Agenda Item 4.1	Review of New Information on Threats to Small Cetaceans Bycatch
Document Inf.4.1.a	**Report of the ASCOBANS Expert Workshop on the Requirements of Legislation to Address Monitoring and Mitigation of Small Cetacean Bycatch**
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Report of the ASCOBANS Expert Workshop on the Requirements of Legislation to Address Monitoring and Mitigation of Small Cetacean Bycatch

1. Introduction and Background (Chair: Oliver Schall)

1.1. Welcoming Remarks

The Acting Executive Secretary of ASCOBANS, Bradnee Chambers, welcomed participants to the workshop. He noted that 2015 was an important year for cetacean conservation in EU waters: the Commission had been asked to review the so-called "bycatch regulation" Reg. (EC) 812/2004, and "accompany this review with an overarching legislative proposal for ensuring the effective protection of cetaceans". ASCOBANS Parties, upon the suggestion of Germany, had discussed the opportunities this provided at the Advisory Committee Meeting last September and decided that ASCOBANS should prepare a position paper with regard to the monitoring and mitigation of bycatch required for effective conservation of small cetaceans. This expert workshop to help ASCOBANS Parties arrive at this common position was convened with financial support by the Government of Germany, for which Mr Chambers expressed his sincere thanks. He was very pleased that representatives of the fisheries sector were also present, as it was clear that all stakeholders needed to work together to find the right solutions.

Oliver Schall (German Federal Ministry for the Environment), welcomed participants on behalf of the German Federal Ministry for the Environment. It had been more than 10 years since Reg. (EC) 812/2004 had been agreed, and the two reviews so far prepared by the European Commission showed clearly that the regulation was not fully achieving its aims. This had led to the European Parliament suggesting a much more fundamental review and possibly a new legislative proposal for cetacean conservation. Political agreement was necessary, and it was the aim of this workshop to help ASCOBANS Parties, which were all EU Member States, to reach this consensus. The recommendations of the workshop and the views of the Parties would then need to be communicated to the European Commission and dialogue on the way forward needed to be sought.

1.2. Conservation Aims of European Legislation

1.2.1. ASCOBANS

Heidrun Frisch (ASCOBANS Secretariat) gave a presentation providing a short introduction to ASCOBANS and outlining the conservation aims of the Agreement. These were set through the Agreement Text, Action Plans, and Resolutions, such as Resolution 3.3 (2000) which stated that "an anthropogenic removal above 1.7% of a harbour porpoise population must be considered unacceptable".

Article 2.1 of the Agreement text identified achieving and maintaining a favourable conservation status for small cetaceans as the main purpose of the Agreement. The Conservation and Management Plan forming part of the Agreement also called for "the development, in the light of available data indicating unacceptable interaction, of modifications of fishing gear and fishing practices in order to reduce by-catches". The aim of the Recovery Plan for Baltic Harbour Porpoises (Jastarnia Plan) was the recovery of the threatened Baltic harbour porpoise population to 80% of the carrying capacity. A similar goal of restoring or maintaining the population at 80% or more of the carrying capacity was also formulated in the Conservation Plan for Harbour Porpoises in the North Sea and the Conservation Plan for the Harbour Porpoise Population in the Western Baltic, the Belt Sea and the Kattegat. All three action plans focused several of their objectives on bycatch reduction.

1.2.2. European Union (Habitats Directive, Marine Strategy Framework Directive) and OSPAR

Sinéad Murphy (independent expert) gave a presentation on the conservation aims of European Union legislation. The Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC), commonly known as the Habitats Directive, was one of the most important pieces of European legislation aimed at the conservation of wildlife in the European Union. Under Article 2, Member States were required to monitor the conservation status of the habitats and species listed in the annexes, which included all cetaceans (in Annex IV), and under Article 17 a report was required to be sent to the European Commission every six years based on assessments of conservation status. Under Article 12 it stated that "*Member States shall take the requisite measures to establish a system of strict protection for the animal species listed in Annex IV(a) in their natural range, prohibiting: (a) all forms of deliberate capture or killing of specimens of these species in the wild*". In addition "*Member States should establish a system to monitor the incidental capture and killing of the animal species listed in Annex IV(a), and in the light of the information gathered, Member States shall take further research or conservation measures as required to ensure that incidental capture and killing does not have a significant negative impact on the species concerned* (p. 10, Article 12(4)). There were however no specific requirements to report under Article 12; though monitoring of bycatch by all vessels in all fisheries and measures to mitigate bycatch, if necessary, were mandated. Fisheries activities might also require management measures within Natura 2000 sites (Special Areas of Conservation), as Member States were to avoid deterioration of habitats of species, as well as disturbance of species for which the area had been designated (Habitats Directive sub-Article 6.2). Further, acoustic devices to mitigate bycatch "need to be regulated in accordance with the provisions of Article 6(3) and (4) of the Habitats Directive if they are likely to have a significant effects [sic] on protected features at a Natura 2000 site".[1]

Under the European Marine Strategy Framework Directive (2008/56/EC or MSFD), Member States were required to develop a marine strategy for their own marine waters and also for shared marine regions or sub-regions aided by Regional Sea Conventions such as OSPAR. As part of this strategy, Member States needed to establish a series of environmental targets and associated indicators for assessing the environmental status of marine waters. Additionally, Member States were required to establish a monitoring programme for continuous assessment and regular updating of targets, as well as develop and implement a programme of measures designed to achieve or maintain good environmental status. Through ICG-COBAM (Coordination of Biodiversity Assessment and Monitoring), OSPAR had developed a number of common biodiversity indicators for mammals, including a bycatch mortality indicator - "numbers of individuals within species being bycaught in relation to population" -, with a proposed target of "the annual bycatch rate of [marine mammal species] is reduced to below levels that are expected to allow conservation objectives to be met". An overview of the different approaches for setting bycatch limits was presented.

Member States within OSPAR Region II "the Greater North Sea" had agreed to use OSPAR's "common" indicators, with the first full assessments to be undertaken in 2016 (see AC21/Doc.13.3.1). However, development of the common indicator for bycatch mortality was currently stalled due to a lack of agreed conservation objectives for cetaceans in European waters (ICES WGMME 2014). Concerning the monitoring of bycatch, which was strongly related to the setting up of indicators and objectives, there was a possible overlap with initiatives taken in the development of the new Data Collection Regulation and the review of the Reg. (EC) 812/2004 'bycatch' Regulation. Most Member States within the OSPAR Area

[1] Guidelines for the Establishment of the Natura 2000 Network in the Marine Environment: Application of the Habitats and Birds Directives

were currently proposing a similar or variant bycatch mortality indicator for their own waters; these included Belgium, France, Germany, Ireland, the Netherlands, Spain and the UK.

Penina Blankett (Finnish Ministry of the Environment) added that HELCOM was also working on a bycatch indicator in connection with the MSFD.

2. Review of Effectiveness of Existing Legislation

2.1. State of Knowledge in the ASCOBANS Sub-Regions

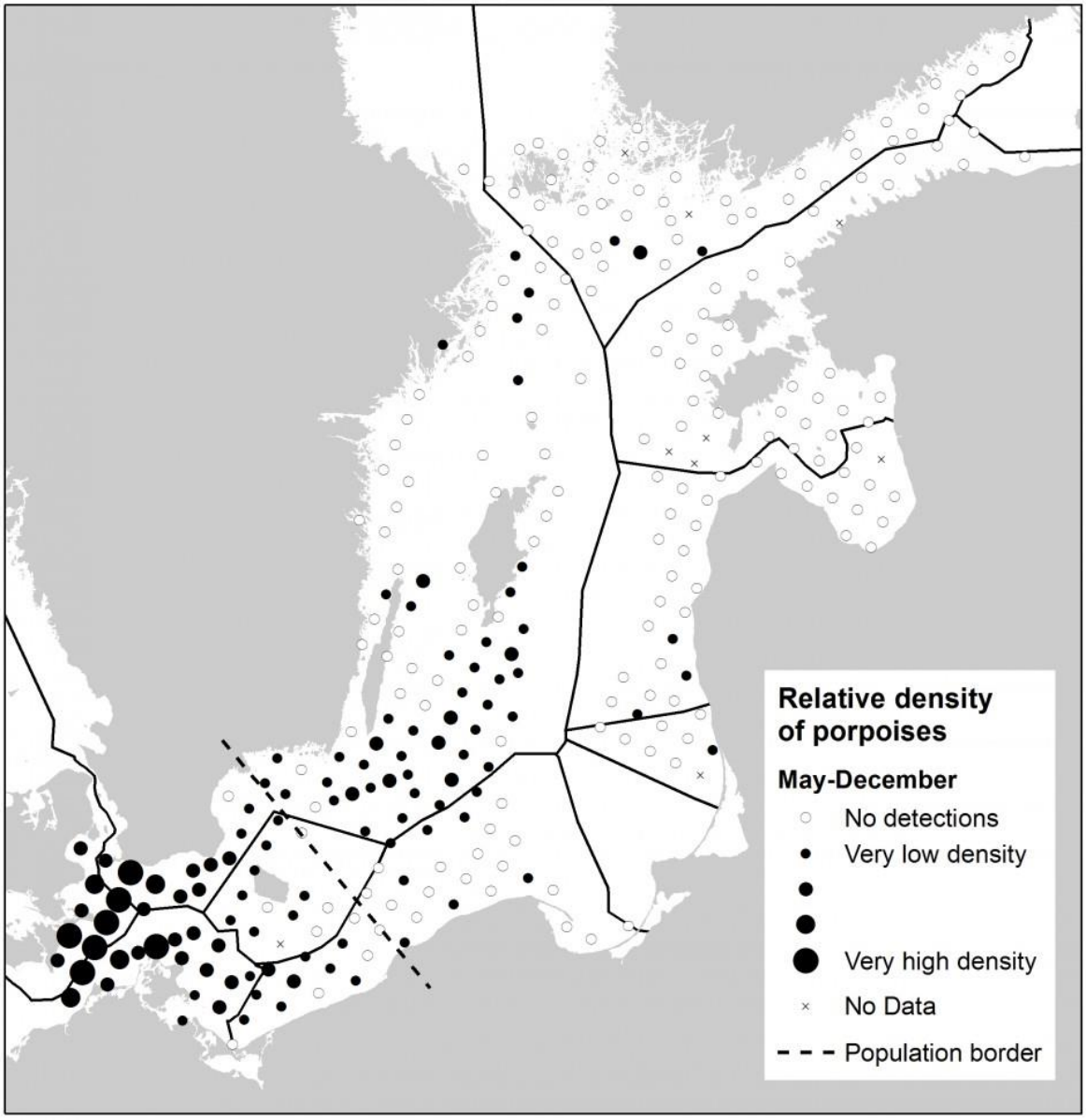
2.1.1. Baltic Sea and adjacent western waters

Sara Königson (Swedish University of Agricultural Sciences) gave a presentation on the state of knowledge in the Baltic and western waters. The discussion over the status in the two areas, which took place both under this item and in the regional working groups, is reported here.

