

Sampling scheme identifier: **Madeira Biological parameters specific ICCAT**

MS: PRT
Region: Other regions
Sampling scheme identifier: Madeira Biological parameters specific ICCAT
Sampling scheme type: Biological parameters specific
Observation type: SciObsOnShore
Time period of validity: 2025-2027
Short description (max 100 words): The objective of this sampling scheme (Work Plan – Table 2.2) is to collect biological variables (weight, age, sex and maturity of selected species in Work Plan – Table 2.2) of commercial fish species landed at auctions by Madeiran vessels operating in FAO 34.1.2 (RFMO/RFO/IO ICCAT), for species listed in Table 1 of the EU MAP Delegated Decision annex (2021/1167/EU). The fish samples are purchased from selected ports at Madeira.
Description of the population
Population targeted: Biological variables (age, weight, sex and maturity) are collected from fish species listed in the Work Plan – Table 2.2, from landings at Madeira auctions (=ports) by Madeiran active vessels (licenced to operate in FAO 34.1.2 (RFMO/RFO/IO ICCAT)). Primary Sampling Unit (PSU): vessel * trip Population sampled: Biological variables (weight, age, sex and maturity) of selected fish species included in the species listed in the Work Plan (table 2.2.). Stratification: Sampling scheme stratification includes ports on a spatial scale and months on a temporal scale. Overall, stratification is implemented to improve sampling coverage throughout the year.
Sampling design and protocols
Sampling design description: The sampling design is a stratified multistage scheme: a) The Madeiran fleet is stratified by segment and métier, and by trip and month. According to EU Map requirements [EU Commission Delegated Decision (2021/1167/EU)]. Annual sampling effort (number of planned PSUs = vessel x trip = onshore events) is fixed per selected species (of the Work Plan - Table 2.2). b) Sampling effort (number of vessel * trip = onshore events = PSUs) is allocated to vessel and months based on landings from previous reference years. c) In every vessel x trip, for every selected species the observers attempt to sample every commercial size category, by randomly selecting 1 box from each commercial size category. d) Within each commercial category samplers randomly select boxes to be sampled (in situ for lengths) aiming for a minimum number of 50 fishes. The commercial sampling for biological variables in laboratory (weight, age, sex and maturity) is carried out by samplers that select a sample per length class (5 individuals/ 5 or 10cm length class, depending on the species). e) Biological variables sampling is performed in the laboratory in order to obtain stock-related variables in the sampling frame LPF1 M3 for skipjack (<i>Katsuwonus pelamis</i>) such as biometry, sex and sexual

maturity of the landed fish harvested by Madeiran fishing vessels operating in the ICCAT FAO 34.1.2 area and sold at the auction houses.

Is the sampling design compliant with the 4S principle?:

Y.

Regional coordination:

N.

Link to sampling design documentation:

<https://www.iccat.int/en/iccatmanual.html>

Design follows international recommendations:

Y.

Link to sampling protocol documentation:

<https://www.iccat.int/en/iccatmanual.html>

Protocol follows international recommendations:

Y.

Sampling implementation

Recording of refusal rate:

Y.

Monitoring of sampling progress within the sampling year:

Sampling design is monitored and adjusted throughout the year in order to reach the minimum number of samples required.

Data capture

Means of data capture:

Biological variables data is collected with measuring boards, heavy-duty balance, precision balance, optical imaging equipment with digital cameras incorporated (including digital image analysis software).

Data capture documentation:

<https://www.iccat.int/en/iccatmanual.html>

Quality checks documentation:

Y.

Quality control is carried out before data is submitted to ICCAT to meet the organisation's requirements.

1. All samples are checked by the coordinator before the data is inputted into the local database;
2. After all data is introduced into the local database it is subsequently checked for errors and outliers;
3. A random check of 10% of the data is executed by inspecting the registered data for logical errors;
4. Length distribution and effort information is then connected with vessel logbooks for future cross examinations;
5. All data is made public in ICCAT Secretariat and respective website.

Data storage

National database:

Local Database.

International database:

<https://iccat.int/en/accesingdb.html>

Quality checks and data validation documentation:

Stocks of the main ICCAT species are assessed regularly by the Scientific Committee for Research and Statistics (SCRS) of ICCAT. The methods are defined and applied according to the SCRS work. The frequency of the stock assessments is predefined according to the SCRS schedule of assessments and requests from the ICCAT Commission.

Sample storage**Storage description:**

Stomachs are extracted and kept refrigerated until analysis, where the hard part contents are kept and tagged in the collection, whilst the remaining components are discarded after identification of food sources.

Sample analysis:

NA.

Data processing**Evaluation of data accuracy (bias and precision):**

<https://www.iccat.int/en/iccatmanual.html>

<https://www.iccat.int/en/submitSTAT.html>

Editing and imputation methods:

<https://www.iccat.int/en/iccatmanual.html>

Quality document associated to a dataset:

<https://www.iccat.int/en/iccatmanual.html>

Validation of the final dataset:

Data is submitted to quality check to meet ICCAT requirements and is validated by ICCAT.