

Report on the Bycatch Mitigation Initiative 2016-2018

Submitted by the Chair of the Standing Working Group on Bycatch
September 2018

Summary

This report summarises progress in the development of the Bycatch Mitigation Initiative since its establishment at IWC66 and provides a set of recommendations in relation to the next phase of implementation.

The Conservation Committee is asked to consider and endorse all the recommendations in Section 3 of this report, including the relevant documents (BMI Strategic Plan and the costed Workplan) for the BMI and to forward these recommendations for endorsement by the Commission.

1. Background

At its 66th meeting in 2016, the Commission endorsed the recommendations of the Conservation Committee (CC) and Scientific Committee (SC) to create a dedicated IWC bycatch workstream on cetacean bycatch through the establishment of the Bycatch Mitigation Initiative- with a Standing Working Group (SWG) on Bycatch under the Conservation Committee; a Bycatch Coordinator within the Secretariat; and an Expert Panel.

2. Summary of progress

2.1 Standing Working Group on Bycatch

The Standing Working Group on Bycatch was formed in March 2017 and elected Stephanie Langerock, Belgium, as its Chair. The SWG membership (Annex 1B) includes representatives from fifteen contracting governments and seven accredited observer organisations. Membership to the SWG remains open.

2.2 Terms of Reference- Bycatch Standing Working Group and Expert Panel

A working version of the Terms of Reference (ToR) for the Bycatch Mitigation Initiative, including the Bycatch SWG was developed and agreed by the Standing Working Group 2017. Furthermore, the Standing Working Group also developed the job description for the Bycatch Coordinator. The ToR for the Standing Working Group and the Expert Panel were refined and agreed by the SWG (see Annex 1a and 2) in September 2018. Both ToR are put forward for endorsement by the Conservation Committee and the Commission at IWC67.

The overall aims of the BMI and the interaction with different parts of the IWC is outlined in the strategic plan and in the workplan and the Coordinator's role is clearly outlined in their Secretariat job description.

2.3 Recruitment of bycatch coordinator

The Secretariat advertised the Bycatch Coordinator position as an employment or secondment opportunity on a full time, fixed term basis until the end of October 2018, with extension subject to available funds and approval by the Commission at IWC67.¹ Following a sift of applications and

¹ The vacancy was widely disseminated through IWC and external networks. 30 applications were received from 9 countries and representing a strong and competitive field. Two representatives from the SWG agreed to serve on the selection panel for the post, along with the interim bycatch coordinator and Secretariat representatives

interviews, the successful candidate, Marguerite Tarzia, was appointed to the post and started this in January 2018.

2.4 Expert Panel on bycatch

Nominations to the Expert Panel were sought at the beginning of 2018 (see Annex 2B). Forty-one nominations were received and twenty-three experts were selected from a range of multi-disciplinary backgrounds², based on an initial sift by a small group³, with proposals presented to the SWG for comments and endorsement. Some gaps remain in the geographic representation and expertise of the Expert Panel and efforts continue to be made to address this- with the Expert Panel and SWG asked to provide additional suggestions of potential nominees. A review of membership is planned post-IWC67, with the possibility of adding experts to fill the identified gaps⁴.

The Expert Panel held a teleconference meeting, convened by the Bycatch Coordinator, in May 2018 and additional discussion was held electronically. Panel members reviewed and provided feedback on the Strategic Assessment (see 2.5) and divided into sub-groups to brainstorm and suggest activities for the BMI Workplan. Post-IWC67 and following Commission endorsement of the Workplan, the Panel will focus on identifying possible locations for pilot and/or affiliated projects, collaborate on funding proposals and assist in the implementation of the Workplan.

2.5 BMI strategic assessment

Prior to developing the Strategic Plan and Workplan for the BMI, the SWG recommended that the Bycatch Coordinator undertake a strategic assessment to evaluate the potential ways in which the IWC could have the most influence- and add the most value to existing efforts-in tackling cetacean bycatch. This was undertaken throughout 2018. The final version of the strategic assessment is provided in Annex 3.

The Coordinator used a theory of change framework to examine the main mechanisms and work areas for tackling bycatch and bringing about change at national to international levels. Existing relevant work at national, regional and international level were identified, as were gaps, synergies and potential collaborations. The strengths, weaknesses and challenges and opportunities for the IWC to influence within these mechanisms was then evaluated, resulting in the identification of priority work areas for the BMI to engage in either as a lead or in collaboration with others. The preliminary findings of the strategic assessment and recommendations were presented to the Conservation Committee Planning Group (CCPG) and Scientific Committee (SC 67B sub-committee for Non-deliberate Human-induced Mortality of Cetaceans- HIM) meetings by the Bycatch Coordinator (SC/67B/HIM/12 and IWC/MAY18/CCPG/04). The outcomes of the strategic assessment, considering feedback from the SC, CCPG and the Expert Panel were then used to develop the draft Strategic Plan and Workplan.

2.6 Strategic Plan

The draft Bycatch Mitigation Initiative Strategic Plan (IWC/67/CC/01) is presented for endorsement.

² The Expert Panel has expertise in, *inter alia*, cetacean ecology, bycatch assessment and monitoring, fisheries technology and mitigation, fisheries management and policy, fisheries economics and social science.

³ The selection group included the Chair of the Bycatch SWG, the Chair and Vice-Chair of the Conservation Committee, the Vice-Chair of the Scientific Committee, the Bycatch Coordinator and additional Secretariat

⁴ In addition to the Expert Panel, an open-membership and informal wider correspondence group was set up to make use of the wide-ranging expertise of nominees and other experts encountered as the BMI is established. The wider correspondence group will be kept informed of the BMI's work and their advice can be sought by the Coordinator, Panel and SWG on particular topics.

The Strategic Plan covers a period of ten years, from 2018 to 2028 and works across six main objectives including:

1. Programme coordination and fundraising
2. Identification of specific fisheries, cetacean species or populations where achievable management actions could be tested and/or introduced
3. Develop, test, demonstrate effective bycatch mitigation and monitoring solutions
4. Bring about change in attitudes within fishing communities towards cetacean bycatch mitigation
5. Raise awareness and capacity within national governments to tackle cetacean bycatch (where relevant and applicable)
6. Raise awareness of cetacean bycatch and available solutions within regional and international fisheries management organisations (where relevant and applicable)

2.7 Workplan

The BMI's costed Workplan (IWC/67/CC/02) is presented for endorsement.

The main elements of the BMI workplan include prioritised activities for the 2018-2020 period within each of the six strategic objectives. The estimated costs, potential funding sources and the identified lead actors and teams involved in implementation are provided. The Workplan indicates the relative prioritisation of activities as 'Core' (essential for the functioning of the BMI), 'Top' (the main focus of the BMI), and 'High' and 'Medium' priorities which will be developed where possible during the 2018-2020 implementation phase.

In the 2018-2020 period the focus of the BMI will be on setting up and implementing the Workplan. The Workplan provides opportunities for further scoping of potential collaborations and opportunities to work with others on cetacean bycatch. The 2018-2020 period will focus in particular on building the internal capacity of the BMI, including through fundraising, identifying and establishing pilot projects/linkages to affiliated projects and developing and strengthening collaborations. Pilot and affiliated projects will be identified (following Commission endorsement of the Workplan and discussion and agreement with relevant governments and collaborators) and used to test experimental approaches for tackling bycatch (assessment, mitigation, avoidance/ incentivising)- with lessons learnt forming the basis for information transfer to other bycatch situations. The BMI will also focus on scoping out opportunities for raising national and international awareness and capacity in relation to solutions and approaches for managing bycatch.

2.8 Resource needs for BMI, existing contributions & planned fundraising

Both the Strategic Plan and costed Workplan outline the financial resources needed to implement the Bycatch Mitigation Initiative, with the Workplan providing detailed estimates for the 2018-2020 period. Pilot projects are likely to need external fundraising efforts, and the Bycatch Coordinator is developing a fundraising strategy to match up potential projects with identified potential funding sources. It is proposed that programme continuation (through a 2-year extension to the bycatch coordinator contract) is funded, for the forthcoming biennium, through voluntary donations. To date, programme coordination has been funded by IWC Voluntary Conservation Funds, with funds generously provided by UK, France and several observer organisations. Further voluntary donations with respect to the 2018-2020 biennium have been received from New Zealand and the US but additional funding will be required. An application for further funds will therefore be submitted to the Voluntary Conservation Fund (Annex 4).

2.9 Role of the IWC Scientific Committee Meeting

The Bycatch Coordinator presented an overview of progress on the BMI, including the draft BMI Strategic Assessment SC/67B/HIM/12 to the SC's sub-committee on Non-deliberate Human-induced

Mortality of Cetaceans (HIM). in May 2018. The draft strategic assessment included specific recommendations on activities within the BMI that could be led by or include the active participation of the Scientific Committee and the HIM sub-committee in particular. The SC strongly endorsed the Strategic Assessment and the recommendations for the SC work plan and recommended that the Bycatch Mitigation Initiative be supported when costed, including ongoing support for the Bycatch Coordinator, when brought to IWC675. It was noted that the Scientific Committee could play a strong role within the BMI, particularly in relation to identifying priorities for targeted work, driving innovative solutions and reviewing outputs from pilot studies.

