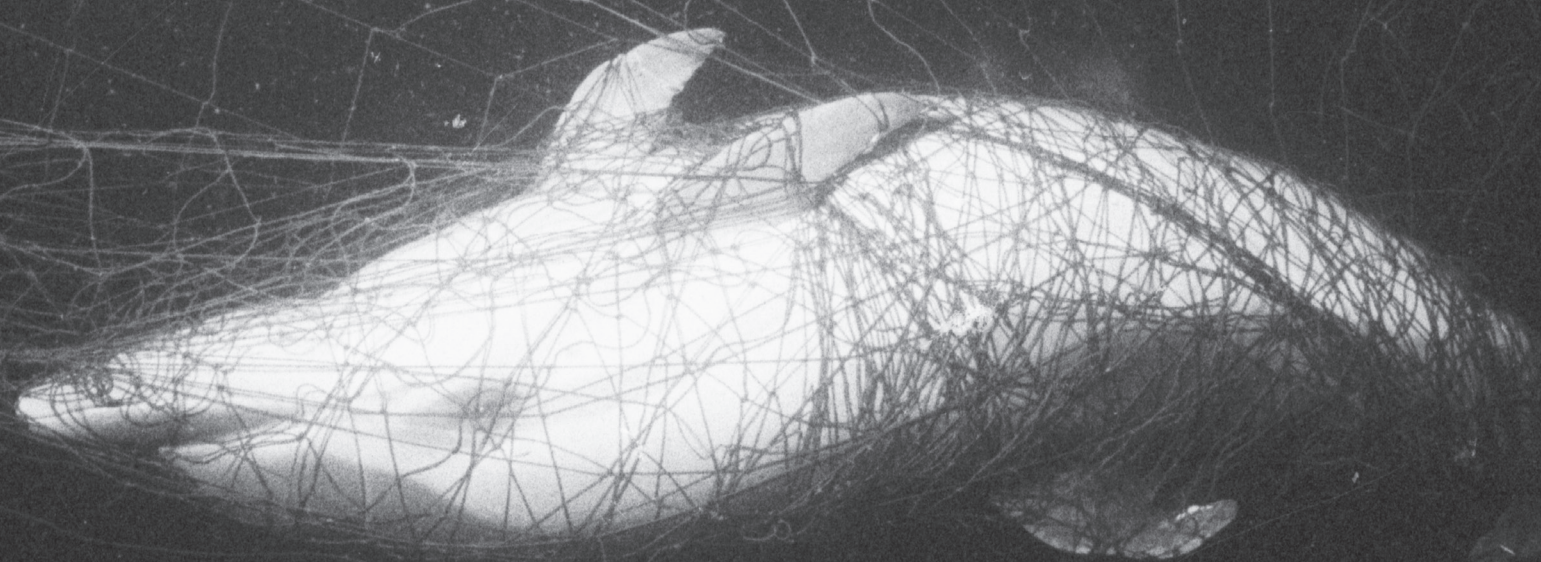


Gearing up to eliminating cross-taxa bycatch in UK fisheries

A Wildlife and Countryside Link (WCL) technical briefing



©Peter Rowlands (Greenpeace)

This briefing is supported by the following organisations:



Looking out for Whales and Dolphins



What's the problem

In UK waters, thousands of animals, including cetaceans, seals, seabirds, turtles and elasmobranchs die every year, as a result of incidental capture and drowning in the gears of fishing vessels. Recent estimates of the annual UK fisheries toll include over 1,500 small cetaceans, predominantly comprising harbour porpoise and common dolphin, 400-600 seals¹, and concerning and increasing levels of entanglements of humpback and minke whales off the coast of Scotland². Whilst there are also undoubtedly hotspots of seabird bycatch in certain areas of the UK's coastal gill-net fisheries and the demersal longline fishery off the West coast of Scotland, the low monitoring levels have prohibited total bycatch mortality estimates for any seabird species³. Bycatch of other Endangered, Threatened, Protected (ETP) species such as turtles, sharks and rays also occurs, though likewise there is insufficient monitoring to determine rates of bycatch or the potential impact on populations.

Despite actions taken by international, regional, and national regulatory bodies intended to limit and reduce the incidental capture of ETP species in fishing gear, bycatch remains one of the foremost threats to marine mammals and other protected species.

