

**MINISTRY FOR SUSTAINABLE DEVELOPMENT THE  
ENVIRONMENT AND CLIMATE CHANGE**

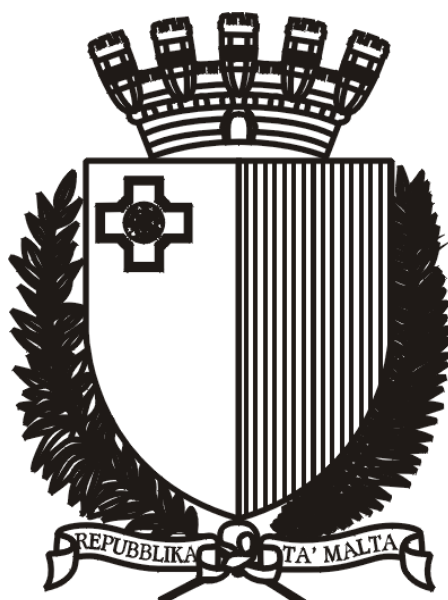
**MALTA**

**National Data Collection Programme**

Under Council Regulation (EC) 199/2008,  
Commission Regulation (EC) 665/2008 and  
Commission Decisions 2008/949/EC, 2010/93/EU

**Malta**

**2016 – Annual Report**



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# **I General Framework**

Malta carried out its National Fisheries Data Collection Programme in 2016 and was compliant with the Data Collection Framework (DCF) (Council Regulation EC 199/2008, Commission Regulation EC 665/2008 and 2010/93/EU). The present document includes the annual report and compliance tables for the reference year 2016, following the guidelines for submission of annual reports on the current Data Collection Framework (DCF) (Guidelines for the submission of Annual Report on the National Data Collection Programmes under Council Regulation (EC) 199/2008, Commission Regulation (EC) 665/2008 and Commission Decision 2010/93/EU, Version for Annual Reports 2015). It gives an overview of the required and achieved sampling together with deviations from the aim and actions undertaken.

In 2016, there were no major changes in the approach compared to the previous reference year.

Malta is actively involved in the Regional Fisheries Management Organisations (RFMOs), namely the International Commission for the Conservation of Atlantic Tunas (ICCAT) for large pelagic and tuna like species and the General Fisheries Commission for the Mediterranean (GFCM) for all the other stocks. All the data collected through the DCF is/will be made available to the respective RFMOs when requested. Malta also collaborates actively with Italian colleagues within the Sicily channel, with joint surveys, biological data collection, research projects and stock assessments. Furthermore, Malta is also working in close collaboration with regards to research projects and stock assessments under the umbrella of the FAO regional projects MedSudMed with Sicily, Tunisia and Libya, and CopeMed II with Algeria, France, Italy, Libya, Morocco, Spain and Tunisia.

## **II National data collection organisation**

### **II.A National correspondent and participating institutes**

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It is to be noted that in Malta, in 2016, only the Fisheries Resource Unit within the Department of Fisheries and Aquaculture (DFA) of the Ministry for Sustainable Development, the Environment and Climate Change (MSDEC) is responsible for the implementation of the DCF and for undertaking the modules of the programme. In this regard, following Article 3(2) of Commission Regulation (EC) No 665/2008, National Coordination Meetings are required "In the case of several bodies participating in the national programme". Collaboration and consultancy with other national entities is sought.

Since the national programme is conducted by one institute, a number of internal meetings take place during the implementation period of the data collection programme; these entail discussions on planning of sampling schemes, data processing and report drafting which relate to the various modules of the programme. Malta has created and is making use of a shared online folder that contains all information related to the DCF, which is accessible to all participants involved in the national data collection programme. This serves the same purpose as an internal website; it is remotely accessible to all users with read/write access.

## **II.B Regional and International coordination**

### **II.B.1 Attendance of international meetings**

Table II.B.1 shows the list of international meetings that were attended by Malta.

### **II.B.2 Follow-up of regional and international recommendations**

Reference is being made to STECF PLEN-16-03, which states that no new recommendations arose during discussions at the 53<sup>rd</sup> plenary meeting of the STECF. In the report of the 2016 Regional Co-ordination Meeting Mediterranean and Black Sea, Large Pelagic Fisheries there were no recommendations.

### **III Module of the evaluation of the fishing sector**

#### **III.A General description of the fishing sector**

The Maltese fishery is a relatively small industry of a typically Mediterranean artisanal type, and is frequently described as multi-species and multi-gear fishery, with the majority of the fishers switching from one gear to another several times throughout the year. The fleet in 2016 consisted of 1,014 professional vessels of which 39.9% were professional full-time and 60.1% were professional part-time vessels. Of these professional vessels, 9 were registered as “non-operational” – i.e. vessels that are either being repaired, or have been rendered non-operational due to pending court cases. The recreational category, made up of 2,027 vessels, operated recreational fishing gear only and fish caught by vessels in this category are not commercialised.

The total gross tonnage and (main engine) power for the full-time professional vessels for 2016 were 5,875.82 GT and 43,548.49 kW respectively; while for the part-time professional vessels the values were 1,086.88 GT and 29,152.38 kW. In 2016, a total of 14 trawlers classified as operational were registered on a full-time basis, with a total power and tonnage of 5,668.04 kW and 2,260.25 GT respectively. These ranged between 19.3 to 35.0 m in overall length.

93.5% of the professional vessels were less than 12 metres in length overall and more than half of them are of a traditional design, mainly ‘luzzu’ and ‘kajjik’ and these operated mainly in coastal waters. Larger vessels, those over 12 metres in length, amounted to 65 vessels and mainly consisted of trawlers, long-liners and netters operating mainly in off-shore waters all year round. The length of the registered vessels ranged between 3.00 and 35.00 metres.

The main landing sites are Marsaxlokk harbour and the wholesale fish-market in Valletta. Catches are generally sold by public auctions through middlemen and fish hawkers.

