



# SCIENTIFIC COMMITTEE WORKING GROUP ON BY-CATCH

*October 6, 2023  
Video Conference*

## **REPORT**

*Presented to the 30<sup>th</sup> Meeting of the Scientific Committee as NAMMCO/SC/30/05*



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**NAMMCO**

Postbox 6400, Sykehusveien 21-23, N-9294 Tromsø, Norway, +47 77687371, [nammco-sec@nammco.no](mailto:nammco-sec@nammco.no),  
[www.nammco.no](http://www.nammco.no), [www.facebook.com/nammco.no/](https://www.facebook.com/nammco.no/)

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The NAMMCO Scientific Committee Working Group on By-Catch (BYCWG) held its 8<sup>th</sup> meeting as a video conference on October 6, 2023. The Working Group (WG) was chaired by Kimberly Murray (NOAA, USA). The list of participants and meeting agenda are available in Appendix 1 and 2, respectively.

## **1. WELCOME FROM THE CHAIR AND OPENING REMARKS**

Murray welcomed the participants to the meeting and called for a round of introductions, for the benefit of the NAMMCO Secretariat's newest members. She then gave the background for this meeting, namely the need to perform a risk assessment for by-catch of marine mammals in NAMMCO waters, i.e., find areas where the overlap of fishing effort and marine mammal presence may point to an individual risk of bycatch.

## **2. ADOPTION OF AGENDA**

The agenda was adopted with no modifications. However, due to time constraints and the need for further information on certain topics, not all items were discussed.

## **3. APPOINTMENT OF RAPORTEURS**

NAMMCO Deputy Secretary Maria Garagouni was appointed as the primary rapporteur, with assistance from NAMMCO Intern, Marina Metić.

## **4. REVIEW OF PREVIOUS RECOMMENDATIONS AND AVAILABLE DOCUMENTS**

Murray reminded the group that, at the previous BYCWG meeting held in May 2022, it had been agreed that the risk assessment at this stage pertains to *individual* risk of being by-caught and not to population consequences of by-catch. Thus, the first task of the WG is to map the fishing effort in the waters of each member country. The decision was to formulate a data call through which to collect all pertinent information on fishing and monitoring effort. As an intersessional step, the NAMMCO Secretariat compiled, after having sent a questionnaire to member countries, a scoping document describing the available data from each country (Document SC/30/BYCWG/04).

The Chair further pointed out that the ICES Working Group on By-Catch of Protected Species (WGBYC) had recently put out a similar data call, and that Guðjón Sigurðsson had provided both the official call and the associated data entry template as working documents (Documents SC/30/BYCWG/05 and SC/30/BYCWG/06, respectively).

The reports from the two preceding BYCWG meetings were also made available within the For Information documents (Documents SC/30/BYCWG/FI01 and SC/30/BYCWG/FI02)

## **5. RISK ASSESSMENT FOR ALL FISHERIES**

### **5.1 FORMULATION OF A DATA CALL DIRECTED TO THE NAMMCO COUNTRIES**

Murray opened the topic of the data call with a question regarding the WG's approach to risk mapping, namely, whether the aim is to map co-occurrence of fisheries and marine mammals, or to model by-catch rates. Geneviève Desportes indicated that there are several areas where by-catch information is severely lacking or underreported, and that it would therefore be impossible to model by-catch rates with any level of certainty. Estimates of by-catch have only been reported to the BYCWG for a few species at this point, namely harbour seals, grey seals, and harbour porpoises in commercial gillnet fisheries in Norway, and marine mammal by-caught in the Icelandic lump sucker fishery. It was concluded that mapping co-occurrence, i.e., the likelihood of becoming by-caught, is the current aim

of the WG. To avoid confusion in further communication and discussion, the WG decided that the terms “*exposure*” and “*likelihood*” analysis are more appropriate than “*risk*” analysis when referring to individual likelihood of becoming by-caught, as the latter term is widely used when examining population-level consequences of an activity.

Referring to the scoping document and the previous meeting’s report, Murray, with input from all participants, proceeded to outline some essential components of the data call formulation.

