

Bycatch Mitigation Initiative Strategic Plan 2018-2028

Introduction

Bycatch - the accidental capture and entanglement of non-target species in fisheries- is a global conservation and fisheries management issue, impacting many aquatic animals across different taxonomic groups in both marine and freshwater environments. Bycatch threatens the survival of several cetacean populations and species¹ and although well recognised in the scientific literature as both a major conservation and welfare concern, only limited global progress has been made in tackling the problem.

Tackling bycatch requires the collaboration and involvement of numerous stakeholders and input from multiple disciplines, as the issue inherently relates to how fisheries are managed and the associated social, economic and political dimensions. Finding and implementing solutions to bycatch is a 'scalable' problem, with work needed to address the issue on multiple levels including at the vessel, fleet, community, and national and international levels. A concerted global effort to provide decision makers and communities with the tools to identify, estimate, monitor and mitigate cetacean bycatch has been lacking, and is needed in order to effectively address the issue.

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 cetaceans and the IWC, with its technical expertise and near global membership is well placed to engage on this issue alongside others. This recognition led to an agreement by the IWC Commission at its 66th meeting to establish the Bycatch Mitigation Initiative (BMI).

The overall aim of the BMI is to raise awareness on the need for action on cetacean bycatch at both national and international levels and to promote the use of effective tools to understand and tackle the issue. The BMI is made up of three interrelated components; a Bycatch Coordinator in the IWC Secretariat; a Standing Working Group (SWG) on Bycatch under the Conservation Committee (CC) and an Expert panel to advise the Coordinator and the SWG.

The BMI strategy is based on a collaborative approach- with a strong intent to work with others (externally and internally to the IWC) to complement and add value wherever possible to existing initiatives. Within the IWC context, the BMI will work to capitalise on links with other work areas, including the work of the Scientific Committee, and with individual initiatives such as the Global Whale Entanglement Response Network, Conservation Management Plans, the Small Cetacean Task Team, and the Strandings Initiative. Externally, the IWC will seek to build strong collaborations with others leading work on fisheries research and fisheries management, capacity development and the conservation of cetaceans and other taxa in a bycatch context.

Background on the issue

The cetacean bycatch issue can be broadly summarised as follows:

- The best available global estimate suggests >300,000 cetaceans caught as bycatch each year, threatening both large whales and small cetaceans².

¹ Reeves, R.R., Berggren, P., Crespo, E.A., Gales, N., Northridge, S.P., Di Sciara, G.N., Perrin, W.F., Read, A.J., Rogan, E., Smith, B.D., Van Waerebeek, K., 2004. Global priorities for reduction of cetacean bycatch. Scientific Committee document SC/56/BC2, International Whaling Commission, July 2004, Sorrento, Italy.; & Read, A.J., 2008. The Looming Crisis: Interactions between Marine Mammals and Fisheries. *J Mammal* 89, 541–548. & Reeves, R., McClellan, K., Werner, T., 2013. Marine mammal bycatch in gillnet and other entangling net fisheries, 1990 to 2011. *Endangered Species Research* 20, 71–97.; & Thomas, P.O., Reeves, R.R., Brownell, R.L., 2016. Status of the world's baleen whales. *Marine Mammal Science* 32, 682–734. <https://doi.org/10.1111/mms.12281>

² Read, A.J., Drinker, P., Northridge, S., 2006. Bycatch of Marine Mammals in U.S. and Global Fisheries: Bycatch of Marine Mammals. *Conservation Biology* 20, 163–169.

