EU FISHERIES CONTROL COALITION

Technical analysis: Landing Obligation and bycatch monitoring of cetaceans

After two decades of testing, Remote Electronic Monitoring (REM), consisting of cameras, net sensors and systems incorporating data storage, has developed into an important tool for improving the knowledge base that underpins sustainable fisheries management. If used correctly, REM can fill existing data gaps with independently verifiable catch information, which can assist a number of key management objectives, including (1) the establishment of truly sustainable catch limits and restrictions, (2) the mitigation of sensitive species bycatch, and (3) the effective enforcement of the rules of the Common Fisheries Policy (CFP).

That being said, ongoing policy debates surrounding the introduction of REM on board EU fishing vessels under proposals for a new EU Fisheries Control Regulation (to amend Regulation (EC) No.1224/2009) have taken a rather restrictive view of the technology, with requirements for cameras being considered only for vessels at risk of non-compliance with the EU's discard ban (or Landing Obligation (LO)). However, there is little overlap between the fleet sectors that are likely to be given priority with respect to non-compliance with the Landing Obligation and those with the greatest need for sensitive species bycatch monitoring to assist with meeting the legal requirements of the Habitats Directive. Thus there is a need to ensure sufficient REM monitoring for cetacean bycatch to establish robust bycatch rates, which necessitates that implementation of the technology be far more widespread than is currently being proposed.

Cetacean bycatch in EU waters

Many thousands of cetaceans as well as other sensitive species including seals and seabirds die each year in EU fisheries as a result of incidental capture in fishing gear.[1] This bycatch occurs in fisheries using gill nets, certain types of trawls, and pots or traps. The Technical Measures Regulation (2019/1241) has a goal to afford the strict protection required to cetaceans under the Habitats Directive (92/43/EEC) by minimising and, where possible, eliminating incidental captures by fishing gear.

In order to effectively meet these targets, there is a need for adequate monitoring data to understand the numbers of sensitive species that are affected by bycatch, the level of risk associated with each fishery, the efficacy of any mitigation measures that are implemented and compliance with any bycatch related regulations. It is therefore concerning that in 2019, the Scientific, Technical and Economic Committee for Fisheries (STECF) concluded that current monitoring and reporting of cetacean (and other Protected Endangered Threatened species) bycatch is inadequate. STECF made a number of proposals for improvements, including increased monitoring in metiers with a high risk of protected species bycatch, in particular gillnets, trammel nets and entangling nets. STECF further noted that gill netters under 15 metres (m) are currently not covered by monitoring of incidental catches through the EU Data Collection Framework (EU-MAP/DCF).[2]

The bycatch monitoring regulations adopted more recently in Technical Measures (2019/1241) also do not cover vessels under 15m. It has been estimated that vessels under 12m using static or passive gear account for almost 80% of the EU fleet by number.[3] These small vessels make up the majority of the vessels using gill nets and pots/traps that can present a high risk of cetacean bycatch and entanglement. The International Council for the Exploration of the Sea (ICES) and the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS)[4] have also highlighted the need for improved cetacean bycatch monitoring, which has been shown to be inadequate for estimating total bycatch by population, identifying the specific fisheries involved and supporting effective mitigation measures. This has greatly hampered efforts to address bycatch because the limited mitigation that has been implemented has not always been directed at the highest risk fisheries because of inadequate data.[5]

Remote Electronic Monitoring in the future Control Regulation

In response to the inadequacies of current bycatch monitoring in the EU, scientists and non-governmental organisations have increasingly promoted the use of REM to provide the information that managers and fishers need for successful mitigation measures to be implemented. REM systems have been used experimentally to monitor cetacean bycatch in a number of European fisheries including Denmark[6] and the Netherlands.[7] These studies have demonstrated that such systems can provide adequate data, are cost-efficient and can be used on vessels where it is not possible to accommodate observers. Trials in Peru have also demonstrated that this can be done at relatively low cost in a small-scale artisanal fishery.[8] These trials are ready to be scaled up to fleet level.