The main exploited species include swordfish, mackerel, dolphinfish, blue fin tuna, demersal and small-pelagic species and a number of additional species, some of which although caught in smaller quantities, have a high commercial value, such as the red shrimp. Other species such as bogue, horse mackerel, mackerel, dogfish, skate and similar species, which are less valuable commercially, are also caught in fairly large quantities.

Fishing patterns by the Maltese fishing fleet do not vary much between years and are seasonal for some fishing practices. This is due to the migratory patterns of the main target species namely the tuna and dolphin fishing season, whilst together with the swordfish which is targeted throughout the year (with the exception of March, October and November due to the closed season as in 2016) are the three most important species for the economy of local fisheries.

Over the last decade the Maltese fishing industry has evolved from a virtually unrestricted activity into a highly regulated industry especially after Malta’s accession in the EU with quotas primarily following recommendations by international fisheries bodies like ICCAT and GFCM.

The aquaculture industry has become increasingly important throughout the years and employs full-time and part-time persons including technical/scientific experts, farm managers, farm operators, divers and maintenance staff.

The local consumption of capture fisheries products is heavily supplemented by locally farmed fish, imported chilled and frozen fish products, as well as processed imported fish products.

There were no major changes in the Maltese fishing sector in 2016, thus it had no significant impact on the implementation of the National Programme.

## **III.B Economic variables**

### **Mediterranean and Black Sea**

#### **III.B.1 Achievements: Results and deviation from National Programme proposal**

For reference year 2015, economic data was collected on a census basis. The sampling frame for the collection of economic data was based on the fishing vessel register information. The sample used for the reference year 2015 was segmented according to the Community Framework for data collection (EC 199/2008). The data was segmented by type of gear being mobile or passive and by fishing technique namely; drift and/or fixed netters, demersal trawlers and/or demersal seiners, pots and/or traps, hooks, polyvalent passive gears only, combination of active and passive gears, purse seiners and vessels using other active gears. The segment containing inactive vessels was included only for the data collection of the capital asset value and capital costs as it was required. The data was further segmented by the length of the vessel (0-6m, 6-12m, 12-18m, 18-24m and 24-40m).

The population was defined as the entire commercial Maltese fishing fleet which includes the entire full-time commercial (MFA) and part-time commercial (MFB) fishing vessels amounting to a total of 1,039 vessels in 2015. Both inactive and active vessels registered on the Maltese Fleet Vessel Register on 31 December of the reporting year and vessels that do not appear on the Register at that date but have fished at least one day during the reporting year were considered. For all segments, a census approach was used. Direct interviews based on questionnaires were used to gather the data needed.

Malta does not cluster fleet segments therefore table III.B.2 is not applicable.

#### Estimation of capital value and capital costs

The reference values used for the estimation of the price per capacity unit (PPCU) are the prices of the recent constructed vessels in the sample. This provides the value of capital at current prices. Capital asset value is equal to vessel replacement value which was obtained using the Perpetual Inventory Method (PIM) in order to be in line with the advice from PGECON (16<sup>th</sup>- 19<sup>th</sup> April 2012, Salerno, Italy). The price per capacity unit was estimated by dividing the capital value of recent constructed vessels by the gross tonnage of the vessels constructed in the respective year.

The price index used as part of the calculation is ‘the Retail Price Index’ (RPI). The RPI takes into consideration the consumption expenditure of a fixed basket of goods and services that private households incur locally. This index is a good indicator of the impact of inflation on the cost of living. A ‘heavy machinery index’ is not available in the case of Malta. The only producer price index that is available is the ‘Industrial Producer Price Index’ which only dates back to 2005 while the oldest vessels in the Maltese fleet date back to the very early 1900’s.

The depreciation rates and the service life times of assets which were used correspond to the ones provided in the general scheme excel spreadsheet provided as part of the capital valuation report of study No FISH/2005/03: ‘IREPA Onlus Co-ordinator, 2006.

Capital value data derived using the PIM method is segmented according to the different asset components that are the hull, engine, electronics and other equipment (including gear). However only the replacement capital value was calculated for the reference year 2015. An average of the share of each component as a fraction of the total value of the capital was estimated for the vessels making part of the sample. The share values of the hull, engine, electronics and other equipment (including gear) varies depending on the type of vessel and length class. Below is a detailed table showing the share of values:

| <b>Share in total investment</b>      | <b>Hull</b> | <b>Engine</b> | <b>Electronics</b> | <b>Other Equipment</b> |
|---------------------------------------|-------------|---------------|--------------------|------------------------|
| Purse seiners                         | 46%         | 25%           | 2%                 | 27%                    |
| Small Scale Vessels (up to 12 metres) | 35%         | 38%           | 10%                | 17%                    |
| Multipurpose vessels                  | 46%         | 25%           | 2%                 | 27%                    |
| Multipurpose vessels- passive         | 35%         | 38%           | 10%                | 17%                    |
| Trawlers                              | 46%         | 25%           | 2%                 | 27%                    |

### **III.B.2 Data quality: Results and deviation from National Programme proposal**

Data quality checking was carried out by officers responsible for the collection of economic data. Manual checks, as well as R scripts are used and data is corrected accordingly. Additionally, collecting data on a census basis has improved the precision of the fleet data.

#### Calculation procedures of derived indicators:

Full-time equivalent: National and Harmonised- data with regards to the total number of hours worked per year per employee on board the vessel (excluding resting time) and the working hours on shore was collected for the purpose of the calculation of these two indicators. Based on the National reference level an employee is considered to be a full-timer when he/she works 40 hours per week. In this case and in accordance with the study FISH/2005/14 the national full-time equivalent is equal to 1. From this data the harmonised full-time equivalent was also calculated. The Harmonised full-time equivalent (FTE) is the FTE based on a threshold of 2,000 hours. The calculation in the case of both indicators is the result of the ratio of the total working hours per year to the national and harmonised thresholds indicated above. The achieved sampling rate, the response rate for the data with regards to the total number of hours worked is provided in table III.B.3.