Tackling such bycatch is an essential component of achieving sustainable and responsible fisheries. A UK objective of minimising and where possible eliminating bycatch is needed to protect marine wildlife populations from fishing practices. The UK's exit from the EU provides the opportunity for the UK to position itself as the most environmentally responsible and welfare-friendly wherever its vessels operate and to apply the same standards to other fishing nations allowed access to UK waters, helping drive improved standards elsewhere.

1. ICES CM 2017/ACOM:24 Report of the Working Group on Bycatch of Protected Species (WGBYC). 79 pp. http://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/acom/2017/WGBYC/wgbyc_2017.pdf; Northridge, S., Kingston, A. & Thomas, L. 2017. Annual report on the implementation of Council Regulation (EC) No 812/2004 during 2016. N.B. Estimates may be biased high due to some of the assumptions made for estimation across all gillnet metiers and areas; this bycatch estimate comprises between 1200-1500 harbour porpoises and around 240 common dolphins.

2. Ryan, C., Leaper, R. & Evans, P. G. H. 2016. Entanglement: an emerging threat to humpback whales in Scottish waters. Report to the International Whaling Commission SC/66b.

Northridge, S. Cargill, A., Coram, A., Mandleberg, L., Calderan, S. & Reid, B. 2010. Entanglement of minke whales in Scottish waters; an investigation into occurrence, causes and mitigation.

3. ICES, 2016. Report of the Working Group on Bycatch of Protected Species; ICES, 2017. Report of the Working Group on Bycatch of Protected Species. ICES CM 2017/ACOM:24



ABOUT WCL

Wildlife and Countryside Link (Link) brings together 48 environment and animal protection organisations to advocate for the conservation and protection of wildlife, countryside and the marine environment. Taken together we have the support of over eight million people, making us the biggest environmental and animal protection coalition in England.

FOR FURTHER INFORMATION, PLEASE CONTACT:

Cecily Spelling, WCL Marine Policy and Campaigns Manager, cecily@wcl.org.uk, 020 7820 8600.

Sarah Dolman, co-chair of WCL Bycatch Working Group co-Chair and Bycatch Programme Lead at WDC, sarah.dolman@whales.org

Sarah Baulch, co-chair of WCL Bycatch Working Group co-Chair and Senior Oceans campaigner at EIA, sarahbaulch@eia-international.org

Above: Fulmar on longline hook

Front cover: Dolphin in a net

CONTENTS

Existing regulations and actions	4
What's the solution?	6
Mitigating bycatch of ETP species - A UK win-win	8
Essential components of the UK cross-taxa bycatch strategy	10



©Roger Grace, Greenpeace

Existing regulations and actions

Current UK action to monitor and mitigate bycatch of ETP species occurs under both regulatory and voluntary measures, including:

- Cetaceans: EC Regulation 812/2004 which specifies monitoring and mitigation requirements, the EU Habitats Directive, the Marine Strategy Framework Directive (MSFD) and the Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS). Significant shortcomings have been identified in Regulation 812/2004, including the limited range of areas, vessel sizes and gear types to which monitoring and mitigation obligations apply, leaving significant sectors of the fleet unmonitored and poor implementation by non-UK Member States.
- Seabirds: EU Birds Directive and the EU Seabird Plan of Action. The 'EU Action Plan for reducing incidental catches of seabirds in fishing gears' (COM (2012) 665final) is a voluntary action plan with an aim 'to minimise and where possible eliminate the incidental catches of seabirds', an objective echoed in the UK Marine Strategy Regulations 2010.
- Marine reptiles: EU Habitats Directive, UK Marine Turtles Grouped Species Action Plan (SAP). As with other European Protected Species listed on

Annex IV of the Habitats Directive, Member States are required to monitor conservation status, ensure measures are in place to prevent capture, killing or disturbance, and to monitor by-catch.

- Sharks and rays: EC regulation 2018/120 lists 35 species of shark and ray that are prohibited to be fished for, transhipped or landed within certain waters⁴, with other species listed under Articles relating to Regional Fisheries Management Organisation (RFMO) measures. These listings are reinforced in Scottish waters through the Sharks, Skates and Rays (Prohibition of Fishing, Trans-shipment and Landing) (Scotland) Order 2012. Protection from disturbance and harassment is mandated in English and Welsh waters through the listing of Basking Sharks, Angelsharks and White Skate under Schedule V of the Wildlife and Countryside Act (1981), whilst The Wildlife (Northern Ireland) Order 1985 has scheduled Basking Sharks, Angelsharks and Common Skate for protection. A full set of management advice can be found at: sharktrust.org/en/fisheries_advisories

What does this mean in practice?