### *Geographic scope*

The data can be aggregated to ICES statistical areas or ecoregions, although those are very large compared to the size of the NAMMCO country fishing areas. The exposure analysis would be more informative at a finer scale, such as ICES rectangles (1° x 0.5°). The Faroe Islands and Iceland record precise location/haul data for most vessel categories, and as such could provide fishing effort at an even finer scale than ICES rectangles. However, the Faroe Islands already aggregate statistics at the level of ICES rectangle, and vessels smaller than 15 GRT do not typically report precise haul locations. Norway has implemented an electronic logbook system for all vessels above 15 m since 2011, and above 12 m since 2022, and thus would be able to provide fine-scale location data; smaller vessels record effort at a resolution of 15 km. Greenlandic catch locations are documented through logbooks or sales notes, depending on the size of the vessel, but their precision is unclear at this time. It was agreed that more information should be obtained regarding the spatial resolution of haul data from each country, particularly with respect to smaller vessels.

### *Temporal scope*

Participants concurred that any fishing data from the past five years, whether recorded on paper or electronic systems, will have been digitised and therefore be reasonably accessible. It is also the most temporally relevant data for such an assessment. Fishing effort should be provided at a monthly resolution for each year and can be further aggregated by quarter.

### *Vessel categories and métiers*

Marjorie Lyssikatos provided a brief definition of the term “*métier*”, explaining that the broadest categorisation is gear type, and that more detailed categories can include target species/group and seasonality. The Chair questioned whether gear type is too coarse a category for this likelihood analysis, as well as whether the data should include all vessel types and sizes or only specific categories. There followed a discussion on the inconsistency of available data for smaller and recreational vessels, depending on the country, and on ways to circumvent that lack of information. It was agreed that small vessels should not be excluded from the process. Simon Northridge suggested that even with such limited information as the number of vessels in each category, it would be feasible to estimate small vessels’ fishing effort, as they are confined to coastal areas. It was proposed that the NAMMCO Secretariat should ascertain the existence of a national fleet register in each member country.

The question then arose about mapping the occurrence of fishing vessels that do not belong to the NAMMCO countries but fish in their waters. Northridge opined that, since it is not within the jurisdiction of NAMMCO countries to monitor by-catch on such vessels, it is a moot point. However, it was agreed that this is still important information, as in some areas, e.g., the Faroe Islands, foreign fishing effort can be higher than national effort. It can be decided at a later stage whether foreign fishing effort should be mapped, i.e., if the percentage of effort is high compared to each country’s national fleet.

### *Monitoring data*

Existing monitoring schemes are not the same across all four countries. Iceland, for instance, has dedicated marine mammal bycatch monitoring programs, while the Faroe Islands have fishery observers who monitor fish catch. Emphasis was placed on the fact that not all monitoring methods can provide reliable by-catch data. It was concluded that more detailed information on the nature (i.e.,

objective) and precise protocols (i.e., methodology) of each monitoring program is needed before formulating that element of the data call.

### *Marine mammal data*

Bjarni Mikkelsen remarked that the fishery data will likely be much more detailed than any marine mammal distribution data available from sighting surveys, and that it might be necessary to incorporate information from telemetry studies when mapping species occurrence. After some discussion, the group agreed that as an initial step, it would be enough to consider each species' known range as a basemap of individual exposure, without investigating seasonality of occurrence or animal density.

On the subject of requesting by-catch information in the data call, the level of reporting differs by country. Niels Lyberth commented that in Greenland, small and recreational vessels are obligated to record all marine mammal bycatch annually. André Moan mentioned efforts by the Norwegian Institute of Marine Research to map by-catch rates, based on interviews with fishers in three areas. Self-reporting by fishers is generally presumed to underestimate by-catch rates. Northridge proposed, and the WG agreed, that the focus of the data call should be to collect fishery (effort and monitoring) information. Considering that modelling by-catch rates is not a feasible goal at this stage, any investigation of marine mammal distribution or by-catch data can be set aside for the moment. Desportes also noted that by-catch should be reported annually by member countries and was compiled in the NAMMCO database.

### Learning from ICES WGBYC work

Sigurðsson described the data template used by ICES WGBYC, explaining the mandatory and optional reporting categories of fishing, monitoring, and by-catch data, and the rationale for each. The Chair inquired whether NAMMCO could directly model the data template on that of ICES, and whether the four member countries have the level of detailed information required to fill in such a template. Lyssikatos pointed out that BYCWG should not duplicate the work done by ICES, in particular the analysis of Icelandic and Norwegian data. The consensus was that the two WGs have different goals, and therefore the likelihood of replicating analyses was negligible.