Financial Position: Data with regards to debt as at the end of the reference year was collected for the purpose of the calculation of this indicator. The calculation is the ratio of debt to total capital (using replacement value). The achieved sampling rate, the response rate for the data with regards to debt is provided in table III.B.3.

#### The following are the deviations from the National Programme proposal;

The sampling intensity proposed in the National Programme amounted to 389 vessels and the actual sample amounts to 781 active vessels, being a census approach. The aim of this deviation is to enhance the data quality of the survey.

The data source to estimate the gross value of landings was derived from log book and sales voucher data. Direct subsidies, income from leasing of quota or other fishing rights,

payments/lease of quota or other fishing rights were obtained from direct sources (Subsidies Unit and Fishers' Service Unit within the Ministry for Sustainable Development, Environment and Climate Change). This was also done to enhance the quality of the data collected.

### **III.B.3 Actions to avoid deviations**

The following is a list of actions which have been taken to avoid shortfalls:

- The questionnaire was reviewed and assured that only the data that is required was asked to the fishers. Moreover, data that could be obtained from data sources was removed from the questionnaire and asked directly from the respective authorities.
- For 2014 and 2015, data was collected using a census approach in order to obtain a clear picture of the fishing fleet economic performance and eliminate any data quality issues.
- Data collected during any interview was individually inputted, analysed and corrected at the same time by the economics officer of the DFA. If the questionnaires proved to be unsatisfactory, the interviewer was requested to revise the questionnaire.

### **III.C Metier-related variables**

#### **Mediterranean Sea and Black Sea**

##### **General Considerations**

The selection of metiers to be sampled for the estimation of the quarterly volume, size and age of the species in the catches and, where relevant, the discards, was based on the metier ranking procedure described in Commission Decision 2010/93 EU. This was carried out on data collected from logbooks, sales vouchers and the small-scale fishery sampling survey, as described in the 2013 Malta National Data Collection Programme. The level 6 metier codifications used within the present report are derived from those agreed at the 6<sup>th</sup> Regional Coordination Meeting for the Mediterranean and Black Sea (RCM Med & BS, 2009) and augment those defined within the DCF.

As in previous years, both onboard and market sampling were carried out under a stratified sampling frame where the primary sampling unit (PSU) was the trip and the strata were the metiers. This method divided the fleet into very small segments; based on the more recent data, 20 metiers were identified from which 11 metiers were selected to be sampled by the metier-ranking system (Table III.C.1). As detailed in the 2013 NP, for each selected metier a target number of trips from the particular stratum were set to be sampled each month.

In 2016, there was an improvement in the number of sampled trips during observations of the fishing operations. This helped facilitate the collection of biological data for a wider range of target and by-catch species, including discards, as well as more accurate sub-sampling of the catches from each fishing operation during the observed trips.

Effort was made to continue improving the standardisation and precision of data recording systems and to enhance data validation and bring quality control as close to the point of data acquisition as possible. This was achieved by further updating the sampling protocols and reference material for the identification of species during observations at sea and the integration of validation tools into the software used to process data.

##### **III.C.1 Achievements, Results and deviation from National Programme proposal**

The total number of trips sampled proposed in the NP was achieved for set bottom longlines, trammel nets, pots and traps, FADs and lampara. Set gillnets did not have to be sampled during the 2016, since they were not selected by the more recent metier ranking system based on data of 2014 and 2015.

Some shortfalls in sampling at sea of the selected metiers were recorded in 2016; however overall there was a big improvement over the previous years. Sampling at sea was performed for trawlers (targeting demersal species), trammel nets, FADs and lampara.

For drifting longlines for bluefin tuna, a shortfall for sampling was due to the fact that data on the bluefin tuna longline fishery was carried out according to ICCAT specifications (14-04 BFT Part II CPC Observer Programme), covering 20% of the fleet actively using that gear for the duration of the fishing season. Given the brevity of the season and variation in activity between vessels, the sampling of twelve trips proposed could not be ensured and, indeed, was

not met. This shortfall was mitigated via landing inspections since fishers are obliged to land their catches at port.

The shortfall in the achieved number of sampled trips at sea for FADs, was mitigated by sampling from the market. The planned number of trips for this metier was achieved.

A bilateral agreement (Annex I) was signed between Cyprus and Malta on 27 January 2009. Said agreement concerned sampling of bottom otter trawlers targeting mixed demersal and deep sea species in GSA 15. It was agreed that Cyprus trawlers involved in the shared metier landing their catch in Maltese ports would be included in the Maltese sampling scheme for collection of biological metier-related variables.

The Maltese sampling scheme identifies three types of bottom otter trawlers – demersal, deep water and mixed demersal and deep sea. Since the trips sampled are post stratified into these types, depending on the composition of the catches, sampling of the different type of trawling is difficult. Based on the more recent metier ranking system (based on data from 2014 and 2015) only demersal and mixed demersal and deep water trawling were selected for sampling. In 2016, 10 trips conducted by trawlers targeting demersal species were sampled via onboard observations; trawlers targeting mixed deep water and demersal species were not sampled.

The total number of planned trips for trawling could not be reached due to the limited number of trawlers (14 operational trawlers) when compared to the total number of planned trips (24 trips). The time these vessels spent trawling was also limited since they were also involved in other activities, including the transportation of tuna in the Mediterranean. There were also difficulties to accommodate observers; these trips usually span over several days and some of the vessels did not have enough space to accommodate onboard observers for more than one night.

Despite the difficulties encountered, overall more onboard observations were conducted in 2016 than in the previous years. This was achieved following an internal reshuffling that allowed two field recorders to be specifically appointed to work on onboard observations.