Despite this, ongoing policy debates surrounding the introduction of REM on board EU fishing vessels under a new EU Fisheries Control Regulation (Regulation (EC) No. 1224/2009) have taken a more restrictive view of the technology. In May 2018, the European Commission published its proposal to revise the Control Regulation, limiting the implementation of REM to EU fleet segments that are at risk of non-compliance with the EU's discard ban (or Landing Obligation). Meanwhile, in February 2020, the European Parliament Fisheries Committee took an even narrower interpretation, with its draft report proposing that only vessels at high risk of non-compliance with the Landing Obligation need to install REM.

The LO was one of the main measures introduced in 2013 as part of the reforms to the CFP.[9] It stipulates a requirement to land all catches of quota- or size-regulated species with the overall aim of gradually eliminating discards. Full implementation of the LO came into effect on 1 January 2019. However, to date, there is an acknowledged widespread lack of compliance and continued illegal discarding within the EU fleet. For example, in 2016, European Fisheries Control Agency's (EFCA) assessments of fishing activity in both the North and Baltic Seas indicated that a majority of vessels using active gear are at a medium to very high risk of non-compliance,[10] a finding corroborated by a number of reports highlighting the continued practice of discarding unwanted catch in the Baltic.[11] Multiple trials throughout Europe have demonstrated that REM can contribute towards effective monitoring of the LO.[12] However, if management of fisheries in the EU is to realise the full range of benefits that REM technology can provide, including bycatch monitoring, then implementation strategies will need to ensure that vessel coverage is more widespread than what is currently being proposed.

Comparison of fisheries of particular concern for cetacean bycatch with monitoring of the Landing Obligation

There are a number of considerations that need to be taken into account when using REM for marine mammal bycatch monitoring. Although many of these are the same as would be required for monitoring bycatch of fish species under the LO, a key issue is the proportion of the fleet that is monitored and whether

the monitoring of fisheries for the purposes of enforcing the LO, as is currently proposed by EU decision makers, will also cover an adequate proportion of fisheries that are high risk for cetacean bycatch. Other issues include the location and view of the camera systems and whether these would detect any bycaught cetaceans not brought on deck. These considerations will be fishery-specific and could be addressed once the principle of REM for a given fishery has been established and agreed.

High rates of fish discards have generally been associated with medium or large-scale fisheries, and trawling in particular, rather than with small-scale fisheries. This is partly because of gear selectivity, but also because small-scale fisheries have had potentially lower compliance with regulations that may result in discarding such as minimum landing sizes and catch limits.[13] In the North Sea, almost all the otter trawls/seines for cod, plaice and sole were assessed to have low compliance with the LO (>15% illegal discards) whereas almost all gill nets, trammel nets and longlines were judged to have high compliance (<5% illegal discards). The assessment for fisheries in NW waters targeting hake, haddock and whiting was similar with generally low compliance in trawls and high compliance for gill nets, trammel nets and longlines.

Based on the EFCA evaluations of compliance with the LO, Table 1 lists some of the key cetacean bycatch problems and provides an assessment of the likely priority they would be given for REM if REM were to be installed solely for monitoring the vessels at risk of non-compliance with the LO.

Table 1. Examples of the key cetacean bycatch problems in EU fisheries and an assessment of the likelihood that these would be prioritised for REM for monitoring compliance with the LO

Gear type and area	Cetacean bycatch implications	Likely priority for REM based on the Landing Obligation
Set nets in Baltic Sea	Severe conservation concern for Baltic harbour porpoise population[14]	Low
Set nets in North Sea (ICES 4b, 4c)	Concern over harbour porpoise bycatch particularly from small (<12m) vessels in coastal waters	Low
Set nets in Celtic Sea (ICES 7)	Conservation concern over harbour porpoise but also some common dolphin bycatch[15]	Low
Set nets in Biscay (ICES 8)	Main concern over common dolphin[16]	Low
Set nets around Iberian Peninsula (ICES 8e, 9a)	Iberian harbour porpoise population, some common dolphin. Beach seine, set net and polyvalent fleet generally all less than 15m[17]	Low
Biscay midwater otter trawls (OTM)	High bycatch of common dolphin	High
Biscay bottom otter trawls (OTB)	High bycatch of common dolphin	High
Pots and Traps	Large whale entanglements	Low

In the North Sea, the fisheries of most concern for harbour porpoise bycatch are gill nets and trammel nets in ICES area 4c, which are all assessed as being in high compliance with LO and so may not be prioritised for REM. In NW waters, gill nets for hake pose a high risk to harbour porpoise in ICES area 7; this fishery was assessed as being in medium compliance with the LO, but most other gill net fisheries have been assessed as likely having high compliance. EFCA also identified high discard rates in pelagic trawl fisheries, suggesting a large risk of non-compliance with the LO.

