

Sampling scheme identifier: **Azores Biological parameters specific NA**

MS: PRT
Region: Outermost regions
Sampling scheme identifier: Azores Biological parameters specific NA
Sampling scheme type: Biological parameters specific
Observation type: SciObsOnShore
Time period of validity: 2025-2027
Short description (max 100 words): Sampling scheme (Work Plan – Table 2.2) aiming to collect biological variables samples from commercial landings made by the Azorean registered vessels operating in the ICES 10.a.2. Commercial sampling for biological variables (weight, age, sex ratio and maturity) are carry out in Azores fisheries laboratories facilities and executed annually. Limpets and parrotfish samples are bought from selected Azorean ports.
Description of the population
Population targeted: Biological variables (age, weight, sex and maturity) are collected from selected limpets and parrotfish included in the species listed in the Work Plan – Table 2.2, from landings at Azorean auctions (=ports) in ICES 10.a.2. Primary Sampling Unit (PSU): port x day Population sampled: Biological variables (age, weight, sex and maturity) of selected limpets and parrotfish included in the species listed in the Work Plan – Table 2.2. Stratification: Spatially (ports) and temporally (annually). Limpets from each sample are selected per length class (5 individuals / 1 cm length class). Parrotfish from each sample are selected per length class (5 individuals / 5 cm length class).
Sampling design and protocols
Sampling design description: Scientific observers on shore attempt to sample a predefined number of sale events (landing of one harvesting event for limpets) for every auction*visit date. This is conducted by random selection from hand collectors or vessels present at the harbour. Boxes of all species landed are sampled by conducting concurrent sampling scheme for all catch fractions landed. A fishing effort related questionnaire is also performed to the hand collector selected for sampling. On shore sampling schemes sample Landings (All fractions). a. Sampling effort is established as number of harvesting events or number of trips expected to be sampled and allocated to auctions and quarters proportionally to last year's landings; b. In every port*day, samplers attempt to sample a predefined number of limpets_sale event or vessel_sale_events regarding parrotfish. Each limpets_sale event or vessel_sale_event corresponds to the landings of one harvesting event or of one fishing trip. Samplers randomly select the limpets_sale event from hand collectors or vessel_sale_events from vessels present at the harbor;

- c. In each limpets_sale event or vessel_sale_event, the samplers aim to sample boxes from every commercial species and commercial category. This way, a concurrent sampling scheme is applied, although sometimes the coverage of all species is not possible;
- d. The commercial sampling for limpets biological variables (weight, sex ratio and maturity) is carried out by samplers that, within each commercial category randomly select boxes to be sampled aiming for a minimum number of 50 limpets; commercial sampling of parrotfish biological variable (age, weight, sex ratio and maturity) is carry out by samplers that select a sample per length class (5 individuals / 5 cm length class). Biological sampling in the laboratory for biological variables follows standardized protocols;
- e. A fishing effort related questionnaire is also performed to the hand collector, or shipmaster of the vessel, selected for sampling;
- f. Refusal rates are recorded.

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

N.

Regional coordination:

Not applicable.

Link to sampling design documentation:

Documentation on sampling design works as an internal working paper, disclosed to all scientific observers assigned and under constantly improving.

Design follows international recommendations:

Not applicable.

Link to sampling protocol documentation:

Documentation on sampling protocol works as an internal working paper, disclosed to all scientific observers assigned and under constantly improving.

Protocol follows international recommendations:

Not applicable.

Sampling implementation

Recording of refusal rate:

Y.

Monitoring of sampling progress within the sampling year:

Sampling progress is monthly monitored.

Data capture

Means of data capture:

Depending on the species, lengths are collected using electronic/analogic callipers or measuring scales. Scales are used for weight data. Fishing effort questionnaires are conducted in person or by phone.

Data capture documentation:

Documentation on data capture works as an internal working paper, disclosed to all scientific observers assigned and under constantly improving.

Quality checks documentation:

Documentation on quality checks works as an internal working paper, disclosed to all scientific observers assigned and under constantly improving.

Data storage

National database:

NA.

International database: NA.
Quality checks and data validation documentation: Quality checks and validation procedures implemented are: (1) All samples are checked by a coordinator before the input of data; (2) All data introduced in database is checked for syntax errors; (3) A random check of 10% of the data is executed by inspecting the registered.
Sample storage
Storage description: Age structures are mostly kept in eppendorfs, which are placed in PCR tube storage racks, at the laboratory and for indefinite period. Access to samples is organised by species and sampling date. Samples are not stored under the auspices/responsibility of any international organization. Quantities of sampled stored by species/stock, geographic sub-area and by year can be found at https://datacollection.jrc.ec.europa.eu/ars.
Sample analysis: On-shore sampling follows recommendations from several ICES working groups: WGCATCH, WGDEEP, WGEF, WGHANSA.
Data processing
Evaluation of data accuracy (bias and precision): Data accuracy is evaluated by experts / stock assessors during preparation and analysis of data for expert / assessment working groups.
Editing and imputation methods: Editing and imputation methods are developed by experts / stock assessors during preparation and analysis of data for expert / assessment working groups.
Quality document associated to a dataset: Quality of datasets is documented in upload logs of data submitted to data calls and in expert / assessment working groups / regional coordination groups reports.
Validation of the final dataset: Final datasets are validated by experts / stock assessors during expert / assessment working groups / regional coordination groups.