- Different gears pose different threats to cetacean species. Many large whales are particularly susceptible to entanglement in static gear, such as gillnets, pots and traps. Available evidence suggests that gillnet fishing gear has the highest overall intensity of cetacean bycatch, with smaller cetaceans most vulnerable to this particular gear type.³
- Bycatch, including entanglement in gear, is understood to be the major driver in the population declines of several highly threatened populations and species.⁴
- At a local scale, cetacean bycatch may occur sporadically, however there is a general lack of data on fishing effort, gear use, bycatch and animal abundance/demographics/distributions; consequently, precise bycatch estimates are generally lacking and bycatch by fishery and gear type is poorly monitored and quantified, often making it difficult to identify the top priority places for targeted monitoring and mitigation action.
- Effective technical solutions for minimising cetacean bycatch are not available for some of the fishing gears which pose the greatest risks to cetaceans, and where solutions have been found, they are highly case-specific and may not necessarily be effective for all species and populations in all situations.
- Low-cost and effective mitigation tools, bycatch avoidance strategies and incentive approaches are particularly lacking for small-scale and artisanal fisheries in developing countries
- In some developing nations, fishing industry participants, fisheries managers, and seafood processors/traders are unaware of the extent of cetacean bycatch, monitoring methods or how best to avoid or mitigate bycatch where it exists.
- In many cases, incentives, regulations, and effective enforcement programs, have yet to be developed and implemented to facilitate a change in fishing activity/behaviour in relation to bycatch
- Lack of effective solutions, capacity, and a thorough understanding of the bycatch threat bycatch posed to cetacean populations hampers global action

Legal and international frameworks

To be fully effective the BMI will need to work closely with other international frameworks and organisations which have established the mandate to manage fisheries (e.g. the United Nations Food and Agriculture Organisation- FAO, and Regional Fisheries Management Organisations/ Bodies- RFMOs/RFBs). While the IWC has an important advisory role in facilitating information-sharing regarding cetacean bycatch and raising awareness about the options available to mitigate and reduce cetacean bycatch, it is important to note that the management responsibility for adoption of or use of any tools or products under this Strategic Plan lies with other regional and international fisheries management organizations, and national governments or their subsidiaries.

Furthermore, bycatch is a conservation issue affecting a range of species groups and there are benefits to working collaboratively with multilateral environmental agreements and other fora which focus on these taxa. A brief and non-exhaustive overview of the relevant global-scale international frameworks⁵ relating to cetacean bycatch is provided in Annex 1 and provides the context for the IWC's mandate to engage on this issue, including alongside other relevant bodies.

Strategic Opportunity for the IWC

To effectively focus the work and resources of the BMI, a strategic assessment was undertaken by the IWC Bycatch Coordinator to evaluate the opportunities for the IWC to engage on the issue of cetacean bycatch (BMI Strategic

³ Reeves, R., McClellan, K., Werner, T., 2013. Marine mammal bycatch in gillnet and other entangling net fisheries, 1990 to 2011. *Endangered Species Research* 20, 71–97.

⁴ Read, A.J., 2008. The Looming Crisis: Interactions between Marine Mammals and Fisheries. *J Mammal* 89, 541–548.

⁵ & Brownell, R., Mattelle, S., Rohas-Bracho L., 2018. Emerging or Existing Threats to Cetaceans: Understanding their Conservation Issues? Conservation Committee Planning Group Document IWC/May18/CCPG/11, International Whaling Commission, May 2018 Bled, Slovenia ; & Brownell, R., Mallette, S., (2018) Global baleen whale bycatch: the most threatened populations. Scientific Committee Document SC/67B/HIM/09, International Whaling Commission, May 2018 Bled, Slovenia

⁵ Region-specific frameworks of relevance include ICES, NAMMCO, individual RFMOs and regional seas conventions

Assessment, 2018⁶). A theory of change framework was developed to identify the mechanisms needed to bring about change, globally, in relation to tackling cetacean bycatch. Five mechanisms were identified as vital for bringing about global change on cetacean bycatch, including: 1) the identification of priority fisheries for targeted work and filling knowledge gaps; 2) driving innovation for tackling the issue; 3) bringing about change in attitudes within fishing communities; 4) raising national awareness and capacity; and 5) engaging at international level to link bottom up work with top-down processes.

A gap analysis then examined existing, relevant efforts for tackling cetacean bycatch (and bycatch more generally) at national and international scales in relation to these mechanisms. It further assessed how the BMI could add value to these existing efforts or lead on work where gaps exist.