In the Baltic Proper, interview studies and carcass collections indicated a dramatic decline in numbers. Visual abundance surveys in 1995 and 2002 showed low and uncertain abundance estimates. Spatial distribution was primarily known from opportunistic records. Some authors had concluded on genetic and morphometric differences between the Baltic Proper and the Skagerrak-Kattegat population. The population was categorized as critically endangered by IUCN. Protected areas existed only in German and Polish waters. There was bycatch information available, but no bycatch rate and no trends. Except in Poland, where it came mostly from fishermen, bycatch information was primarily derived from strandings and it was difficult to assess the exact provenance of the animals.

Recently the SAMBAH project, based on acoustic detectors placed in ICES areas 24-29 and 32[2] over a two-year period, pointed to the likely existence of two sub-populations, a south-west (roughly area 24) and a North East one (the remaining Baltic), with an unknown area of overlap. According to preliminary estimates, the summer population of harbour porpoises in the North East Baltic consisted of 447 individuals (95% confidence interval 90-997), and in the South West Baltic 21,512 individuals (95% confidence interval 13,724-38,612). The map below shows the approximate location of the border between the summer distributions of the two populations.

[2] ICES Areas; http://www.fao.org/fishery/area/Area27/en



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The situation was unfavourable and the Baltic porpoise critically endangered. Data were still deficient for distribution, migration routes and seasonal movements, feeding and reproduction areas, bycatch numbers and areas.

In the Western Baltic, Belt Sea and Kattegat, the situation was unclear, as different surveys pointed to opposite trends in population (Sveegaard et al. 2013)[3], and it was not clear if these reflected real trends in population abundance.

[3] Sveegaard, S., Teilmann, J. and Galatius, A. 2013. Abundance survey of harbour porpoises in Kattegat, Belt Seas and the Western Baltic, July 2012. NOVANA. Note from DCE - Danish Centre for Environment and Energy, Aarhus University, 12. June 2013. 11pp.

Summer abundance of harbour porpoises in the Western Baltic, Belt Sea and Kattegat

Survey	Effort (km^2)	N	CV	LCL	UCL
SCANS (1994)	607	27,923	0.46	11,916	65,432
SCANS-II (2005)	644	10,614	0.28	6,218	18,117
MiniSCANS (2012)	516	18,495	0.27	10,892	31,406

(Sveegaard et al. 2013)

Overall there had been no significant decrease in the population since 1994, and the population was not depleted. There were very few data on bycatch rates, and trends in fishing effort were not clear.

Finn Larsen (DTU Aqua) said that remote electronic monitoring had been placed on board some vessels in Inner Danish Waters. Christian Pusch (German Federal Agency for Nature Conservation) reported on an increase in stranded animals in the period 2005-2012, 47% of fresh animals (representing 12% of the total number of strandings) had net marks. It was unclear where the bycatch happened. His agency considered this rate too high, in view of the lack of other data. Mr Larsen pointed out that one could not extrapolate bycatch trends from trends in beached animals, as an increased number of strandings could also reflect an increase in population size, or changes in drift conditions, etc. Mr Pusch underlined that this being the best available data, the precautionary principle should be applied. The key problem in this area was the lack of reliable data, in terms of population size and trends, bycatch rates and fishing effort (including smaller vessels and recreational fisheries).

Ms Königson said that the Swedish gillnet effort was decreasing, but this was not the case in German waters, the main areas for set nets being around Darß. Acoustic monitoring devices should continue to be used for national monitoring and for determining trends in distribution.

Mr Larsen underlined that it was necessary to find a way of differentiating whether a bycaught animal originated from the eastern Baltic or the western Baltic, e.g. genetic trace element analysis to allocate the bycatch to the right population.

Iwona Pawliczka (Hel Marine Station, University of Gdansk) stressed the need for using a precautionary approach and that bycatch in the Baltic should be as close to zero as possible as recommended in the Jastarnia Plan and by HELCOM and ICES. From a conservation perspective, one needed to focus on the smallest and most endangered population; i.e. even in the mixed area (area 24) the bycatch mortality should be close to zero. This area, as with the rest of the Baltic, represented a great challenge as there were many small boats and a complete lack of data on effort.

The discussion concluded that distribution maps derived from the SAMBAH project should be used to determine possible hotspots, and to establish MPAs. By combining these results with available data on anthropogenic activities (e.g. fishing, tourism, shipping) it would be possible to pinpoint any areas with higher risk of conflict. This would help in developing bycatch mitigation measures to decrease the likelihood of harbour porpoise bycatch to numbers close to zero. Ms Pawliczka cautioned, however, that the resolution of the SAMBAH data was not

necessarily high enough for this purpose. National monitoring projects in Polish coastal waters had shown rather different patterns.

Mr Larsen underlined the need to have more detailed information on fishing effort, not just days at sea, so hot spots could be identified. Some countries reported those, some did not.

Geneviève Desportes (ASCOBANS Consultant) asked whether it was known how many boats should be equipped with pingers. Ms Königson said no figures existed, and it was also not known how many of the boats equipped with pingers in 2007 still had them operational. Oliver Schall (German Ministry of the Environment) remarked that many countries did not even have such detailed data. It was also mentioned that Swedish fishermen had reported using pingers in German areas, because there were controls, but not in Swedish waters, because no controls were performed.

2.1.2. North Sea and Atlantic

Geneviève Desportes (ASCOBANS Consultant) gave a presentation on the state of knowledge and implementation of existing regulations in the North Sea and North East Atlantic. Bycatch estimates and implementation of bycatch mitigation measures were still very patchy both in the North Sea and the North East Atlantic, with several Member States not fulfilling their reporting, monitoring and mitigation obligations.

Under the Habitats Directive, monitoring should encompass all activities where killing of Annex IV species (which included all cetacean species) occurred, thus also encompassing recreational fisheries. Under Reg. (EC) 812/2004, monitoring of pelagic trawls and driftnet fisheries was required in the North Sea and parts of the wider North East Atlantic (VI, VII, VIII). Monitoring of bottom-set nets was required for those with a mesh size $\geq$ 80mm in divisions VIa, VIIab, VIIIabc and IXa, but not in division IIIa and subarea IV where pingers were mandatory for vessels > 12 metres. Only the UK, Ireland and France had implemented monitoring of bycatch of protected species by dedicated observers. Overall, bycatch monitoring was conducted at too low a level to allow a proper assessment of the bycatch risk for cetacean species.

The Habitats Directive required that conservation measures be implemented *as required*. However, overall management objectives had not been defined by Member States and management strategies / plans had not yet been finalized for Natura 2000 marine areas. Several Member States were not fulfilling their mitigation obligations under Reg. (EC) 812/2004. Presently, the UK was the Member State where the use of Acoustic Deterrent Devices (ADDs) was most actively promoted. Strict enforcement and penalty strategies had not been fully developed in any Member State and none of them was able to unequivocally assess the level of compliance to the obligations for pinger deployment.

The major concerns were the take of harbour porpoises in net fisheries both in the North Sea and the North East Atlantic, and the take of common dolphins in nets in the North East Atlantic and in pelagic trawls targeting bass in the English Channel and tuna in the North East Atlantic. Bottlenose and striped dolphins were taken in trawls and nets in the North East Atlantic; other cetacean species had also occasionally been reported bycaught. Trawls of most concern were mid-water pair trawls for hake, bass and tuna and both pelagic and bottom trawls with very high vertical opening (VHVO). Coastal fisheries were also of concern as they encompassed a large number of small vessels < 10 metres, which did not have to report effort data, therefore making bycatch risk assessment difficult. Inshore vessels also often used a wide variety of gear seasonally and not all of these gear types had the same bycatch rate. On average, inshore vessels tended to have lower overall bycatch numbers per boat but cumulative totals over the many inshore boats could be significant in terms of total mortality. Careful consideration needed to be given to how best deal with this in terms of mitigation.

In the discussion, the question was raised whether there had been any reaction by the Commission in response to Member States' poor implementation of the monitoring and mitigation requirements under Reg. (EC) 812/2004. Using the requirement of monitoring of the Swedish trawl fishery in the Baltic Sea as an example, Sara Königson (Swedish University of Agricultural Sciences) explained that the regulation was often misdirected – in fisheries where the chances of encountering cetacean bycatch was minimal, such monitoring schemes were a waste of money. Oliver Schall (German Federal Ministry for the Environment) noted that the Commission had already involved the Member States in the context of their reports. Ms Desportes was also aware of a case relating to recreational fisheries in Belgium. However, she speculated that the Commission had been quite lenient because in the first years of the regulation, pingers were still quite unreliable and expensive.

Another query concerned the suitability of the Data Collection Framework (DCF) for the monitoring of protected species bycatch. Ms Desportes said that there was a lack of a protocol for marine mammals in the DCF; observers needed to take care of numerous tasks, including some below deck, so it was impossible to know whether the absence of records meant no bycatch was occurring or it simply was not observed or recorded. Some countries had added a protected species protocol to their national monitoring schemes, and there were plans to include this in the next DCF. However, a significant problem with monitoring bycatch of protected species under the DCF was that the DCF was primarily designed to quantify discards of commercial species. Therefore it only maintained low level monitoring of set-net and pelagic trawl fisheries, which generally did not generate large amounts of commercial discard, but represented a relatively higher risk of protected species bycatch.

Heikki Lehtinen (Finnish Ministry of Agriculture and Forestry) noted that many of the problems with Reg. (EC) 812/2004 appeared to be due to the fact that scientists had not been involved in the final phase of its negotiation, when substantive changes were made. The regulation had however also achieved some positive outcomes, such as the implementation of the drift net ban in the Baltic. Further, restraints such as the ability to carry an observer on a small boat had to be taken into account. Mr Schall said that thanks to recent technological developments, camera monitoring was evolving as a viable alternative to observers for small boats.

2.2. Review of Reg. (EC) 812/2004

Geneviève Desportes (ASCOBANS Consultant) gave a presentation based on WS/Bycatch/2015 Doc.03. Besides reviewing the scope of the different EU directives and regulations dealing with the conservation of cetacean species and these instruments' monitoring and mitigation requirements, the paper reviewed the general effectiveness of the regulation and provided a compilation of the pros, cons and recommendations for improvement highlighted by different bodies since the Regulation came into force.

The overall gaps in the Regulation were presented as listed below, while a more detailed review was available in WS/Bycatch/2015 Doc.03[4] under the headings: reporting, monitoring and mitigation.

- Both the mitigation and the monitoring were judged to be less than optimally directed, with large segments of the fleet, known to present a bycatch risk omitted from the regulation. This related in particular to gillnetters < 15 metres in terms of observer programmes and gillnetters < 12 metres in term of mitigation measures.