Lyssikatos suggested that it might be beneficial to formulate the data call separately for each country, tailoring it to the type and level of detail available from each. Murray countered that the requests should be consistent between countries, to avoid having to coerce data to fit specific categories later on. Desportes remarked that the call can be specified with increasing levels of detail, and the WG can use as much data as is provided by each country. Lyssikatos highlighted that BYCWG has the advantage of collating data from only four countries, and therefore any concerns about data standardisation will be easy to manage. For Iceland and Norway in particular, it might be possible to request that ICES share data already submitted under its data call, if the respective countries allow it.

Finally, Lyssikatos shared some of the results produced by WGBYC, including maps of observer effort across different métiers and the by-catch risk scores calculated for certain fisheries. She highlighted that foreign vessel fishing effort had been included in the calculation of national risk scores. For example, effort is present for some fleets in Faroese waters; however, as the Faroe Islands don't submit data to the ICES WGBYC database, this implies that other countries (that submitted effort to the WGBYC database) had fished in Faroese territorial waters (ICES 2022). It was reiterated that the extent of non-local fishing effort should be investigated.

### Required information from data-rich fisheries

The Chair summarised the data fields that should be obligatory to fill in for data-rich fisheries, i.e., for those vessels equipped with vessel monitoring systems or electronic logbooks:

- Year
- Month

- Quarter
- ICES area/rectangle (depending on the finest scale available from all four countries)
- Area code
- Métier level 5, which includes Gear Type and Target Assemblage (although this term may not be used by certain countries, in which case there will be two required fields: Gear Type and Target Assemblage)
- Vessel size class
- Number of vessels in each métier level
- Number of trips
- Number of days at sea

It was agreed that landing weights are not useful for the present goal of the WG.

## 5.2 DATA PROCESSING

### Database format and curation

There was some discussion around the methods of setting up the database to contain the data for analysis. The first consideration was whether the data will be fed into a central database by each country or sent as documentation to a curator who will then compile them into a database. The next consideration was whether those data will be held and curated by NAMMCO, and whether there are any legal restrictions concerning the use of personal data by such an organisation. As there was no immediate answer to that available, that point of discussion was tabled, with the agreement that if NAMMCO servers hold the data, Garagouni will be in charge of data management.

## 5.3 BY-CATCH DATA CHALLENGES

This agenda item was not discussed, due to time constraints.

## 5.4 FUTURE STEPS

The WG agreed that before the official data call could be formulated, the NAMMCO Secretariat should contact the respective Fisheries Departments of each member country in order to ascertain the following:

1. Is there a *fleet register*, sorted by
  - *port*
  - *vessel size*
  - *gear type*
2. Are *recreational vessels* registered/licensed and is there information on
  - *Gear type*
  - *Fishing effort/number of trips*
3. At what *spatial resolution* is fishing effort recorded, sorted by
  - *vessel size*
4. What data are available for *smaller vessels* (i.e., those under 12 m in Norway, under 15 GT in Faroe Islands, under 90 GT in Greenland)
5. Are there records of the number or percentage of *foreign vessels* operating in their national fishing areas
6. What *monitoring programs* exist, and what is
  - the *objective of each program*, e.g., policing or counting protected species bycatch
  - the *monitoring protocol*, i.e., precisely what is being monitored and how.

It was further agreed that, once the availability of the necessary data has been confirmed and the data call formulated, the Secretariat will contact the appropriate parties to request that ICES share relevant data collected under their WGBYC data call.

## 6. RECOMMENDATIONS

No recommendations for research or conservation and management were made at this point.

## 7. MEETING CLOSE

The WG agreed to schedule another online meeting to formulate the data call as soon as the requisite data availability has been confirmed.

The Chair remarked that the WG had made critical progress towards the formulation of the data call and thanked all the participants for making that possible.

A draft of the report was circulated on October 13 and adopted by all meeting participants on October 20<sup>th</sup>.

