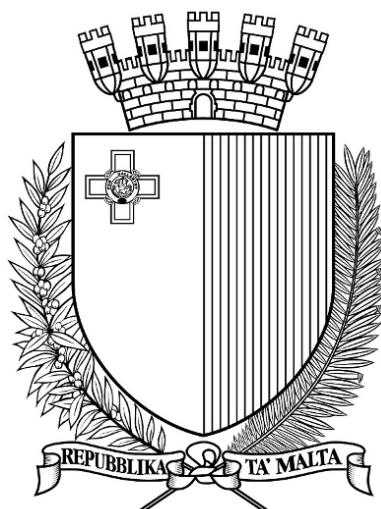


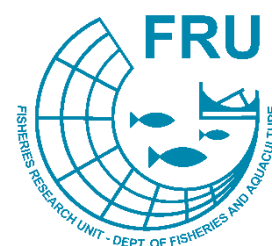
Department of Fisheries and Aquaculture
Ministry for Agriculture, Fisheries, Food and
Animal Rights



**Sampling Methodology and Quality Assurance:
Fleet Activity Variables**

Malta, May 2021

Version 1



Description of data

The objective of the fishing activity data collection is to gather information on the transversal data for the professional fishing fleet of the Maltese vessels.

Data collection methodology

Transversal data on the activity of the fleet is collected by different sources, depending on the variable under study.

The national fleet vessel register is also used for the compilation of specific data; namely the number of vessels, mean length over-all (LOA) of vessels, total vessel tonnage, total vessel power, and mean age of vessels.

Definitions

Statistical unit

The statistical unit is the fishing vessel.

Statistical population

The population under study is the group of professional fishing vessels that appear in the Maltese Fishing Vessel registry and that in the reference period had a valid license to carry out maritime fishing activity.

Geographical scope

The geographical scope of the study is limited to the Mediterranean and Black Sea region. This region is divided into several geographical subareas (GSA) as defined by the General Fisheries Commission for the Mediterranean (GFCM).

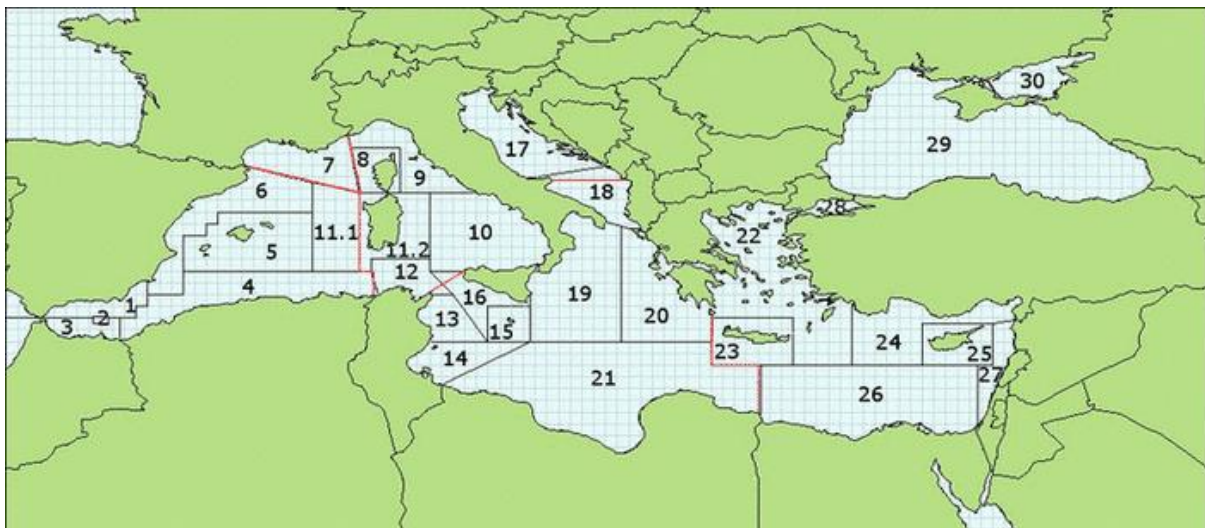


Figure 1 The GFCM geographical subareas. Source: GFCM, 2009.

Temporary coverage

The statistics are carried out on an annual basis.

Reference period

The reference period for the data is the calendar year.

Estimation of the value of landings

Malta provides data on commercial landings by weight and monetary value for each segment by species, by quarter and by geographical origin of the catch as defined by the General Fisheries Commission for the Mediterranean (GFCM) geographical subareas (GSA). The collection of landings data depends on the LOA of the fishing vessel, where such data is either reported in logbooks for the professional fishing vessels with LOA greater than 10 m, or collected via probability sampling surveys of landings for the professional fishing vessels with LOA less than 10 m. Vessels having special authorisations (lampara, vessels using fish aggregating devices (FADs), vessels using drifting longlines targeting bluefin tuna and swordfish, and tartarun) are obliged to also use logbooks to report their catches.

