

## EU request on the inventory of Member States' monitoring programmes of bycatch of protected, endangered, and threatened species under the service of EC DG ENVIRONMENT

### Service summary

The inventory provides information on monitoring programmes and studies on the bycatch of protected, endangered and threatened species (PETS), based on reporting of sixteen EU Member States to a dedicated ICES data call. The inventory incorporates information from different types of monitoring methods in operation during 2017–2022 and includes 365 monitoring schemes. This inventory will be maintained and regularly updated by ICES.

### Request

*In light of the need to enhance data availability and improve data quality for bycatch estimates as well as to advise Member States on scientifically sound methodologies that will fulfil policy needs and requirements of EU law, ICES is requested to:*

- a) *Review available information and data on monitoring programmes implemented by Member States for the period 2017–2020. The sources to be consulted may include: monitoring programmes under the MSFD, national sampling programmes under the DCF, information and data reported to ICES through EU Member States' reports under Regulation 812/2004\*, ICES data calls and other additional and relevant sources (such as work of the JRC†, GFCM, OSPAR, Barcelona convention, HELCOM‡ and STECF) including scientific publications and available national or regional documents and projects (for example DG MARE regional grants§ or cooperation efforts under regional coordination groups for data collection). This task should include a review of the data available as regards its adequacy for assessing bycatch rates, the methodologies and coverage of existing monitoring programmes, an assessment of the main needs and if possible, identification of main gaps.*

### Elaboration of the technical service

The inventory describes the bycatch monitoring programmes within EU Member States in operation during 2017–2022, including all types of sampling protocols. These include those funded through the Data Collection Framework (DCF) Regulation (EU, 2017), studies aimed at monitoring bycatch of protected, endangered and threatened species (PETS), and pilot studies that investigated the feasibility and constraints of particular sampling programs. The inventory is available to download as separate dataset here: <https://doi.org/10.17895/ices.advice.20208068>

### Type of monitoring and monitoring methods

The routine national programmes to sample the catch of commercial fisheries within the DCF are currently the main sampling programmes monitoring PETS bycatch. It is noteworthy, however, that in recent years several countries have started to carry out specific sampling programmes dedicated to the collection of PETS bycatch data. Regarding the monitoring methods used to collect these data, the use of scientific observers at sea is the most commonly used method, especially under the DCF at sea sampling programmes. In the dedicated monitoring programmes the use of electronic monitoring (for example Close Circuit Television Cameras, CCTV) is becoming more important, particularly when the objectives of the programme are the passive gears such as the gillnets and trammel nets.

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\* Council Regulation (EC) No 812/2004 of 26.4.2004 laying down measures concerning incidental catches of cetaceans in fisheries and amending Regulation (EC) No 88/98. Repealed by 2019/1241/EU.

† “MSFD D1 Species workshop on methods for setting threshold values”, Varano Borghi – Italy, 16-17/01/2019  
<https://circabc.europa.eu/ui/group/326ae5ac-0419-4167-83ca-e3c210534a69/library/5cdd0c47-b509-42f5-867d-55e8383ce73a/details>

‡ Roadmap on fisheries data in order to assess incidental bycatch and fisheries impact on benthic biotopes in the Baltic Sea. Adopted by HELCOM 41-2020 on 4 March 2020  
<https://helcom.fi/wp-content/uploads/2020/03/HELCOM-Roadmap-on-fisheries-data.pdf>

§ Project results can be found here: <https://datacollection.jrc.ec.europa.eu/docs/regional-grants>

## **Target population and main objective of the monitoring**

In the ecoregions within the Northeast Atlantic (Greater North Sea, Celtic Seas and Bay of Biscay and the Iberian Coast), sampling is mainly focused on fisheries using active gears, particularly demersal trawlers, and passive gears, particularly gillnets. In the case of the Baltic Sea and the Mediterranean Sea (including Adriatic and Aegean seas) and Black Sea, many gears, both passive and active, are relevant.

In the case of the DCF surveys, the main objective of the sampling programme is, in most cases, to cover all species caught. This is logical, as the DCF surveys are used to collect information needed to feed into fishery stock assessments. The collection of PETS bycatch data through the DCF has been mandatory from 2017 onwards so the collection of such data in DCF surveys has been more frequent since 2017.

In the dedicated sampling programmes the target populations are, by contrast, the fisheries/métiers where the risk of PETS bycatch is considered to be high. In most of these dedicated surveys the target species are all protected species; there are some specific surveys, however, that are focused only on cetaceans.