The UK meets its obligations to monitor and mitigate cetacean bycatch under Regulation 812/2004⁵ and championed the creation of the EU Plan of Action for reducing incidental catches of seabirds in fishing gears. However, the level of observer coverage of UK-registered vessels is less than 1%⁶. As a result, our understanding of the true extent of the problem is low with hitherto very little attention to addressing it effectively. As such the bycatch of cetaceans, seabirds, turtles and other non-target species remains a significant conservation and welfare concern in UK and adjacent waters.



©Nick Davison

4. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32018R0120>
 5. Read, F, Evans, P and Dolman, S. 2017. http://www.wdcs.co.uk/media/submissions_bin/EU-Cetacean-Bycatch-Monitoring-Mitigation-Report.pdf
 6. Simon Northridge, pers. comm.

Far left: Shearwater trapped

Left: Dolphin bycatch



Above: Fisherman attaching pinger to net.

What's the solution?

In order to deliver effective bycatch minimisation and where possible elimination, the UK needs to commit to and deliver an effective cross-taxa bycatch strategy. We believe that this requires legal underpinning in order to be delivered effectively and within clear timeframes, and should include a scientifically robust and accountable monitoring system and effective implementation programme. We welcome the recent commitment to a UK cetacean bycatch initiative and believe this is a useful step in the process which we need to act upon urgently in order to deliver real change on the water.

What should a UK Cross-taxa Bycatch Strategy look like?

The UK now has an opportunity to demonstrate global leadership in establishing a cross-taxa UK bycatch strategy incorporating effective measures to address bycatch of cetaceans, seabirds and other ETP species. Fundamental to the strategy are the following obligations:

1. Bycatches of marine mammals, marine reptiles, seabirds and other non-commercially exploited species that result from fishing in UK waters are progressively minimised and where possible eliminated;
2. An obligation to have dedicated, independent and scientifically robust monitoring and reporting, irrespective of vessel size, to accurately record bycatch levels and inform the conservation and welfare impacts⁷.
3. The requirement to put mitigation measures in place where necessary to minimise, and where possible eliminate, bycatch;
4. Monitoring and mitigation measures should be applicable to all fishing fleets operating in UK waters, including both domestic and overseas territories;
5. A detailed compliance initiative should be in place for non-UK as well as UK vessels to ensure measures are being undertaken and tools are implemented effectively (i.e. that pingers are working effectively); and,

6. The cross-taxa bycatch strategy should be fully funded, reviewed for effectiveness and reported upon on a 5-year basis. Funding should include provision for research to develop and trial mitigation measures.

How would it be framed?

In our view, such obligations of the strategy should have a legal basis. These obligations are not included in EU regulations currently in force, nor in the EU law currently under negotiation and review (e.g. Regulation on the Conservation of Fishery Resources and the Protection of Marine Ecosystems through Technical Measures (2016/0074 (COD)). Therefore the UK cannot rely on adequate measures for addressing bycatch being carried across into UK law upon exit from the EU through the Withdrawal Bill process.

The anticipated Fisheries Bill should enshrine clear objectives to guide fisheries management policy and decision-making, including the principle that an ecosystem-based approach will be applied to the management of fisheries. If a requirement for a UK bycatch strategy is not contained in the forthcoming Fisheries Bill, then the cross-taxa bycatch strategy must be introduced as an integral part of future UK fisheries management legislation as a priority after exit. It could be done by including a requirement in primary legislation for the relevant authorities to establish and adhere to a cross-taxa bycatch strategy. The technical details of the strategy itself could then be brought through in secondary legislation. It is important for the initiative to have a legislative footing to ensure it is enforceable and to provide permanence and certainty. The specifics of monitoring and mitigation should be laid out in the bycatch strategy, determined on a fishery- and species-specific basis and reviewed on a five year basis. This approach would be consistent with an ecosystem-based approach to fisheries management.

The White Paper should contain a clear commitment to minimise and where possible eliminate bycatch and a commitment to introduce a UK cross taxa strategy via legislation as a priority. Objectives to implement an ecosystem-

based approach and, in compliance with this, to eliminate bycatch of protected species should also be detailed in any forthcoming UK Fisheries Policy Statement and cross referenced to related objectives in the UK Marine Strategy and UK Marine Policy Statement⁸.