Landings values are also based on data derived from the official local fish market and direct sales notes data (>10 m and <10 m).

All information on sold fish is registered and stored in the Sales Notes database and includes, among others, the following information:

- Vessel Registration number;
- Landing place, date and buyer;
- Species;
- Weight in kilo; and
- Value in Euro.

Logbook Approach:

Malta provides data on commercial fisheries landings (both total value and weight) and total catches as per the disaggregation and precision being requested for professional fishing vessels with LOA greater than 10 m, as per Regulation (EU) No 1224/2009, commonly referred to as the Control Regulation.

Sampling Approach:

Professional fishing vessels with LOA less than 10 m, generally referred to as the small-scale fishing fleet, are subjected to a probability sampling survey using direct interviews and structured questionnaires in order to estimate their landings, as shown in Annex 1.

Sampling Frame

The objective of the survey is to estimate landings related to stocks in Table 1C of the Regulation. The population under study consists of all Maltese professional fishing vessels less than 10 m LOA during the survey reference year.

Data is collected to estimate overall annual commercial landings by species, by quarter and by geographical origin of the catch. Landings by weight and value will be estimated also by segment, categorised by species, by quarter, and with regards to the geographical origin of the catch, at the level of geographical disaggregation according to the Regulation, at

precision levels requested. This data collection enables the correlation of the catch variables to the effort variables.

The following fishing activity variables are collected by means of a direct survey:

- Days at sea;
- Fishing days;
- Gear used;
- Species caught;
- Weight of landings per species; and
- Geographical position of the catch.

Estimation of the average price

The annual average price per species is calculated by dividing the annual sum of the total value in Euro per species divided by the sum of the total weight in kilograms of the same species, as obtained from the sales vouchers.

Planning of the complementary data collection

This methodology described is used to derive estimates on representative samples where data are not to be recorded under Regulation (EU) No 1224/2009 or where data collected under Regulation (EU) No 1224/2009 are not at the right aggregation level for the intended scientific use.

The probability sampling survey, referred to as the Catch and Effort Assessment Survey (CAS), was designed with the objective to provide monthly catch and effort estimates for the small-scale fleet, which do not have a logbook system.

The sampling survey consists of a multivariate questionnaire sampling survey; the target population is made up of the vessels under 10 m LOA registered in the Maltese fishing fleet register. The sample of 10% of the respective population is (stratified) randomly selected every year by quarter. The sampling unit is a single vessel which is randomly selected from the Fishing Vessel Register.

Collection of data:

Face to face interviews are conducted with the vessel owners every fortnight. Information on catches, effort in fishing days, by type of gear, fishing areas and activity is collected. This methodology of obtaining data supplements the data from the fish market and other official sources for the small-scale fishery. The data obtained from the sample is then raised to the population.

Stratification:

For streamlining purposes so that the data time-series is comparable over time, the criteria of season and of the fleet segmentation as described in Appendix IV of Commission Decision EC 93/2010 is used, which includes registration class (full-time/part-time), length segment and fleet segmentation based on the gears registered in the fleet register.

Sampling rate:

The sampling rate, which varies according to the number of vessels in each fleet segment in the reference year, is indicated in Table 1.

Table 1 Sampling rate of professional fishing vessels less than 10 m LOA.

Fleet segment	Sample number	Sampling strategy
< 5 vessels	Census	All year round
6 – 50 vessels	Census	All divided per quarter
51 – 200 vessels	10%	Divided per quarter
> 200 vessels	50 vessels	Divided per quarter

Estimating procedures:

From the vessels sampled, data on catch and effort is raised to the total fleet population of vessels less than 10 m LOA. Raising is based on a weighting factor attributed to the total fleet segment.

Finally, both datasets (logbook and sampling approach) are combined in order to obtain an estimate of the total values.

Data validation

Data collected from the CAS is cross-checked with data originating from the market sales notes and direct sales vouchers. In addition, information collected may also be cross-checked directly with the fishers.

Editing and imputation

The final compiled data is currently stored in an MS Excel file in an organised shared folder with restricted 'read and write' access, serving the same purpose as an internal website. There are currently discussions at the regional level to set up a regional database, whereby Malta is an active participant in the Regional Coordination group (RCG) meetings.

Data quality

The submitted data will be evaluated thoroughly and any outliers will be identified and possibly removed after re-checking with the data source.

In order to achieve high data quality by the data collectors, the latter will be properly trained with written instructions regarding the collection process.

Methodologies to cross-validate the different sources of data.

Data checking and validation is carried out manually by the officers responsible of the different data collection units within the Department of Fisheries and Aquaculture. Data checks include checks for duplicate data entries and checks for data format.

Relevance

Notably, the main users of the data are: The Department of Fisheries and Aquaculture in the MAFA (Ministry for Agriculture, Fisheries, Food and Animal Rights) that uses the information

collected for its management function of the fisheries sector, European Commission Bodies such as DG-MARE, Eurostat and JRC (Joint Research Centre), and GFCM, as data is required for the scientific and economic assessment of the fishing sector in Malta as a member country of the EU and the academic and scientific fora such as the University of Malta and MCAST (The Malta College of Arts, Science and Technology).

Each of these end-users has different needs depending on the ultimate aim of the information they require; in any case, measures are in place to protect the data confidentiality, whilst allowing the end-users to apply their statistical operations in order to expand the knowledge on the activity of the Maltese fishing fleet.

Confidentiality

Following guidelines by STECF, for important segments with distinct characteristics, clustering of segments will be carried out for confidentiality reasons. Clustering will be carried out post-data collection, meaning that the sampling population is unaffected. Clustering, or “fleet segment aggregation”, is required when compiling the annual Fleet Economic Data Call (STECF 15-07).

Confidentiality policy

The objective of the CAS questionnaire is to comply with the requirements of marine fishing of Council Regulation 199/2008 which establishes a community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy, and repealed by Regulation (EU) 2017/1004.

The necessary administrative, logical and physical measures are adopted in order to effectively protect the confidentiality of data from the data collection and until its publication, as well as its storage.

Where the DFA is required to process personal data (as defined in Regulation (EU) 2016/679, the ‘GDPR’) for the performance, implementation and execution of its deliverables, it will be carried out in accordance with all applicable data protection legislation, including the GDPR and the Data Protection Act (Chapter 586, Laws of Malta).

Confidentiality with external users

Data collection for research purposed by the Department of Fisheries and Aquaculture and which is not personal data as provided by the Data Protection Act, Chapter 586 of the Laws of Malta and any other applicable laws in relation to personal data as in force from time to time in Malta.

In terms of data requested by end-users, all data processed and exchanged is considered as confidential amongst themselves and may only be disclosed subject to common written agreement between the parties.

Coherence and compatibility

Clustering is carried out according to the available guidelines by COM and STECF, for confidentiality reasons only. It is to be noted that it is more important to maintain consistent clustering of fleet segments throughout the years, rather than abiding by the rule of number

of vessels as a threshold for determining whether clustering should be carried out or not (recommended by several STECF working groups, e.g. EWG 13-28). Therefore, in order to achieve consistent clustering of segments in future, Malta presents the fleet segments clustered in the same groups for all years (even if the threshold is not reached for some years).

References

Chapter 586. Data Protection Act of the Laws of Malta. (2018).
<https://legislation.mt/eli/cap/586/eng/pdf>

Commission Decision of 18 December 2009 adopting a multiannual Community programme for the collection, management and use of data in the fisheries sector for the period 2011-2013 (notified under document C(2009) 10121).
[http://data.europa.eu/eli/dec/2010/93\(1\)/oj](http://data.europa.eu/eli/dec/2010/93(1)/oj)

Council Regulation (EC) No 199/2008 of 25 February 2008 concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy.
<https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32008R0199>

Council Regulation (EC) No 1224/2009 of 20 November 2009 establishing a Community control system for ensuring compliance with the rules of the common fisheries policy, amending Regulations (EC) No 847/96, (EC) No 2371/2002, (EC) No 811/2004, (EC) No 768/2005, (EC) No 2115/2005, (EC) No 2166/2005, (EC) No 388/2006, (EC) No 509/2007, (EC) No 676/2007, (EC) No 1098/2007, (EC) No 1300/2008, (EC) No 1342/2008 and repealing Regulations (EEC) No 2847/93, (EC) No 1627/94 and (EC) No 1966/2006. <http://data.europa.eu/eli/reg/2009/1224/oj>

GFCM, 2009. Resolution GFCM/33/2009/2 on the establishment of geographical subareas in the GFCM area of application, amending Resolution GFCM/31/2007/2. Available from: https://gfcml.sharepoint.com/CoC/Decisions%20Texts/RES-GFCM_33_2009_2-e.pdf?originalPath=aHR0cHM6Ly9nZmNtLnNoYXJlcG9pbmQuY29tLzpiOi9nL0NvQy9FZVhPdU1xaS1BTk9yOGJqWnBwcjUzUUJ2VjloLVNLT2FBUI9xRHhsZktMRmV3P3J0aW1lPWtQU1dnaTBEMIVn

Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation). <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0679>

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. <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A32017R1004>