Major gaps at the global level were identified in relation to understanding and tackling cetacean bycatch in small-scale and artisanal fisheries- particularly in developing countries, where problematic gears such as gillnets are used at high intensity and where these fisheries overlap with the distribution of threatened cetacean species and populations. Technological solutions, bycatch avoidance or incentivisation needs to consider the socio-economic aspects of these fisheries, and little work has been done to date within this area. Furthermore, whilst gaps exist in understanding bycatch in most countries' coastal and Exclusive Economic Zones, there are major gaps in understanding the extent and potential conservation issues of cetacean bycatch in Areas Beyond National Jurisdiction.

Following the gap analysis, the existing strengths and weaknesses, and future opportunities of the IWC were evaluated in relation to the five identified mechanisms. The assessment indicated that the IWC could play an important role within each of the mechanisms, dependent in many cases on the collaborations built with others working at national and international levels. The current strength of the IWC lies in its ability to bring together cetacean experts and use cutting-edge science to inform conservation advice for cetacean populations. The IWC has the existing ability (currently under-utilised) to engage with other international bodies (fisheries management and environmental) to provide technical advice on populations of cetaceans where bycatch could be a potential threat and, through future work of the BMI to promote tools for effectively tackling cetacean bycatch in a fisheries management context. 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, enriching efforts of individual experts- and the BMI as whole- through opportunities to collaborate and share knowledge. The outcomes of the strategic assessment have been used to inform the approach and structure of the Strategic Plan, and the subsequent Workplan.

Strategic Plan 2018-2028

Scope and structure

The Strategic Plan sets out objectives and actions designed for collective work under the BMI, and through collaborations with others to promote change at national, regional and international scale in relation to tackling cetacean bycatch. The objectives are based on the mechanisms identified during the strategic assessment process. Although this is a ten-year plan, it is important to note the need for longer-term engagement in this topic.

The BMI Strategic Plan and Workplan are structured as a series of phased approaches: - which builds up from pilot projects and targeted engagement of specific bodies and broadens over time to use the experience gained to provide

⁶ See Annex 3- Report on the Bycatch Mitigation Initiative 2016-2018, Conservation Committee Document IWCXX/XX/XX, 2018, Florianopolis, Brazil

advice on cetacean bycatch globally. Each phase relies on building active collaborations, both within the IWC community (e.g. Contracting Governments and experts) and with external partners and international bodies.

Success of the BMI strategic plan will be measured by considering the timely development and delivery of pilot projects, products and tools under the Strategic Plan; and outcomes – requests for advice, uptake and adoption of effective solutions in pilot projects and by Contracting Parties, non-contracting Governments, Regional Fisheries Management Organisations and international bodies responsible for fisheries management and marine mammal management.

The Strategic Plan will be subject to iterative review every two years and ongoing adjustment in line with the principles of adaptive management. The first iteration of the workplan will be for a two-year period (2018-2020).

Summary of priorities & phased approach

The BMI will implement the objectives of the strategic plan in a phased approach over the next ten years. Firstly, in-house capacity will be developed through collaborations with experts, participation in pilot projects and involvement in technical work on bycatch reduction technologies and strategies. The BMI will focus on setting up pilot projects in locations and fisheries where the potential for experimental approaches is considered feasible (e.g. where collaborations can be built, enabling conditions are met, transferability to other situations is possible and there is a chance of successfully tackling the issue). Priority for on the ground work during this period will be on small scale/artisanal fisheries in developing countries' coastal areas (particularly focused on gillnets and pots/traps). Tackling cetacean bycatch within the world's small-scale/artisanal fishing sector is needed due to the prevalence of problematic gears, the overlap with coastal cetacean populations and the magnitude and distribution of the fishing sector⁷. Priority will also be given to exploring opportunities to work on bycatch evaluation in the high seas (Areas Beyond National Jurisdiction- ABNJ), due to the broad lack of knowledge on bycatch and the 'niche' identified for the IWC, as an IGO, to work on the issue in the ABNJ.