The UK as global leaders

The production of a UK bycatch strategy provides a welcome and critically needed opportunity to position the UK as a world leader, with the most environmentally responsible and welfare-friendly fishing fleets. Bycatch of ETP species is an avoidable burden on both the species at risk and the fishing operations responsible. The unwanted interaction of ETP species with fishing gears can have an adverse effect on fishing productivity and profitability, as well as public perception. However, judicious use of mitigation measures and/or alternative gear can prevent such bycatch without reducing fish catch, and in some cases may even enhance fishing returns and yield economic gains for fishermen⁹. While the challenge to mitigate bycatch varies with gear type, effective and relatively inexpensive technical solutions already exist for many interactions and are already in routine use by fishing nations around the world¹⁰.

Analysis of key fisheries and investigation of ETP bycatch solutions is a priority.

Seabird bycatch, for example, has all but been eliminated in the legal longline fisheries in Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) waters (Southern Ocean), where the use of mitigation measures is a pre-condition for a vessel gaining licensed access to the fishery. Progress is also now being made in tackling seabird bycatch in selected purse seine and gill-net fisheries in the developing world, much of it driven by the activity of BirdLife's Albatross Task Force, working on shore and on deck in collaboration with fishermen to develop tailored solutions to particular vessel and fishery conditions¹¹.

Effective monitoring is a key component of a successful strategy in order to assess bycatch rates and identify high-risk fisheries, assess the efficacy of mitigation and ensure compliance with best practice. Current UK monitoring of bycatch of ETP species is not fit for purpose¹². However, remote electronic monitoring (REM) can offer 100% coverage levels at a fraction of the cost of more traditional methods,

which provide less than 1% coverage, with cameras offering by far the most cost-effective option for monitoring at sea. REM has been successfully trialled for monitoring of cetacean bycatch in Denmark and the Netherlands, where bycatch rates were higher than documented through the use of visual observers. Introducing REM as standard practice offers the UK the chance to improve fisheries management and lead the way in monitoring bycatch of ETP species as well as ensuring wider fisheries sustainability and accountability¹³.

8. UK Marine Policy Statement. 2011.
 9. BirdLife International. 2009. European Community Plan of Action (ECPOA) for reducing incidental catch of seabirds in fisheries – Proposal by BirdLife International. 28pp. Available at: <https://ww2.rspb.org.uk/globalassets/downloads/documents/positions/marine/european-community-plan-of-action-ecpoa-for-reducing-incidental-catch-of-seabirds-in-fisheries.pdf> (see pp 24-26)
 10. <https://acap.aq/en/resources/bycatch-mitigation/mitigation-advice>;
 FAO (2009) Fishing Operations: 2. Best practices to reduce incidental catch of seabirds in capture fisheries. FAO Technical Guidelines for responsible Fisheries 1. Suppl 2. Rome 2009.
 11. RSPB / BirdLife International, 2016. Albatross Task Force Annual Report. 18pp. Available at: <https://ww2.rspb.org.uk/globalassets/downloads/join-and-donate/appeals/albatross-task-force-annual-report-2016.pdf>
 12. WWF, 2017. Remote electronic monitoring in UK fisheries management, 40pp.
 Northridge, S., Kingston, A. & Thomas, L. 2017. Annual report on the implementation of Council Regulation (EC) No 812/2004 during 2016.
 13. WWF, 2017. Remote electronic monitoring in UK fisheries management, 40pp.



Gearing up to eliminating cross-taxa bycatch in UK fisheries

7. ASCOBANS, 2017. Advice from the ASCOBANS Advisory Committee at its 23rd session on Reducing marine mammal & turtle bycatch in EU fisheries through an effective new regulation on Technical Conservation Measures, 15 September 2017

Mitigating bycatch of ETP species - A UK win-win

An innovative alliance for auks

A long-running conflict between the RSPB and the Filey Bay (North Yorkshire) net fishery for sea trout and salmon over the annual entanglement of auks from the nearby cliff colonies ended when one of the fishermen introduced high visibility netting into his fishing gear. This innovation, rapidly standard practice across the fishery, greatly reduces bird bycatch without adversely affecting fish catch¹⁴. The protagonist was typical of many fishermen in: (a) not wishing to harm marine wildlife and (b) having the intimate knowledge to come up with his own solution. The RSPB collaborated closely with local fishermen in supporting this gear adaptation and spreading best practice, an alliance which has led to piloting mitigation trials in static gear elsewhere.