[4] http://www.ascobans.org/sites/default/files/document/ASCOBANS_WS_Bycatch_2015_Doc.03_Compilation-Recommendations-Bycatch.pdf

- The types of gear targeted were not clearly defined, making it unclear whether certain types of fishing gear known to interact with cetaceans were covered by the scope of the Regulation (e.g. trammel nets and trawls other than pelagic with a very high vertical opening).
- Requirements for mitigation and monitoring were established according to an arbitrary vessel length and not according to the level of bycatch risk.
- The devices required for mitigation had been expensive and not reliable enough when the Regulation was adopted, making the industry reluctant to use them and leading to a very slow uptake of pingers.
- There was a lack of incentives and penalties, although these existed in other data collection regulations (in the DCF there were grants from the EU).
- Article 2(4) stipulated that "Member States shall take necessary steps to monitor and assess, by means of scientific studies or pilot projects, the effects of pinger use over time in the fisheries and areas concerned", but these steps were not defined further and there had been very little effort to do this. The long term effects of the use of mitigation measures were not known.
- Greater clarity was needed on the objectives of 'scientific studies' and 'pilot projects' that were required under Reg. (EC) 812/2004.
- No exhaustive report of fishing effort was requested in the actual regulation and a standard format had only been defined later and was not complied with by all Member States. Both factors strongly hampered an overall risk assessment.
- A concerted European approach to enforcement and control and to assessment of bycatch impacts was lacking.

The regulation had succeeded in providing a much more comprehensive picture of cetacean bycatch in European fisheries. However, after ten years of regulation and despite improvements, the regulation was still not fully meeting its objective of preventing the accidental capture of cetaceans in fishing gear. Bycatch was still evident in a number of fisheries in the North Atlantic, North Sea, the Baltic, Black Sea and Mediterranean. Cetacean bycatch monitoring was still insufficient in most fisheries and areas to provide total estimates of bycatch mortality and enable adequate management decisions to be made.

For the ASCOBANS Area, segments of major concerns were:

- For harbour porpoises, set nets in the Baltic, Kattegat, Skagerrak, North Sea and Atlantic;
- For common and striped dolphins, set nets in the Atlantic;
- For common dolphins, pelagic trawls for bass and tuna, pelagic trawls and VHVO trawls targeting hake in the Atlantic.

Oliver Schall (German Federal Ministry for the Environment) stressed the importance of dedicating resources to improving mitigation and monitoring of bycatch. He remarked that at present the regulation contained neither "carrots" nor "sticks" and he felt that any new or revised legislation should have a large number of "carrots" built in to encourage a shift to more sustainable fisheries. In response to a question about funding mechanisms, Christian Pusch (German Federal Agency for Nature Conservation) explained that the European Maritime and Fisheries Fund (EMFF) largely focussed on policy-related matters; therefore funds should be available for compliance monitoring and improved sustainability of fisheries. It was important

to note that the EMFF only co-funded activities, so programmes needed to be set up at national level. In most cases, funds would become available from 2016 onwards.

Heikki Lehtinen (Finnish Ministry of Agriculture and Forestry) said that the different situation in different geographical areas needed to be taken into account. It was not true that the same gear type could be classified as high risk in all areas; perhaps there was a need to develop risk categories which could be applied taking into account the situation in each region. Iwona Pawliczka (Hel Marine Station, University of Gdansk) disagreed that this proposal was well suited to the Baltic, since the aim of the Jastarnia Plan was to reduce bycatch close to zero; even one or two animals bycaught were already too much for the population to sustain. She therefore stressed that regardless of densities, which were low everywhere, gillnets always posed a high threat to porpoises in the Baltic Sea.

Sara Königson (Swedish University of Agricultural Sciences), in order to illustrate gaps in the regulation, mentioned that along the Swedish coast pingers were only required in a small area.

Al Kingston (University of St Andrews) mentioned that the United Kingdom had, in addition to monitoring fishing vessels >15 metres to meet the requirements of the Regulation, also carried out a significant amount of monitoring on smaller vessels to address at national level some of the data gaps identified.

Mr Lehtinen questioned whether the detail of the monitoring requirements needed to be taken up in new or revised legislation. His preference would be to leave it to Member States how to address their data collection needs. He also felt that there was a need for more regional cooperation to take into account the specificities of different areas.

3. Measures and Monitoring Available for the Effective Assessment and Mitigation of Bycatch of Small Cetaceans

3.1. Bycatch Mitigation Measures

Yvon Morizur (IFREMER), Al Kingston (University of St Andrews) and Sara Königson (Swedish University of Agricultural Sciences) made a joint presentation on the topic of bycatch mitigation measures.

The mitigation aspects of Reg. (EC) 812/2004 which required the use of acoustic deterrents (pingers) by vessels > 12 metres in some set-net fisheries in the Baltic Sea, North Sea and Celtic Sea were described. Permitted pinger models must meet the specifications laid out in Annex II of the Regulation. Other models that did not meet the official specifications but which had been proven to be effective under commercial operating conditions were permitted for use under derogation. ICES had recently provided a list of devices that had been proven to reduce bycatch under commercial operating conditions with appropriate spacing specifications (for full details see the corrected ICES advice December 2013).

Several derogations were currently in place in European waters: in Denmark and Ireland pingers that met the official specifications could be used at a wider spacing than was required by the Regulation. In the UK and France derogations permitted the use of a louder pinger type provided agreed operating guidelines were adhered to.

The French derogation did not specify pinger spacing requirements so the actual deployment configuration was in effect decided by the fishermen themselves. The derogation required vessel masters to carry a deployment schematic which showed the position of all net fleets and pingers. Instead of equipping each net fleet with pingers, the objective of this approach was to mitigate bycatch by deploying a limited number of pingers to protect the general area where the nets were being used. The effectiveness of this approach in reducing bycatch rates had not yet been quantified. Effectiveness might also vary from vessel to vessel as different skippers used different deployment configurations. Under this system some net fleets might

also be without acoustic protection for periods of time as adjacent fleets with pingers were hauled and shot.

The UK derogation required the use of louder pingers on all net fleets and pingers were deployed so that no section of the net fleet was further than 2km from the nearest pinger. This configuration had been shown to reduce harbour porpoise bycatch rates significantly. Operating guidelines had been developed and agreed with industry and formed the basis of the UK derogation. Monitoring was continuing in the relevant UK fisheries to assess the long-term efficacy of these devices.

Some associated effects of pinger use, such as displacement of animals/habitat exclusion and costs to the industry were also described and discussed. The UK calculated approximate levels of habitat exclusion in the Western English Channel and Celtic Sea (VIIe-h) under different scenarios for pinger model use. The calculations were based on 100% exclusion of animals within 100 metres, 200 metres and 2km of a pinger, depending on which model was used. Results were likely to be conservatively high because 100% exclusion was not considered likely and vessels tended to work only during neap tides. Nevertheless the results suggested that between 0.04% - 0.75% of the study area would be potentially denied to porpoises if all the UK fleet over 12 metres used pingers in the required way. This estimate rose to 0.08% - 3% if all sizes of UK netting vessels in the area used pingers. It was highlighted that very little was currently known about the actual biological effects of displacement but that it should not simply be assumed to lead to negative consequences for animals.

Some estimates of relative costs to the industry of pinger use were also presented. These demonstrated that costs varied widely depending on the model and deployment configuration used. A summary of mitigation work from the ICES WGBYC 2014 report was then provided and finally some other mitigation approaches such as seasonal, spatial and consequence closures were briefly described.

Some findings from Sweden related to trials and commercial use of alternative gear types were then presented. Since the 1990s there had been a steady decline in the use of gillnets by Swedish vessels in the Baltic but levels in the Kattegat and Skagerrak were more stable. The decline in the Baltic had largely been driven by increasing levels of seal depredation making many net fisheries unviable. As a result a significant amount of work had been done developing pot fisheries for cod and trap fisheries for salmon, whitefish and herring which were now used commercially. One of the additional positive effects of using such alternative gear was that they also had lower cetacean bycatch rates. However, the use of alternative gear should not be perceived as a panacea for reducing cetacean bycatch as they might have more limited applicability in other regions because of different target species and fishing conditions. Other options that might also be worth considering for development are fish aggregating devices, pots for flatfish, purse seines for small pelagic and bottom trawls for demersal species. A video showing the behaviour of cod inside a pot was shown to the workshop.

In the subsequent discussion, Finn Larsen (DTU Aqua) stated that most pinger studies showed close to 90% reduction in bycatch. However, these studies had only looked at the short-term effects; there were still very little data on possible long-term effects such as habituation and habitat exclusion. A study in the Gulf of Maine had found that rising bycatch rates some time after pingers had been introduced were due to malfunctioning devices or lack of enforcement of their use; as soon as enforcement improved the bycatch rates went down again.

Relating to the potential problem of habituation, Mr Larsen said that so far there were no indications of habituation to the more advanced pingers,[5] which might be explained by their more varied and unpredictable sound output. The more advanced models had a varied sound output, used several multiharmonic sound types, emitted pseudo-randomly and had a varying inter-ping interval, compared with the first pingers emitting one type of sound with few harmonics, at fixed intervals and a fixed frequency. Mr Kingston added that the rate of habituation, if it occurred, was likely to be positively correlated to the amount of pingers in the water because the frequency at which animals encountered pingers would increase. Effectively targeted mitigation would help address this and also lead to reduced costs to industry.

Penina Blankett (Finnish Ministry of the Environment) asked whether there were studies on habitat exclusion or other effects of underwater noise coming from acoustic deterrent devices. Mr Larsen was aware of a study with pingers that could be switched on and off. CPODs had been used to detect the presence of porpoises, and it was found that the animals returned to the area as soon as the pingers were switched off.

Oliver Schall (German Federal Ministry for the Environment) asked whether interactive pingers might be a better way forward. Mr Kingston responded that some manufacturers were already working on developing viable ones, which might also help with the problem of seal depredation in some areas. However, because they worked by listening for the presence of cetaceans in the vicinity, their effective range would be restricted in relation to the range of the louder pinger models that were currently available. As a result, more devices would need to be deployed, which might not be acceptable to industry in some areas.

Ms Königson sought the group's opinion relating to the general advisability of using pingers as a solution to the bycatch problem, bearing in mind they were the only available mitigation measure for gillnets. Mr Schall said that as such they had to be used, along with possible closures for gillnet fisheries in high concentration areas. Mr Larsen cautioned that their suitability depended on the specific devices used and the method. Ms Blankett said that there was a need to decide case by case, as it was counterproductive to chase porpoises out of areas set up for their protection. Mr Larsen added that this was a question of scale; in a very small protected area this was undoubtedly true, but larger ones could have space for both fishing with pingers and the animals; it all depended on the size and distribution of the fishery in the area.