2.10 Engagement with other IGOs, and bodies relevant to bycatch

Since its establishment, the BMI has worked to engage with other international organisations, including inter-governmental organisations, research bodies, global funding mechanisms and NGOs working on areas related to bycatch and fisheries management. Engagement has been focused on raising awareness of the BMI within other bodies, and scoping out potential collaborations, synergies and opportunities to strengthen the BMI and international work on bycatch. A brief summary is provided below.

2.10.1 Food and Agriculture Organization of the United Nations (FAO)

Engagement with the FAO has been a priority throughout 2018. This included participation in the FAO's Expert Workshop on Means and Methods for Reducing Marine Mammal Mortality in Fishing and Aquaculture Operations in March 2018. The workshop report⁶, was presented at the 33rd FAO Committee on Fisheries (COFI) meeting in July 2018 and the IWC Executive Secretary and Bycatch Coordinator actively participated in the meeting, providing an intervention on the report to explain the work of the BMI and the expertise within the IWC on this topic. The report recommended that the FAO develop technical guidelines on marine mammal mitigation techniques and develop a capacity development programme to assist developing states in its implementation. The Committee endorsed the recommendations in the report and called for collaboration between the FAO and the IWC in developing this work further.

The IWC also co-convened a side event on bycatch and ghost fishing gear during the COFI meeting⁷. The event highlighted sustainable fisheries management solutions for ghost gear and bycatch, focusing on the need and methods for data collection, available solutions and the role of FAO, Member States and other international bodies in coordinating global action.

2.10.2 Regional Fisheries Management Organisations (RFMOs)

The Secretariat has been working to strengthen engagement and collaboration on the issue of bycatch with RFMOs and Regional Fisheries Bodies. This has included:

- The IWC Executive Secretary and Bycatch Coordinator attended the Regional Fisheries Bodies Secretariat's Network (RSN) meeting prior to the COFI meeting and the Bycatch Coordinator presented on the BMI and opportunities for collaboration. Discussions with a number of RSN members took place, and potential collaborations will be followed up post-IWC67.

⁵ IWC/67/Rep01(2018), Report of the IWC Scientific Committee. Annex J- Report of the Sub-Committee on Non-Deliberate Human-Induced Mortality of Cetaceans. <https://archive.iwc.int/?r=6940&k=d1a826c050>

⁶ Report of the Expert Workshop on Means and Methods For Reducing Marine Mammal Mortality in Fishing and Aquaculture Operations, Rome, 20-23 March, 2018. FAO Fisheries and Aquaculture Report No.1231 FIAO/R1231 <http://www.fao.org/3/I9993EN/i9993en.pdf>

⁷ alongside the FAO, Convention on Migratory Species, WWF, World Animal Protection, and a number of national governments, including Belgium, The Netherlands, Sweden, Palau, <http://www.fao.org/webcast/home/en/item/4789/icode/>

- Detailed discussions have taken place between the IWC Secretariat and the Executive Secretary of the Indian Ocean Tuna Commission (IOTC), in relation to cetacean bycatch in tuna gillnet fisheries and potential areas of collaboration with the BMI. BMI Expert Panel members are due to attend the IOTC's Working Party on Ecosystems and Bycatch meeting in September 2018. The IWC Secretariat has also reached out to both the International Commission for the Conservation of Atlantic Tunas (ICCAT) and the Inter-America Tropical Tuna Commission (IATTC) to begin discussions on possible collaboration.
- The Bycatch Coordinator also attended the steering committee meeting of the GEF/FAO ABNJ Common Oceans Tuna project, to scope out current and future opportunities to collaborate with the project partners (including tuna RFMOs- IOTC, IATTC, ICCAT, WCPFC, FFC) on bycatch work in Areas Beyond National Jurisdiction.

• *2.10.3. Convention on Migratory Species (CMS); Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and the Contiguous Atlantic Area (ACCOBAMS) and Agreement on the Conservation of Small Cetaceans in the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS).*

Representatives from CMS and both daughter agreements are observers on the bycatch SWG. During 2018 the Bycatch Coordinator and other members of the Secretariat held detailed discussions about potential collaborations, including the possibility of affiliated projects in the Mediterranean (a multi-taxa bycatch project involving ACCOBAMS is currently underway), and coordination on RFMO work and technical work produced. In addition, the Bycatch Coordinator will join the joint ACCOBAMS/ASCOBANS working group on bycatch once it is established.

2.10.4 International Council for the Exploration of the Sea (ICES)

The Bycatch Coordinator has reached out to the ICES working group on bycatch (WGBYC) and discussed potential synergies and future collaboration in relation to bycatch assessment and mitigation trials. Planned follow up includes reaching out to other relevant working groups, such as the Working Group on Fishing Technology and Fish Behaviour (WGFTFB), and the Working Group on Economics (WGECON).

2.10.5. World Bank and the Global Environment Facility (GEF)

The IWC Secretariat have held discussions with representatives from both the World Bank and the GEF in relation to future opportunities for supporting work on cetacean bycatch, including through the Common Oceans ABNJ project, the World Bank's Blue Growth initiative and through strengthening the World Bank's environmental safeguards policies (e.g. considering cetacean bycatch in projects where fishing industry is involved). Further discussions and follow up are planned post IWC67.

3. Recommendations to the Conservation Committee

It is proposed that the Conservation Committee adopts the following recommendations, and forwards them to IWC67 for endorsement by the Commission:

- Endorsement of 2018-2020 Costed Workplan (IWC/67/CC/02)
- Endorsement of 2018-2028 Strategic Plan (IWC/67/CC/01)
- Endorsement of the continuation of Bycatch Coordinator position for a further 2 years, subject to available funding and request the Secretariat to make the necessary arrangements.
- Endorsement of the Terms of Reference for the Standing Working Group and Expert Panel (Annex 2).
- Notes the funding needs contained within the Workplan and Strategic Plan, thanks contracting governments and others for voluntary contributions towards the BMI and encourages further

contributions, and encourages the Secretariat (Bycatch Coordinator) to work with the Bycatch SWG to identify and secure further funding.

- Encourage contracting governments to support the BMI as appropriate to their national circumstances including:
 - Through the development of appropriate national legislation and plans to tackle bycatch
 - Reporting of experiences and plans on bycatch into the BMI and through Conservation Committee Reports

Annex 1A. Terms of reference for the IWC Bycatch Mitigation Initiative (BMI) Standing Working Group.

Background: At its 66th meeting in 2016, the Commission endorsed the recommendations of the Conservation Committee and Scientific Committee on cetacean bycatch, including the establishment of:

1. A Standing Working Group, which reports to the Conservation Committee and Commission and is the governance structure for the BMI,
2. An Expert Panel – which reports to the SWG and is convened by the Bycatch Coordinator;
3. A Coordinator within the IWC secretariat whom, in consultation with the SWG and Expert Panel, is responsible for implementing the programme of work.