It should also be noted that this inventory provides information on the fraction of the target population that is excluded from the sampling programmes. It can be seen that, when part of the target population is excluded from the sampling frame, usually it corresponds to fleet segments of the smallest lengths, mostly due to safety reasons. This leads to a large part of the small-scale fleet being excluded with a significant gap in the PETS bycatch information of this fleet. In some cases, this is being addressed by using electronic monitoring methods.

## **Part of the fishing operation observed and sampling protocol**

It is essential to know which part of the fishing operation is observed when referring to PETS bycatch data. This information can be considered as an indicator of the quality of the data collected. This information is also provided in the inventory and it is described using a vocabulary list (<https://vocab.ices.dk/?ref=1630>) that identifies the main fishing operation parts that can be observed. In addition, other information provided in the inventory could relate to the quality of the information collected; whether, for example, the sampling protocol allows for the quantification of PETS observation effort. In most of the programmes this information is available due to adapted protocols with this aim.

## **Sampling intensity and perceived importance of fisheries related to PETS bycatch**

Sampling intensity is provided at métier level 5 or 6, as the proportion of trips sampled from the total number of trips. There are differences in this coverage depending on the fisheries/métiers, from a very low intensity of less than 1% to a few métiers having around 10% coverage. However this needs to be taken in context with the fisheries – the métiers with relatively high coverage tend to be those with relatively low numbers of trips in the fishery. There is also a difference in provision of data in the inventory – some countries have provided data for the whole fleet, including métiers which were not sampled, others only for the métiers that were sampled. Care needs to be taken when making conclusion for these métiers.

This information is useful especially when high bycatch risk fisheries/métiers are identified by area and can indicate if they are sampled properly or not by experts. The perceived importance relating to bycatch risk of the different fisheries/métiers, and considering different PETS groups, are also provided in the inventory based on expert judgement. This will allow for the identification of the main high-risk métiers for the different PETS species.

## **Summary of general observations**

Although the main PETS bycatch data collection programs are still under the at-sea DCF commercial fisheries sampling programmes, some countries have started to develop specific surveys focused on the collection of PETS bycatch data.

The fisheries/métiers sampled under DCF are not always high-risk fisheries/métiers for PETS species bycatch; since the collection of PETS bycatch data under the DCF is mandatory since 2017 these programmes are now also used to collect bycatch data. Based on the inventory it appears that the DCF sampling protocols have also been adapted to collect PETS bycatch data as well as information relating to the fishing operation observed, and the effort allocated to PETS bycatch

data collection is being recorded in these surveys. This will allow for more detailed analyses of how effective these sampling programmes could be in gathering PETS bycatch data for different fisheries/métiers, when compared to surveys directed to collect PETS bycatch data.

Some member states also started to carry out directed PETS bycatch sampling programmes, focused on high-risk fisheries/métiers in different areas. This will not only deliver better information regarding PETS bycatch, but in some cases could also allow for comparisons of the information collected through the DCF programmes versus dedicated programmes.

The sampling intensity information provided at métier level 5 or 6 from different sampling programmes will also allow for the identification of whether the high-risk fisheries/métiers by area, species, and ecoregion have sufficient coverage. The presence of any potential data gaps can also be identified in this way.

## Basis of the technical service

### Background

ICES received a special request for advice from DGEnvironment on monitoring programs of PETS bycatch (full request included as Appendix 1). As part of this request, ICES has already delivered a review of monitoring of bycatch of protected, endangered, and threatened species of mammals, birds, turtles and fish in February 2022 (ICES, 2022a). The current technical service, including a dataset with an inventory of Member States' bycatch monitoring programmes, is a second deliverable under this special advice request from DGEnvironment. Further work to address the request will be carried out in 2023.

### Methods

An initial inventory of monitoring programmes of bycatch of PETS was initiated by the Joint WGBYC-WGCATCH Workshop on sampling of bycatch and PET species, WKPETSAMP (ICES, 2019). In 2021, the ICES Working Group on Commercial Catches (WGCATCH) proposed a new and improved format and content for such an inventory.

A dedicated ICES data call was issued on 17<sup>th</sup> May (ICES, 2022b) to gather information on existing fisheries monitoring programmes in ICES and EU countries that collect data on the bycatch of PETS and following the new data format proposed by WGCATCH. Twenty-two EU countries were contacted, including eight states with national waters exclusively within the Mediterranean and Black Sea. From the EU countries contacted, sixteen submitted information to ICES.