Mr Schall mentioned that in Germany there was considerable debate about whether or not to close fisheries in Natura 2000 sites for porpoises, and asked about experiences in other countries. Christian Pusch (German Federal Agency for Nature Conservation) said that his Agency had made proposals for closures in 2011, but these had not yet been agreed between the Ministries. Measures were also needed outside of Natura 2000 areas.

Ms Königson, in response to Mr Schall's question, said that Sweden had enacted closures for the conservation of other species, but not because of porpoise bycatch. Ms Blankett mentioned that Finland had closed fisheries affecting grey seals. There was no obligation to set up Natura 2000 areas for porpoises in Finnish waters. Mr Kingston reported on an instance in the United Kingdom where a coastal fishery had been closed and fishing effort had subsequently moved further offshore. There were indications that this might have actually increased bycatch, meaning the fishery closure had had a negative effect. Mr Pusch said that in Schleswig-Holstein the ministry had concluded a voluntary agreement on a closure of a specific area within the 12-nautical-mile zone to mitigate mainly bird bycatch, but also with a

[5] Kindt-Larsen L, Berg CW, Northridge S, Larsen F. Harbour porpoise (*Phocoena phocoena*) area use and habituation behavior in the presence of acoustic alarms. (Manuscript in review, Fisheries Research).

view to porpoises. The project had only started in 2014, though, so it was too early to evaluate its effectiveness.

Mr Larsen cautioned that if closure meant that the effort was simply shifted to an adjoining area, the bycatch rates were likely to remain the same. For such a measure to make sense, one needed clear differences in density of the animals geographically or temporally, so that bycatch could really be reduced and not simply shifted. Mr Schall responded that the spread of animals in German Baltic Sea waters was uneven, allowing the identification of high density areas.

Stressing the importance of building and maintaining a trusting relationship with fishermen, Iwona Pawliczka (Hel Marine Station, University of Gdansk) reported on the Polish experience where the top-down approach of Reg. (EC) 812/2004 had stopped fishermen reporting any bycatch. It had become clear that monitoring needed to be done with independent observers; reliable bycatch data could not be obtained from voluntary reporting.

Heikki Lehtinen (Finnish Ministry of Agriculture and Forestry) said that very small vessels could not take observers and remote electronic monitoring also had its limitations. Members States wanted to have the flexibility to decide what would be the best way to ensure appropriate monitoring in their waters. Sinéad Murphy (independent expert) said that inside protected areas, these questions should be part of the management plans. Fisheries should have to prove that they did not have a negative impact on reaching the conservation objectives. Geneviève Desportes (ASCOBANS Consultant) underlined that the low monitoring effort was not the fault of the fishing industry, but was an indication of lack of implementation by the authorities and lack of funding. Mr Morizur said that in a study looking at the French sole fishery in the southern North Sea it was found that one would need 200 days at sea to observe one incident of porpoise bycatch; in the Celtic Sea the figure was 100 days. With such low bycatch rates, one would need to put observers on all boats, something which was neither practical nor affordable.

Ms Pawliczka cautioned that this meeting should not conclude with a call for more data. These data would not materialize in the near future, and enough information was available to know what needed to be done. Mr Lehtinen agreed in principle, but said that an analysis of existing data would show that in some cases we did not have all the data necessary, whereas in others there was enough information to act. Any recommendations should be based on agreed criteria, which would allow different conclusions to be reached in different areas with the view to applying suitable monitoring and mitigation measures.

3.2. Parameters Influencing Bycatch Rates

3.2.1. Examples from France

Yvon Morizur (IFREMER) gave a presentation on the factors influencing bycatch rates in the French fisheries, using data collected under various French monitoring programmes since 2008, with the year 2012 used for fishing effort in raising the samples.

The factors influencing bycatch varied for the different cetacean species and included gear, mesh size and thickness of twines, as well as season and depth.

For common dolphins, gear type seemed an essential factor, with Very High Vertical Opening (VHVO) pair trawls having the highest bycatch. This gear type included pelagic trawls (PTM) and some bottom trawls (PTB) with a high aperture (Naberan trawl). Difference in target species also played a role, with pelagic pair trawls targeting sea bass, tuna and hake having a high bycatch while those targeting anchovy did not.

For harbour porpoises, the main factors linked with bycatch were the target species, with trammel nets for sole and monkfish representing 80% of the bycatch. The bycatch rate was

higher in fisheries targeting monkfish, maybe due to the longer soak time. Area also played a role, with no bycatch being observed in the middle of the Channel for the same gear. Bycatch of porpoises occurred at depth ranges of 20-115 metres, with set nets in deeper water not having bycatch. Mesh sizes below 90mm were not associated with bycatch.

The features of porpoise bycatch were: single bycatch and depth ranges of 20-115 metres. The depth of set nets was 20-30 metres for IVc and VIId (4 events) and 80-110 metres for VIIe (11 events). No bycatch was observed in the middle of the Channel (longitudes 4°W to 1°E) with, significantly, zero bycatch in spider crab nets (nets with thick twine) and sole nets in that area.

The discussion on this item was held together with the next presentation.

3.2.2. Examples from the United Kingdom

Al Kingston (University of St Andrews) also presented about factors influencing bycatch rates.

Despite recent improvements in estimates of bycatch mortality of protected species, the underlying processes and factors that influenced bycatch rates were still not particularly well understood. In his talk he used data collected under the UK bycatch programme since 1996 to describe how bycatch rates of porpoises and dolphins from set-net fisheries could vary significantly within several measured parameters such as spatial and temporal scale, water depth, gear type and even depending on how the data were collected and subsequently analysed.

There was evidence within the data of variation in bycatch rates over large and fine spatial scales and these were illustrated by comparing rates between different ICES Divisions and between adjacent but essentially equivalent fisheries within the same ICES Division. Inter-annual effects were demonstrated through the outputs of statistical models which showed that there had been two periods of relatively higher bycatch centred on 2007 and 2011 in ICES sub-area VII over the last decade. Seasonal differences were also evident with overall bycatch rates tending to be highest in the 3rd and 4th quarters of the year, but there was more seasonal variation when looking at specific fisheries. Bycatch rates also varied with water depth, but the pattern was highly dependent on the analytical approach used. The effect of the use of pingers on bycatch rates was also shown though the outputs of models and clearly showed reduced bycatches on nets equipped with acoustic deterrents.

Mr Kingston also highlighted how bycatch rates could vary significantly depending on what the monitoring scheme was designed for, by calculating and comparing rates from data collected under the two main UK-wide fisheries sampling programmes. Results from this particular analysis emphasized the importance of designing and optimizing monitoring programmes specifically for purpose.

Finally, Mr Kingston showed how bycatch rates altered depending on the analytical approach used, in this case by comparing rates calculated in terms of ‘bycatch per haul’ and ‘bycatch per kilometre hour’ by using two examples: water depth and fishery. The result of this analysis suggested that a consistent standard should be adopted when comparing bycatch rates within and between parameters.

In conclusion, it seemed clear that bycatch rates were influenced by multiple factors (including environmental, operational and analytical). With sufficient data the complex interplay between these factors would be better understood and this would improve our fundamental understanding of bycatch as a process but would also help in the development and introduction of effective and targeted mitigation measures.

Geneviève Desportes (ASCOBANS Consultant) asked whether the target species could be used in order to identify the gear types for which mitigation measures needed to be introduced.

Yvon Morizur (IFREMER) responded that the target species determined the mesh size chosen, but the same mesh size might be applied for several target species in different areas, so it was difficult to use target species for gear identification in a regulation. The determining factor was the thickness of the twine.

4. Future Aspirations for Legislation Addressing the Problem of Cetacean Bycatch within European Waters (Chair: Geneviève Desportes)

On behalf of Dominic Rihan (European Commission), who had been prevented from attending at short notice, Heidrun Frisch (ASCOBANS Secretariat) gave a presentation on the current situation of Reg. (EC) 812/2004 and next steps.

The Commission had reviewed Reg. (EC) 812/2004 in 2009 and 2011 and found in both cases that while it had improved the knowledge on bycatch, it had significant weaknesses: it did not necessarily target the right fisheries or the right areas, it excluded small-scale vessels, it had over-ambitious sampling targets, it relied too heavily on acoustic deterrent devices, and it still had poor linkage with reporting under the Habitats Directive. The regulation was therefore still not fully meeting its objective of preventing the accidental capture of cetaceans in fishing gear. Bycatch was still evident in a number of fisheries, and the knowledge of actual impacts of bycatch on populations was still poorly understood.

In order to align Reg. (EC) 812/2004 with the Lisbon Treaty, Regulation EU 597/2014 had been passed. It allowed the amendment of the Annex detailing the technical specifications and conditions for using pingers; however, there were no immediate plans to amend this annex, as Member States were using the derogation in Article 2 to use different types of pingers. It also contained the following wording in Article 7:

> *"By 31 December 2015, the Commission shall review the effectiveness of the measures provided for in this Regulation and shall, if appropriate, submit to the European Parliament and to the Council an overarching legislative proposal for ensuring the effective protection of cetaceans"*

This clause constituted a legal obligation on the Commission to produce a report. To date, the Commission had not decided what format this would take, but they might ask for an update from ICES and the Scientific, Technical and Economic Committee for Fisheries (STECF) as was done for the other reviews. Submissions from any party would be gratefully received.

Regarding the way forward for bycatch legislation, as stated in COM(2011) 578 the favoured approach of the Commission still was to incorporate mitigation measures under the new technical measures framework, and to incorporate the monitoring of cetaceans under the new Data Collection Framework (both to be adopted in 2015). An overarching legislative proposal purely for cetaceans was unlikely.

Gerhard Adams (German Federal Ministry for the Environment) urged the group to think about their wishes regarding the legal instrument needed. He felt that it could not be in the interest of conservationists to have Reg. (EC) 812/2004, as the only specific instrument on bycatch, repealed. Instead, it should be improved as required, so that the best outcomes for cetacean conservation could be achieved and attention would still be drawn to the problem. Heikki Lehtinen (Finnish Ministry of Agriculture and Forestry) suggested requesting the Commission provide a clarification as to the legal structure it had in mind to address cetacean bycatch. Ms Frisch undertook to contact Mr Rihan by email to find out why substantive amendments to Reg. (EC) 812/2004 were not considered a suitable option.

5. Strategies for Effective Monitoring and Mitigation of Cetacean Bycatch

5.1. Overview of Existing Recommendations for Effective Monitoring and Mitigation of Cetacean Bycatch

Geneviève Desportes (ASCOBANS Consultant) gave a presentation on improvements that had been proposed for making the legislation more effective in ensuring the long-term conservation of cetaceans. The more general ones were summarized as listed below while more detail was available in WS/Bycatch/2015 Doc.03 under the headings reporting, monitoring and mitigation.