With strong collaborations built and in-house expertise developed, the BMI will then move towards scaling-up the initiative into an active advisory body, providing information and knowledge transfer through awareness raising programmes, technical advice, capacity development/ training and input through regional and international fora. Technical advice will be made available to countries (including those with endangered cetacean populations) upon request, with potential opportunities to provide advice through existing IWC work programmes such as Conservation Management Programmes and the Small Cetacean Task Team.



⁷ Based on figures that more than 90% of the world's 120 million fishers work in the small-scale fishing sector- World Bank. 2012. Hidden harvest: the global contribution of capture fisheries (English). Washington, DC: World Bank. <http://documents.worldbank.org/curated/en/515701468152718292/Hidden-harvest-the-global-contribution-of-capture-fisheries>

Vision 2018-2028

The Bycatch Mitigation Initiative will work to build on and add mutual value to existing initiatives around the world on cetacean bycatch and develop a collaborative approach to achieving its objectives. By 2028 it will have a strong multi-disciplinary and technical capacity on methods for tackling cetacean bycatch, built through collaborations with experts and participation in ongoing and new projects. Where appropriate, the Bycatch Mitigation Initiative will work with experts tackling bycatch of other taxa, to ensure a joined-up approach. Over time, the Bycatch Mitigation Initiative will be recognised as an expert advisory body, offering practical, technical advice on cetacean bycatch monitoring, assessment, and mitigation to contracting and non-contracting governments and fisheries management bodies.

By 2028, the Bycatch Mitigation Initiative will work towards the development and demonstration of effective cetacean bycatch mitigation measures- bycatch avoidance, gear developments or switching, changes in fishing practices or management- within pilot projects and the systematic implementation at relevant local and national scales. The focal coastal communities will continue to have a thriving fishery sector, with effective monitoring such that bycatch threats can be defined and mitigated to ensure that cetacean stocks are maintained or recovering, while considering the socio-economic needs of local communities.

National capacity to define, understand and tackle cetacean bycatch effectively, particularly in developing countries and small-scale fisheries will be increased. International awareness of the issue of cetacean and bycatch and potential solutions is increased, including in relevant international fisheries and environmental management bodies.

Objectives and outcomes

In order to achieve the vision outlined above, six equally important objectives have been identified through the strategic assessment process as the key components of the BMI Strategic Plan. These include five thematic objectives (based on the mechanisms identified in the Strategic Assessment) and an objective focused on programme coordination and programme funding. The Strategic Plan identifies a suite of medium and long-term high-level actions to be carried out over the lifetime of the Plan and subsequent outcomes. Key partners and collaborators are also identified- as these are vital for the long-term success of the BMI. Detailed actions for the first phase (2018-2020) are provided in the workplan.

Objective 1- Programme coordination

Description: This objective includes core actions needed for the coordination and implementation of the BMI, including the adequate financing of the initiative in order to deliver the objectives highlighted above.

High Level Actions	Outcomes	Key Partners
<ul style="list-style-type: none"> • BMI programme coordination • Development and implementation of BMI fundraising strategy to deliver programme and secure sufficient funds 	<ul style="list-style-type: none"> • Effective implementation of programme and progress made towards achieving objectives • Coordination between different IWC groups, programmes and the BMI effectively managed and opportunities for collaboration increased • Effective coordination of expert panel • Sufficient external funds secured to deliver priority work areas of the BMI 	<ul style="list-style-type: none"> • External funders, IGOs, NGOs

Objective 2- Identify specific fisheries, cetacean species or populations where achievable bycatch mitigation strategies could be tested and/or introduced

Description: *This objective includes a range of actions to both improve the understanding of cetacean bycatch (where it is occurring at unsustainable levels, how/why), and provide the evidence base to direct the focus of the BMI under its other objectives. The actions detailed below were assessed as strategically important for the BMI, due to their potential to proactively identify fisheries or cetacean populations where efforts are needed to tackle bycatch- and which are likely to bring about change-, and to improve the available information on cetacean bycatch globally.*