The inventory lists, among other things, the type of monitoring programme it is, the monitoring method, the main objective of the programme, the fisheries, métiers and areas it covers, and the sampling intensity; there is also some expert judgement on the perceived importance of these fisheries compared to others in relation to the bycatch of seabirds, marine mammals, fish, and turtles.

Although logbooks was included in the inventory as a possible monitoring method, the delivered information reflects what the fishermen themselves are officially reporting through their logbooks without being properly validated by scientific observers. Logbooks have therefore been excluded from the analysis.

The information received was compiled by the ICES Secretariat and reviewed by two ICES experts.

## Additional information

The inventory provides relevant information not only to several ICES expert groups dealing with PETS bycatch issues (e.g. WGBYC, WGCATCH), but also to the Regional Coordination Groups (RCGs). In addition to being maintained and regularly updated the inventory will likely be subjected to further amendments in order to, for example, incorporate new information relevant for data quality analysis and survey design. The information will be used as background documentation in two dedicated workshops related to appropriate bycatch monitoring systems at Member State level and on regional coordination that ICES will carry out in 2023.

## Sources and references

EU. 2017. Regulation (EU) 2017/1004 of the European Parliament and of the Council of 17 May 2017 on the establishment of a Union framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the common fisheries policy and repealing Council Regulation (EC) No 199/2008. Official Journal of the European Union, L 157: 1–21. <http://data.europa.eu/eli/reg/2017/1004/oj>.

ICES. 2019. Joint WGBYC-WGCATCH Workshop on sampling of bycatch and PET species (WKPETSAMP), 24–26 April 2018, SLU Aqua, Lysekil, Sweden, ICES CM 2018/EOSG:35. 76 pp. <https://doi.org/10.17895/ices.pub.8183>.

ICES. 2022a. EU request on the review of monitoring bycatch of protected, endangered, and threatened species of mammals, birds, turtles and fish under the service of EC DG ENVIRONMENT. In Report of the ICES Advisory Committee, 2022. ICES Advice 2022, sr.2022.04. <https://doi.org/10.17895/ices.advice.10096>.

ICES. 2022b. DGENV Request Data call 2022: Inventory Monitoring Programmes PETS bycatch. ICES Data Calls. <https://doi.org/10.17895/ices.data.19745890>.

*Recommended citation:* ICES. 2022. EU request on the inventory of Member States' monitoring programmes of bycatch of protected, endangered, and threatened species under the service of EC DG ENVIRONMENT. In Report of the ICES Advisory Committee, 2022. ICES Advice 2022, sr.2022.04b. <https://doi.org/10.17895/ices.advice.20208068>.

## Appendix

Special request for advice received by ICES from DGenvironment

<i>Details of request</i>	<p>a) <i>Inventory of Member States' bycatch monitoring programmes and of main data needs.</i></p> <p>b) <i>Advice on appropriate bycatch monitoring systems at Member State** level and on regional coordination to comply with obligations under the Birds, Habitats and Marine Strategy Framework Directives.</i></p>
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Other supplementary information to assist the interpretation of the request:

### Background

The problem of bycatch (incidental capture of non-target species in fishing gear) can significantly affect the populations of protected or threatened marine mammals, seabirds, turtles and fish. For example, thousands of common dolphins are bycaught each year in the Bay of Biscay and bycatch is the main threat to the critically endangered Baltic Proper population of the harbour porpoise in the Baltic Sea. It is also estimated that each year at least 200,000 seabirds<sup>††</sup> and 70,000 sea turtles<sup>‡‡</sup> are captured by the EU fishing fleet. The appropriate monitoring of bycatch is essential to understand the magnitude of the problem and to help focus the identification and implementation of adequate conservation measures as required by EU legislation.

Article 12(4) of the Habitats Directive<sup>§§</sup> requires that Member States establish a system to monitor the incidental capture and killing of the animal species that are in need of strict protection, listed in its Annex IV(a). In the light of the information gathered, Member States have to take further research or conservation measures as needed to ensure that incidental capture and killing does not have a significant negative impact on the species concerned. The same actions are needed to achieve the requirements under Article 2 of the Birds Directive<sup>\*\*\*</sup> and to implement a general system of protection for seabirds as required by its Article 5.

The Marine Strategy Framework Directive (MSFD)<sup>+++</sup>, under its descriptor 1 requires that "Biological diversity is maintained", and identifies "mortality rate per species from incidental bycatch"<sup>†††</sup> as one of the criteria defining good environmental status (GES). The species concerned include birds, mammals, reptiles and non-commercially-exploited species of fish and cephalopods, which are at risk from incidental bycatch. The MSFD also requires Member States to establish and implement coordinated monitoring programmes for the ongoing assessment of the environmental status of their marine waters.