A more flexible approach was required to ensure monitoring programmes were directed at fleets with the greatest impact on cetacean populations. A greater flexibility in the choice of fisheries requiring mitigation measures should enable a greater reduction in overall bycatch levels.

- A more flexible approach, rather than *ad hoc* reallocation of effort towards areas outside the current scope of the regulation, should be implemented to ensure member states could swiftly react to shifts in distribution, such as those describe in the North Sea.
- To avoid gear that was likely to have an impact on cetaceans falling outside the scope of the regulations, clear definitions encompassing all set nets, pelagic or semi-pelagic trawl types, and gear with very high vertical opening should be included.
- In future regulations, there should be incentives, as existing in other data collection regulations. Incentives and disincentives should be explored to ensure that observers/monitoring were not prevented from sampling representative parts of fleet activities. Probably, penalties should also be clearly defined.
- Monitoring programmes and mitigation measures should be directed at fleets believed to have the greatest impact on cetacean populations – high levels of incidental catches or high levels of fishing effort - without regard to vessel size.
- In order to assess the total bycatch of small cetaceans and the effectiveness of bycatch mitigation measures over time, monitoring programmes should be required in the fisheries where mitigation measures were applied.
- Given the wide-ranging nature of cetaceans, technical measures for recreational activities with an impact on internationally protected species should be coordinated in an international framework, instead of being dealt with on a national or even local basis.
- A more general approach whereby Member States would be required to demonstrate their fisheries were not exceeding some agreed level of cetacean bycatch would be more appropriate without overburdening Member States with excessive monitoring requirements. Under this more pragmatic approach, based on the principle of sufficient sampling, monitoring schemes should be designed to provide confidence that bycatch rates are lower than some predefined bycatch reference limit. Such an approach would enable Member States to focus monitoring as and when most needed.

Penina Blankett (Finnish Ministry of the Environment) mentioned that in recommendations referring to protected species, it was important to specify which ones were meant, i.e. those on Annex 2 and/or Annex 4 and/or also Annex 5 of the Habitats Directive.

5.2. Approach – Defining Targets vs. Measures (Discussion)

Sinéad Murphy (independent expert) said that in the discussions, there was a need to differentiate between targets, which, in ASCOBANS for example, would be the zero bycatch target, and limits, i.e. a number of bycaught animals that should not be exceeded. In 2009, ICES recommended the Bycatch Limit Algorithm (BLA) approach for setting bycatch limits for small cetaceans. This approach was also recommended for OSPAR's MSFD common mammal bycatch mortality indicator by the ICES WGMME in 2014. The first full assessment of OSPAR's mammal bycatch indicator should be undertaken in 2016; however currently development of this indicator was stalled due to a lack of defined European-wide conservation objectives for small cetaceans(for more detail see Annex 3), and she feared that because of this, the MSFD bycatch indicator might not be developed further. In contrast, the US had very clearly defined conservation objectives for marine mammals, described within the Marine Mammal Protection Act (MMPA) of 1972. Species or stocks were not permitted to fall below their optimum sustainable population, and had to be maintained above their maximum net productivity level estimated to be between 50% and 85% of K, or between 50% and 70% of historical population size.

Christian Pusch (German Federal Agency for Nature Conservation) reminded participants of the approach used in the United States under the MMPA, which used the potential biological removal (PBR) method and resulted in the temporary closure of a fishery if the limit was exceeded. Ms Murphy said that a key problem in transferring this approach to Europe, even after the EU had set bycatch limits, was how to distribute this maximum removal among the countries and fisheries. Finn Larsen (DTU Aqua) said that this was near impossible to agree with so many countries involved; he liked the approach but thought it unrealistic. Mr Pusch agreed that there was a need to be pragmatic; the US approach was an attractive solution, but the situation in Europe was different. Member States needed to implement EU Directives – favourable conservation status was defined at national level. Al Kingston (University of St Andrews) said that for target fish species, Total Allowable Catches (TACs) were distributed based on historical track records under the principle of Relative Stability, but it was still difficult to effectively distribute quotas among countries. The same difficulty would be encountered when attempting to allocate cetacean bycatch limits between and within countries. One would have to somehow combine factors such as knowledge of bycatch rates and patterns of historical fishing effort. Ms Murphy suggested that perhaps a limit was necessary when looking at a specific, small population such as the one in the Baltic Sea, but that for larger populations it might be better to talk about measures rather than limits.

Heikki Lehtinen (Finnish Ministry of Agriculture and Forestry) said that bycatch limits might cause a fishery to be closed when it was reaching the maximum removal, even though the TAC had not been reached. While in theory this was legally possible, it was extremely sensitive from a political point of view, and he doubted that the political will was there for such a new approach. As a minimum, it would require lengthy discussions at the political level to have such an element as part of the Common Fisheries Policy (CFP). Mr Larsen said that a similar mechanism was already in place under the landings obligation, which could close a mixed fishery if the quota of one species were exhausted. Mr Kingston added that such restrictions under the landings obligation were closely linked to the relative quota levels for each species within the fishery, and that some species might become "choke species" in particular situations. Ways were being looked at to try and minimize the effects of this, such as exemptions for species with high post-capture survivability and multi-species quotas. Geneviève Desportes (ASCOBANS Consultant) asked whether the same method could potentially be used to distribute cetacean bycatch limits among countries, to which Mr Kingston replied that the quota distribution was set based on historical track records of catches, and although this set a potentially useful precedent similar data were not widely available for historical cetacean bycatch levels so a different approach would probably be needed. Ms Murphy suggested that until our understanding of cetacean bycatch improved, historical

fishing effort data (days at sea) as such, combined with risk assessment analysis and the current knowledge on cetacean bycatch (including factors such as gear type, season and geographic area), could be used for allocating or distributing cetacean bycatch limits.

Ms Desportes asked what the recommendation of the group was: was a measures-focused regulation still needed, or should a bycatch limit approach be favoured? Iwona Pawliczka (Hel Marine Station, University of Gdansk) said that the 1.7% threshold for unacceptable interactions for harbour porpoises set earlier was now widely considered too high. She cautioned that if a bycatch limit were favoured, in the absence of agreement on the percentage or method to calculate it, this figure might inadvertently remain in place. Heidrun Frisch (ASCOBANS Secretariat) explained that the Advisory Committee had decided to hold a separate workshop in order to help Parties to arrive at a common position relating to the thresholds to be set as 'unacceptable interactions'. From what had been presented earlier as an example for the North Sea, approaches other than the 1.7% were stricter. Ms Murphy said that the BLA, which arrived at the lowest bycatch numbers, needed to be based on good population data, similar to the annual stock assessment reports the MMPA based their bycatch limits on. This approach could be recommended to the European Commission as it would enable the setting of limits for specific areas; ICES could be asked to look into this. Mr Larsen said that the STECF could also be asked.

Ms Desportes said that establishing limits seemed to be a good idea in the medium-term, but first it was necessary to ensure the monitoring required in order to gather the required data was done. The coefficient of variation (CV) required in the current regulation had been shown to be unattainable. Yvon Morizur (IFREMER) said that a CV of 50% might be achievable (compared to the current goal of 30%), but generally recommended defining the coverage required in different fisheries, depending on the risk level, instead of CV values to be achieved. Mr Kingston added that, since the pilot studies had only covered vessels in the categories described by the Regulation, there was still a lack of knowledge on bycatch rates in other fisheries. When the Regulation was drafted, pelagic trawls were thought to be a widespread problem and monitoring was directed that way; now knowledge on this fishery had improved and it was known that only some pelagic trawl fisheries had a bycatch problem. Ms Desportes asked whether an approach differentiating between fisheries known to have high bycatch risk, those unknown etc. might be a solution.

Mr Pusch suggested to use the data on fishing effort as a starting point, as it was already known which ones were the most risky fisheries. Especially in the Baltic Sea and relating to small vessels, the effort data needed to be significantly improved before it could be used to determine the level of monitoring needed. It was important that data collection on fishing effort was harmonized between Member States. Ms Desportes agreed that there should be a common definition of what data should be collected and reported; countries already providing detailed reports would have no additional burden through that. Mr Lehtinen had reservations on the requirement to collect effort data from all small vessels regardless of the fishing gear and the fishing area; any such scheme should focus only on the relevant fleets, since many, depending on the gear used or the season fished in, had no relevance for bycatch. Ms Desportes said that for set-net fisheries she definitely saw the need for data on the whole fleet, including small vessels. Ms Pawliczka added that the SAMBAH results had shown that porpoises occurred everywhere in the study area in the Baltic Proper, hence set nets of relevant mesh sizes had to be considered a threat wherever they were placed. The population was so small that any bycatch was too much. The low densities throughout the area could not be used as an excuse to classify fisheries as low risk, but in contrast emphasized the need for urgent action. Mr Kingston added that any data collected would also be relevant for assessing impacts on other protected species, so any effort made might be useful.

Mr Larsen suggested not trying to define the level of monitoring required, but turn matters around and make it a requirement for Member States to conduct the monitoring needed to

prove the fisheries did not have a negative impact. This was a better way forward than defining some arbitrary percentage. If countries had to undertake sufficient sampling to answer whether bycatch had an effect, there was also no need for problematic definitions of fisheries as low, medium or high risk. Mr Kingston said that this still needed to be linked to a bycatch limit, as otherwise the data could not be evaluated. Ms Murphy said that the CLA was also useful as a monitoring tool. Ms Desportes said that the mitigation measures required could be linked to where a fishery was in relation to the bycatch limit. Also, all monitoring undertaken under all frameworks, including for example the Habitats Directive, should be taken into account.

Mr Kingston raised the question how it would be decided whether a specific fishery had too much bycatch. Would there be cumulative bycatch limits for different fisheries? With different bycatch rates and different effort levels, Member States needed to decide nationally to which fisheries and which areas they wanted to apply measures. This further complicated the problem, already discussed, on how to set limits for shared populations affected by the fisheries of several countries.

5.3. Opportunities for Improving Legislation to Ensure the Effective Protection of Cetaceans (Discussion) (Chair: Sara Königson)

Starting off the discussion, Sara Königson (Swedish University of Agricultural Sciences) said that given the approach favoured by the European Commission was to move away from a specialized bycatch regulation and instead to include obligations under the DCF and the technical measures framework. Whatever approach was chosen in the end, the requirements set out needed to ensure that monitoring and mitigation were really effective, without the drawbacks currently contained in Reg. (EC) 812/2004. Geneviève Desportes (ASCOBANS Consultant) said that in order to be useful, the DCF should truly be turned into an ecosystem assessment, rather than its current limited focus mainly on commercial fish.

