Co-Designing a Trial for reduction of cetacean bycatch: A Proposal for Collaborative Bycatch Mitigation Research

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In accordance with Resolution 23/06 and recommendations from several WPEB meetings, the IWC is proposing three potential projects for cetacean bycatch monitoring and mitigation. These are summarised as follows: 1. Pilot study to further investigate sub-surface gillnets as a mitigation measure 2. Developing a roadmap for reducing cetacean bycatch in the Indian Ocean, and 3. Analysing a new long-term dataset from Pakistan's small-scale fleet. IWC would appreciate any feedback on which of these initiatives would be more valuable in the context of IOTC, as well as suggestions for locations and project partners with which IWC should collaborate.

1. Background and Rationale

The IOTC has recognised the importance of addressing cetacean bycatch in its fisheries and has taken several steps to build capacity and improve knowledge in this area. In 2023, the IOTC signed a Cooperation Agreement with the International Whaling Commission (IWC) to strengthen expertise within the Scientific Committee on cetacean bycatch issues. This collaboration is consistent with the IOTC's obligations under Resolution 23/06, which mandates the Scientific Committee to review information on cetacean status and provide advice to the Commission by 2025 on appropriate measures to mitigate negative interactions with IOTC fisheries.

Scientific evidence underscores the urgency of this work. Paper IOTC-2020- WPEB16-22 acknowledged that cetacean populations in the Indian Ocean may have been reduced to low levels, highlighting the importance of robust monitoring and the collection of species-specific bycatch data. More recent assessments show that 48 cetacean species occur in the IOTC area with 26 known to interact with gillnets (IOTC-2023-WPEB19-24_rev3). Gillnets pose the highest overall risk, specifically to small oceanic delphinids. The WPEB has therefore recommended the need for targeted mitigation trials in drift gillnet fisheries, building on experiences in Pakistan (Kiszka et al., 2021) as well as incentives for mitigation testing, transitions to sub-surface gear, and exploration of alternative gears adapted to local conditions (IOTC-2023-WPEB19-R[E]_rev2, IOTC-2023-WPEB19-INF03).

Similarly, workshops and expert panels have repeatedly emphasised the need for expanded data collection and testing of practical mitigation measures. The 2022 IOTC–WWF workshop on multi-taxa bycatch mitigation in gillnets highlighted the limited amount of scientific analysis currently available to evaluate sub-surface gillnet setting, and recommended wider trials supported by data-sharing from CPCs such as Indonesia and Sri Lanka, where this gear configuration is already in use (IOTC & WWF, 2022). The IWC Scientific Committee and IWC Bycatch Mitigation Initiative (BMI) have identified the Indian Ocean as a priority region (SC20106), and a 2019 IWC- BMI workshop recommended a regional roadmap on bycatch reduction developed in collaboration with IOTC, FAO, CMS, and national governments (BMI1906,

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IWC, 2019). The 2019 IWC–IOTC workshop recommended continued collaboration and further joint activities on cetacean bycatch, and subsequent WPEB meetings have reiterated the need for mitigation trials, improved monitoring, and dedicated resources to address the issue (IOTC-2021-WPEB17(AS)-29).

Together, these recommendations provide a strong institutional and scientific basis for collaborative action. However, progress has been constrained by limited funding, small-scale pilot studies, and variable engagement across fleets. Building on this foundation, there is now an opportunity for IOTC, with the IWC and other partners, to support trials of sub-surface gillnets, develop a regional roadmap for bycatch reduction, and strengthen the evidence base for effective management measures.

2. Proposed Methodologies

At this stage, only one of the proposed projects can be taken forward, and we seek WPEB's guidance on which would be most valuable for the IOTC. Estimated funding available is USD 40–60k. The IWC is seeking additional or matching funds. All projects are intended for completion within the next 1.5 years.

a) Pilot Study: Sub-surface Gillnets

A first option is to pilot the use of sub-surface gillnets as a bycatch reduction method following the methodology presented in IOTC-2023-WPEB19-24_rev3 with possible trials in either Tanzania, Oman, Kenya, India, or Sri Lanka. This approach is supported by positive preliminary results and benefits from the identification of priority areas, existing local partners, and established IWC connections. In some cases, the work also aligns with national priorities, such as India's National Action Plan and Oman's conservation objectives (IOTC-2025-WPEB21(AS)-44), while in other areas it could help address requirements under the MMPA Regulation. However, the trial may face challenges including small sample sizes due to limited funding and conditional engagement from fishers, highlighting the need for collaborative support.

b) Consultancy: Roadmap for Bycatch Reduction in the Indian Ocean

A second proposal is to appoint a consultancy to develop a roadmap for bycatch reduction in the Indian Ocean, either at the level of CPCs or for the IOTC as a whole. This roadmap could build on templates developed by ICES and for Tunago (Gilman et al., 2021; ICES, 2022), and would include a review of bycatch in the region and recommendations from previous IOTC meetings and other IGOs, accompanied by a flowchart of the current data and advice processes. Consultations with key CPCs would ensure recommendations are still up-to-date and practical, while a comparative table of mitigation methods, including associated costs, timelines, and implementation scenarios, would provide a structured basis for decision-making. The consultancy would also propose a clear workplan for future actions.

c) Ecosystem Risk Assessment: WWF Pakistan Dataset Analysis

A third option is to carry out a comprehensive analysis of WWF-Pakistan's dataset collected from 13 gillnet vessels between 2012 and 2019, which includes cetacean sightings and bycatch records. This work would provide a new long-term dataset for the region, allowing detailed assessment of cetacean interactions in gillnet fisheries and supporting conservation planning. The dataset has not yet been fully

analysed or assessed for quality, but it could provide a valuable resource for understanding cetacean bycatch once reviewed.

3. Call for Feedback and Collaboration

The IWC would welcome advice from the WPEB on how best to shape future collaborative work on cetacean bycatch. In particular, the IWC seeks input on:

- Which of the proposed projects and/or CPCs appear most feasible and valuable for the IOTC context
- Potential project partners that the IWC should engage with during implementation
- Any alternative or additional initiatives that the WPEB considers more relevant or useful for the IOTC.

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