Market sampling was conducted for each of the chosen metiers; set bottom longlines, trammel nets, pots and traps, FADs, lampara, hand and pole lines targeting cephalopods and trolling lines. Ten trips out of the 12 planned trips were sampled from the trolling line fishery. Even though there is no closed season for this fishery, most trips using this gear are carried out in summer. As a result, sampling trips during the rest of the year were difficult to achieve and the majority of the trips had to be sampled during a short time period, defying the purpose of having 12 trips planned across the year. This situation was taken into consideration in the 2017 Work Plans.

Some metiers were over-sampled. The large number of trips sampled from shore for the swordfish longline fishery is due to the large volume of catch data that is recorded at landing for this fishery. No extra costs were therefore incurred during the sampling of this fishery. The measurement of samples at market contributed to the inflated number of trips sampled for pots and traps, set bottom longlines and trammel nets. Pots and traps are used in different fisheries to target different species (*Octopus vulgaris* and *Boops boops*) and sampling was carried out on both fisheries. Similarly set bottom longlines target different species (*Diplodus sargus* and *Pagrus pagrus*, *Pagellus erythrinus*, *Scorpaena scrofa*).

### **III.C.2 Data quality issues**

The reproducibility of data processing and analysis has continued improving with the progressive migration of such procedures into the R environment. Basic training in R for the new officers was conducted and more training is planned for 2017. The increase in the use of R scripts has already led to greater efficiency and precision in data cleaning as well as highlighting inconsistencies and errors in the data. More improvements should be noted in 2017.

### **III.C.3 Actions to avoid deviations**

In the collection of metier-related variables, Malta has made several efforts to ensure that the data collection requirements are met, and was mostly successful in meeting the planned number of trips for 2016. A big improvement in the number of onboard observations conducted in 2016 was made over the previous years. This was achieved following an internal reshuffling that allowed two field recorders to work specifically on onboard observations.

### **III.D Recreational fisheries**

#### **Mediterranean Sea and Black Sea**

##### **III.D.1 Achievements: Results and deviation from National Programme proposal**

The recreational fishery in Malta is conducted throughout the year, weather permitting, with higher fishing intensities during the summer months.

Malta is exempted from collecting data on the recreational fishery for eel. In Malta, there is no recreational fishery for eel and, for this reason Malta had requested a derogation not to sample this fishery. The request was approved and Malta was exempted from the obligation to prepare an Eel Management Plan in accordance with Council Regulation (EC) No 1100/2007.

Malta can confirm that recreational fisheries do not target sharks, although sharks are caught as by-catch. The results of a 2005 study indicated that catches of Maltese recreational and sports fishers consisted primarily of frigate mackerel, common octopus, Atlantic little tuna, and common dolphinfish. The remainder of the catch was composed of: Atlantic bonito, albacore, bluefin tuna, common squid, amberjack, swordfish and comber. A number of remaining species individually contributed to less than 2% of the catch (Pilot Study Report, 2006).

Recreational fishers are only allowed to use minor gears such as set bottom longlines, traps, trolling lines and jigging, as stipulated in Article 17 of Council Regulation (EC) 1967/2006. Such gears are not appropriate to target sharks and the main target species are *Diplodus sargus*, *Octopus vulgaris*, *Boops boops*, *Coryphaena hippurus*, *Seriola dumerili*, *Loligo vulgaris*, *Illex* spp. and *Todarodes* spp.

Malta has the obligation to collect data exclusively on blue fin tuna caught by recreational fishery. Recreational landings of bluefin tuna make a small contribution to the overall recreational landings of tuna and tuna-like species (Pilot Study Report, 2006). Landing officers were present at landing sites to collect information on catches of bluefin tuna by recreational fishing for all landings. In 2016, the total live weight for bluefin tuna landed via recreational fisheries amounted to 1,724kg. The necessary data was collected through a census approach.

##### **III.D.2 Data quality issues**

There were no issues in the data collection.

##### **III.D.3 Actions to avoid deviations**

The data was collected through a census.

## **III.E Stock-related variables**

### **Mediterranean Sea and Black Sea**

#### **III.E.1 Achievements: Results and deviation from National Programme proposal**

Tables III.E.1 to III.E.3 were updated with the information collected during the sampling year.

Malta is obliged to collect stock-related variables only for three species: *Thunnus thynnus*, *Xiphias gladius* and *Coryphaena hippurus*. Malta is exempted from sampling the other species as their landings by weight correspond to less than 10% of the total Community landings from the Mediterranean Sea and/or less than 200 tonnes. Table III.E.1 shows the average landings in the years 2011-2013 and the proportion of Malta's landings to the total EU landings in 2013 according to Eurostat. Malta still collects some stock-related variables for the species mentioned in the NP, since it is sometimes possible to collect this data while carrying out metier-related sampling. These species are marked with an '\*' in the 'Comments' column in Table III.E.3.

The sampling planned for stock-related variables in 2016 was for Group 1 and for some Group 2 species as specified in the NP. With regard to the sharks, following the recommendation of PGMED during 2010, stock-related data for these species was collected during the MEDITS scientific surveys and also when encountered and could be sampled during data collection for metier-related variables – principally during sampling at the fish market and during onboard observations.

For swordfish and tuna, over-sampling was observed for weight-at-length measurements, however this was done to be in-line with ICCAT regulations and did not incur any extra costs.

#### **III.E.2 Data quality issues**

There were no issues in the data quality.

#### **III.E.3 Actions to avoid deviations**

There were no significant shortfalls for the collection of stock-related data in 2016. Malta would like to point out that it provided stock related data on a voluntary basis for species that it was not obliged to provide data for (i.e. catches greater than 200 tonnes or 10% of the total Community landings on average over the previous three years). Therefore planned minimum number of individuals to be measured at a national level is only applicable to *Thunnus thynnus*, *Xiphias gladius* and *Coryphaena hippurus*. For these three species, sampling effort was combined for the three year period covered by the programme.