Heidrun Frisch (ASCOBANS Secretariat) read out additional information on the European Commission's position regarding future legislation on bycatch, provided by Mr Rihan by email. He quoted relevant text from the 2014 ICES WGBYC report which was in line with the Commission's current thinking and explained why they were reluctant to amend Reg. (EC) 812:

> *"The European Commission has carried out two reviews of Regulation (EC) No 812/2004-COM (2009) 268 and COM (2011) 578. These took place respectively after the second and fourth national reports on the implementation of the Regulation; as required under Article 7 of the Regulation. These reviews have identified deficiencies in the current regulation. However, the Commission has indicated that it sees little merit in amending Regulation (EC) 812/2004 other than to align it with the Treaty of the Functioning of the European Union (TFEU). A full review would take too long, lead undoubtedly to prolonged political discussion and possible watering down of provisions and in any case continuing to have detailed rules for managing cetacean by-catch agreed under a co-decision regulation of the Council and the European Parliament runs contrary to the objective under the new CFP, of moving to regionalised decision-making, where measures are tailored to different fisheries and agreed at regional level.*
>
> *The Commission's long-term intention is to move away from a central regulation and incorporate the main elements of Regulation (EC) 812/2004 (i.e. monitoring and mitigation) into other regulatory frameworks. Once this has been achieved the Regulation could be repealed. This devolved approach will ensure that monitoring and mitigation are targeted in the areas and for the species most under threat. Improved mitigation measures could be incorporated under the new technical measures framework that will be developed as part of the reform of the CFP. This would set out*

the scope and management targets to be met in relation to incidental catches of cetaceans, with the possibility for Member States to develop mitigation measures for specific areas and fisheries. The monitoring requirements could be incorporated into the revised Data Collection Framework (DCF), in line with a move to a wider ecosystem approach to fisheries monitoring which would include incidental catches of non-target species such as cetaceans, seabirds and benthic organisms".

In his email, Mr Rihan added that the alignment of the Regulation with the Treaty of Lisbon had now been completed, and that a full review as mentioned above would require an impact assessment and a consultation process before the Commission could table any proposal. This would take upwards of two years to complete.

Gerhard Adams (German Federal Ministry for the Environment) saw a greater risk of watering down if there was no longer any dedicated legal provision on cetacean bycatch. While ASCOBANS should focus on making technical recommendations, it could also give political advice where such legislation would best be placed. Penina Blankett (Finnish Ministry of the Environment) said that the measures recommended by ASCOBANS should be applicable no matter where in the legal frameworks they would be included. The workshop could express a preference which Parties would consider, but the most important thing was to ensure that the bycatch problem was getting addressed effectively.

After some further discussion, the Secretariat and Steering Group were asked to draft text on these considerations, which was amended and agreed the following day (Annex 4).

5.4. Further Strategies to Reduce Bycatch (Discussion)

Geneviève Desportes (ASCOBANS Consultant) explained that this item had been included in the agenda with a view to discussing financial mechanisms that could be used in order to improve bycatch monitoring and mitigation. Heikki Lehtinen (Finnish Ministry of Agriculture and Forestry) said that regionalization (e.g. BALTFISH) was now an important part of the reformed CFP. Through regionalization, it was possible to use various legal acts, which offered a possibility to react speedily if need be on the basis of new information. Ms Desportes said that it would be highly desirable for funds to be set aside for monitoring bycatch. Oliver Schall (German Federal Ministry for the Environment) recommended that the Commission should analyze how to use and, if needed, adapt the European Maritime and Fisheries Fund (EMFF) to reach a higher reduction of bycatch, and also provide sufficient funding to achieve this.

6. Recommendations (Chair: Geneviève Desportes)

6.1. Working Groups (Baltic Sea; Western Baltic, Belt Sea and Kattegat; North Sea; Atlantic)

The workshop was split into four regional working groups, all discussing for their specific area what the issues to address were, which conservation strategy to recommend, and what recommendations should be made on collection of data on fishing effort, mitigation methods to be employed and monitoring requirements. Reports back to the meeting can be found under agenda item 6.3.

6.2. Fishing Effort Data Collection (Discussion and Recommendations)

Yvon Morizur (IFREMER) gave a presentation explaining that in the absence of available bycatch rates for most fisheries, ICES had developed the Bycatch Risk Approach (BRA) (ICES 2010[6] and 2013[7]) in order to identify areas and fisheries posing the greatest likely conservation threat to bycaught cetacean species. This approach made it possible to identify fisheries with levels of fishing effort that could pose a potential threat to cetacean species at a regional level. It required data on fishing effort to be collected in all national fleets posing a risk and be reported in a uniform way.

The analysis of bycatch monitoring data required that the sample level (observations) and the fleet level should have the same effort unit in order to obtain i) the coverage achieved in each fishery, and ii) an unbiased extrapolation for each fishery (when the coverage was sufficient). At this time, days at sea was the most often used measure of effort and it should be expressed in decimal days at sea to be more accurate, in line with the standard format provided by the European Commission to Member States after consultation with ICES.

For commercial fisheries the effort data should be provided for all vessels whatever their size. For trawlers, data on the duration of towing and the dimension of the aperture of the fishing gear should be collected in addition to fishing time and days at sea. The towed gear types presenting high bycatch risk were mid-water pair trawls (PTM) and some bottom pair trawls (PTB) having a very high vertical opening (VHVO). They should therefore be distinguished from other trawlers in the effort databases, which was not currently the case. For set-net and driftnet fisheries, the data to be collected in addition to fishing time of vessels included: the number of vessels involved, the length, height and soak time of the net used, the target species, the mesh size and gear type. Trammel nets (GTR) and driftnets (GDN) should be clearly identified and not reported under a wider category such as *Gillnets and entangling nets* (GEN), as they represented set-net gear with high entanglement risk. Such detailed would help the understanding of bycatch occurrence.

For recreational fisheries using nets, the collection of fishing effort and bycatch information should be done through the Data Collection Framework (DCF). The quantification of the recreational fishing activity with nets should be required. Numbers of recreational vessels using nets, total length of nets per mesh size range should be reported. For beach fishing, total length of nets per mesh size range should be reported. In addition, bycatch data could be collected by the interview method.

When bycatch monitoring was carried out at sea, the maximum number of fishing operations at the trip level should be observed to increase the coverage rate for cetacean bycatch assessment. Characteristics of each fishing operation (position, hauling time, target species, gear used, immersion time of the gear, type of acoustic deterrents used, their spacing) should be recorded. The number of cetacean specimens bycaught should be registered in each haul (also zeros). If pingers were used on the nets, the distance between each bycaught cetacean specimen and the nearest pinger should be recorded and pingers checked by observers at hauling to identify and record whether they were functioning or not. The collection of biological parameters of bycaught cetaceans should be encouraged. In some Member States, this was facilitated by allowing and encouraging the landing of bycaught cetacean specimens.

Oliver Schall (German Federal Ministry for the Environment) said that part-time fisheries needed to be included in the effort data collection. Geneviève Desportes (ASCOBANS Consultant) noted that the situation was very diverse throughout the Agreement Area: in

[6] ICES. 2010. Report of the Workshop to evaluate aspects of EC Regulation 812/2004 (WKREV812). ICES CM 2010/ACOM:66. 65pp.

[7] ICES. 2013. Report of the Workshop on Bycatch of Cetaceans and other Protected Species (WKBYC). ICES CM 2013/ACOM:36. 55pp.

Sweden, no difference was made between part-time and full-time fishermen, the same requirements applied to both. In Denmark, part-time fishermen were obliged to report catch, but not their effort. In Germany there were no reporting requirements for part-time fishermen. Other countries again were different. She agreed with Mr Schall that part-time fishing should be included in the effort data collection, which should cover all vessel sizes. For recreational fisheries, recording days at sea might be enough. Only where they were being monitored should more detailed reporting be required so that the data could be properly analyzed.

6.3. Working Group Reports back to the Meeting

Discussions under this item were taken together with those under the next one.

6.4. Drafting of Recommendations Coming from the Working Groups

Finn Larsen (DTU Aqua) reported on the discussions and conclusions of the Baltic Sea working group. After some discussion, these were amended slightly and agreed as contained in Annex 5. Christian Pusch (German Federal Agency for Nature Conservation) suggested that a recommendation should be made to the ASCOBANS Jastarnia Group and the Advisory Committee to make use of effort data for bycatch risk analyses in conjunction with distribution and abundance data on harbour porpoises.

Sara Königson (Swedish University of Agricultural Sciences) presented the recommendations made by the Western Baltic working group, which also after some discussion and some slight amendments were agreed (see Annex 6).

Geneviève Desportes (ASCOBANS Consultant) presented the outputs of the working groups on the North Sea and the North East Atlantic. After discussion, these were agreed as contained in Annex 7.

7. Concluding Remarks

After the customary expression of thanks to all those that had contributed to the success of the meeting, the workshop was declared closed.

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Proposed Strategy for Assessing and Managing Cetacean Bycatch in European Waters

(as developed by the workshop participants, relating to Agenda Item 5.2)

Member States should be required to demonstrate that their fisheries are not exceeding an agreed level of cetacean bycatch. In order to achieve this, a management framework procedure needs to be developed to define thresholds of 'Unacceptable Interactions' or 'bycatch limits' to help safeguard the favourable conservation status of European cetaceans in the long-term. A management framework procedure based on robust thresholds should enable specified conservation objectives to be met by allowing the impact of cetacean bycatch within and across Member States to be more fully assessed and effectively managed.

Initial development of a management framework for small cetaceans was undertaken as part of EU LIFE and government-funded projects. Within these projects, a Bycatch Limit Algorithm (BLA) approach was identified as a suitable method to set limits on the bycatch of harbour porpoises and common dolphins in western European waters (SCANS-II 2008, CODA 2009), an approach that ICES also advised the European Commission in 2009.

In order to further develop the BLA approach three key issues need to be resolved:

1) the need for policy-makers to define the conservation objectives for cetaceans to be used in the procedure;
2) the timeframe over which the procedure should be modelled to achieve the specified conservation objectives; and
3) delineation of the spatial areas to which the procedure is to be applied (i.e. appropriate management units) (ASCOBANS 2013).

Based on existing bycatch observer data the main species of concern are the harbour porpoise, common dolphin, striped dolphin and bottlenose dolphin (EC-COM 2011). A time-series of bycatch estimates and population abundance estimates, with their associated uncertainties, are incorporated into the Bycatch Limit Algorithm approach. However, there are currently a number of issues with bycatch monitoring in EU waters, mainly related to the consistency and quality of data arising from national monitoring programmes which has resulted in significant data gaps due to uneven and/or insufficient sampling in many fisheries. For example, monitoring of bycatch, if carried out at all, is often undertaken using different methodologies and to variable standards by different Member States. Bycatch monitoring is also not necessarily coordinated at the scale of cetacean population/management units, which makes assessing the impact of bycatch at a population level difficult. This would be improved by better coordination and cooperation between Member States. Furthermore, many fisheries thought to have significant bycatch levels also fall outside the scope of Reg. (EC) 812/2004, though some Member States already monitor these fisheries under the requirements of the Habitats Directive.