High-Level Actions	Outcomes	Key Partners
<ul style="list-style-type: none"> • Collaborating with existing data holders of fisheries/bycatch/species distribution across specific regions to identify existing data, evaluate its utility to assist the BMI, and identify key gaps and opportunities to fill knowledge gaps • Identifying priority fisheries where targeted action could be useful through pilot projects, engagement with relevant governments for pilot project establishment. • Regularly evaluate and monitor available information for future prioritisation and as a measure of success where targeted action is taking place to mitigate bycatch • Assessing bycatch risk in data poor locations, with a particular focus on small scale and artisanal fisheries through a rapid risk assessment approach. 	<ul style="list-style-type: none"> • Utility of existing data (bycatch, fisheries, cetaceans), major gaps, and possibilities to fill these are evaluated and identified for at least two regions, and/or better understood (2022) • Key knowledge and data gaps filled (2028) • Fisheries with problematic bycatch, cetacean species or populations for pilot projects are identified, feasibility assessed, and national willingness to participate achieved (2018/2019) • Bycatch hotspots in high seas, and coastal/inshore/river areas are better understood (2028) 	<ul style="list-style-type: none"> • Fisheries data holders (e.g. FAO, International Council for the Exploration of the Sea-ICES, RFMOs/RFBs, Global Fishing Watch, Too Big to Ignore; individual experts); cetacean distribution data (IWC Scientific Committee members, International Union for the Conservation of Nature- IUCN, regional environmental organisations, individual experts), bycatch data holders (national governments, individual experts, IGOs, NGOs, experts on other taxa)

Objective 3- Develop, test, demonstrate effective bycatch mitigation and monitoring solutions

Description: *This objective includes actions related to promoting innovation for bycatch reduction technologies and management approaches, with on-the-ground testing alongside fishing industry, experts and local stakeholders in pilot projects. Testing of mitigation measures found to be effective in one fishery or location will take place in pilot projects, or through capacity development/training programme. A strong focus will be on identifying economically viable solutions alongside the fishing community- including for small scale and artisanal fisheries. Best practice will be promoted at local, national and international levels.*

High-Level Actions	Outcomes	Key Partners
<ul style="list-style-type: none"> • Help drive innovation for mitigation and management approaches, providing information on potential approaches (considering sensory ecology, incentives, economic viability) • In partnership with fishermen, fisheries managers, governments and experts, test, adapt and demonstrate solutions and their economic viability in pilot projects and as part of capacity development/training programmes. • Review current technical advice for mitigation alongside collaborating organisations, experts and existing providers of mitigation material. 	<ul style="list-style-type: none"> • Research and development of innovative mitigation solutions increased and more experimental methods available to trial in pilot projects (2025) • Pilot projects developed and implemented in partnership with fishermen and fisheries managers (2019- ongoing) • Progress made in identifying economically viable and effective solutions for cetacean mitigation in at least one fishing gear (2025) • Information on mitigation and management including FAO Technical Guidelines, and online platforms provided with input from BMI initiatives and expertise. 	<ul style="list-style-type: none"> • Pilot project leads/collaborators; fishing communities involved; national governments; fisheries technologists/innovators; funding bodies; FAO; ICES; Convention on Migratory Species- CMS; NGOs; BMIS.org; Bycatch.org; Scientific Committee members

Objective 4- Bring about change in attitudes within fishing communities towards cetacean bycatch mitigation (where appropriate and applicable)

Description: *This objective focuses on working collaboratively with fishing communities in order to develop trust, change attitudes towards cetacean bycatch and mitigation, and work on adapting solutions and approaches suited to local conditions. Incentivization schemes will be trialled. This will start with pilot projects but scale up to work with relevant fisheries identified by requesting governments.*

