduce bycatch of sharks: there is no silver bullet (D. Drynan and G. B. Baker)

Information papers:

- IOTC-2024-WPEB20(DP)-INF01: Bycatch mitigation of protected and threatened species in tuna purse seine and longline fisheries (Y. Swimmer, E. A. Zollett and A. Gutierrez)
- IOTC-2024-WPEB20(DP)-INF02: Bycatch in longline fisheries for tuna and tuna-like species: a global review of status and mitigation measures. (S. Clarke, M. Sato, C. Small, B. Sullivan, Y. Inoue and D. Ochi)
- IOTC-2024-WPEB20(DP)-INF03: Robbing Peter to pay Paul: Replacing unintended cross-taxa conflicts with intentional tradeoffs by moving from piecemeal to integrated fisheries bycatch management (E. Gilman, M. Chaloupka, L. Dagorn, M. Hall, A. Hobday, M. Musyl, T. Pitcher, F. Poisson, V. Restrepo and P. Suuronen)

- IOTC-2024-WPEB20(DP)-INF04: Identification of factors influencing shark catch and mortality in the Marshall Islands tuna longline fishery and management implications (D. Bromhead, S. Clarke, S. Hoyle, B. Muller, P. Sharples and S. Harley)
- IOTC-2024-WPEB20(DP)-INF05: Analyses of the Potential Influence of Four Gear Factors (leader type, hook type, “shark” lines and bait type) on shark catch rates in WCPO tuna longline fisheries (D. Bromhead, J. Rice and S. Harley)
- IOTC-2024-WPEB20(DP)-26: Assessing the effects of hook, bait and leader type as potential mitigation measures to reduce bycatch and mortality rates of shortfin mako: a meta-analysis with comparisons for target, bycatch and vulnerable fauna interactions (D. Rosa, C. C. Santos and R. Coelho)

3.1.2 Sharks

- IOTC-2024-WPEB20(DP)-9: Statistical and Monte Carlo Analysis of the Hawaii Deep-Set Longline Fishery with Emphasis on Take and Mortality of Oceanic Whitetip Shark (K. Bigelow and F. Carvalho)
- IOTC-2024-WPEB20(DP)-10: Review of potential mitigation measures to reduce fishing-related mortality on silky and oceanic whitetip sharks (Project 101) WCPFC-SC17-2021/EB-WP-01 (K. Bigelow and F. Carvalho)
- IOTC-2024-WPEB20(DP)-16: Review of research on future projections and potential mitigation measures to reduce fishing related mortality on oceanic whitetip sharks (J. Rice)

Information papers:

- IOTC-2024-WPEB20(DP)-INF06: Shark bycatch and mortality and hook bite-offs in pelagic longlines: Interactions between hook types and leader materials (A. S. Afonso, R. Santiago, H. Hazin and F. H. V. Hazin)
- IOTC-2024-WPEB20(DP)-INF07: Fisheries bycatch of Sharks: Options for Mitigation. PEW Ocean Science Series (A. Cosandey-Godin and A. Morgan)
- IOTC-2024-WPEB20(DP)-INF08: Monte Carlo simulation modelling of possible measures to reduce impacts of longlining on oceanic whitetip and silky sharks (S. Harley, B. Caneco, C. Donovan, L. Tremblay-Boyer and S. Brouwer)

3.2. Leader type/shark lines

Discussion point: Benefits in reduction of shark mortality via a ban of wire traces and shark lines

- IOTC-2024-WPEB20(DP)-11: A review of the influence of wire leaders and shark lines on shark bycatch in pelagic longline fisheries (B. D'Alberto, H. Patterson and D. Bromhead)

Information papers:

- IOTC-2024-WPEB20(DP)-INF09: Effects of leader material on catches of shallow pelagic longline fisheries in the southwest Indian Ocean (M. N. Santos, P. G. Lino and R. Coelho)
- IOTC-2024-WPEB20(DP)-INF10: Large-scale experiment shows that nylon leaders reduce shark bycatch and benefit pelagic longline fishers (P. Ward, E. Lawrence, R. Darbyshire and S. Hindmarsh)

3.3. Hook type

Discussion point: benefits from other longline gear modifications such as hook type

- IOTC-2024-WPEB20(DP)-12: A review of the effect of circle hooks on retention and at-haulback mortality (B. Keller and J. Reinhardt)
- IOTC-2024-WPEB20(DP)-13: Multifaceted effects of bycatch mitigation measures on target/non-target species for pelagic longline fisheries and consideration for bycatch management (D. Ochi, K. Okamoto and S. Uneo)