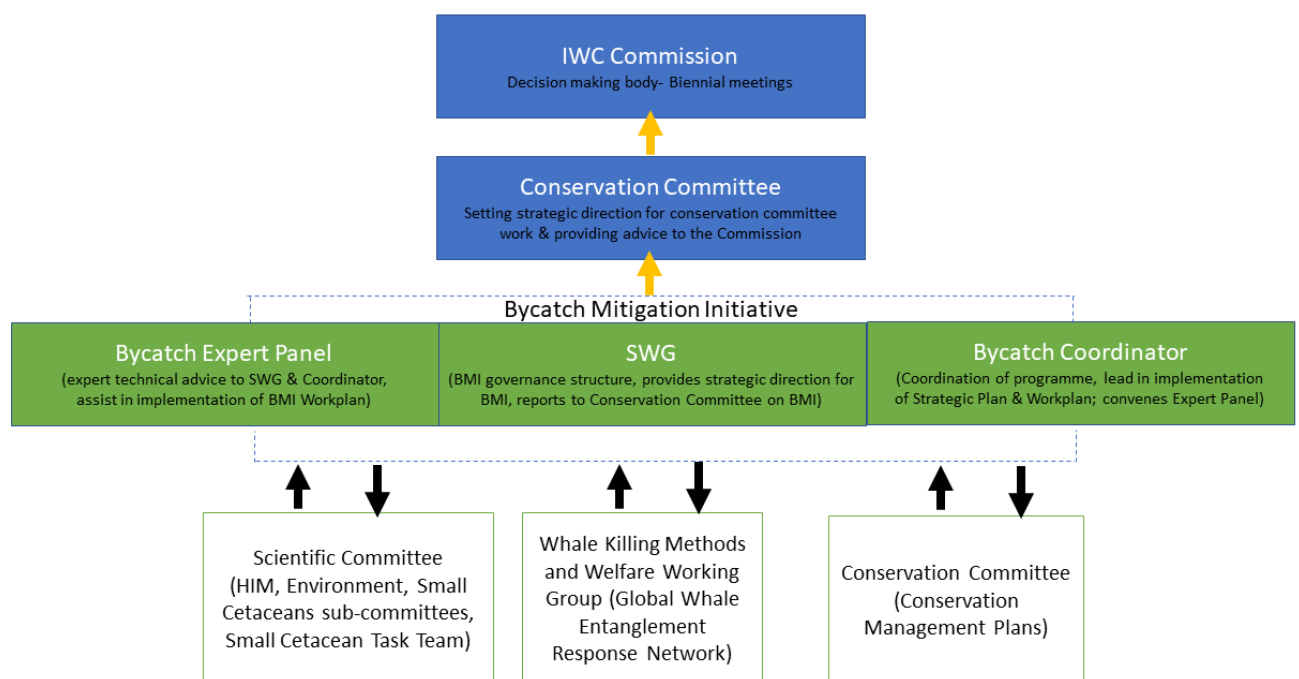


Figure 1. Simplified structure of the IWC BMI in relation to other IWC bodies and programmes. Yellow arrows indicate reporting structure and black arrows information flow.

The Bycatch SWG reports to the IWC Commission through the Conservation Committee (see Figure 1). The SWG- and the BMI as a whole- also works closely with the Scientific Committee, and with programmes under the Whale Killing Methods and Welfare Issues Working Group.

The Conservation Committee provides strategic guidance to the Standing Working Group, considering the priority threats and the measures for success as identified in its Strategic Plan 2016-2026, as well as the complementarity of the work of the other Working Groups of the Conservation Committee. The BMI has developed a ten-year Strategic Plan and a two-year costed Workplan, which will be provided for consideration and endorsement at the 67th meeting of the Commission. The Strategic Plan outlines the vision, objectives, high level actions and key partners for the BMI over the next ten years.

Terms of Reference for the Standing Working Group on Bycatch

The Standing Working Group on Bycatch is responsible for the strategic development of the Bycatch Mitigation Initiative, delivering its aims, overseeing its work programme and the provision of relevant advice to the IWC and its subgroups

The SWG will:

- Oversee the future strategic development of the initiative and oversee and monitor the implementation of the BMI Strategic Plan (2018-2028) and Workplans in collaboration with the Coordinator;
- In collaboration with the Steering Group of the Voluntary Conservation Fund, agree the use of funds to support the BMI including the holding of expert and regional workshops as appropriate.
- Assist in liaising with relevant external bodies, IWC contracting governments and other international bodies with an interest in bycatch;
- Identify and make appropriate recommendations to the conservation committee for how contracting members more widely can support implementation of the BMI;
- Coordinate between the Conservation Committee, the Scientific Committee and the Whale Killing Methods and Welfare Issues Working Group in relation to Bycatch issues, and report back to the Conservation Committee.
- Assist in the promotion of the BMI at national, regional? and international levels, and in fundraising efforts to support the implementation of the BMI.

Membership

- Membership of the SWG will consist of IWC Contracting Governments and interested Observers (see Annex 1b for membership as of September 2018).
- The Chair will be elected by its members and may hold the position for a period of up to four years with the potential for renewal.
- *Ex Officio* members will include the Bycatch Coordinator, the Chair of the Conservation Committee, the Chair of the Scientific Committee and the Secretariat
- The SWG will seek the participation of representatives of IWC Contracting Governments, including from all relevant ministries

Modus Operandi

- The SWG will conduct much of its business electronically (via BycatchSWG@groups.iwc.int mailing list and SharePoint) providing comments and feedback to the whole of the SWG in order to facilitate transparency and openness of discussion.
- Where at all possible, any meetings will be held in the margins or back to back with other IWC meetings.

Annex 1B- Current membership of Bycatch Standing Working Group- September 2018

SWG Email: BycatchSWG@groups.iwc.int

Australia

Hilary Anderson;
Mike Double;
Suzi Heaton

Argentina

Miguel Iniguez

Belgium

Stephanie Langerock (**Bycatch SWG Chair**);
Fabian Ritter

France

Nadia Deckert

Italy

Giancarlo Lauriano

Kenya

Jane Kinya

Luxembourg

Elizabeth Slooten

Mexico

Jorge Urbán Ramírez

Netherlands

Anne-Marie Svoboda

New Zealand

Ben Sharp;
Dave Lundquist

Norway

Arne Bjørge (**Bycatch SWG Vice Chair**)

Slovenia

Tilen Genov

Spain

Graham Pierce;
Begoña Santos

USA

Carolyn Doherty;
Ryan Wulf;
Bob Brownell

UK

Catherine Bell;
Jamie Rendell

Chair of Conservation Committee

Lorenzo Rojas-Bracho

Chair of Scientific Committee

Caterina Fortuna (outgoing SC Chair);
Robert Suydam (incoming SC Chair)

ACCOBAMS

Celia Le Ravellec

ASCOBAMS

Aline Kuel

CMS

Heidrun Frisch-Nwakanma

EIA

Clare Perry

WWF

Leigh Henry;
Aimee Leslie

WDC

Sarah Dolman

Cetacean Society International;

Kate O'Connell

IWC Secretariat

Marguerite Tarzia (**Bycatch Coordinator**)
David Mattila; Sarah Smith; Sarah Ferris;
Greg Donovan; Rebecca Lent; Cherry Allison;
Katie Penfold

Annex 2A. Terms of Reference and *modus operandi* Expert Panel on Bycatch Mitigation

The Expert Panel will assist in the development and implementation of the IWC's Bycatch Mitigation Initiative by: providing scientific and technical advice to the Bycatch Coordinator and Bycatch Working Group (and where appropriate to the Scientific Committee) in support of its aim to address issues relating to cetacean bycatch; and participate in (and where appropriate lead) relevant actions as indicated in the BMI Workplan.,

2.1. Membership

2.1.1 *Required expertise*

The Expert Panel should include a range of expertise, including in:

- cetacean biology
- cetacean population monitoring
- fisheries science and technology
- fisheries management
- bycatch assessment and mitigation tools (cetacean and other taxa e.g. seabirds, turtles) including evaluation of success of bycatch mitigation (monitoring of bycatch) and implementation of mitigation measures.
- policy development/influencing expertise (i.e. in achieving effective change of fisheries and other relevant policies)
- direct experience in working with fishing industry and fishing communities
- fisheries economics and incentivising

To ensure a diversity of views it could be desirable to have more than one panel member with each type of expertise. However, some experts may have multiple skills. Expertise should be complemented by a regional balance if possible.

The panel will be allowed to complement its expertise by maintaining a wider correspondence group related to bycatch mitigation from which it can draw (complementary) expertise when needed.

2.1.2. *Selection process*

Annex 2B provides an outline of the nomination and selection process. Selected individuals can be experts currently involved in the IWC and its Committees, or external candidates.

The panel should be of a manageable size whilst securing a sufficient level of representation of expertise.

2.1.3 *Term of service*

The term of service will be four years, following which members may be reappointed according to the process set out in annex 2B. An annual evaluation of membership will be undertaken by the Bycatch Coordinator in liaison with the Chair of the Bycatch SWG based on the availability and participation of members, and action taken to address any vacancies or gaps in expertise.

2.2. *Modus operandi*

- The Bycatch Coordinator will act as the Expert Panel convenor. The Expert Panel formally reports to the Bycatch SWG. The Expert Panel will further support the Bycatch SWG with its aim by responding to its requests for advice.
- The Expert Panel will, with coordination from the Bycatch Coordinator, liaise and collaborate with the Conservation Committee, Scientific Committee and Whale Killing Methods and Welfare Issues Working Group, and seek input from these Committees on the relevant aspects of its work.
- The Coordinator, in collaboration with the Chair of the SWG, shall convene at least two Expert Panel meetings every year which may be in person or via teleconference. When possible, in-

person meetings will be planned in conjunction with other workshops or conferences. The report of the Expert Panel's substantive meetings shall be prepared by the Coordinator and the agreed report will be distributed to the Expert Panel, Bycatch SWG, Conservation Committee and Scientific Committee.

- The Expert Panel may establish subgroups of its members on an ad hoc basis, as it deems necessary to organise and progress its work. Such subgroups shall report to the Expert Panel.

Annex 2B. Process for appointment of the membership of the Expert Panel

- Nominations will be sought through a Circular that will go out to Commissioners and Contracting Governments; Members of the Scientific Committee and Accredited Observers.
- The Secretariat will send formal letters to other IGOs (e.g. FAO, the RFMOs, ICES, NAMMCO, CMS etc.) and other relevant organisations and follow this up with informal contacts.
- Before making a nomination, people will be asked to discuss with the nominee that they are keen and able to commit to serving on the Panel. Panel members will be asked to commit to active engagement in Expert Panel discussions.
- Nominations should be accompanied by a short supporting statement (max. 500 words) and/or a CV setting out the prospective member's expertise, abilities and willingness to serve on the Expert Panel.
- A sift of nominations will be undertaken by a smaller group, chaired by the Chair of the Bycatch SWG and also consisting of the Vice-Chair of the Bycatch SWG; Chair of the Conservation Committee (or a nominee); Chair of the Scientific Committee (or a nominee), Bycatch Coordinator and Secretariat. Proposals will then be presented to the Bycatch SWG for comments and endorsement.

Annex 3. IWC Bycatch Mitigation Initiative Strategic Assessment – opportunities to engage on cetacean bycatch

Introduction

Over the past forty years, there has been widespread acknowledgement within the IWC of the significance of bycatch as a threat to cetaceans. More recently, consideration of the need for IWC engagement and action has taken place at several IWC Scientific Committee (SC) and Commission meetings. This led to an agreement at IWC66 from the Commission to establish the Bycatch Mitigation Initiative (BMI)⁸.

Tackling bycatch at a global level is a potentially vast undertaking, and existing initiatives- including those working on bycatch of other taxa are already underway. Therefore, in order to be effective, it is important to set clear and strategic priorities, identify potential collaborations where value can be added, and understand why certain actions are potentially more important than others in bringing about change. To address this need, the IWC's Standing Working Group on Bycatch requested that a strategic assessment be undertaken to evaluate which areas of work would enable the IWC to have the greatest impact.

STRATEGIC ASSESSMENT

Purpose of document

This document outlines the steps followed and the outcomes of the BMI strategic assessment process. The assessment will be used to inform the development of the BMI strategic plan (2018-2028), and the costed workplan (2018-2020).

Strategic assessment steps

The strategic assessment has followed the steps outlined below, in detailed consultation with experts and review of background material⁹:

1. A theory of change framework was developed to identify mechanisms and work areas for effecting change on bycatch management/mitigation in both small scale and commercial scale fisheries (regardless of the organisation).
2. A global mapping exercise was undertaken to examine existing activities (national and international level) on mitigation research, bycatch monitoring/assessment and capacity development.
3. The identified mechanisms and work areas were then evaluated. Assessment looked at the possibility of filling current gaps, whether the work area had a potential for high global impact, and whether the IWC could play a significant role (based on gaps, current strengths, weaknesses, and future opportunities).
4. Priority mechanisms, work areas and associated activities were selected as forming the basis for IWC engagement through the BMI- providing a direct link to the development of the BMI strategic plan and work plan.
5. Consideration of the enabling conditions necessary to bring about success (at local, national and international levels) in effectively tackling cetacean bycatch

Theory of change

Identifying how the IWC could best influence international efforts on bycatch requires an understanding of the principal mechanisms which could bring about a genuine global change. A

⁸ IWC 66. Summary of main outcomes, decisions and required actions from the 66th annual meeting. Unintended Anthropogenic Impacts Item11. Resource ID: 6360

⁹ The bycatch coordinator has undertaken detailed discussions with individual members of the SWG, SC, IWC Secretariat and expert panel members; Background material includes published scientific literature, IWC published reports; grey literature etc.

theory of change¹⁰ framework was used to map out the potential mechanisms, outcomes and actions needed to bring about change at global level, as well as the conditions needed to enable their successful implementation (Appendix 1).

In order to develop the theory of change framework, an ideal 'final outcome' was identified for ultimately tackling bycatch as follows: ***Effective cetacean bycatch mitigation measures (gear, gear switching, changes in fishing operations or management) are demonstrated and systematically implemented at local, national and international scale. Coastal communities continue to have a thriving fishery sector, with monitoring and mitigation of marine mammal bycatch such that population-level impacts are reduced, with stocks maintained or recovering.***

The actions where the IWC could bring about the most influence (determined during the assessment) are indicated in the sections below.

Main global mechanisms identified for tackling bycatch

The main mechanisms (see Appendix 2 for more detail) for effecting global change on cetacean bycatch mitigation and management (irrespective of the organisation), have been identified as:

- Information gathering/analysis & prioritisation- Identify where the top priority fisheries/locations/cetacean species are in order to focus targeted work there now and into the future.
- Testing & demonstrating effective solutions- collaboration within pilot studies for development and demonstration of effective and affordable monitoring and mitigation solutions for different fishing gears
- Bring about change in attitudes within fishing communities by engaging the fishery operators, processors and traders in process, design, and implementation. Incentivize with niche marketing or eco-labels. Start small then scale up from pilot studies to fleets.
- Raise awareness & capacity within national governments to tackle bycatch- national governments have the knowledge/capacity/political will to deal with the issue effectively
- Raise awareness within regional and international fisheries management- fisheries management organisations have the knowledge, capacity and political will to deal with the issue effectively via the Regional Secretariat Network and other fora.
- Ensure sufficient funds available for tackling bycatch (e.g. monitoring, innovation, demonstration, capacity development, sharing of best practice)

These mechanisms- and work areas sitting below them- were used as the basis for evaluating whether the IWC could play a significant role in influencing progress to tackle bycatch.

Current major gaps in tackling cetacean bycatch identified at global level

The global mapping exercise identified a number of gaps (at international scale) in efforts to tackle cetacean bycatch, and in which the IWC could help raise awareness and promote. These include:

- Lack of detailed information on cetacean distribution and abundance to identify areas of potential high bycatch risk; lack of compilation of different data sets to evaluate what data exists to assess bycatch risk and how this could be improved in the future.

¹⁰ Theory of change, is a planning framework which requires the mapping of a final ideal outcome (the change that is sought after), and clear consideration of the actions and intermediate outcomes needed in order to bring about that change. Theory of change, and the outcome framework used to illustrate it, work to also explicitly map the enabling conditions which would be necessary to bring about the actions and outcomes, and the assumptions of how an action can lead to a desired outcome. When reading the diagram, look at the final goal and follow the logic for how to get there.

- Current gaps in the development of new innovative technologies for cetacean bycatch mitigation- particularly using a sensory ecology approach. The issue appears to not be prioritised in the cetacean scientific community, and much of the engineering research is on adapting existing solutions (e.g. acoustic deterrents). Where innovation is underway, promotion and additional testing in other locations could be further supported. Further collaboration is also needed with those working on bycatch reduction taxa for other taxa to ensure compatibility and synergies.
- Current gaps in applying 'theoretical' incentive and social based approaches to multiple fisheries in relation to cetacean bycatch
- Major gaps in understanding bycatch risk, particularly in small scale and artisanal fisheries, and particularly in developing countries. Approaches exist to rapidly assess bycatch and these could be promoted for more widespread up-take
- More focus is needed on developing mitigation, management and incentive approaches for small scale/artisanal fisheries in developing countries & developing solutions which are economically viable for developing countries
- Little work on assessing bycatch risk in fisheries in Areas Beyond National Jurisdiction, including pelagic gears and Fishery Aggregating Devices.
- No current effort to provide capacity building/training to countries to tackle cetacean bycatch issue- although new opportunities may be starting (FAO, US Import Rule etc)
- No current efforts to streamline reporting on cetacean bycatch, or to understand what is being reported under different processes. Lack of clarity makes improving this in the long-term difficult

Main strengths/weaknesses/opportunities for IWC to engage on issue

The current strength of the IWC lies in its ability to bring together cetacean experts and use cutting-edge science to inform management and conservation decisions for cetacean populations. The IWC has the existing ability (currently under-utilised) to engage with other international bodies (fisheries management and environmental) and promote the need for management of cetacean bycatch.

The IWC's Scientific Committee members have extensive experience in identifying the impacts to cetacean populations from bycatch, and in assessing bycatch risk in particular locations using a range of methods, including workshops and compilation of strandings and boat-based observer data and evaluation of national progress report data. Scientific Committee members have strong expertise in assessing the efficacy of monitoring programmes, and in evaluating the success of mitigation and management measures.

Despite this strength, prior to the BMI's establishment there were no IWC structures to provide focus, momentum and coordination to cetacean bycatch work, and actively transfer knowledge across different scales (from local to national and international level). Furthermore, experts in key disciplines such as economics and social science are not always well represented in Scientific Committee meetings, given the justifiable focus on cetacean science.

The IWC has well developed experience of delivering capacity building and training, through the Global Whale Entanglement Response Network. This model could be very useful for working on the ground with fisheries and managers on bycatch, and establishing a BMI capacity development programme to transfer information and tools for tackling the issue.

The BMI offers the opportunity to act as a focal, coordinating point on cetacean bycatch, drawing connections between existing IWC work programmes and external collaborators to develop institutional expertise on methods and approaches for tackling this issue- and transferring this knowledge to decision makers and managers at multiple scales. The BMI expert panel brings a fresh,

multi-disciplinary approach to the issue, allowing cetacean bycatch experts to work with fisheries technologists and social scientists and economists to ensure that efforts are considering the human dimension in developing solutions. This collaborative and trans-discipline approach will enrich individual expert efforts on bycatch- as well as the BMI- through opportunities to collaborate and share knowledge on the ground and at international level.

Assessment of priority work areas

The detailed, full assessment of each mechanism, and the underlying work areas can be found in Appendix 2. The section below summarises and justifies the prioritisation of each work area for the BMI.

In carrying out the assessment it was found that each mechanism had the opportunity to significantly influence global efforts to tackle bycatch, and that the IWC could potentially have a role within each mechanism- focused on specific work areas- which could prove vital for bringing about change. Within each mechanism, specific work areas were prioritised as high, medium and low priority for the BMI.

Mechanism 1. Information gathering/analysis & prioritisation- Identify the top priority fisheries/locations/species to develop pilot studies and focus targeted work

Four main work areas were identified under this mechanism (identified high priorities for the role of the IWC are bold and underlined).

- 1.1. Mapping of fishing gears and fishing effort (VMS/AIS/others) & overlay with important areas for cetacean species/populations- particularly important for small scale fisheries (*Medium priority*)
- 1.2. **Compile existing information on fisheries/sites/species/populations where bycatch is known. Identify priority species/populations/fisheries/sites to carry out pilot studies. Establish bycatch baselines** (*High priority*)
- 1.3. **Carry out small-scale fisheries bycatch assessments/rapid risk assessments;** (*High priority*)
- 1.4. Improve on-board monitoring programmes & capacity to systematically collect & share standardised and scientifically accurate bycatch data through on-board observers &/or electronic/self-reporting monitoring programmes (*Medium priority*).

Justification for prioritisation of work areas & potential role of IWC.

1.2. The compilation of existing information on bycatch to identify priority species/populations and fisheries to carry out pilot studies (& determine bycatch baselines) was prioritised for the IWC because of the existing expertise and capacity of the IWC's Scientific Committee, and the need to focus immediate efforts on case studies where there is a strong conservation case. In addition to identifying areas/fisheries to focus work, information on bycatch baselines will be fundamental for the evaluation of success for the mitigation focused pilot studies- and therefore of vital importance to the BMI. The identification of priority populations/species/sites could be led by the Scientific Committee, with the BMI expert panel and coordinator using this information to define and determine pilot studies alongside the Bycatch Standing Working Group and identified governments.

1.3. Carrying out rapid assessments for small-scale/artisanal fisheries was a prioritised work area for the IWC. It is estimated that 90% of the world's fishers are operating in small scale fisheries¹¹, and yet this sector poorly understood in relation to fishing capacity and effort, bycatch risk and socio-economic factors. The available evidence suggests a strong reliance in many countries' small-scale fisheries on gillnets and mixed fishing gear (which includes nets)¹², therefore understanding these fisheries would provide opportunities for tackling fishing gear with the highest intensity of bycatch.

¹¹ Béné, C., 2005. Small-scale Fisheries: Assessing Their Contribution to Rural Livelihoods in Developing Countries. FAO Fisheries Circular No. 1008. FAO, Rome.

¹² Stewart, K.R., Lewison, R.L., Dunn, D.C., Bjorkland, R.H., Kelez, S., Halpin, P.N., Crowder, L.B., 2010. Characterizing Fishing Effort and Spatial Extent of Coastal Fisheries. PLoS ONE 5, e14451. <https://doi.org/10.1371/journal.pone.0014451>

Rapid assessment methodologies have already been developed, so the role of the IWC could be to promote/facilitate standardised methodologies in country (through direct technical assistance or pilot studies) to examine bycatch risk in small-scale fisheries. The expert panel and coordinator could lead this work area, with members of the Scientific Committee and Conservation Committees playing a vital role in rolling out the approach in various countries and (for the SC specifically) in evaluating methodologies and results.

1.1 & 1.4. These work areas were given a medium priority. Mapping fishing effort using VMS/AIS/other technology (1.1) is currently being done by several different researchers/organisations, and so whilst the outputs would be extremely useful for the BMI, it is likely that they will be undertaken by others without the need for strong IWC participation. If opportunities for collaboration arise these should be considered however and the IWC could consider bringing in information on cetacean distribution (and important areas) to complement the fisheries information. There is the potential to use the Important Marine Mammal Areas or other types of tools to identify important areas as a starting point to focus efforts nationally or regionally for mapping fishing effort.

The improvement of monitoring programmes (1.4) is an extremely important, long term work area, however as the IWC is not a fisheries management organisation it is not best placed to directly bring about improvements at national level. The IWC could provide assistance, through the coordinator and expert panel to improve national monitoring programmes as part of a capacity development programme. Through national reporting of contracting governments within the SC it might be possible to evaluate the types of monitoring programmes underway within countries, and this could form the basis of future advice or suggestions for improving coverage or information collected within monitoring programmes.

Mechanism 2. Testing & demonstrating effective solutions- collaboration within pilot studies for development and demonstration of effective and affordable monitoring and mitigation solutions for different fishing gears

Three main work areas were identified under this mechanism (identified high priorities for the role of the IWC are highlighted in red and underlined).

- 2.1. **Share information, knowledge & best practice advice on existing solutions (toolkit of solutions & practical demonstrations) with fishing industry, fisheries managers, governments etc.** (High priority)
- 2.2. **Test, adapt & demonstrate existing solutions with fishermen (using a rigorous scientific method to ensure replicability to other species/populations/fisheries)** (High priority)
- 2.3. **Help drive innovation for mitigation & testing with fishers, in partnership between scientists, conservationists, fisheries managers, fishing technologists, fishing industry.** (High priority)

Justification for prioritisation of work areas & potential role of IWC.

All the work areas within this mechanism were identified as priority work areas for the IWC, allowing for work at site specific/mitigation measure level and scaling up to dissemination of international best practice.

2.1. The ongoing review and dissemination of best practice for mitigation measures is essential for promoting the uptake of solutions to bycatch. Existing work is already underway (through the FAO, and through online platforms like bycatch.org and BMIS) that the IWC can collaborate with to effectively share best practice. The IWC can bring the technical expertise (through the SC and the expert) to evaluate mitigation measures and provide new information on mitigation studies. There is a strong need to communicate identified best practice to governments, fisheries managers, RFMOs

and the fishing industry and the IWC is well placed to communicate this information widely through the SC and the CC.

2.2. This is an important work area, where little global coordination exists. Many mitigation trials have only been tested in one location or fishery, and once the project or funding is complete there is little incentive for others to develop the work further. The IWC as the leading international body addressing cetacean science, conservation and management, can play a major coordination role through the BMI, promoting the need for further testing of mitigation measures (e.g. As defined in the new FAO list of mitigation measures), with the SC and the expert panel promoting this through academic channels, and the CC and SWG channelling this through fisheries departments and research agencies.

2.3. There is a strong need to drive the mitigation innovation agenda, particularly in relation to some specific gears (egg gillnets) where existing solutions are not feasible, or unlikely to be effective due to the species involved. The IWC- and the SC in particular- can play a unique role in raising the awareness of the broader scientific community in focusing research efforts on mitigation and developing novel solutions. Innovation could also include considering social/economic/cultural ways of dealing with bycatch, as well as research on gear modification/switching/management etc. The BMI could potentially consider working with foundations/funding sources to provide awards for leading bycatch work etc- or other ways of raising the profile and need for further mitigation work.

Mechanism 3. Bring about change in attitudes within fishing communities by engaging the fishery operators, processors and traders in process, design, and implementation. Incentivize with niche marketing or eco-labels. Start small then scale up from pilot studies to fleets.

Three main work areas were identified under this mechanism (identified high priorities for the role of the IWC are highlighted in red and underlined).

- 3.1 **Engage & collaborate with fisheries communities in pilot projects (and/or in countries asking for assistance). Pilot projects can include bycatch risk assessments, mitigation and management trials, incentive-based approaches etc. Outreach and train fishermen on how to operate mitigation gear (proven as effective) & adapt solutions for vessels & raise awareness of solutions & best practice (High priority)**
- 3.2 **Work with fisheries economists, technologists, scientists & conservationists & fishermen to ensure solutions are economically viable (High priority)**
- 3.3 **Determine and test a set of tools/methods for incentivising the implementation of bycatch mitigation alongside socio-economic experts & fishing industry (High priority)**

Justification for prioritisation of work areas & potential role of IWC.

3.1. This work area is a high priority as it will enable the IWC to effectively work at both local scale and international scale through coordination of pilot projects and provision of advice to national governments. The fishing industry is at the heart of the issue of bycatch, and in order to effectively bring about change there is a need for dedicated outreach and engagement with the sector on how best to solve specific bycatch problems. By gaining expertise 'on-the-ground' the BMI can then effectively transfer experience to other countries and locations experiencing bycatch issues.

3.3. As described above, engaging fishermen to properly implement mitigation solutions (including respecting spatial/temporal management) is intrinsic to tackling the bycatch issue. Whilst regulation, enforcement and compliance are likely to be effective in some circumstances, incentivising the fishing industry to comply with mitigation measures is an important aspect which is often not considered. Defining and testing tools alongside fishing industry will enable lessons to be learnt over what is effective under different circumstances and applied to other countries and fisheries where relevant.

3.2. This work area was identified as a high priority, as it an intrinsic part of driving forward the innovation agenda and working alongside fishermen on solutions during the pilot studies, and future adoption of mitigation measures.

Mechanism 4. Raise awareness & capacity within national governments to tackle bycatch- national governments have the knowledge/capacity/political will to deal with the issue effectively

Seven main work areas were identified under this mechanism (identified high priorities for the role of the IWC are highlighted in red).

4.1. Effective regulations exist at national level (*Low priority*)

4.2. **Improve national capacity for bycatch assessment, monitoring, mitigation and enforcement at local/national level so that mitigation measures are implemented & national & international regulations are enforced** (*High priority*)

4.3. National fisheries managers implement and enforce national & international regulations (*Low priority*)

4.4. National governments develop action plans NPA for cetaceans (*Low priority*)

4.6. **The profile of bycatch as a conservation & management issue is raised nationally & political will builds to tackle bycatch** (*High priority*)

Justification for prioritisation of work areas & potential role of IWC.

4.2. This work area was assessed as high priority, as part of a comprehensive capacity development programme- beginning with pilot studies and expanding out to other countries (as governments request advice). The IWC would be well placed with the expertise provided by the expert panel across different aspects of bycatch, and the coordinator, to facilitate a capacity development programme. This could potentially be done in partnership with other bodies (including FAO, NGOs, other governments etc).

4.6. The IWC is well placed to communicate about cetacean bycatch, mitigation solutions and the need for action- with a global reach extending to contracting governments, international organisations and the scientific community. By using existing communication channels and developing new strategies to communicate on this topic the IWC has the potential to raise the profile at both national and international level and provide the right enabling conditions for increased political will and action on this issue.

4.1 & 4.3 & 4.5. These work areas were assessed as a low priority, as it sits outside of the IWC's scope- given the IWC does not manage fisheries. However, policy advice could be drafted on various aspects to assist in improving fisheries management, provided this was requested by governments to the IWC.

Mechanism 5. Raise awareness within regional and international fisheries management- fisheries management organisations have the knowledge, capacity and political will to deal with the issue effectively via the Regional Secretariat Network and other fora.

Four main work areas were identified under this mechanism (identified priorities for the role of the IWC are highlighted in red).

5.1. Collaboration with other international bodies (FAO, RFMOS, CMS etc) to streamline national reporting of bycatch and improve sharing of data (*Medium priority*)

5.2. Effective regulations exist at international level (e.g. potentially through an FAO instrument- FAO Guidelines for cetacean bycatch mitigation; International Plans of Action) (*Medium priority*)

5.3. RFMOs implement standardised data collection on bycatch and the implementation of best practice bycatch mitigation/management measures. (*Medium priority*)

5.4. **Raise awareness of the profile of the issue of bycatch internationally** (*High priority*)

Justification for prioritised actions & potential role of IWC.

5.4. The IWC is well placed to champion the issue of cetacean bycatch within an international setting. Whilst FAO, CMS and its regional sister agreements (ACCOBAMS and ASCOBAMS), and other international bodies such as NAMMCO are working on bycatch the IWC is the only organisation with a combined cetacean focus at global scale. By using existing communication channels (e.g. COFI, Regional Secretariat Network; RFMO meetings; the IWC meetings etc) and developing collaborations with international organisations the IWC has the potential to raise the profile of cetacean bycatch at international level and provide the right enabling conditions for increased political will and action on this issue.

5.1. Engagement with FAO, individual RFMOs and other international bodies to streamline and improve the availability of bycatch and fishing effort data was assessed as a medium priority. This is a work area with the potential for a high global impact- allowing the future identification of areas/fisheries that have the highest bycatch. The IWC can play an important role by engaging with each of the organisations (particularly FAO and individual RFMOs) and working to improve the sharing of data between organisations and the collection of more relevant and useful information on bycatch. This work area is likely to develop over time, and it could take many years of slow and steady engagement before results are achieved- therefore this is considered an important part of the BMI but it is suggested that this should not be the top priority focus. In developing the work plan, specific opportunities to engage with FAO and individual RFMOs should be carefully considered in order to maximise the effectiveness of IWC engagement.

5.2. The IWC could play an important role in raising awareness of cetacean bycatch and the need for FAO engagement on bycatch monitoring, reporting, and mitigation (e.g. production of guidelines etc). There are potentially important opportunities coming forward to work with FAO on this, and through engagement of the IWC in COFI and the Regional Secretariat Network. This is likely to be a slow-moving work area that will likely develop over time.

5.3. This work area has the potential to bring about changes within individual RFMOs, leading to improvements on bycatch monitoring, reporting and mitigation requirements. Many of the RFMOs are not actively working on cetacean bycatch, in comparison to work on seabird and turtle bycatch, therefore it is a gap that does require filling. It is likely that the IWC could play an important role in raising the profile of cetacean bycatch within individual RFMOs, bringing in the experience gained through the pilot studies etc. It might be most effective for the IWC to engage with only a few RFMOs initially to develop experience without over-committing. This is likely to be a slow-moving work area, and further scoping of this action is required as is consideration of how best to coordinate with IWC members attending RFMO meetings to assist in promoting cetacean bycatch work.

Enabling conditions necessary for success

A number of important 'enabling' conditions were identified during the theory of change process, which can be considered as vital for the success for the BMI, in bringing about progress in the different mechanisms. This includes:

- National governments, RFMOs and FAO have the political will to tackle bycatch
- Legislation exists for protecting marine mammals and their associated habitat
- Coordination and cooperation between national government agencies responsible for marine resource management, including fisheries, environment and foreign aid.
- National governments, RFMOs and FAO willing to accept IWC advice on bycatch monitoring/mitigation/management
- Multi-disciplinary collaboration and effective coordination between different initiatives, organisations, researchers etc working on bycatch.
- Data made available on fishing effort, bycatch etc to evaluate priority fisheries/gears/species/populations

- Buy-in and active engagement of national governments in focal countries (for pilot studies, rapid assessments etc)
- Funding is available to carry out pilot studies
- Sufficient funds available for tackling bycatch (e.g. monitoring, innovation, demonstration, capacity development, sharing of best practice)
- Collaboration with existing bycatch projects possible for pilot projects
- Funding is available to assist in driving innovation on mitigation solutions
- Fishing industry in target countries willing to collaborate and incentivised to use mitigation measures in pilot studies
- Wider fishing industry willing and incentivised to adopt proven mitigation gear.
- Presence and involvement of NGOs, academic institutions and other economic sectors (e.g., tourism) in raising conservation awareness or participating in monitoring and research
- Relationships between on-the ground teams (researchers/conservationists/gov agencies) and fisheries existing and positive, or there is scope for positive relationships and trust to be developed.

In relation to small scale fisheries additional, specific enabling conditions were identified based on Teh et al. (2015)¹³, including:

- Presence and practice of traditional management system and resource use rights
- Community based fisheries management
- Coastal communities have alternate income sources that are not dependent on marine resources
- Traditional practices or beliefs about not harming marine mammals and conservation awareness
- Local ecological knowledge

Many of the identified enabling conditions are so important- and indeed relevant to the role of the IWC and contracting governments- that specific actions will be needed in the BMI workplan in order to bring about these conditions.

RECOMMENDATIONS FOR THE BMI

The following summarises the preliminary findings of the strategic assessment and recommendations for the initiative for the development of the strategic plan and workplan:

- Each of the main mechanisms has the potential to be very important in bringing about change, globally, on how cetacean bycatch is tackled. The IWC could potentially have a role within each of the mechanisms, with specific work areas identified as high priority under each.
- Given the broad scope of the different mechanisms, there will be a need to further prioritise the actions of the workplan and the pilot studies in order for the BMI to remain targeted and focused. This could include a focus of the BMI within specific regions, or specific species of conservation concern, or specific gears. For example, within the work on small scale fisheries, the work could focus specifically on one or two fishing gears (e.g. gillnets)- carrying out risk assessments, trialling of innovation (gear and incentive approaches) in 2-3 pilot studies before scaling out to other small-scale fisheries.
- One of the most important work areas appears to be the development of capacity development programmes, which could cover rapid risk assessments, monitoring and mitigation, incentives and enforcement/compliance. The capacity development programme could begin through specific pilot projects, developing IWC experience, then scale out to provide training and workshops upon government requests. This on the ground work would then form the basis of

¹³ Teh, L.S.L., Teh, L.C.L., Hines, E., Junchompoo, C., Lewison, R.L., 2015. Contextualising the coupled socio-ecological conditions of marine megafauna bycatch. *Ocean & Coastal Management* 116, 449–465. <https://doi.org/10.1016/j.ocecoaman.2015.08.019>

the technical expertise of the BMI (in addition to the expert panel and SC) in dealing with different aspects of bycatch management.

- There is a high degree of linkage between the bottom-up and top-down work areas identified as a high priority for the BMI (e.g. the linkage between using results of pilot studies to help inform positions at RFMOs, FAO, and with advice/capacity development programmes to governments), and this suggests that the strategic plan and work plan should ensure that both aspects can work together.
- In order to effectively deliver such a varied work programme, the initiative will need to rely on the support of many different bodies within the IWC (in addition to the Bycatch Coordinator, the SWG and Expert Panel) including: The Conservation Committee, Scientific Committee, the GERN and stranding programmes, as well as individual contracting parties. There will therefore need to be a wide consultation with these different bodies during the drafting of the workplan, in order to have a clear understanding of roles and capacity. The roles of different bodies for each work area and activity will be identified in the workplan presented to IWC67.
- Furthermore, consideration is needed in relation to how to build up regional IWC structures and expertise on bycatch mitigation and management. Developing a coordinated regional structure for the BMI would enable a deeper understanding of local and regional bycatch issues, capacity needs, culturally appropriate and more 'local' advice mechanisms, and potentially allow for engagement of regional experts in RFMO discussions on IWC's behalf. There is potentially some similarity with the Conservation Management Plan Structure, with individuals/countries acting to coordinate others across specific regions.
- Consideration of the actions (including by contracting governments where appropriate) needed to bring about the identified 'enabling conditions' is extremely important and should be elaborated within the workplan.

RECOMMENDATIONS FOR SCIENTIFIC COMMITTEE

The following work areas & potential actions could be led fully or in part by the SC (ordered by priority):

Work area 1.2. (High priority). The SC could contribute to the compilation and review of existing bycatch data to identify the priority fisheries/sites/species/populations to be considered for pilot projects based on conservation need and establish bycatch baselines for relevant cetacean populations where mitigation is to be trialled. **Timeframe:** Periodic review based on papers submitted to HIM, review of national progress reporting data on bycatch and data on entanglements and stranding. NB. Once priorities were identified the feasibility of working within these locations/fisheries would be assessed by the Coordinator, Expert Panel and SWG.

Work area 2.1. (High priority) Input into ongoing review of mitigation measures/best practice (e.g. new FAO technical guidelines, and through collaboration with online platforms), and assessment and inclusion of new information coming from the BMI & other sources. **Timeframe:** beginning in 2019

Work area 1.1. (Medium Priority) Collaborate with BMI efforts to assess bycatch risk and compilation of information, with a particular focus on small scale fisheries. Potentially consider the use of Important Marine Mammal Areas or other types of areas identified as important for cetaceans, as a focal point for evaluating the extent of fishing effort and bycatch risk. **Timeframe:** 2018-2020, and on-going provided opportunities exist for collaboration.

Work area 2.2. (High priority) Provide technical assistance to the coordinator and the expert panel in the development of scientific trials/monitoring programmes to evaluate mitigation measures. Evaluate the results of the trials (as per work area 2.1) **Timeframe:** beginning in 2019

Work area 2.3. (Medium priority) Lead in communicating the need for increased research on mitigation measures/management approaches for cetaceans to the broader scientific community. Identify opportunities (workshops, conferences) within and beyond cetacean scientific circles to communicate the need for research. **Timeframe:** Ongoing- from 2018.

Work area 1.4. (Medium priority) Continue to acquire data on bycatch through national reporting of IWC contracting governments & map out which countries have bycatch observer programmes and which ones do not. Consider developing guidance for improving monitoring schemes. **Timeframe:** 2018-2020 (guidance potentially considered as a product in 2020)

RECOMMENDATIONS FOR CONSERVATION COMMITTEE

The following work areas & potential actions could be led fully or in part by the CC (ordered by priority):

- The members of the CC could play a crucial role in facilitating the enabling conditions needed for success of the BMI, including working towards increased national level engagement to tackle bycatch; improved cohesion between environment and fisheries departments (on bycatch data collection, reporting, management and mitigation); implementation nationally of best practice and where appropriate of regulations and management.
- The members of the CC could produce recommendations (policy/management/best practice guidance) based on information and tools produced through the BMI.
- The members of the CC that actively attend RFMO meetings (particularly those RFMOs that are prioritised under the BMI) could consider being part of a coordinated effort amongst IWC Contracting Members to promote improved bycatch monitoring, reporting and mitigation within technical and commission meetings.
- The members of the CC that actively attend FAO and COFI meetings could assist with inputting IWC advice and recommendations into FAO work on marine mammal bycatch
- In addition to potential regional coordination for RFMO meetings, this could also extend to individual countries/members of the CC playing a key role in a more regionalised BMI structure- for example leading efforts to identify capacity development needs across a region and actively assisting in growing regional expertise to tackle bycatch- in collaboration with the coordinator and the expert panel.
- Members of the CC could identify their own needs for technical advice and assistance from the BMI, either volunteering to be part of a pilot study or requesting IWC assistance as part of the capacity development programme.
- Work area 2.1. The CC could help promote any best practice identified by the BMI (or developed as part of a collaboration- e.g. with FAO) at national level or through regional networks.

Annex 4. Voluntary Conservation Fund Project Proposal and Budget

Project Title

Bycatch Mitigation Initiation Programme Coordination and Fundraising

Lead Working Group

(Please note which Working Group has recommended the project be taken forward. Additionally, if other Working Groups or Subcommittees have interests in the work of this project, please list them here.)

Lead Working Group: Standing Working Group on Bycatch

Relevant IWC groups involved/interested:

- Working Group on Whale Killing Methods and Welfare Issues- Global Entanglement Response Network
- Scientific Committee- Working Group on Non-deliberate Human Induced Mortality of Cetaceans; Standing Group on Environmental Concerns; Standing Sub-committee on Small Cetaceans
- Conservation Committee- Standing Working Group on Conservation Management Plans

Project Description

(A very brief overview of the project proposal and its expected outcomes.)

The project supports the coordination and travel costs of the Bycatch Mitigation Initiative through the salary and travels costs of the Bycatch Coordinator in implementing the 2018-2020 Workplan. The project includes all aspect of programme coordination including

- support to the Bycatch SWG,
- coordination of the Bycatch Expert Panel,
- involvement in and where appropriate coordination and management of pilot & affiliated projects,
- coordination with other IWC bodies and initiatives,
- engagement with other Inter-governmental Organisations (IGOs) and organisations,
- development of and implementation of a fundraising strategy and funding applications to support activities highlighted in the workplan,
- monitoring and reporting of programme progress
- development of approaches to capacity building?
- communication activities at national and international level and within pilot projects.
- Travel to IWC SC, & Commission meetings
- Travel costs associated with visiting affiliated projects

Project Justification

(Demonstrate connections to relevant recommendations and Resolutions endorsed by the Commission including, where relevant, the Conservation Committee's Strategic Plan.)

For more than forty years the IWC, as the leading global body addressing cetacean science and conservation has acknowledged the significance of bycatch as a threat to the survival of a number of cetacean species and specific populations- recognising it as one of the most important human-induced threats through a number of resolutions (see table below).

Despite these concerns, and years of research, there has only been limited progress, globally, to tackle this issue.

This recognition led to an agreement by the IWC Commission at its 66th meeting to establish the Bycatch Mitigation Initiative (BMI), in order to contribute to coordinated global action on the issue. The BMI, is a key initiative included in the Conservation Committee's Strategic Plan and Workplan, with a Standing Working Group on Bycatch, a Bycatch Coordinator employed through the Secretariat and an Expert Panel to provide technical guidance and assistance in implementation. Implementation of the BMI will contribute the Conservation Committee's main objectives, including delivering effective and relevant conservation advice to the Commission, identifying and promoting best practice to identify priority global threats to cetaceans, coordination across the Commission and with relevant organisations and establish and leverage further funding for conservation efforts.

The BMI has developed its own thematic Strategic Plan (2018-2028- IWC/67/CC/01). The overall vision is for the BMI to actively collaborate with national and international bodies working on this issue, and add value through the IWC's existing rich scientific experience on cetaceans, complemented by the innovative and multidisciplinary nature of the BMI to ultimately bring about positive change in how the issue is tackled at local, national and international scales. A costed Workplan (2018-2020- IWC/67/CC/02) has also been developed, and along with the Strategic Plan are submitted for consideration and endorsement by the Commission during IWC67. The Workplan lists prioritised activities for the BMI across six different objectives, ranging from understanding the cetacean bycatch issue to testing solutions and raising awareness and capacity to tackle the issue.

A number of actions will need to be externally funded projects, through private foundations, international funding streams and national projects. However, none of the activities in the workplan will be possible without securing the essential role of the Bycatch Coordinator, to implement and monitor the initiative and seek external funds to carry out on the ground work. This VCF application therefore outlines the costs associated with programme coordination.

Table of relevant IWC resolutions and Recommendations relating to cetacean bycatch and the establishment of the Bycatch Mitigation Initiative

<i>1990:6 Resolution in Support of the United Nations General Assembly Initiative Regarding Large-Scale Pelagic Driftnet Fishing and its Impact on the Living Marine Resources of the World's Oceans and Seas.</i>	<i>Expressed concern that living marine resources, including marine mammals, can become entangled in large-scale pelagic driftnets and are injured or killed and requested the Secretariat to forward copies of SC 42 and 42 reports to the UN Secretary General</i>
<i>Resolution 1997-4 on Bycatch Reporting and Bycatch Reduction</i>	<i>Calls upon all Contracting Parties to improve their monitoring and reporting of all cetaceans, especially large whales, taken incidentally in all fishing operations and to report those incidental catches to the 50th Annual Meeting of the IWC and at all future meetings; Urges all Contracting Parties to exchange information about bycatch reduction efforts and release of live cetaceans.</i>
<i>Resolution 2000-8 on Western North Atlantic right whales</i>	<i>Calls for action by the USA, Canada and other range states to reduce mortalities of Western North Atlantic right whales due to ship strikes and entanglement in fishing gear.</i>
<i>Resolution 2000-9 on the conservation of freshwater cetaceans</i>	<i>...recommends that efforts are made to assess the relative magnitude of incidental catches of freshwater cetaceans among different areas and fishing techniques, and that appropriate mitigation strategies be developed to reduce bycatch levels known to be sustainable. Calls upon all Contracting</i>

	<i>Governments to submit information on all known direct and incidental takes of freshwater cetaceans and measures taken to conserve these cetaceans in their annual progress reports to the Scientific Committee.</i>
<i>Resolution 2001-4 on the Incidental Capture of Cetaceans</i>	<i>The Resolution requests the Scientific Committee to provide information on the most effective means on mitigating bycatch occurrence and disentangling animals which are bycaught. It also recommends that Contracting Governments make reasonable attempts to release captured whales unharmed. If this is not possible it recommends that Governments only permit the commercial exchange of those animals/species subject to a catch limit and that the capture be counted against that limit</i>
<i>Resolution 2001-13 on Small Cetaceans</i>	<i>Calls on Contracting Governments to take a variety of measures to improve the conservation status of small cetaceans....[including] providing information to the Scientific Committee and responding to recommendations for action by that Committee, particularly with respect to incidental and directed catches. Specific mention is made of....the need to minimise bycatches.</i>
<i>IWC66- endorsement of recommendation to establish the Bycatch Mitigation Initiative</i>	<i>At IWC 66 (2016) the Commission unanimously endorsed the recommendations of the Conservation Committee and Scientific Committee on cetacean bycatch including the establishment of a Standing Working Group on Bycatch under the Conservation Committee; and the development of a Bycatch Mitigation Initiative supported by an Expert Panel and a Coordinator.</i>

Relevant IWC Voluntary Funds

(Please list all relevant IWC Voluntary Funds and which criteria this project meets.)

This project relates to the following IWC Voluntary Funding streams

- Projects addressing bycatch and entanglement
- Projects supporting conservation management plans.

The project meets the following VCF Criteria outlined in the table below:

Relevant VCF criteria	Met by project (Yes/No)
a) can be demonstrated to deliver concrete cetacean conservation outcomes, with additional priority given to projects targeting cetacean populations and species most at risk;	Yes. The project tackles one of the most significant threats to cetaceans. Where appropriate work will be relevant to the most threatened species and populations at risk (although pilot projects with experimental techniques will likely avoid the most threatened)
b) clearly identify conservation targets and milestones;	Yes. Outlined in BMI Strategic Plan

c) have identified funding partners and institutional affiliations (with in-kind contributions clearly demarcated);	Yes. The workplan identifies key partners and affiliations, and the coordination work will develop these further.
d) have identified a project team and team members' credentials with clear illustration of the capacity to produce quality research that will be communicated to a wide range of stakeholders;	Yes. Workplan outlines project teams.
e) have been endorsed by the process to be determined in accordance with the fifth term of reference;	Yes
f) have the endorsement of one or more range states;	Yes, 15 countries are represented on the membership of the Bycatch SWG (who endorse this project application) and several countries have expressed interest in hosting bycatch pilot projects or affiliates
g) are consistent with legislative responsibilities of any relevant range states	Yes.
h) incorporate mechanisms to ensure periodic review and reporting;	Yes, reporting to the Commission are built into the workplan and regular reporting occurs through the Bycatch SWG and to the CC.
i) have an outreach and capacity building component targeting identified stakeholders and local communities (where appropriate);	Yes, outreach, capacity development and communication are core parts of the programme and part of the coordinator role.
j) meet appropriate ethical guidelines with respect to the treatment of animals involved, ensuring interference with cetaceans is within acceptable levels and does not cause distress to cetacean individuals intersecting with the project;	n/a for coordination
k) research methods are non-lethal only;	n/a for coordination
l) fund only actions that are not otherwise the core responsibility or business of governments or industry, and that do not subsidise commercial enterprises.	Yes. It will be recommended at IWC67 that this post (for the next two years) will be funded through voluntary funds.

Relevant External Funding Opportunities

(Please list all relevant external funding opportunities identified.)

This VCF application is for supporting the BMI programme coordination. Individual projects outlined in the BMI workplan will require external fundraising- and this is one of the actions planned in programme coordination. Some external funding opportunities have been identified in specific cases (see Workplan) and these will be pursued during 2018-2020.

Overview of activities

Activity	Expected Results	Timeline	Budget Implications	
			Type (Salary, Travel, Meeting Services, Equipment, Other)	Estimated Cost (GB pounds)
Bycatch coordinator salary & Travel to IWC SC & Commission meetings-	Implementation of Workplan 2018-2020	November 2018-2020	Salary & Travel to SC & IWC68	£51,250 (annual) Total £102,500 ¹⁴
Coordination includes:	See workplan & Strategic Plan	See workplan		
• liaison with the Bycatch SWG			Included in salary above	
• coordination of the Bycatch Expert Panel, including annual review of expert panel membership			Included in salary above	
• involvement in and where appropriate coordination and management of pilot projects			Included in salary above	
• involvement in affiliated projects			Travel	£3000
• coordination with other IWC bodies and initiatives			Included in salary above	
• engagement with other Inter-governmental Organisations (IGOs) and organisations			Included in salary above	
• development of and implementation of a fundraising strategy and funding applications to support activities highlighted in the workplan			Included in salary above	
• monitoring and reporting of programme progress			Included in salary above	
• communication activities at national and international level and within pilot projects.			materials	£3000
• Identify main barriers and gaps in IWC bycatch data			Included in salary above	
• Identify and engage with priority RFMOs and RFBs on cetacean bycatch & set up and coordinate network of regional leads to participate in relevant meetings			Travel	£4000

¹⁴ Approximately £25,000 remains in the VCF allocated for bycatch including recent contributions from the USA. There have also been new voluntary contributions from New Zealand. The amount of additional funding required from the VCF will be finalised post-IWC67 when any further earmarked voluntary contributions can also be taken into account.

Core Secretariat support required

Type	Detailed description	Number of days
IT/database	General IT assistance	10 days per year
Communications	Provide assistance in developing and implementing communication strategy and outreach activities.	20 days per year
Meeting Services	Assistance with expert panel meeting organisation & any other workshops	3 days per year
Project management	Dependent on pilot projects/fundraising	15 days per year
Other		
Total		

Potential partners or funders

(Please include a list of all potential partners and funders and their role in this project.)

Partners and potential funders have been identified for individual projects, but is not applicable for the coordination activities (aside from the identified IWC community members highlighted in the Workplan).

Project requirements/Permits/Insurances

(Please list any constraints or other considerations e.g. field work permits, CITES permits, welfare concerns, security considerations etc. Please confirm that all relevant insurances are secured.)

Not applicable to staffing/coordination activities.

Possible Risks

(This should include all possible risks or uncertain factors that might have a negative impact on the project and their possible consequences. Add mitigation options, if possible.)

Individual activities identified in the Workplan have risks associated with them, and will rely on external collaborations. However, these are not applicable to the coordination costs of the programme, which will continue and will adapt to any changes in circumstances.