For the management of EU fisheries under the common fisheries policy (CFP)<sup>§§§</sup>, EU countries collect, manage and supply data under the data collection framework (DCF). The CFP has the objective to minimise negative impacts of fisheries and aquaculture activities on the marine environment through an ecosystem-based approach to fisheries management. The

\*\* Advice by Member State refers to general recommendations that each MS could adopt to improve their respective monitoring programmes. Individual reviews and evaluations of MS current monitoring programmes are not intended.

†† ICES. 2009. Report of the Working Group on Seabird Ecology (WGSE), 23-27 March 2009, Bruges, Belgium. ICES CM 2009/LRC:10.91 pp.

‡‡ P. Casale. 2011. Sea turtle bycatch in the Mediterranean. Fish and Fisheries, 12, 299-316.

§§ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

\*\*\* Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

+++ Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive)

††† D1C1 — Primary criterion: The mortality rate per species from incidental bycatch is below levels which threaten the species, such that its long-term viability is ensured.

§§§ Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC

DCF contributes to these objectives through the collection and management of relevant data on commercial and recreational fisheries. In this context, data to assess the impact of Union fisheries on the marine ecosystem inside and outside Union waters are also to be collected, including data on bycatch, in particular species protected under Union or international law, data on impacts of fisheries on marine habitats, including vulnerable marine areas, and data on impacts of fisheries on food webs<sup>\*\*\*\*,\*\*\*\*</sup>. The data is collected on the basis of the national work plans in which the Member States indicate which and how data is collected, and the allocation of resources for the collection of data.

The CFP also includes provisions for the implementation of technical measures, i.e. the rules on where and how the fishermen can fish. These measures shall in particular contribute to ensure that incidental catches of sensitive marine species, including those protected under the Habitats and Birds Directives, that are a result of fishing, are minimised and where possible eliminated so that they do not represent a threat to the conservation status of these species<sup>\*\*\*\*</sup>.

Finally, the recently adopted EU Biodiversity Strategy for 2030<sup>§§§§</sup> commits to stepping up data collection on bycatch for all sensitive species in support of elimination, where possible, or minimizing bycatch so as not to threaten their conservation status.

Against this background, and despite the obligations stemming from the abovementioned policies and legislation, available information on bycatch of cetaceans and other protected species in fishing gear in EU waters is limited and, where it exists, it points to significant impact on several species. In July 2020, the European Commission started infringement procedures against three EU Member States for failing to fulfil their obligations in relation to bycatch of species protected under the Habitats Directive, including the requirement to establish a system to monitor incidental capture and killing, and to take necessary measures to prevent significant negative impacts on impacted species. The Commission is also assessing compliance of other Member States.

In light of the need to enhance data availability and improve data quality for bycatch estimates as well as to advise Member States on scientifically sound methodologies that will fulfil policy needs and requirements of EU law, ICES is requested to:

- a) Review available information and data on monitoring programmes implemented by Member States for the period 2017-2020. The sources to be consulted may include: monitoring programmes under the MSFD, national sampling programmes under the DCF, information and data reported to ICES through EU Member States' reports under Regulation 812/2004<sup>\*\*\*\*\*</sup>, ICES data calls and other additional and relevant sources (such as work of the JRC<sup>\*\*\*\*\*</sup>, GFCM, OSPAR, Barcelona convention, HELCOM<sup>\*\*\*\*\*</sup> and STECF) including scientific publications and available national or regional documents and projects (for example DG MARE regional grants<sup>§§§§§</sup> or cooperation efforts

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\*\*\*\* Regulation (EU) 2017/1004 of the European Parliament and of the Council of 17 May 2017 on the establishment of a Union framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the common fisheries policy and repealing Council Regulation (EC) No 199/2008

\*\*\*\* Commission Delegated Decision (EU) 2019/910 of 13 March 2019 establishing the multiannual Union programme for the collection and management of biological, environmental, technical and socioeconomic data in the fisheries and aquaculture sectors

\*\*\*\* Regulation (EU) 2019/1241 of the European Parliament and of the Council of 20 June 2019 on the conservation of fisheries resources and the protection of marine ecosystems through technical measures, amending Council Regulations (EC) No 1967/2006, (EC) No 1224/2009 and Regulations (EU) No 1380/2013, (EU) 2016/1139, (EU) 2018/973, (EU) 2019/472 and (EU) 2019/1022 of the European Parliament and of the Council, and repealing Council Regulations (EC) No 894/97, (EC) No 850/98, (EC) No 2549/2000, (EC) No 254/2002, (EC) No 812/2004 and (EC) No 2187/2005

§§§§ COM(2020) 380 final. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. EU Biodiversity Strategy for 2030. Bringing nature back into our lives

\*\*\*\*\* Council Regulation (EC) No 812/2004 of 26.4.2004 laying down measures concerning incidental catches of cetaceans in fisheries and amending Regulation (EC) No 88/98. Repealed by 2019/1241/EU.