## **III.F Transversal variables**

### **III.F.1 Capacity**

#### **III.F.1.1 Achievements: Results and deviation from National Programme proposal**

All Maltese fishing vessels are registered in the Fishing Vessel Register of the DFA of the MSDEC. Apart from other information, the Fishing Vessel Register database includes the following information related to each vessel:

- Typology
- Registration number
- Age (age of the hull)
- Dimensions: GT, length over all (LOA), width, draught.
- Engine power, type and age;
- Ownership
- Health and safety equipment

The information in the Vessel Register is updated on a continuous basis. Malta obtained the capacity variables from the Fleet Vessel Register as a census. Table III.F.1 was updated on this data.

Malta is aware that the DCF has no provisions for the exclusion of any part of the vessel population from the data collection. No part of the Maltese fleet was excluded from data collection for Capacity in 2016.

#### **III.F.1.2 Data quality: Results and deviation from National Programme proposal**

Quality checking of the data was carried out by the officers responsible of the Fleet Vessel Register.

Although no shortfalls were present in the results obtained, and the National Programme proposal was followed, Malta is aware of the following weaknesses in its Fleet Vessel Registry system:

- Licenses for fishing vessels are now issued every year on their different expiring date. Commission Decision 2010/93/EU requires to base economic variables on all the vessels showing at least one day of fishing activity along the year. Thus, this issuing system will not give the best picture of the fleet register for a reference year.

No precision estimates were calculated as the data obtained covered all the vessels (census).

#### **III.F.1.3 Actions to avoid deviations**

Not applicable.

## **III.F.2 Effort**

### **III.F.2.1 Achievements: Results and deviation from National Programme proposal**

Malta is aware that the DCF has no provisions for the exclusion of any part of the vessel population from the data collection. No part of the Maltese fleet was excluded from sampling. Table III.F.1 was updated with the information collected during the sampling year.

Malta gathered information on fishing effort by technique according to Appendix VIII (of the Commission Decision 2010/93/EU), on a monthly basis.

The required data has been collected and includes all the information requested (Commission Decision 2010/93/EU).

For vessels over 10 metres LOA, data from logbooks were used. A census was conducted for the effort data obtained for the vessels > 10 metres.

For vessels less than 10 metres LOA the sampling scheme described in the National Programme (National Data Collection Programme Proposal, 2011-2013) was employed. This method ensures that all the required information on catches, landings and effort by fleet segment is obtained.

A census was performed when the number of vessels in a segment was low (this is to ensure that the data obtained is representative) and the sampling rates were increased for other segments as necessary. Moreover, data on discards by species (although rarely recorded) started to be collected during 2012 and continued in 2016.

Precision estimates were calculated for the data obtained from the Catch Assessment Survey which was used to collect effort data for vessels with a length of < 10 m. For the remaining vessels, precision estimates were not calculated since data was collected through a census, and therefore all vessels larger than 10 m were covered.

Data on fishing effort, aggregated as required can be provided.

### **III.F.2.2 Data quality: Results and deviation from National Programme proposal**

Table III.F.1 was updated with the values of the accuracy indicators (where applicable). The sampling rates, response rates and the precision levels achieved are very good. No shortfalls were present in the achieved accuracy.

### **III.F.2.3 Actions to avoid deviations**

Data was cross-checked with different sources such as checking logbooks data with sales vouchers and checking the Catch Assessment survey data with sales vouchers.

### **III.F.3 Landings**

#### **III.F.3.1 Achievements: Results and deviation from National Programme proposal**

The required data has been collected and includes all the information requested. Table III.F.1 was updated with the information collected during the sampling year.

Malta collected data on commercial landings mentioned in Appendix VIII (of the Commission Decision 2010/93/EU). Landing figures were based on exhaustive data reported in logbooks (for vessels over 10 m LOA), by sampling landings (for vessels under 10 metre LOA) and on sales notes/vouchers (>10 m and <10 m) from the official fish market.

Data on commercial landings are available by:

- Species
- Vessel
- Quarter
- Geographic area: Division (according to level 2 of geographical stratification defined in Appendix I of the Regulation) or for stocks mentioned in Appendix XII in the DCF, commercial landings can be disaggregated as in that Appendix
- Gear employed

Malta is aware that the DCF has no provisions for the exclusion of any part of the vessel population from the data collection. No part of the Maltese fleet was excluded from sampling.

#### **III.F.3.2 Data quality: Results and deviation from National Programme proposal**

Table III.F.1 was updated with the required information. No shortfalls were present in the results obtained.

#### **III.F.3.3 Actions to avoid deviations**

Not applicable.

## III.G Research surveys at sea

### III.G.1 Achievements: Results and deviation from National Programme proposal

Malta planned two scientific surveys for 2016; the MEDITS and the MEDIAS survey.

#### 1. Mediterranean International Trawl Survey (MEDITS)

The aim of this survey is to produce basic information on the demersal resources in terms of population distribution as well as demographic structure, on the continental shelves and along the upper slopes at a global scale in the Mediterranean.

MEDITS 2016 was carried out following the MEDITS protocol (Version 8, 2016), in GSA 15 where 45 stations were sampled (Figure 1). The survey was conducted in August onboard the fisheries vessel DEGRE, MFA 0081. The abundance and weight of all the species trawled were recorded. Biological parameters (length, weight, sex and age where applicable as per the revised MEDITS protocol (Version 8, 2016) from the target species caught were measured. Following this protocol, otoliths for age reading are being collected. Age readings from 2012-2016 samples are now available.

At the national level, data is being stored using ATrIS (AdriaMed Trawl Information System) by which data can then be transferred into TA, TB, TC files as specified by the MEDITS protocol in order to facilitate storage and exchange at the international level.