14. RSPB / BirdLife International, 2017. Towards seabird-safe fisheries. 21pp. Available at: http://www.birdlife.org/sites/default/files/bycatch_booklet_2017_w.pdf (see pp 34-35)

Mapping success for the Spurdog

In November 2016, the Spurdog By-catch Avoidance Programme was launched by Cefas, Defra, the MMO, Cornish Fish Producers Organisation and the Shark Trust. This was a pilot project focused on ICES Divisions 7e-j in the Celtic Sea. Participating vessels upload near real-time information on Spurdog by-catch, generating a map highlighting areas with high, medium and low risk of Spurdog by-catch. Skippers then use this information to adapt their fishing patterns and behaviour accordingly. Integral to the programme is a dead Spurdog by-catch allowance which incentivises fishermen to participate, displacing their typical fishing activity in order to support stock recovery.

Pingers and porpoises

Current potential mitigation methods for cetacean bycatch include closed areas, acoustic deterrent devices and gear modifications¹⁵. Acoustic deterrent devices, such as pingers, have been used on >12 metre vessels in some regions of Europe as required under EC Regulation 812/2004, and in the case of harbour porpoises, on the whole show substantial reductions in bycatch. The UK has around 25 vessels required to use pingers under EC Regulation 812/2004 (vessels > 12m using bottom set gillnets or entangling nets) and has had an active enforcement and monitoring programme in recent years¹⁶. Bycatch rates of harbour porpoises in UK fisheries have continued to be much lower in gillnets that are properly equipped with pingers, with no clear evidence of habituation, reducing porpoise bycatch in UK waters by around 15% to 1468 individuals in 2014¹⁷. However, it is still unclear whether pingers are having any effect on the bycatch rates of dolphin species in gillnets¹⁸. The UK (and Ireland based on UK results) has been using DDD (dolphin deterrent devices) on trawls to reduce common dolphin bycatch and this seems to be effective, but as there has been no control experiment, there is uncertainty in the results. Although pingers have been effective where they have been deployed and maintained, this only represents a small proportion of the total UK effort and so the overall effect on bycatch reduction has been limited. Cost, reliability and compliance are also key issues that limit their application, with correct deployment key to their efficacy. Furthermore, there are concerns regarding the long-term population-level consequences of noise avoidance and associated habitat displacement¹⁹. Simulations suggest that a combination of time-area fishing closures and pingers may be most effective²⁰, with fishing activity excluded in high-quality porpoise habitat with the greatest bycatch risk and during periods of increased energetic demand/stress, (e.g. when females are lactating)²¹. There is also scope to look at alternative gear types such as the use of fish traps to replace gillnets where appropriate for target species capture.

15. Leaper, R. & Calderan, S. 2017. Review of methods used to reduce risks of cetacean bycatch and entanglement. Report to the International Whaling Commission SC/67a.
 16. Northridge, S., Kingston, A. & Thomas, L. 2017. Annual report on the implementation of Council Regulation (EC) No 812/2004 during 2016.
 17. Leaper, R. & Calderan, S. 2017. Review of methods used to reduce risks of cetacean bycatch and entanglement. Report to the International Whaling Commission SC/67a.
 18. Northridge, S., Kingston, A. & Thomas, L. 2017. Annual report on the implementation of Council Regulation (EC) No 812/2004 during 2016.
 19. Van Beest, F., Kindt-Larsen, L., Bastardie, F., Barolino, V. & Nabe-Nielse, J. 2017. Predicting the population-level impact of mitigating harbour porpoise bycatch with pingers. *Ecosphere* (8) 4.
 20. Murray, K. T., A. J. Read, and A. R. Solow. 2000. The use of time/area closures to reduce bycatches of harbour porpoises: lessons from the Gulf of Maine sink gillnet fishery. *Journal of Cetacean Research and Management* 2:135-141.
 Kindt-Larsen, C., J. Berg, T. Tougaard, K. Sørensen, S. Geitner, S. Northridge, S. Sveegaard, and F. Larsen. 2016. Identification of high-risk areas for harbour porpoise *Phocoena phocoena* bycatch using remote electronic monitoring and satellite telemetry data. *Marine Ecology Progress Series* 555:261-271
 21. Van Beest, F., Kindt-Larsen, L., Bastardie, F., Barolino, V. & Nabe-Nielse, J. 2017. Predicting the population-level impact of mitigating harbour porpoise bycatch with pingers. *Ecosphere* (8) 4.



