

Ireneusz Wójcik, Maciej Adamowicz, Marta Suska
Department of Logistics & Monitoring
National Marine Fisheries Research Institute
Gdynia, Poland

DCF 2017-2019

Sampling design description

(revised)

Region: **Baltic Sea**
Data source: **Commercial fishery**

A new sampling plan was implemented by Poland, starting from 2017, in order to move from metier based and purely opportunistic sampling towards the plan based on statistics, with the aim to reach statistically sound sampling scheme (4S) in two-three years time.
The following approach was applied to new sampling design:

Scheme - determination of the sampling schemes for Baltic Sea region is based on the main types of fisheries exploiting fish stocks subject to sampling requirements, with the use of a combination of at-sea and on-shore schemes, e.g. “*Demersal at sea and on shore*”, “*Pelagic at sea and on shore*”, etc. For sampling biological data from recreational fishery for Baltic cod, as well as for fisheries in regions outside Baltic Sea, the “at sea” sampling scheme is chosen, as the only one practically possible.

Stratifications - as the main purpose is to collect biological data in support of different fish stocks assessment, stratification is based on the type of vessels (fishing technique) exploiting given fish stock, e.g. “*Baltic demersal trawlers targeting western cod*” or “*Baltic gillnetters targeting western cod*”.

Sampling frame – as the first step to define a sampling frame, a list of all ports where landings from given stock and by the type of vessel (demersal or pelagic trawlers, gillnetters, longliners, etc.) was created and, as a second step, those ports were ranked by the total volume of landings from that given stock. As a result of ranking only those ports were selected for sampling for given stock and given type of vessels where minimum 90% of landings took place (average over the reference period). Thus **Sampling Frame** is defined as a total number of vessels of a given type (trawlers, gillnetters, etc.) which, over the reference period, ever landed fish from a given stock in one of the port from the selected group of ports representing 90% of landings from that stock and by that type of vessel.

Coverage – assuming that the target population consists of all vessels exploiting given fish stock (irrespective of the fishing technique and port of landings), through the stratification and sampling frames design described above, the combined coverage of target populations by the sampling frames associated with that populations, (i.e. “targeting” given stock) varies between 61 and 97%.

Primary Sampling Unit (PSU) is “*vessel trip*”.

Sampling intensity –in order to maintain the continuity of the sampling intensity compared to the previous years, the annual number of samples to be collected during 2017-2019 period is at the same level as during the previous multiannual program (2014-2016). Both at sea and on shore sampling will be continued. In order to obtain independent, scientific data on discards and in order to maintain the practice of previous years, about 40-50% of sampling activity shall be conducted through at sea observers trips.

Time stratification – for those stocks for which biological data are required on a quarterly basis, the total annual number of samples for that stocks will be distributed proportionally to the quarterly distribution of landings from that stock.

Sample selection – for each quarter and for each sampling frame a vessel trip is randomly selected from a survey population. After each drawing of a particular vessel, this vessel is returned to a drawing list before next drawing is performed. This procedure is applied until the desired number of vessels to sample is reached. List of vessels selected for sampling is recorded in a register. This register contains information on date of selection, date the vessel was contacted to arrange sampling, information if contact with the vessel was successful or not, vessel’s owner acceptance or refusal to be sampled (as well as reasons in case of refusal). In case of lack of contact with the vessel or refusal to take observer on board or provide landed fish for sampling on shore, the supplementary drawing is performed to maintain the desired number of vessels trips to sample.

Data archiving and quality checks - Data entered to the national database are verified in the two-stage validation process supported by a number of completeness, data type and range checks. Export procedures which prepare data sets for external databases (like RDB FishFrame or InterCatch) also perform basic checks. Additionally, a number of quality reports were developed to improve the completeness and reliability of the data.

Until 2016, sampling programme was based on an opportunistic approach. Due to the confidentiality of personal data, the Institute executing the DCF had no full register of the fishing vessels’ owners with contact details. Sampling was based on the cooperation with the owners of over 100 vessels (c.a. 12% of all Polish vessels), built over the years on the basis of trust. Efforts are being made for access to the full register of vessels’ owners. The list of contact details to vessels’ owners systematically expands but the process is extended in time. Therefore, the main expected difficulties in execution of the sampling programme is high level of non-response and/or refusals.

References

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 (OJ L 354, 28.12.2013, p. 22).

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 (OJ L 157, 20.6.2017, p. 1)

Commission Implementing Decision (EU) 2016/1251 of 12 July 2016 adopting a multiannual Union programme for the collection, management and use of data in the fisheries and aquaculture sectors for the period 2017-2019

Commission Implementing Decision C(2016) 8851 of 15.12.2016 approving the Work Plan submitted by Poland for data collection in the fisheries and aquaculture sector for the period 2017-2019