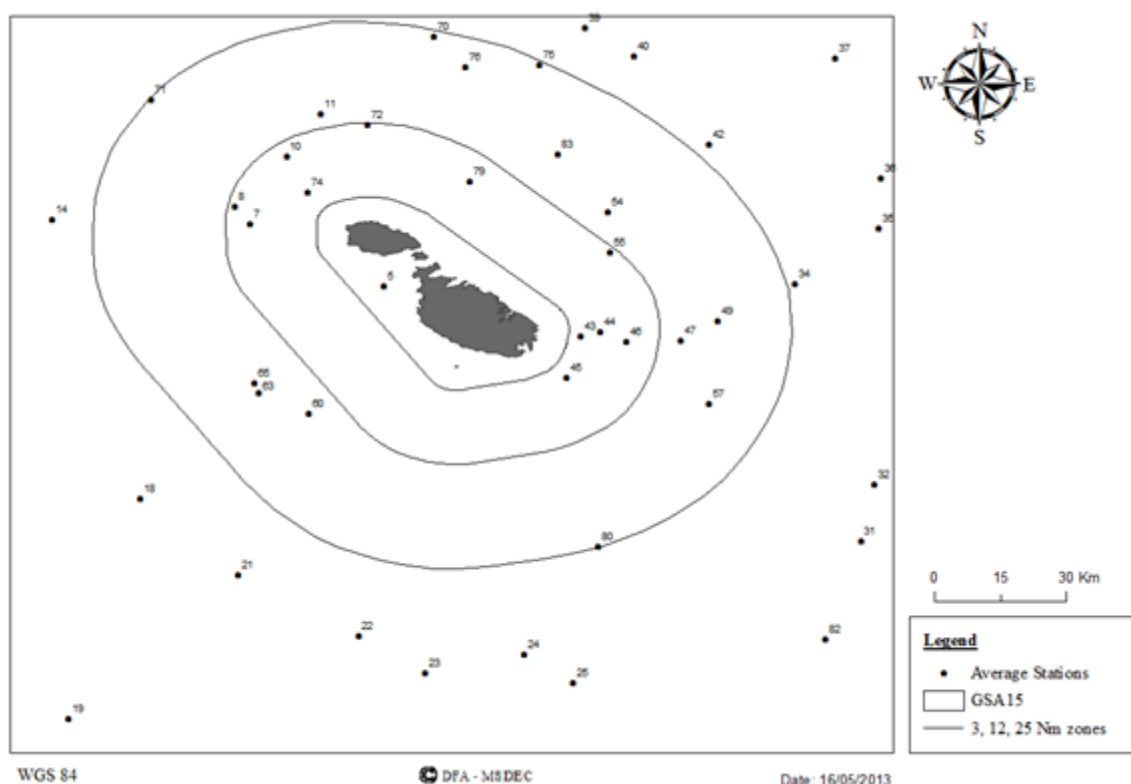


Figure 1. Position of the achieved MEDITS trawl survey stations for 2016

## MEDiterranean Acoustic Survey (MEDIAS)

The survey MEDIAS was held on board RV “G. Dalla Porta”, with the aim of conducting an interdisciplinary research to estimate the spatial distribution and abundance of pelagic organisms on the southern continental platform of Sicily and Maltese waters, between Marsala and Capo Passero, on an area of about 2,700 m<sup>2</sup>. This survey was done in collaboration with the group of Oceanography of the IAMC-CNR section of Capo Granitola institute in Sicily.

Acoustic measurements of small pelagic fish stocks (European anchovy, *Engraulis encrasicolus* and European pilchard, *Sardina pilchardus*) were conducted with a multi-frequency scientific echo-sounder. Measurements of physical-chemical parameters of the water column were also collected. The positions of the transects sampled are shown in Figure 2 below.