Above: Netmarks around maxilla and melon of porpoise



©Simon Rogerson



©Brighton and Hove Beach Searoom

Above: Short beaked common dolphin

Essential components of the UK cross-taxa bycatch strategy should include:

Monitoring and reporting

- A scientifically robust and systematic data collection and reporting protocol calibrated to the needs of different métiers (vessel types/gears/target fish species), with dedicated bycatch monitoring and assessment across the fleet.
- Monitoring should include a range of tools, including remote electronic monitoring (REM) appropriately positioned to document net or line hauls across all fleets, dedicated on-board observers, strandings monitoring and recovery of dead bycaught marine mammals and turtles for post-mortem investigations.
- Monitoring schemes should be developed on the basis of the best available scientific advice and data collection protocols standardised, such that they provide robust estimates of bycatch per fishery and unit area and can be extrapolated to fleet level to determine cumulative bycatch rates of ETP species. Coverage must extend across the geographical and seasonal range of the fishery in order to be able to confidently extrapolate to the whole fishery.
- Monitoring levels should reflect bycatch risk, with higher analysis of REM footage and/or higher coverage of dedicated observer monitoring programmes in medium-to-high risk fisheries, and baseline surveillance in those fisheries that existing data suggest pose a low risk of bycatch²². The levels of coverage needed should be determined by the coefficients of variation in data collected, with a high level of coverage focused in medium-to-high risk fisheries and should be under constant review.
- A legal provision that observers and compliance officers can board and work from vessels as needed should be in place across all devolved administrations.
- Consideration could be given to 'trigger points' - levels of bycatch at which critical measures are progressively implemented, such as escalated levels of fleet monitoring to enable real-time monitoring and reporting.
- Reporting should include:
 1. Log book reporting of bycatch incidences.
 2. Finer-scale, improved real-time reporting of fisheries activity, including gear type, target species, days at sea with location, mitigation devices. (presence/absence, type, setting interval) and gear parameters (e.g., net length, height, depth, mesh size, immersion duration of gear, aperture of trawls)²³.
 3. Annual reporting by statutory agencies to relevant fora and scientific bodies (e.g. ASCOBANS, ICES etc.) on rates of bycatch, mitigation measures implemented and the results of monitoring of their effectiveness in UK waters, but also to contribute to data generated across the region at an ocean basin scale (i.e. North Sea).

Mitigation

- Monitoring and risk assessments currently underway should be used to help focus attention on the geographical areas, and on those fisheries interactions, in most need of intervention with measures and further research.
- Fisheries should be prioritised, bycatch reduction targets specified and appropriate mitigation methods implemented, including investing in new technologies as necessary.
- The UK bycatch strategy should provide for the establishment of regional multi-stakeholder groups in bycatch hotspots tasked with developing and trialling mitigation approaches.
- Bycatch mitigation should be based on best available scientific advice and include a range of measures as shown to be effective and appropriate, tailored to the fishery and range of bycaught species. These should include spatio-temporal measures and species-specific technologies²⁴.
- Monitoring should be undertaken on the efficacy of mitigation measures, with adaptive management, as required.
- Spatial management, including measures in protected areas should be in line with Natura requirements and equivalent requirements after the UK leaves the EU.
- Statutory agencies should have the power to implement emergency real-time mitigation measures in the case of bycatch rates of concern.
- There should be adequate provision for dedicated enforcement capacity and effective sanctions for non-compliance.
- Funding will be required to facilitate collaborative research, development and testing of innovative mitigation or alternative gear solutions in fisheries where mitigation is challenging, notably for gill-nets and other static gears.
- Particular investment will be needed in applying the above measures to the small-scale, coastal fleet.
- An outreach programme is needed to raise awareness of the bycatch problem to fishermen, provide any training and other incentives needed, and to encourage compliance with remedial measures.

22. ASCOBANS, 2015. Recommendations on the Requirements of Legislation to Address Monitoring and Mitigation of Small Cetacean Bycatch, October 2015

23. ASCOBANS, 2015. Recommendations on the Requirements of Legislation to Address Monitoring and Mitigation of Small Cetacean Bycatch, October 2015

24. Leaper, R. & Calderan, S. 2017. Review of methods used to reduce risks of cetacean bycatch and entanglement. Report to the International Whaling Commission SC/67a. ICES. 2013. Report of the Workshop to Review and Advise on Seabird Bycatch (WKBYCS), 14–18 October 2013, Copenhagen, Denmark. ICES CM 2013/ACOM:77. 79 pp (See for example Table 3.1)

This briefing is supported by the following organisations:

