

Sampling scheme identifier: **PT_OFF_EM_Recreational**

MS: PRT
Region: North-East Atlantic
Sampling scheme identifier: PT OFF EM Recreational
Sampling scheme type: Recreational (off site surveys)
Observation type: EMOnShore
Time period of validity: 2025-2027
Short description (max 100 words): PT_OFF_EM_Recreational aiming to collect fishing effort and catch data from the several recreational fishing modes (spearfishing, shore angling and boat angling), for Seabass <i>Dicentrarchus labrax</i> (Table 4 of the EU MAP Delegated Decision annex) in mainland.
Description of the population
Population targeted: The target population includes licenced holders for all recreational fishing modes (spearfishing, shore angling and boat angling). The off-site methodology presents a direct frame with direct access to the individual elements of the target population. Each sampling unit within the frame corresponds to each respective license holder.
Population sampled: The several recreational fishing modes (spearfishing, shore angling and boat angling) licence holders constitute the aimed sampling population.
Stratification: The data will be stratified by fishing mode and year.
Sampling design and protocols
Sampling design description: The recreational fishing multispecies survey will focus on the fishing effort and catch estimation for the Seabass <i>Dicentrarchus labrax</i> , performed by the several recreational fishing modes (spearfishing, shore angling and boat angling). The methodology will be based on an off-site survey. The PT_OFF_EM_Recreational survey aims at expanding the Pescador system (web and IOS/Android APP) to Portugal mainland, including several adaptations. This method will be further developed and adapted during 2025 - 2027, to integrate new functionalities and tools (e.g., catch photos upload, complete trips validation tool). Using DGRM license list frame recreational, fishers will be contacted via phone text message to engage in the surveys. Follow-up procedures will confirm that the panel established is reporting complete data trips (retained catch and released per fishing trip).
Is the sampling design compliant with the 4S principle? NA.
Regional coordination: N.
Link to sampling design documentation:

Since this is a new sampling scheme to be implemented in 2025 the sampling design documentation will be available in 2025-2027. Sampling design will be similar with the outermost region of the Azores. https://www.dgrm.mm.gov.pt/documents/20143/124668/17_Azores_ICES_RecreationalSamp.pdf/7863f6bf-23ee-e6de-0425-d68403671742

Design follows international recommendations:

Y.

The ICES WGRFS QAT for Portugal (mainland) was successfully analysed by the ICES WGRFS in 2018. Considering the off-site nature of this survey, a new QAT will be carried out and discussed in an upcoming WGRFS annual meeting for evaluation.

Link to sampling protocol documentation:

Since this is a new sampling scheme to be implemented in 2025, the sampling protocol documentation will be available in 2027.

Protocol follows international recommendations:

Y.

The protocol is in line with the recommendations from ICES WGRFS. Modifications following the offsite only survey type will be subjected to new evaluation and recommendations of the WGRFS and will be made available after evaluation.

Sampling implementation

Recording of refusal rate:

Y.

Monitoring of sampling progress within the sampling year:

Y.

This sampling scheme monitoring will be developed on a need-to-act basis.

Data capture

Means of data capture:

The expansion to the mainland of the software Pescador (App, iOS & Android, and web-based) was design to collect data for the three fishing modes (Spearfishing, shore angling and boat angling).

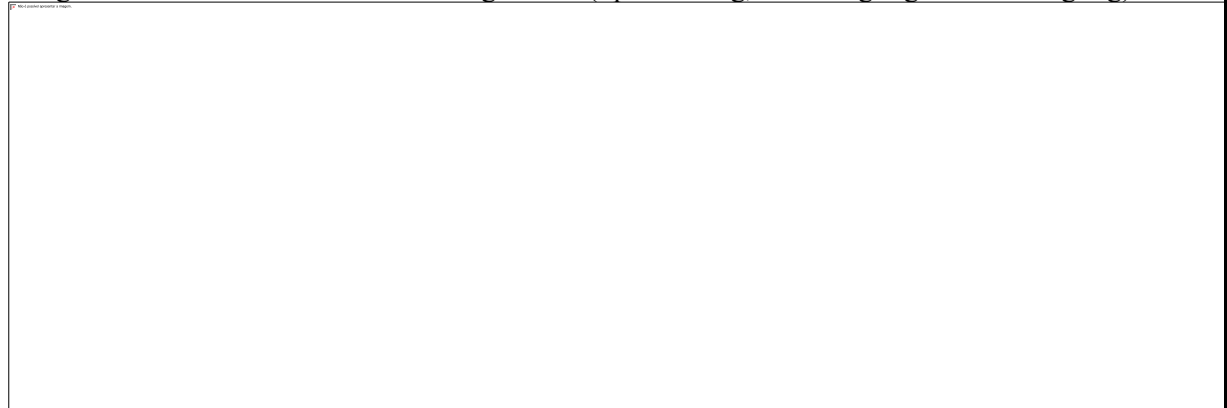


Figure 1. Web and APP Pescador system catch and effort data collection for recreational fishing (spearfishing, shore angling, boat angling) (in Portuguese, Spanish and English language).

Data capture documentation:

The data capture documentation will be updated following the expansion of the Pescador system to Portugal mainland reality. Nonetheless, it is foreseen that Portugal (mainland) will have similar documentation as the one developed for the outermost region of the Azores:

<https://pescas.azores.gov.pt/pescaludica> (The survey is available in Portuguese, English and Spanish language, and a print screen is available in Figure 1).

Similarly, Portugal (mainland) will have similar Guidance Documentation of the new Pescador system (in Portuguese language) as:

<https://drive.google.com/file/d/1PbPQT2YKb81fyQ2FSgwW8FDL8Zc02SKR/view?usp=sharing>

Quality checks documentation:

N.

Quality checks are not yet finalized and only be available after completion of the expansion of the Pescador system in 2025.

Data storage

National database:

The database is located in the system, of BMar PESCA, which will be improved with the addition of this new survey data.

<https://www.dgrm.mm.gov.pt/en/web/guest/coluna-3>

International database:

NA.

Quality checks and data validation documentation:

The existing Recreational Fishing database will be complemented during the sampling period covered incorporating internal routines for basic errors detection.

Sample storage

Storage description:

NA.

Sample analysis:

NA.

Data processing

Evaluation of data accuracy (bias and precision):

N.

The data accuracy will be adapted from Van der Hammen et al., (2016). The documentation will be available in 2027.

van der Hammen, T., de Graaf, M., & Lyle, J. M. (2016). Estimating catches of marine and freshwater recreational fisheries in the Netherlands using an online panel survey. *ICES Journal of Marine Science*, 73(2), 441-450.

Editing and imputation methods:

N.

The imputations methods are being studied to be implemented. The imputation methods will be adapted from Van der Hammen et al., (2016). The documentation will be available in 2027.

van der Hammen, T., de Graaf, M., & Lyle, J. M. (2016). Estimating catches of marine and freshwater recreational fisheries in the Netherlands using an online panel survey. *ICES Journal of Marine Science*, 73(2), 441-450.

Quality document associated to a dataset:

N.

Documentation will be available in 2027.

Validation of the final dataset:

- Identity check
- Range check (bounds depending on entries in other fields or bounds fixed)

Dataset will also be checked in order to identify outliers or potential errors, whenever applicable, statistical procedure will be used in order to estimate acceptable values.