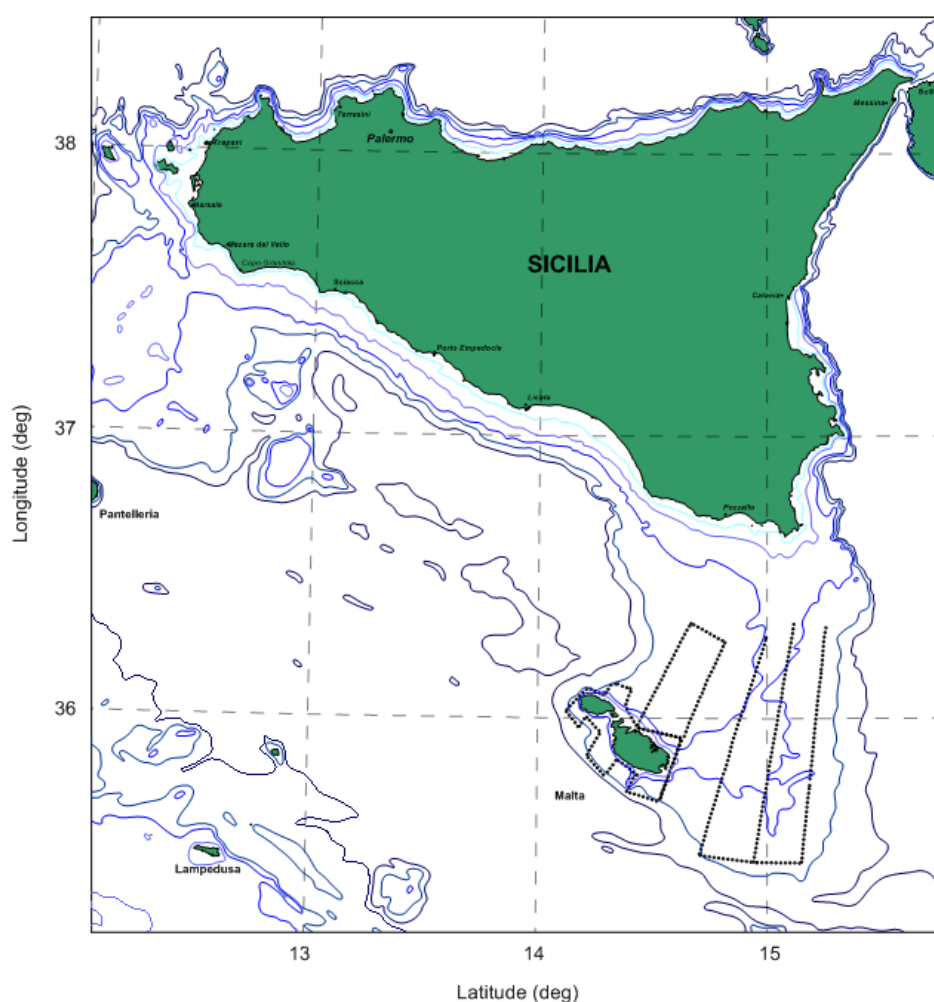


Figure 2. Position of transects for the MEDIAS survey in GSA 15

### **III.G.2 Data quality: Results and deviation from National Programme proposal**

Data collected from MEDITS is suitable to analyse indicators 1 to 4 listed in Appendix XIII (Commission Decision 2010/93/EU) since all the necessary data is collected. The survey covers the largest proportion of the marine region annually in the same area using the same gear.

The results obtained from MEDITS and MEDIAS were satisfactory and no shortfalls that may impair quality of indices occurred.

### **III.G.3 Actions to avoid deviations**

Not applicable.

## **IV Module of the evaluation of the economic situation of the aquaculture and processing industry**

### **IV.A Collection of data concerning the aquaculture**

#### **IV.A.1 Achievements: Results and deviation from National Programme proposal**

Aquaculture farms were segmented according to the major species that the companies' farm based on the value of sales and 'cages' is the fish farming technique used for all the companies in the population. One company farms sea bream, sea bass, amberjack and blue fin tuna while another company farms sea bream only. Additionally, another three companies farm blue fin tuna only. One farm did not operate during 2015. The target population and planned sample do not differ as a census was planned.

The frame for the collection of economic data was based on the aquaculture operations managed by the DFA within the Ministry for Sustainable Development, the Environment and Climate change and includes all operative aquaculture farms during the reference year.

Data collection has been completed through collaboration with the National Statistics Office (NSO) since both entities collect similar data. The data was collected on a census basis based on company accounts. The method used for collecting the data has slightly deviated from the proposed method in the NP Proposal for the years 2014-2016. Data is not collected directly by questionnaires by the DFA within the MSDEC but through questionnaires performed by the NSO. The estimates of the parameters are the same as those proposed in the National Programme proposal for the years 2014-2016.

#### **IV.A.2 Data quality: Results and deviation from National Programme proposal**

No deviations from the National Programme proposal were reported.

#### **IV.A.3 Actions to avoid deviations**

One of the major problems is the lack of cooperation from the companies to provide the data requested in a timely manner. Postal questionnaires were followed by direct interviews when necessary so as to increase the accuracy of the data collection and most importantly make the process quicker. In the past, the companies were contacted by email and by phone several times however some companies still did not respond. So as to forestall this, the DFA has signed a memorandum of understanding with the National Statistics Organisation (NSO) to collect data together and to avoid duplication of work seeing as in previous years the NSO carried out its own aquaculture surveys independently. As from 2014 (reference year 2013), aquaculture data was collected through this method.

## **IV.B Collection of data concerning the processing industry**

### **IV.B.1 Achievements: Results and deviation from National Programme proposal**

A census is planned for all the variables requested by Commission Decision 2010/93/EU in Appendix XII. The collection of economic data is based on the Maltese business directory and processed fisheries products for sale on the local market.

The planned sampling rate was 100%, however a very low response rate was obtained in the last three years. Despite this fact, in 2015, there was an increased response rate from 20% to 50% when compared to 2013.

The methods used for collecting the data and for estimating the variables requested are the same as those proposed in the NP proposal for the years 2011-2013 and 2014-2016 and therefore no deviations are present.

### **IV.B.2 Data quality: Results and deviation from National Programme proposal**

No deviations from the National Programme proposal were reported.

### **IV.B.3 Actions to avoid deviations**

The major problem in collecting this data is the lack of cooperation from the companies to provide the data requested in a timely manner. Postal questionnaires are followed by direct interviews when deemed necessary so as to increase the accuracy of the data collection and most importantly quicken the process.

## **V        Module of evaluation of the effects of the fishing sector on the marine ecosystem**

### **V.A      Achievements: Results and deviation from National Programme proposal**

The data requirements to calculate the ecosystem indicators 1-4 are available from the Mediterranean International Trawl Survey (MEDITS; see section III.G.1). The trawl survey data is available since 2004 for the GFCM GSA 15.

For the indicators 5-7 the Vessel Monitoring System (VMS) data required is available. This data is available for all the Maltese fishing fleet >12 m LOA in the Mediterranean and is recorded every two hours, and data is available at this resolution.

Indicator 8, rate of discarding can be estimated from the on-board observation data for the fleets Malta surveyed and the transversal data (see section III.C and III.F).

For indicator 9, data collected through the economic survey and transversal data (see section II.B and III.F) are required, and these were successfully collected. Such data is collected at the fleet and length segment level as required by the current regulation. For the estimation of the indicator, however, this needs to be by gear.

There were no shortfalls in the achieved data collection. Table V.1 was updated accordingly.

### **V.B      Actions to avoid deviations**

Not applicable.