Information papers:

- IOTC-2024-WPEB20(DP)-INF11: Catch rate and at-vessel mortality of circle hooks versus J-hooks in pelagic longline fisheries: A global meta-analysis (J. Reinhardt, J. Weaver, P. J. Latham, A. Dell’Apa, J. E. Serafy, J. A. Browder, M. Christman, D. G. Foster and D. R. Blankinship)
- IOTC-2024-WPEB20(DP)-INF12: Fishing gear modifications to reduce elasmobranch mortality in pelagic and bottom longline fisheries off northeast Brazil (A. S. Afonso, F. H. V. Hazin, F. Carvalho, J. C. Pacheco, H. Hazin, D. W. Kertstetter, D. Murie and G. H. Burgess)
- IOTC-2024-WPEB20(DP)-INF13: Effects of hook and bait on targeted and bycatch fishes in an equatorial Atlantic pelagic longline fishery (R. Coelho, M. N. Santos and S. Amorim)
- IOTC-2024-WPEB20(DP)-INF14: The effect of hook type and trailing gear on hook shedding and fate of pelagic stingray (*Pteroplatytrygon violacea*): New insights to develop effective mitigation approaches (F. Poisson, S. Catteau, C. Chiera and J-M. Groul)
- IOTC-2024-WPEB20(DP)-INF15: The effect of circle hooks vs J hooks on the at-haulback survival in the US Atlantic pelagic longline fleet (G. A. Diaz)
- IOTC-2024-WPEB20(DP)-INF16: Influence of hook type on catch of commercial and bycatch species in an Atlantic tuna fishery (H-W. Huang, Y. Swimmer, K. Bigelow, A. Gutierrez and D. G. Foster)
- IOTC-2024-WPEB20(DP)-INF17: Circle hooks in commercial, recreational and artisanal fisheries: research status and needs for improved conservation and management (J. E. Serafy, S. J. Cooke, G. A. Diaz, J. E. Graves, M. Hall, M. Shivji and Y. Swimmer)
- IOTC-2024-WPEB20(DP)-INF18: Circle hook effectiveness for the mitigation of sea turtle bycatch and capture of target species in a Brazilian pelagic longline fishery (G. Sales, B. B. Giffoni, F. N. Fiedler, V. G. Azevedo, J. E. Kotas, Y. Swimmer and L. Bugoni)
- IOTC-2024-WPEB20(DP)-INF19: Effects of 17/0 circle hooks and bait on sea turtles bycatch in a Southern Atlantic swordfish longline fishery (M. N. Santos, R. Coelho, J. Fernandez-Carvalho and S. Amorim)

3.4. Other measures

Discussion points:

- Additional measures and practices potentially suitable to reduce bycatch of sensitive shark species and increase their survival after release
- Discussion of additional benefits and/or trade offs for other species and priorities for implementation

- IOTC-2024-WPEB20(DP)-14: Effect of pelagic longline bait type on species selectivity: a global synthesis of evidence (E. Gilman, M. Chaloupka, P. Bach, H. Fennell, M. Hall, M. Musyl, S. Piovano, F. Poisson and L. Song)
- IOTC-2024-WPEB20(DP)-15: Quantitative estimates of post-release survival rates of sharks captured in Pacific tuna longline fisheries reveal handling and discard practices that improve survivorship (M. Hutchinson, Z. Siders, J. Stahl and K. Bigelow)

Information papers:

- IOTC-2024-WPEB20(DP)-INF20: Individual and fleetwide bycatch thresholds in regional fisheries management frameworks (E. Gilman, M. Chaloupka, L. Bellquist, H. Bowlby and N. Taylor)
- IOTC-2024-WPEB20(DP)-INF21: Phylogeny explains capture mortality of sharks and rays in pelagic longline fisheries: A global meta-analytic synthesis (E. Gilman, M. Chaloupka, L. R. Benaka, H. Bowlby, M. Fitchett, M. Kaiser and M. Musyl)
- IOTC-2024-WPEB20(DP)-INF22: Global governance guard rails for sharks: Progress towards implementing the United Nations international plan of action (E. Gilman, M. Chaloupka, N. Taylor, L. Nelson, K. Friedman and H. Murua)
- IOTC-2024-WPEB20(DP)-INF23: Postrelease survival, vertical and horizontal movements, and thermal habitats of five species of pelagic sharks in the Central Pacific Ocean (M. Musyl, R. Brill, D. S. Curran, N. M. Fragoso and L. McNaughton)