A time series of abundance estimates is not currently available for common dolphins or striped dolphins or for some harbour porpoise and bottlenose dolphin management units (defined by (ICES WGMME 2012, 2013). If the SCANS-III survey takes place in 2016, new abundance estimates should be available in 2017 and the BLA approach for setting bycatch limits could thus be implemented in 2017.

Plan for implementation of a Management Framework Procedure

Delivery date	**Action required**
2017	Define conservation objectives for cetaceans and the timeframe over which the procedure should be modelled to achieve the specified conservation objectives
2017	Agreement on the delineation of the spatial areas to which the procedure is to be applied (i.e. appropriate management units)
2017	Collation of bycatch data and production of bycatch estimates at the level of a cetacean species management unit.
2017	Initial assessment/identification of "medium-to-high risk" fisheries where bycatch monitoring should be focused.
2017	Cetacean species bycatch limits to be produced as per management unit
To be determined	Annual cetacean species management unit bycatch limits to be split between relevant Member States using an agreed protocol within Regional agreements.
	If Member States' annual cetacean species bycatch estimates exceed their national bycatch limits then MS are required to introduce mitigation measures to bring bycatch below the national limit **(Approach 1).** If Member States comply with Approach 1, until the point of its full implementation, mitigation measures as adapted from those described under Reg. (EC) 812/2004 should remain in place with trammel nets included; except in those fisheries with bycatch already demonstrated to be negligible (see under the regional recommendations for the list). Other fisheries could be added to this list once sufficient monitoring (with adequate statistical power) has been undertaken over an appropriate time period. Background monitoring should be continued in all "low-risk" fisheries to provide data to assess any possible future changes in bycatch rates.
	If Approach 1 is not acceptable or if limits are not set and/or an agreed way to split limits between Member States is not found within a defined time frame ASCOBANS recommends a Precautionary Approach whereby appropriate mitigation measures should be applied in **all** set-net fisheries irrespective of vessel size, gear type or geographic area; but exemptions should be made for those fisheries with demonstrated negligible (rate and/or cumulative) bycatch (see under regional recommendation for required mitigation and monitoring measures, as well as exempted fisheries) (**Approach 2**).

References

ASCOBANS. 2013. Societal decisions required for the determination of safe bycatch limits for harbour porpoise, common dolphin and bottlenose dolphin. AC20/Doc.3.1.2 (P).

CODA. 2009. Cetacean Offshore Distribution and Abundance in the European Atlantic (CO-DA). 43pp without appendices; 164pp with appendices.

EC-COM. 2011. Communication from the Commission to the European Parliment and the Council on the implementation of certain provisions of Council Regulation (EC) No 812/2004 laying down measures concerning incidental catches of cetaceans in fisheries and amending Regulation (EC) No 88/98. Brussels, 21.9.2011 COM(2011) 578 final. 10pp.

ICES WGMME. 2012. Report of the Working Group on Marine Mammal Ecology (WGMME), 5-8 March 2012, Copenhagen, Denmark.

ICES WGMME. 2013. Report of the Working Group on Marine Mammal Ecology (WGMME), 4-7 February 2013, Paris, France.

SCANS-II. 2008. Small cetaceans in the European Atlantic and North Sea (SCANS II). Final report to the European Commission under contract LIFE04NAT/GB/000245.

Reflections on the Way Forward Proposed by the Commission

(relating to Agenda Item 5.3)

The Commission favours incorporation of the mitigation and monitoring requirements under the Data Collection Framework (DCF) and the technical measures framework, instead of having specific legislation on cetacean bycatch. The existing Reg. (EC) 812/2004 would then be repealed.

Possible advantages of this approach are that implementation of measures is more likely since cetacean bycatch monitoring would become a part of larger, ongoing programme with potentially more funding opportunities. Regional management is flexible and may be more effectively dedicated to the fisheries of concern, both relating to monitoring and mitigating cetacean bycatch. Measures would therefore also be included in ecosystem-based management.

However, for this approach to have a chance of success, regarding monitoring the DCF requirements need to be significantly revised in order to take full account of cetacean bycatch assessment needs in terms of target fleets and monitoring methods (e.g. the present DCF has less focus on set nets, but this is the gear type posing the greatest risk to porpoises). Furthermore, a comprehensive report on the implementation of both the DCF and technical measures requirements, similar to current Reg. (EC) 812/2004 annual reports, would still be necessary in order to provide an instrument facilitating synthesis and risk assessments.

A risk of the approach using the DCF and the technical measures framework for cetacean bycatch monitoring and mitigation regulation is that these are frameworks historically focused on commercial fisheries and not on conservation of protected species. Cetacean conservation needs might not receive the attention and funding required for effective assessment and appropriate management. There is therefore a risk of losing the focus on cetacean bycatch that the current regulation provides.

An alternative to the Commission's favoured way forward would be more in line with Reg. 597/2014 to develop a proposal for an overarching legislation for the protection of cetaceans defining conservation objectives, but leaving the detail on monitoring and mitigation requirements to be incorporated under the DCF and the technical measures respectively. In its position EP-PE_TC1-COD(2012)0216 the Parliament stated that

> ***In view of the requirement for Member States to take the necessary measures to establish a system of strict protection for cetaceans,*** *in view of the shortcomings of Regulation (EC) No 812/2004 and its implementation, pointed out by the Commission in its Communication on cetacean incidental catches in fisheries*[8] *and by ICES in its related 2010 scientific advice, and in view of the lack of integration of Council Directive 92/43/EEC ("the Habitats Directive"),* ***the Commission should, before the end of 2015, submit a legislative proposal for a coherent, overarching legislative framework for ensuring the effective protection of cetaceans from all threats.***

Similar to Reg. (EC) 812/2004, an improved new or amended regulation focusing specifically on cetacean conservation objectives would send a stronger political signal, while allowing for more effective and flexible regional management. It would also avoid the risks outlined above of losing the necessary focus required for effective assessment and appropriate management of cetacean bycatch.

[8] COM(2009)0368

A regulation specific on cetacean conservation would be most effective in combination with incorporation of the mitigation and monitoring requirements under the DCF and the technical measures framework. In this option, the new/amended regulation would define the conservation objectives by setting reference limits and giving general recommendations on how the obligations can be addressed, and leave the technical details of how to achieve these objectives to the more flexible technical frameworks.

An overarching regulation specific on cetacean conservation would clearly state the importance of taking into account the conservation of cetaceans, while allowing for more tuned regional management and leaving free hands to regional bodies to decide on adequately targeted monitoring and mitigation measures,

In the view of the participants of this Expert Workshop, this combination of multiple instruments at different levels offers the best way of keeping a focus on cetacean conservation, while allowing a greater effectiveness by strengthening focus and flexibility in the response. It is therefore recommended by the Expert Workshop as the best way forward.

Recommendations of the Working Groups

Baltic Sea (ICES areas 24-32)

1 – Summary of concerns (based on present knowledge)

- **Species:** A single one: harbour porpoise, the population is depleted (447 individuals in central Baltic).
- **Gear types of concern:** Only net fisheries are of concern with regard to harbour porpoises.
- **Reliability of fishing effort data:** Fishing effort data are incomplete as smaller vessels are not required to report, and there are many small boats, especially in area 24.
- **Data on bycatch rate:** Some bycatch information, but no reliable bycatch rates.
- **Mitigation in place:** The degree of compliance to using pingers in area 24 for gillnetters > 12 metres is unknown, but likely to be very low.

2 – Conservation objective and strategy

From a conservation perspective, one needs to focus on the smallest population; i.e. even in the mixed area the bycatch mortality should be close to zero.

The conservation objective in the Baltic remains a bycatch as close to zero as possible.

Monitoring should continue to establish the trend in abundance. CPODs should continue to be used for national abundance monitoring for an estimate of the level of bycatch.

Measures have to be set regionally, in some cases nationally, and have to be fishery specific.

Gillnet effort has decreased in several countries since Reg. (EC) 812/2004 came into effect; driftnets were also banned by this regulation. Alternative gear is under development for cod fisheries. For other species, such as herring, it is already being implemented in the northern Baltic.

a - Mitigation strategy

Pingers, alternative fishing gear and time-area closures[9] should be used as appropriate and any mitigation measure should be independent of vessel size. The focus should first be placed on high risk areas. The prioritization should be updated/revised as more information becomes available.

Permission to fish with high risk gear in areas of high harbour porpoise density and high fishing effort should be made dependent on applying mitigation methods.

Incentives for using mitigation measures and alternative gear should be introduced, with financial support for implementing them. Eco-labelling should also focus on bycatch risk and mitigation.

Efficient enforcement of any regulation needs to be ensured.

b – Monitoring strategy

[9] Time area closures will only be useful/efficient if it is demonstrated that the bycatch is higher inside the target areas than outside. Otherwise the fishing effort will simply be displaced from the target area and this will not reduce bycatch.

The objective of the monitoring should be to estimate the total bycatch from a specific population.

The focus should be on set-net fishery, not on pelagic trawling. All vessel sizes should be monitored and the highest priority should be given to high-risk gear and high-risk areas. High-risk areas are those combining high fishing effort, high-risk gear and presence of porpoises.

The monitoring level should be sufficient to show no negative impact.

Methods to be chosen dependent on situation, must be proven to be effective and reliable.

c – Strategy for collecting data on fishing effort

Fishing effort data should be collected for all vessel sizes.

The parameters to be collected are net length, soak time (alternatively as fall back for these two: days at sea), thickness of twine, mesh size, target species and position of net.

Fishing effort data should be used for targeting monitoring, by overlaying them with the SAMBAH and other available harbour porpoise distribution data, thus facilitating the identification of the areas with the highest bycatch risk.

Overarching Recommendation

ASCOBANS recommends that one of the targets of EU financial support aiming at the reduction of bycatch (e.g., through the European Maritime and Fisheries Fund) should be the Baltic Sea harbour porpoise population. Development and use of mitigation measures, such as alternative fishing methods that are ecologically sustainable, interactive pingers, pingers not audible to seals, alerting devices or switch-outs aiming at reducing bycatch, should be the centre of particular financial efforts to guarantee the survival of harbour porpoises.

Recommendations of the Working Groups

Western Baltic, Belt Sea and Kattegat (ICES areas IIIaS, 22-23)

1 – Summary of concerns (based on present knowledge)

- **Species:** A single one: harbour porpoise, with no significant decrease in abundance between SCANS (1994) and Mini SCANS (2012).
- **Gear types of concern:** Net fisheries are of concern with regard to harbour porpoise bycatch
- **Reliability of fishing effort data:** Fishing effort data are incomplete as vessels < 10 metres (8 metres for Germany) do not have to report effort, although they constitute the bulk of the fleet.
- **Data on bycatch rate:** Very little monitoring is carried out and reliable estimates of bycatch rates are unavailable for most fisheries.
- **Mitigation in place:** The degree of compliance regarding the use of pingers for gillnetters > 12 metres is unknown, but likely to be very low.

