

Sampling plan description for biological data

Mainland At market ICCAT

MS: PRT
Region: Other regions - ICCAT
Sampling scheme names: Longline for swordfish: At-market; Traps for large pelagic fish: At-market
Sampling scheme type: At market
Time period of validity: 2021-2024
Short description: Sampling scheme aiming at sampling length of species and biological variables (sex, maturity of selected species) of landings from ICCAT at mainland ports. All landed species are sampled, including species listed in Table 1 of the EU MAP Delegated Decision annex. Observation of PETS (Protected Endangered and Threatened Species) is also covered within the sampling scheme (along with quantification of PETS observation effort) but occurrences are not expected in this sampling scheme since in on shore sampling of commercial fishing trips only the “Landings” fractions are sampled.
Description of the population
Population targeted: Population targeted and studied: lengths of species and biological variables (sex, maturity of selected species) from ICCAT landed at mainland ports. Primary Sampling Unit (PSU): port*day Population sampled: Population sampled / not sampled per metier and sampling scheme: -Metier LLD_LPF: Population sampled: Single main mainland national port of this metier: PENICHE Stratum ID code: PTM25 - LLD_LPF (1 port) -Metier FPN_LPF: Population sampled: Single main mainland national port of this metier: OLHAO Stratum ID code: PTM27 - FPN_LPF (1 port) Stratification: Stratification is used to improve sampling coverage through the year (by quarter).

Sampling design and protocols

Sampling design description:

On shore sampling schemes sample Landings (All fractions).

a) Annual sampling effort (number of planned PSUs = port*days = onshore events) is fixed and is allocated to the different metiers based on landings from previous reference years (weight/value criteria).

b) For each metier, sampling effort (number of port*day = onshore events = PSUs) is allocated to quarters based on landings from previous reference years, and each onshore event (port*day = PSU) is selected by UPSWOR.

c) In every port*day (=onshore event = PSUs), observers attempt to sample a predefined number of landing events (~fishing trips), that are randomly selected (by SRSWOR) from a list of all landing events awaiting auction. This list includes the name of each vessel and the commercial species, commercial size category and weight of each of its boxes. Each landing event generally corresponds to the landings of one fishing trip. A minor proportion of landing events may not be present in the selection list at selection time when sampling starts.

d) In each landing event (~fishing trip), the observers aim to sample every combination of commercial species and commercial size category (by Census).

e) Within each combination of commercial species * commercial size category, the observers select boxes until the length composition of the species is well defined.

f) When different species are present within a box, observers select them all for length sampling.

g) For selected species biological variables are sampled in situ.

h) Observation of PETS (Protected Endangered and Threatened Species) is also covered within the sampling scheme (along with quantification of PETS observation effort) but occurrences are not expected in this sampling scheme since in on shore sampling of commercial fishing trips only the “Landings” fractions are sampled. Within a sampled commercial fishing trip, PETS observation effort is done in all boxes sampled for other species (protocol described in topics a-g).

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>

Compliance with international recommendations: Y. Sampling design in line with international recommendations (e.g. ICCAT manual)

Link to sampling protocol documentation: <https://www.iccat.int/en/iccatmanual.html>

Sampling implementation

Recording of refusal rate: N. Recording of refusal rates will be developed in 2022-2024.

Monitoring of sampling progress within the sampling year: The number of PSU per trimester per sampling scheme executed versus planned is monitored monthly. When necessary and possible, the number of PSU planned but not executed (due to operational/logistical constraints) is rescheduled.

Data capture

Means of data capture: Biological data is collected with measuring board/tape (variable length) and scale (variable weight).

Data capture documentation: Documentation on data capture is disclosed to all scientific observers and under constant improvement (e.g. species identification guides, age reading protocols, maturity stage guides, biological sampling protocols).

Specificities for ICCAT data capture can be found in:

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

Quality checks documentation:

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

Data storage

National database: <http://nautilus.ipma.pt/>

International database: www.iccat.org/en/accesingdb.htm

Quality checks and data validation documentation:

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

Sample storage

Storage description: Biological samples are stored at IPMA.

Biological samples are stored at IPMA and a record of samples per species/stock by geographic sub-area is kept.

Hard tissues (otoliths and hard tissues for age reading) are stored until and after processing/analysis. Soft tissues (stomachs, gonads) are stored until processing/analysis.

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

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.

Final datasets are validated by experts / stock assessors during expert / assessment working groups / regional coordination groups.