- IOTC-2024-WPEB20(DP)-INF24: Modeling bycatch abundance in tropical tuna purse seine fisheries on floating objects using the Δ method (A. Dumont, A. Duparc, P. S. Sabarros, D. M. Kaplan)

4. REVIEW OF THE DATA AVAILABLE AT THE SECRETARIAT FOR BYCATCH SPECIES AND BYCATCH DATA ESTIMATION APPROACHES (All)

- IOTC-2024-WPEB20(DP)-03: Review of the statistical data and fishery trends for ecosystems and bycatch species (IOTC Secretariat)
- IOTC-2024-WPEB20(DP)-17: A summary of key information pertaining to pelagic shark catches, status and management in the IOTC (H. Patterson, B. D’Alberto, and D. Bromhead)

5. REVIEW INFORMATION ON BIOLOGY, ECOLOGY, FISHERIES AND ENVIRONMENTAL DATA RELATING TO SHORTFIN MAKO SHARK (All)

5.1. Review new information on the biology, stock structure, their fisheries and associated environmental data for shortfin mako shark

- Catch and effort
- Observer data
- Catch at size
- Catch at age
- Biological indicators, including age-growth curves and age-length keys
- IOTC-2024-WPEB20(DP)-19: Information on the catch of shortfin mako (*Isurus oxyrinchus*) caught by Japanese longline fishery in the Indian Ocean after 2018 (Y. Semba and M. Kai)

6. REVIEW OF NEW INFORMATION ON THE STATUS OF SHORTFIN MAKO SHARK (Chair)

6.1. Nominal and standardised CPUE indices

- IOTC-2024-WPEB20(DP)-20: Updated fishery indicators for shortfin mako shark (*Isurus oxyrinchus*) caught by the Portuguese pelagic longline fishery in the Indian Ocean, between 1999-2022: Catch, effort and standardised CPUEs (R. Coelho, D. Rosa and P. G. Lino)
- IOTC-2024-WPEB20(DP)-21: Updated standardized catch rates of shortfin mako (*Isurus oxyrinchus*) inferred from the Spanish surface longline fishery in the Indian Ocean during the period 2001-2022 (J. Fernández-Costa, A. Ramos-Cartelle, B. García-Cortés and J. Mejuto)
- IOTC-2023-WPEB19-22: Historical standardised CPUEs for the Indian Ocean shortfin mako (*Isurus oxyrinchus*) for 1966 through 1989 with catch estimation (E. Gee, E. V. Romanov, D. Curnick, B. Block and F. Ferretti)

6.2. Other abundance indices

Information papers:

- IOTC-2023-WPEB19-INF36: Analysis of the Marine Stewardship Council’s policy on shark finning and the opportunity for adoption of a ‘Fins naturally attached’ policy in the MSC fisheries standards review (I. Ziegler, A. Hammond, S. Millward, K. Woodroffe, C. Vail, L. Guida, A. Hofford, R. Arauz)
- IOTC-2023-WPEB19-20: Historical standardised CPUEs of seven shark species in the Indian Ocean with preliminary catch estimation (E. Gee, E. Romanov, D. Curnick, B. Block and F. Ferretti)

6.3. Development of shark research work plan for scalloped hammerhead shark (all)

Information paper:

- IOTC-2024-WPEB20(DP)-INF25: Draft terms of reference for a consultancy to develop a research prioritisation plan for scalloped hammerhead shark

7. STOCK ASSESSMENT AND INDICATORS FOR SHORTFIN MAKO SHARK (Chair)

7.1. Review of indicators (all)

7.2. Discussion on shortfin mako assessment models to be developed and their specifications

Information papers:

- IOTC-2018-WPEB14-37: A preliminary stock assessment for the shortfin mako shark in the Indian Ocean using data-limited approaches (T. Brunel, R. Coelho, G. Merino, J. Ortiz de Urbina, D. Rosa, C. Santos, H. Murua, P. Bach, S. Saber and D. Macias)

8. REVIEW OF THE DRAFT, AND ADOPTION OF THE REPORT OF THE 20TH SESSION OF THE WORKING PARTY ON ECOSYSTEMS AND BYCATCH (DATA PREPARATORY) (Chair)