2 – Conservation strategy

With regard to bycatch and in the light of the present knowledge, a management framework is necessary for harbour porpoises in the Western Baltic, Belt Sea and Kattegat for ensuring a long-term favourable conservation status of the species.

Since this is a shared population, its conservation needs should be addressed on a regional level. Both monitoring and mitigation measures should be developed regionally with cooperation between the countries concerned, as appropriate.

Gillnet effort has decreased in several countries since Reg. (EC) 812/2004 came into effect; driftnets were also banned by this regulation. Alternative gear is under development for cod fisheries.

a - Mitigation strategy

The same rules on mitigation should apply for recreational and commercial fisheries, especially in hpSACs (Special Areas of Conservation for which harbour porpoises form part of the selection criteria), where they should be included in the management plans.

The areas of most concern should be identified by means of bycatch risk analyses. Here mitigation measures such as pingers or alternative gear should be implemented as a priority.

In areas where the risk of bycatch is significant, appropriate mitigation measures should be put in place regardless of vessel size.

The efficient enforcement of any regulations should be ensured.

There should be incentives for using mitigation measures and ecologically sustainable alternative gear, as well as financial support for implementing these in the fisheries concerned. Eco-labelling schemes should be based on bycatch risk and mitigation.

b - Monitoring strategy

Reporting any cetacean bycatch should become mandatory in all fisheries, including recreational fisheries.

National programmes under the DCF to gather data from recreational fisheries should also include data on porpoise bycatch.

Scientifically recognized, effective monitoring methods should be chosen dependent on the situation (fleet size, fishing effort, bycatch rate etc.) with regional coordination as appropriate.

Monitoring efforts should focus on set-net fisheries, especially those known to have bycatch and those suspected to be a problem. Monitoring schemes should be adapted in the light of the results obtained and new developments in the fisheries.

The effectiveness of mitigation measures should also be monitored.

c – Strategy for collecting data on fishing effort

Fishing effort should be collected for all vessel sizes.

The parameters to be collected are net length, soak time (alternatively as fall back for these two: days at sea), thickness of twine, mesh size, target species and position of net.

Recommendations of the Working Groups

North Sea and North East Atlantic

1 – Summary of concerns (based on present knowledge)

1.1 North Sea (ICES areas IIIaN, IVabc, VIId)

- **Species:** A single one: harbour porpoise
- **Gear types of concern:** Only set-net fisheries are of concern with regard to harbour porpoise bycatch, in particular trammel nets (GTR) and set gillnets (GNS). In France, trammel nets targeting sole and monkfish account for 80% of reported bycatch.

  Coastal fisheries are more complicated to mitigate effectively, because they involve more boats, often using a wide variety of gear within one season.
- **Reliability of fishing effort data:** Fishing effort data are incomplete as vessels < 10 metres do not have to report to the European Commission, even though they constitute over 70% of the fleet in most North Sea countries (the exceptions being the Netherlands and Belgium).
- **Data on bycatch rate:** There are no reliable estimates of current bycatch rates for any net fisheries.
- **Mitigation in place:** The degree of compliance regarding the use of pingers for gillnetters > 12 metres is unknown and the long-term mitigating effect of the pingers has not been investigated.

1.2 North East Atlantic (ICES areas VI, VII excl. d, VIII, IX)

- **Species:** Four species: harbour porpoise, common dolphin, striped dolphin and bottlenose dolphin

  The Iberian (area VIIIc + IXa) harbour porpoise population is small and isolated. The distribution of bottlenose dolphins in waters of the continental shelf encompasses small resident groups that are isolated or genetically distinct, and coastal groups showing strong site fidelity.[10]
- **Gear types of concern:** Net fisheries, pelagic trawl fisheries targeting tuna, bass and hake and fisheries using very high vertical opening (VHVO) trawls are of concern in the North East Atlantic. For example in France, trammel nets (GTR) targeting sole and monkfish account for 80% of the bycatch.

  Coastal fisheries are more complicated to mitigate effectively, because they involve more boats, often using a wide variety of gear within one season.
- **Reliability of fishing effort data:** Fishing effort data are incomplete as vessels < 10 metres do not report in most countries, although they constitute over 70% of the fleet.

[10] ICES WGMME 2013

- **Data on bycatch rate:** Reliable estimates of bycatch rates are unavailable for most fisheries, apart from the pelagic trawl and set-net fisheries covered by Reg. (EC) 812/2004.
- **Mitigation in place:** The degree of compliance regarding the use of pingers for gillnetters > 12 metres is unknown and the long-term mitigating effect of the pingers has not been extensively investigated.

2 – Conservation strategy

With regard to bycatch and in the light of present knowledge, development of a management framework is necessary for harbour porpoises in the North Sea and for harbour porpoises, common, striped and bottlenose dolphins in the North East Atlantic for ensuring a long-term favourable conservation status of these four species.

ASCOBANS advises that the best way forward is to develop a management framework, with Member States being required to show that they meet the defined conservation objectives for cetaceans and that their fisheries do not exceed agreed bycatch limits (see point 5.2 above).

This implies that - 1) conservation objectives have been agreed by EU Member States, - 2) robust thresholds for unacceptable interactions/limits to bycatch have been determined for the four species and for the different management units (see under point 5.2 for details on procedures), and - 3) the relevant Member States have agreed on a protocol within the relevant Regional Agreements on how these bycatch limits would be allocated.

Member States will then have to conduct bycatch monitoring that is reliable enough (reliability criteria being set at an EU level) to show whether the fisheries exceed the determined bycatch limits. If they do, then Member States will be required to introduce mitigation measures to bring bycatch below their allocated limit. The choice of mitigation measures will be left to the Member States. If they are below but close to the threshold, supplementary monitoring will be required to continue assessing the risk. If they are below, no mitigation measures will be required. In fisheries with a low level of bycatch or where mitigation measures have been implemented and their efficiency demonstrated, a background level of monitoring should be carried out for assessing trends.

ASCOBANS advises taking the Precautionary Approach if within a defined time-frame, Member States cannot agree upon setting bycatch limits and/or a way for allocating the limits between them. The Precautionary Approach would entail implementing mandatory mitigation measures and monitoring obligations based on, but modified from, Reg. (EC) 812/2004 and would require that a robust enforcement strategy with penalties should be introduced.

The implementation of the mitigation measures is being deferred by three years to give Member States the possibility of demonstrating a zero/negligible bycatch in some fleet segments, which will then be exempted from mandatory mitigation measures.

Mitigation measures and monitoring requirements, as modified from Reg. 812/2004, are listed below.

a - Mitigation strategy:

- All set nets are candidates for mitigation, including trammel nets (GTR) and driftnets (GND)
- It applies to all vessels, i.e. also vessels <12 metres in length
- The same definitions of net fisheries as in Reg. (EC) 812/2004 apply
- Considering the present state of knowledge, acoustic deterrent devices (ADDs) should be used as a mitigation measure, although (long- and short-term) fishery closures are an

alternative approach, especially in MPAs. If a fishery closure is used, it should be applied to all vessel sizes and should also cover trammel nets and driftnets

- For an ADD to be approved, it should have a proven ability to reduce bycatch of the relevant species in the setting of a commercial fishery, i.e., the device *significantly reduces (>80%)* bycatch with a *high level of confidence (>95%)*, and only if the experiment has been conducted with a *rigorous design.*
- Introduce in all areas and for all vessel lengths, mandatory mitigation measures for:
  - i) Mid water pair trawls (PTM), targeting hake, bass and tuna (but not those targeting anchovy)
  - ii) VHVO targeting hake
- Based on present knowledge, a derogation from mitigation measures is given to fleet segments with negligible bycatch as listed below:
  - i) North Sea: all gear in the western part of area VIId (west of 1˚E), all deep water net fisheries (i.e. fishing deeper than 200m), all trawls (pelagic, bottom and VHVO), all set nets with mesh < 90mm.
  - ii) North East Atlantic: all gear in the eastern part of area VIIe (east of 4˚W), all deep water net fisheries (i.e. fishing deeper than 200m), all set nets with mesh < 90mm, wreck fisheries in area VII (short net fleet / target species: pollock, ling), French spider crab fishery in area VIIe
- Other fleet segments can be exempted, when/if a zero/negligible bycatch rate has been demonstrated by a reliable comprehensive test-monitoring programme complying to the following standards
  - i) Dedicated monitoring, using either dedicated observers or remote electronic monitoring
  - ii) Conducted over an appropriate time period, with at least two successive years/seasons for accounting for variability
  - iii) The level of coverage is high enough to produce a robust assessment (as determined by statisticians).
  - iv) For the exempted fisheries, new test-monitoring will be conducted every five years
- Mitigation measures should be strictly enforced
- Incentives should be introduced
- Resources should be made available for investigating alternative mitigation methods and developing new fishing gear and methods.

b - Monitoring strategy:

- Fisheries for which no bycatch data/rates exist should be identified
- In net fisheries, the monitoring of possible high-risk fisheries (high bycatch rate or/and high fishery effort) should be prioritized
- Bycatch monitoring is required for specific mid-water trawl fisheries and all VHVO-trawl fisheries. Background bycatch monitoring in the other trawl fisheries could be conducted under DCF
- Coastal and inshore fisheries should be prioritized
- The fleet segments exempt from mitigation measures should continue being monitored through the DCF or other existing programmes, as part of background monitoring

- If the bycatch rate appears to be increasing in these fisheries, a two-year test monitoring programme will be again required
- Incentives should be introduced for accepting dedicated observers and/or remote electronic monitoring (REM)
- The obligation of taking observers/REM on board should be inscribed in the fishing licence
- The level of monitoring should be sufficiently high to produce a robust assessment of protected species bycatch (as determined by statisticians)

c – Strategy for collecting data on fishing effort:

- Improved and standardized effort data are needed for all fisheries
- Effort data for vessels < 10 metres, and for driftnets operating in coastal areas, should be collected and provided
- In polyvalent fisheries, in the absence of detailed effort data, gear usage could be inferred from the data provided by observers, as they can register the changes in gear
- Vessels > 10 metres should report complete information on effort as defined under point 6.2 (position, length, height and soak time of the net used, target species, mesh size and precise gear type), while the level of detail asked of smaller vessels could be lower, aligned with the information reported by smaller vessels in Sweden[11]
- Good effort data should be prioritized in the areas where the cetacean species of concern are present, and where a potential risk exists

[11] In Sweden, smaller vessels report/summarize per month for every gear type and mesh size they use: position, effort*soak time (e.g. fishing 5 days with 100 metres of net will be reported as 500 metres), fish species and quantity. The position reported is the average position for each separate fishing effort for the whole month.