High-Level Actions	Outcomes	Key Partners
<ul style="list-style-type: none"> • Engage fishing communities in pilot projects and develop trust and willingness over time to collaboratively tackle cetacean bycatch • Train fishermen in pilot projects on how to operate mitigation gear and adapt solutions for vessels • Train fishermen in fleets beyond pilot projects, including through collaborations with other initiatives • Raise awareness of effective solutions through the promotion and distribution of training/outreach materials • Identify and test a toolbox for incentivising the implementation of bycatch mitigation alongside socio-economic experts & fishing industry • Engage with international market-based programmes, including eco-labels and Fisheries Improvement Projects (IFIPs) to ensure incorporation of cetacean bycatch 	<ul style="list-style-type: none"> • Fishing communities in pilot projects willing to implement solutions (2025) • Fishing communities beyond pilots willing to implement specific solutions identified as effective (2028) • Effective tools for social/economic incentivising in both small scale and commercial fisheries identified and used to develop technical advice (2025) • Technical advice on cetacean bycatch mitigation and management communicated to fishing communities • Eco-labelling and industry led programmes for marketing fish products consider cetacean bycatch and the commercial fishing sector responds by increasing up-take of mitigation (2028) 	<ul style="list-style-type: none"> • Fishing industry, industry groups; eco-labelling & other market-based initiatives; International Seafood Sustainability Foundation- ISSF; Sustainable Fisheries Partnership; BMIS; Bycatch.org; FAO; RFMOs/RFBs; Too Big to Ignore; individual experts

Objective 5- Raise awareness and capacity within national governments to tackle cetacean bycatch (where relevant and applicable)

Description: *This objective includes high level actions around raising national awareness and capacity to tackle the issue. Lessons learnt through pilot projects and collaboration with affiliated projects will be used to develop the BMI's institutional capacity to deliver technical advice, training and capacity development to requesting governments. Efforts will also be made to improve the utility of information reported by governments on cetacean bycatch and reduce the reporting burden.*

High-Level Actions	Outcomes	Key Partners
<ul style="list-style-type: none"> • Outreach and communication activities to raise national awareness and profile of cetacean bycatch issues and the role of the BMI in providing assistance to tackle the issue • Development and implementation of a training and capacity development programme, to provide technical advice to national governments requesting IWC assistance • Improvement and streamlining of IWC bycatch data reporting in the context of broader discussions with other IGOs & data holders. (see objective 6) • Provide recommendations and technical advice through the IWC Conservation Committee on effective tools and strategies for monitoring, assessing, mitigating and managing bycatch. • Promotion of existing technical advice available (e.g. through FAO Technical Guidelines, and online platforms such as BMIS and bycatch.org). 	<ul style="list-style-type: none"> • Awareness raised in contracting & non-contracting governments of issue of cetacean bycatch & potential solutions • Countries request IWC technical advice and have improved capacity to tackle the issue with this assistance and • Improved information provided on bycatch through IWC national reporting and other international processes due to streamlining and collaboration (e.g. FAO, CMS, NAMMCO, ICES, RFMOs/RFBs etc) • Information transfer improved to governments on effective solutions and approaches to tackling issue. 	<ul style="list-style-type: none"> • IWC bodies [CC, GWERN, Strandings Initiative, CMP programme, Small Cetacean Task Team]; FAO, CMS, North Atlantic Marine Mammal Commission- NAMMCO, IUCN, World Bank, Global Environment Facility, national fisheries aid programmes; national governments (IWC and non-IWC requesting advice)

Objective 6- Raise awareness of cetacean bycatch and available solutions within regional and international fisheries management organisations (where relevant and applicable)

Description: *This objective includes a range of activities for raising awareness of cetacean bycatch and strategies for tackling the issue, within priority international fisheries and environmental management organisations, and fostering collaboration to collectively tackle the issue.*