Scientific, Technical and Economic Committee for Fisheries (STECF). Assessment of balance indicators for key fleet segments and review of national reports on Member States efforts to achieve balance between fleet capacity and fishing opportunities (STECF-13-28). 2013. Publications Office of the European Union, Luxembourg, EUR 26340 EN, JRC 86350, 140 pp. Available from: <https://stecf.jrc.ec.europa.eu/documents/43805/618529/STECF+13-28+-+Balance+capacity.pdf/c3acdab8-e79c-4de8-885a-8ce507877261>

Scientific, Technical and Economic Committee for Fisheries (STECF). The 2015 Annual Economic Report on the EU Fishing Fleet (STECF-15-07). 2015. Publications Office of the European Union, Luxembourg, EUR 27428 EN, JRC 97371, 434 pp. Available from: <https://stecf.jrc.ec.europa.eu/documents/43805/1034590/STECF+15-07+-+AER+-+2015.pdf/f7436f2a-c240-4933-b22d-4eb6522687fb>

Annex I

Template of CAS questionnaire.

Gimgha (3)

Numru ta' granet tistad (gimgha 4)				Numru ta' vjaggi (gimgha 4)												
Referenza ta' l-irkaptu	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Numru ta granet tistad skond l-irkaptu																
Numru ta vjaggi tistad skond l-irkaptu																

Isem ta' l-Ispeċi (ħuta) [*]	Ref. ta' l-irkaptu	Nru ta' ħut	Piż (kg)	Ħut mormi/Oħrajn	Ref. ta' l-irkaptu	Nru ta' ħut	Piż (kg)	Disp. H/M
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<input type="checkbox"/>				Fekruna:				
<input type="checkbox"/>				Għasfur tal-baħar:				
<input type="checkbox"/>				Kelb il-baħar:				

Gimgha (4)

Numru ta' granet tistad (gimgha 4)				Numru ta' vjaggi (gimgha 4)												
Referenza ta' l-irkaptu	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Numru ta granet tistad skond l-irkaptu																
Numru ta vjaggi tistad skond l-irkaptu																

Isem ta' l-Ispeċi (ħuta) [*]	Ref. ta' l-irkaptu	Nru ta' ħut	Piż (kg)	Ħut mormi/Oħrajn	Ref. ta' l-irkaptu	Nru ta' ħut	Piż (kg)	Disp. H/M
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<input type="checkbox"/>				Għasfur tal-baħar:				
<input type="checkbox"/>				Kelb il-baħar:				

Gimgha (5)

Numru ta' granet tistad (gimgha 4)				Numru ta' vjaggi (gimgha 4)												
Referenza ta' l-irkaptu	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Numru ta granet tistad skond l-irkaptu																
Numru ta vjaggi tistad skond l-irkaptu																

Isem ta' l-Ispeċi (ħuta) [*]	Ref. ta' l-irkaptu	Nru ta' ħut	Piż (kg)	Ħut mormi/Oħrajn	Ref. ta' l-irkaptu	Nru ta' ħut	Piż (kg)	Disp. H/M
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<input type="checkbox"/>				Fekruna:				
<input type="checkbox"/>				Għasfur tal-baħar:				
<input type="checkbox"/>				Kelb il-baħar:				

* Indika l-ispeċi principali fil-mira tiegħek skond l-irkaptu

SMALL-SCALE FISHING FLEET (<10m LOA) - CATCH AND EFFORT MONTHLY QUESTIONNAIRE

DATE	Month	Year

VESSEL DETAILS	Reg number	Vessel name

GEAR USED	GEAR CHARACTERISTICS				FISHING ACTIVITY		AREA	CREW
	Avg. N° of gear units/trip	Avg. L*H of net (m), N° of hooks or N° of traps/unit; Width of mouth	Type of mesh: Square (S) or Diamond (D), Type of hook: J-type (J) or Circle (C)	Size (mm) or type name of mesh or hook	Avg. N° of fishing operations / Avg N° of FADs fished (per day)	Avg. Fishing time in hrs (soaking time)	Fishing area (code)	Avg. N° of crew on board/trip
Trammel net: Parit								
Comb. gillnets & trammel nets: Parit Xkitt								
Set gillnet: Xkitt								
Set gillnet: Tal-Kaħli								
Set gillnet (anchored): Ġholi/Għezula								
Set bottom longlines: Konz tal-Qieħ								
Drifting longlines: Konz tal-wiċċ								
Set surface longlines: Irmigg								
Hand trolling lines: Rixa								
Handlines and Pole lines: Kulpara								
Pots: Nassi tal-Vopi								
Pots: Nassi tal-Arznell								
Pots: Nassi tal-Qarnit								
Purse seine: Lampara								
Surrounding net: Lampuki FADs								
Vessel seine: Tartarun								
Bottom shrimp trawl: Gangmu								
Other: _____								

Comments	
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