\*\*\*\*\* "MSFD D1 Species workshop on methods for setting threshold values", Varano Borghi – Italy, 16-17/01/2019 <https://circabc.europa.eu/ui/group/326ae5ac-0419-4167-83ca-e3c210534a69/library/5cdd0c47-b509-42f5-867d-55e8383ce73a/details>

\*\*\*\*\* Roadmap on fisheries data in order to assess incidental bycatch and fisheries impact on benthic biotopes in the Baltic Sea. Adopted by HELCOM 41-2020 on 4 March 2020

<https://helcom.fi/wp-content/uploads/2020/03/HELCOM-Roadmap-on-fisheries-data.pdf>

§§§§§ Project results can be found here: <https://datacollection.jrc.ec.europa.eu/docs/regional-grants>

- under regional coordination groups for data collection). This task should include a review of the data available as regards its adequacy for assessing bycatch rates, the methodologies and coverage of existing monitoring programmes, an assessment of the main needs and if possible, identification of main gaps.
- b) Propose criteria that monitoring programmes should fulfil, e.g. parameters and areas to be monitored, minimum frequency and necessary coverage of fishing fleet (métiers) by sampling, types of fisheries to be monitored (métiers and regions with highest risk of having bycatch issues), necessary fishing effort data, etc. in order to provide accurate and reliable bycatch estimates to comply with the relevant provisions of the Birds and Habitats Directives (BHD) and MSFD obligations and suggest an appropriate methodology for evaluation of MS monitoring programmes against these criteria. For the BHD and MSFD, this means that monitoring of bycatch should give reliable estimates of the numbers of individuals in a population<sup>\*\*\*\*\*</sup> that are bycaught per métier per area. For the MSFD, this means that monitoring of bycatch should be sufficient to assess the mortality rate from incidental bycatch per population, with a focus on the species (populations) considered most at risk. For assessments of impact of bycatch on the species concerned, it is necessary to assess the bycatch rate in relation to a defined threshold<sup>+++++</sup> value, which is set in relation to the population size. Population abundance and distribution data are mainly collected through dedicated monitoring systems set up under the requirements of respective directives<sup>+++++</sup>. Therefore, any system to monitor incidental capture and killing that aims to fulfil legal requirements under the BHD and the MSFD must provide a satisfactory estimate of the level of incidental capture and killing of protected species, with a high degree of reliability. It must cover the whole range of fisheries and métiers for which incidental bycatches are known or suspected to occur according to risk assessments, and it must cover a sufficiently large sample of vessels to produce results with sufficient statistical power to permit a reliable assessment of the impact on the conservation status of species (at the level of the local and whole population). Provide recommendations for improvement of monitoring systems per Member State<sup>§§§§§</sup>, and at regional level where appropriate, to ensure that collection of data is adequate to assess population level bycatch issues and link to métiers operating at regional scale, by identifying in particular the areas, métiers, gears and vessel types where improvements are needed in view of fulfilling BHD and MSFD obligations as presented above. Identify different options regarding methodologies (e.g. on-board observers, remote electronic monitoring, logbooks, smart phone applications) and discuss their feasibility, cost-effectiveness and potential for regional coordination.

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\*\*\*\*\* Population/assessment units are not defined for many taxa of interest. In some instances bycatch may need to be assessed at species and métier level. In the absence of agreed populations/assessment units for a given taxa ICES may provide bycatch estimates by ICES Ecoregion.

+++++ Bycatch thresholds currently exist for some species and populations of concern. ICES intends to use the most up-to-date internationally agreed bycatch thresholds with the understanding that these may exist only for a subset of the taxa of concern.

+++++ ICES will use the best estimate of abundance for each species of concern with the caveat that such estimates may not exist for several taxa of interest.

§§§§§ Recommendations by Member State refer to general recommendations that each MS could adopt to improve their respective monitoring programmes. Individual reviews and evaluations of MS current monitoring programmes are not intended.