Case studies: Baltic Proper harbour porpoise and common dolphin in Biscay

Two of the most pressing cetacean bycatch issues are the bycatch of common dolphin in the Bay of Biscay and the harbour porpoise in the Baltic Proper. In the case of fisheries in Biscay, the bycatch numbers are known to be very high, with estimates from strandings of around 19,000 dolphins in the past two years

alone.[18] In the case of the Baltic Proper harbour porpoise, the population is so small that every bycaught individual has implications for the survival of the population.[19] Hence, any monitoring should be directed at identifying what management and mitigation measures to take rather than generating estimates of bycatch. Although no bycatch was observed in a total of 7,258 days at sea monitored across all métiers from 2006 until 2018, ICES WGBYC notes that "given the low density of porpoises in the Baltic Proper and the low observer coverage of the fisheries, the lack of recorded bycatch cannot be used to infer that bycatch does not occur or that the level is sustainable". One reason for the lack of observed bycatch is that only 1,126 days of monitoring were for gill nets, which are known to pose the highest risk.[20]

For the common dolphin in the Northeast Atlantic, there are estimates of bycatch for the Bay of Biscay with wide confidence limits, as well as substantial discrepancies between estimates based on observer data and estimates based on strandings. Observer coverage of fleets fishing in Biscay ranges from 0.28% to 1.07%.[21] Improved monitoring would support decisions on what management actions to take based on an understanding of the bycatch levels associated with a number of different fisheries. Common dolphin bycatch is known to occur in midwater otter trawls (OTM), bottom otter trawls (OTB) targeting demersal fish, pelagic trawls for demersal fish, trammel net fisheries (GTR-DEF) and gill nets (GNS) targeting demersal fish. However, while midwater otter trawls (OTM) appear to have one of the highest bycatch rates, this is based on less than a single day of at-sea observation, during which time one common dolphin was caught.[22]

These two bycatch scenarios in the Baltic and Bay of Biscay are very different in terms of numbers, but both illustrate the need for both higher levels of and more carefully targeted monitoring than has been achieved to date. In the case of the Baltic, further monitoring of the known high risk fisheries is unlikely to change management advice to act immediately to substantially reduce risk, but monitoring may be needed in fisheries that are thought to be lower risk. In Biscay, the sheer number of animals being killed and the resulting welfare implications require management action. But any management measures, apart from total closures, could be substantially improved by scientifically-robust levels of monitoring to identify the relative risks from the different fleets, as well as their collective impacts.

If increased monitoring using REM is prioritised solely according to the risk of non-compliance with the LO, this is unlikely to cover gill nets and so will do little to improve understanding of bycatch of the Baltic Sea harbour porpoise or other areas with high bycatch risk from gill nets in the southern North Sea Celtic Sea, the Iberian Peninsula and the Black Sea. The EFCA analysis did indicate that generic trawls in ICES area 7 for hake, haddock and whiting were likely to have poor compliance with the LO, so some trawl fisheries with a bycatch of common dolphin might be prioritised for REM for monitoring compliance with the LO. However, given the number of different fleets contributing to the very high overall bycatch of common dolphins in Biscay, there is a need for simultaneous monitoring of all the fleets if the level of risk posed by each sector is to be properly understood.

Conclusion

The need for improved monitoring of bycatch has been clearly articulated by ICES and ASCOBANS. The installation of REM could potentially also detect cetacean bycatch, as well as support better estimates of bycatch and more effective mitigation measures. However, there is little overlap between the fleet sectors that are likely to be given priority with respect to non-compliance with the LO and those with the greatest need for bycatch monitoring. Thus, t**here is a need to ensure sufficient REM monitoring for cetacean bycatch, which necessitates that implementation of the technology be far more widespread than is currently being proposed in ongoing policy discussions**. During this implementation stage, it is important that REM monitoring for cetacean bycatch is co-ordinated with REM for monitoring the LO, to ensure that systems and data collection are optimised and compatible.

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