High Level Actions	Outcomes	Key Partners
<ul style="list-style-type: none"> • Collaboration and improved coordination with other international bodies, including RFMOs and Regional Fishery Bodies (etc.) on bycatch monitoring and reporting, capacity development and facilitation of information-sharing with respect to developing and implementing mitigation techniques • Encourage collaboration with World Bank, GEF and other international aid bodies on bycatch issues • Raise awareness of the profile of the issue of bycatch internationally and the solutions available. 	<ul style="list-style-type: none"> • Technical guidelines on marine mammal bycatch mitigation developed by FAO includes input from BMI. • Fisheries management and environmental bodies more coordinated, with higher collaboration on cetacean bycatch than at beginning of BMI. • Capacity development programme & technical advice on cetacean bycatch reaches a broader reach of countries through collaboration with other international bodies • RFMOs and RFBs and relevant MEAs prioritise work on cetacean bycatch 	<ul style="list-style-type: none"> • FAO, RFMOS/RFBS, CMS, Convention on International Trade in Endangered Species of Wild Fauna and Flora-CITES-, ICES, IUCN, NAMMCO, World Bank, GEF, national led fisheries aid programmes

Resources required

The successful implementation of the objectives, and the majority of actions identified above is dependent on securing sufficient funds and developing strong collaborations with others to help deliver this ambitious programme. The BMI will therefore need to invest considerable time, particularly in the first few years, in securing funds to set up pilot projects and build institutional capacity for the BMI. Where already funded projects can be affiliated with the BMI, and collaborations forged with others to develop, test and implement solutions which will lower the need for additional external funds. A fundraising strategy will be developed in 2018 in order to match priority work areas with project concepts, and funding opportunities.

Annex 1

Table of relevant international frameworks relating to cetacean bycatch. This table briefly outlines a number of relevant frameworks with near-global coverage for quick cross-referencing, and is not an exhaustive list of all relevant frameworks. Regional Fisheries Management Organisations/Bodies and regional multi-lateral environmental bodies are not included here but are considered highly important and relevant in relation to bycatch work.

Relevant international framework	Description of relevance to cetacean bycatch
<p>United Nations Convention on the Law of the Sea- UNCLOS (1982)</p> <p>The United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (2001).</p>	<p>UNCLOS requires nation States to take conservation measures to protect the living resources of the high seas, (articles 116, 117, 118, 119, 120), to co-operate and enter into negotiations with "States whose nationals exploit identical living resources, or different living resources in the same area," (article 118); "to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield, as qualified by relevant environmental and economic factors," (article 119); and to conserve and manage marine mammals in the high seas (article 120).</p> <p>Obligations for signatory parties include assessing, monitoring, managing, protecting, and conserving resources, as well as minimizing bycatch and waste through means including selective fishing gear and techniques.</p>
<p>United Nations General Assembly Resolution- U.N. Resolution 44/225</p> <p>Large-scale pelagic driftnet fishing and its impact on the living marine resources of the world's oceans and seas</p>	<p>The UN General Assembly unanimously adopted Resolution 44/225 recommending that all members of the United Nations agree to the following measures:</p> <p>(a) Moratoria on all large-scale pelagic driftnet fishing on the high seas by 30 June 1992, with the understanding that such a measure will not be imposed in a region or, if implemented, can be lifted, should effective conservation and management measures be taken based upon statistically sound analysis to be jointly made by concerned parties of the international community with an interest in the fishery resources of the region, to prevent the unacceptable impact of such fishing practices on that region and to ensure the conservation of the living marine resources of that region;</p> <p>(b) Immediate action to reduce progressively large-scale pelagic driftnet fishing activities in the South Pacific region leading to the cessation of such activities by 1 July 1991, as an interim measure, until appropriate conservation and management arrangements for South Pacific albacore tuna resources are entered into by the parties concerned;</p> <p>(c) Immediate cessation of further expansion of large-scale pelagic driftnet fishing on the high seas of the North Pacific and all the other high seas outside the Pacific Ocean, with the understanding that this measure will be reviewed subject to the conditions in paragraph 4 (a) of the present resolution; (see (a) above)</p>
<p>United Nations General Assembly Resolution 70/01 Transforming our world: the 2030 Agenda for Sustainable Development-</p> <p>Sustainable Development Goal 14</p>	<p>This agenda is a plan of action for people, planet and prosperity which aims to build on the Millennium Development Goals. There are 17 Sustainable Development Goals The goals and targets will stimulate action over the next 15 years in areas of critical importance for humanity and the planet.</p> <p>Conserve and sustainably use the oceans, seas and marine resources for sustainable development</p> <p>14.2- By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans</p>
<p>The Convention of Biological Diversity (December 1993)</p> <p>Aichi biodiversity targets</p>	<p>Aims to conserve biological diversity, promote sustainable use of natural resources, and share the benefits fairly and equitably that stem from using genetic resources (CBD 2018).</p> <p>Target 6- By 2020, all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem-based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted</p>

	species, fisheries have no significant adverse impacts on threatened species... and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.
FAO Code of Conduct for Responsible Fisheries (1995)	The 'Code'- Members should collect reliable and accurate data, including data on bycatch, discards, and waste.
FAO International Guidelines on Bycatch Management and Reduction of Discards (2011)	The guidelines promote responsible fisheries by minimizing the capture and mortality of species and sizes which are not going to be used in a manner that is consistent with the Code; providing guidance on measures that contribute towards more effective management of bycatch and reduction of discards; and improving reporting and the accounting of all components of the catch of which bycatch and discards are subsets.
Technical guidelines on marine mammal bycatch- under development (2018)	The 33 rd COFI meeting agreed to FAO developing technical guidelines on marine mammal bycatch mitigation with cooperation from the IWC and NAMMCO and engagement with members.
The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	CITES prohibits international trade in specimens of Appendix 1 listed species except when the purpose of the import is not commercial (e.g. scientific research) 24 cetacean species are listed under Appendix I (species threatened with extinction) and remaining cetacean species are listed under Appendix II (species for which trade must be controlled to maintain their populations).
United Nations Environment Programme- The Convention on the Conservation of Migratory Species of Wild Animals (CMS)	The Convention provides a legal framework to internationally coordinate conservation measures throughout a migratory species' range. Appendix I of the CMS lists migratory species threatened with extinction. Entities try to protect these species, conserve or restore their habitats, and mitigate other obstacles that cause risk. Appendix II lists migratory species that may need or would benefit from international cooperative measures including the development of regional agreements.
CMS Resolution 12.22 on bycatch (2017)	A resolution covering multi-taxa bycatch, repealing previous CMS resolutions and recommendations on bycatch, calling on parties to assess bycatch risk, strengthen measures to reduce bycatch of migratory species, provide reports on bycatch, increased cooperation among range states on bycatch including through information exchange. The resolution also includes aspects related to participation in Regional Fisheries Management Organisations, Bycatch Mitigation Measures and Data collection, Collaboration and Cooperation and Technological and Financial Assistance.
CMS daughter agreements and MOUs of relevance to bycatch of migratory species	Two agreements (ASCOBAMS and ACCOBAMS) specifically focus on cetacean conservation at a regional scale- and include a focus on bycatch. Other agreements and Memoranda of Understanding under CMS are focused on the conservation- including bycatch work- of other marine megafauna, including seabirds, dugongs, turtles and sharks (ACAP , Dugong MOU , IOSEA Marine Turtle MOU , Sharks MOU)
International Whaling Commission-	
International Convention on the Regulation of Whaling (1946) - Article V(1)(a)	<i>The Commission may adopt measures with respect to the conservation of whale resources.</i>
<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>

<p><i>Resolution 2000-8 on Western North Atlantic right whales</i></p>	<p><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></p>
<p><i>Resolution 2000-9 on the conservation of freshwater cetaceans</i></p>	<p><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 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></p>
<p><i>Resolution 2001-4 on the Incidental Capture of Cetaceans</i></p>	<p><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></p>
<p><i>Resolution 2001-13 on Small Cetaceans</i></p>	<p><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></p>
<p><i>IWC66- endorsement of recommendation to establish the Bycatch Mitigation Initiative</i></p>	<p><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></p>