## REFERENCES

ICES (2022) Working Group on Bycatch of Protected Species (WGBYC) *ICES Scientific Reports*, 4:91. 265 pp. <https://doi.org/10.17895/ices.pub.21602322>



## APPENDIX 1: DRAFT AGENDA

1. **Welcome from the Chair**
2. **Adoption of agenda**
3. **Appointment of rapporteurs**
4. **Review of previous recommendations and available documents**
  - 4.1 Scoping of fisheries data available in the NAMMCO member countries
5. **Risk assessment for all fisheries**
  - 5.1 Formulation of a data call directed to the NAMMCO countries
  - 5.2 Data processing
  - 5.3 By-catch data challenges
  - 5.4 Future steps
6. **Recommendations**
  - 8.1. Recommendations for research from this WG
  - 8.2. Recommendations for conservation and management from this WG
7. **Other business**
8. **Adoption of report**
9. **Next meeting**

### For information

#### ***Terms of Reference of the Scientific Committee By-catch Working Group established by SC 21:***

1. *Identify all fisheries with potential bycatch of marine mammals.*
2. *Review and evaluate current bycatch estimates for marine mammals in NAMMCO countries.*
3. *If necessary, provide advice on improved data collection and estimation methods to obtain best estimates of total bycatch over time.*

#### ***Specific topics/tasks for the BYCWG meeting in 2023 include:***

To formulate a data call to be sent to the fisheries departments of NAMMCO member countries, with the aim to use the data for mapping marine mammal by-catch risk in the NAMMCO waters

## APPENDIX 2: LIST OF PARTICIPANTS

**André Moan (NO)**

Norwegian Institute of Marine Research  
PO Box 6404  
N-9294 Tromsø  
Norway  
[andre.moan@hi.no](mailto:andre.moan@hi.no)

**Bjarni Mikkelsen (FO, SC)**

Faroe Marine Research Institute  
Nóatún 1  
100 Tórshavn  
Faroe Islands  
[bjarnim@hav.fo](mailto:bjarnim@hav.fo)

**Geneviève Desportes (NAMMCO Secretariat, Convenor)**

General Secretary  
PO Box 6400  
N-9294 Tromsø  
Norway  
[genevieve@nammco.org](mailto:genevieve@nammco.org)

**Guðjón Sigurdsson (IS, SC)**

Marine and Freshwater Research Institute  
PO Box 1390  
IS-121 Reykjavík  
Iceland  
[guðjon.mar.sigurdsson@hafogvatn.is](mailto:guðjon.mar.sigurdsson@hafogvatn.is)

**Kimberly Murray (Chair, Invited Expert)**

NOAA/Northeast Fisheries Science Centre  
166 Water Street  
Woods Hole, MA, 02543-1026  
USA  
[kimberly.murray@noaa.gov](mailto:kimberly.murray@noaa.gov)

**Maria Garagouni (NAMMCO Secretariat)**

Deputy Secretary  
PO Box 6400  
N-9294 Tromsø  
Norway  
[maria@nammco.org](mailto:maria@nammco.org)

**Marina Metić (NAMMCO Secretariat)**

Intern  
PO Box 6400  
N-9294 Tromsø  
Norway  
[intern@nammco.org](mailto:intern@nammco.org)

**Marjorie Lyssikatos (Invited Expert)**

NOAA/Northeast Fisheries Science Centre  
166 Water Street  
Woods Hole, MA, 02543-1026  
USA  
[marjorie.lyssikatos@noaa.gov](mailto:marjorie.lyssikatos@noaa.gov)

**Niels Lyberth (GL)**

Ministry of Fisheries, Hunting and Agriculture  
PO Box 29 GL-3900  
Nuuk  
Greenland  
[nily@nanoq.gl](mailto:nily@nanoq.gl)

**Simon Northridge (Invited Expert)**

Scottish Oceans Institute  
University of St Andrews  
Institiud Chuantan na h-Alba  
Gatty Marine Laboratory  
East Sands St Andrews  
KY16 8LB  
Scotland  
United Kingdom  
[spn1@st-andrews.ac.uk](mailto:spn1@st-andrews.ac.uk)

## APPENDIX 3: LIST OF DOCUMENTS

### Working Documents

Doc. No.	Title	Agenda item
SC/30/BYCWG/01	Draft Agenda	2
SC/30/BYCWG/02	Draft List of Participants	1
SC/30/BYCWG/03	Draft List of Documents	4, 5
SC/30/BYCWG/04	Scoping of fisheries data available in each NAMMCO member country	4.1, 5.1
SC/30/BYCWG/05	ICES WGBYC Data Call	5.1
SC/30/BYCWG/06	ICES WGBYC Data Template	5.1

### For Information Documents

Doc. No.	Title	Agenda item
SC/30/BYCWG/FI01	Report of NAMMCO Scientific Committee Working Group on By-Catch – October 2021	Several
SC/30/BYCWG/FI02	Report of NAMMCO Scientific Committee Working Group on By-Catch – May 2022	5.2