## **VI Module for management and use of the data**

### **VI.A Achievements: Results and deviation from National Programme proposal**

The data collected within the framework of the DCF has been used for scientific purposes both for national and international needs. The data has been submitted to international organisations for stock assessment purposes and scientific analysis. While Malta will be able to submit data collected within the framework of the Data Collection to the following international bodies (for data calls that have not been issued yet), Malta submitted the following data during 2016 :

- i) Joint Research Centre (JRC) of the European Commission:
  - Official call for capacity, landings, effort and economic data (Fleet Economic data call)
  - Official call for data on landings, catches, length and age compositions, effort and trawl surveys in the Mediterranean
  - DCF Economic data call 2014 on aquaculture sector
- ii) International Commission for the Conservation of Atlantic Tunas (ICCAT):
  - Form I fleet characterisation
  - Task I nominal catch estimates
  - Task II catch and effort statistics
  - Task II size sampling
  - Task II catch at size estimates
- iii) General Fisheries Commission for the Mediterranean (GFCM):
  - Dolphinfish annual reporting form
  - Task I statistical matrix
- iv) RCM Med:
  - Mediterranean Planning Group for Methodological Development (PGMed)
  - RCM for the Mediterranean & Black Sea & Large Pelagics Fisheries (RCM Med&BS-LP)

### **VI.B Management of data**

There were no shortfalls in the achieved actions compared to what was planned in National Programme Proposal.

At present, the national set-up for storing and managing the different categories of DCF data is via separate excel sheets. Checking and validation of data is carried out both through using specifically created R scripts, and manually. Data for the MEDITS, part of the Module A3 (Surveys at Sea), is stored in the AdriaMed Trawl Surveys Information Systems (ATrIS). The system is Member State (MS)/Access based and was originally developed by the FAO AdriaMed project. This data is checked using Rome; an R-script provided and recommended by the MEDITS Steering Committee.

Since the first quarter 2015, data is being stored in a single shared read-only folder created on a NAS (Network Access Storage) device with raid 6 configuration. To ensure security and integrity of data, access is controlled via a username/password combination, with editing rights being reserved to two officers.

The Fisheries Information System (FIS) has been implemented according to the specifications originally drawn up, with all the modules being fully operational. The FIS has been developed to meet the regulatory references laid down in Council Regulation (EC) No 1224/2009, establishing a Community control system for ensuring compliance with the rules of the common fisheries policy, and Commission Implementing Regulation (EU) No 404/2011 laying down detailed rules for the implementation of Council Regulation (EC) No 1224/2009 establishing a Community control system for ensuring compliance with the rules of the Common Fisheries Policy.

As automated data entry validations were included but in a somewhat limited way, presently enhancements are being planned on the e-logbook both to automate the catchment of data where possible, to carry out data validation where manual entry has to occur and also introduce automated cross validation of data (e.g. fishing authorisation vis-à-vis catch declared regarding specimen and weight, and catch weight vis-à-vis weight sold) and to provide reports on a “management by exception” basis. These enhancements will be part of the e-logbook update to meet the requirements spelt out in the EU Regulation 1962/2016.

As above, MEDITS is being tackled through ATrIS – however the possibility of using a new database – Fishtrawl is currently being evaluated. Fishtrawl is similar to ATrIS, in that it has the possibility for data analysis/presentation. One key difference is that the database is hosted on a server, as opposed to a local database. Furthermore, Fishtrawl is adapted to receive age reading data. The JRC has been chosen as the database host, with Member States paying a maintenance fee. At present however, nothing has been signed and the database itself is still currently in trial mode. If adopted, data rights will belong to the MS. This decision is pending information from the MedSudMed FAO Regional Project on the recent work to update ATrIS.

A regional database is to be developed for EU MSs in the Mediterranean and Black Sea Region (Med&BS-RDB). Following discussions during the Regional Coordination Meeting for the Mediterranean and the Black Sea (RCM Med&BS) 2013, the said database will be hosted and maintained by the GFCM. Malta is aiming to form part of this database. Data for data calls will be uploaded there. Such a regional database should have the added benefits of the data being readily available to end users, including GFCM and ICCAT, upon request, as well as having fixed deadlines and fixed templates for data upload.

The choice of the development platform will be dependent on the infrastructure and established development tools that the GFCM is willing to put at the disposal of MSs. It is understood that specific portions of source code addressing sensitive statistical algorithms (T-SQL queries, R scripts or C# routines) might be made available to MS for iterative discussions and evolutions. During RCM Med&BS 2013 it was agreed that for the time being the Med&BS-RDB will include biological, economic and transversal data, although the format and what data should be incorporated will be discussed at the next meeting. With regard to the surveys at sea, both MEDITS and MEDIAS are developing a separate regional database.

## **VI.C Data transmission**

There were no issues in data provision.

## **VI.D Actions to avoid deviations**

Not applicable.

## VII List of acronyms and abbreviations

|            |                                                                          |
|------------|--------------------------------------------------------------------------|
| AER        | Annual Economic Report                                                   |
| ATrIS      | AdriaMed Trawl Information System                                        |
| BFT        | Blue fin Tuna                                                            |
| DCF        | Data collection Framework                                                |
| DFA        | Department of Fisheries and Aquaculture                                  |
| EC         | European Commission                                                      |
| EU         | European Union                                                           |
| GFCM       | General Fisheries Commission for the Mediterranean                       |
| FAD        | Fish Aggregating Devices                                                 |
| FIS        | Fisheries Information System                                             |
| GIS        | Geographical Information System                                          |
| GSA        | Geographical Sub-Area                                                    |
| GT         | Gross Tonnage                                                            |
| IAMC-CNR   | Institute for Coastal Marine environment – Centre for National Research  |
| ICCAT      | International Commission for the Conservation of Atlantic Tuna           |
| ICES       | International Council for the Exploration of the Sea                     |
| JRC        | Joint Research Centre                                                    |
| LOA        | Length Over All                                                          |
| MEDIAS     | Mediterranean International Acoustic Survey                              |
| MEDITS     | Mediterranean International Trawl Survey                                 |
| MFA        | Professional Fishing Vessels – Full-Time                                 |
| MFB        | Professional Fishing Vessels – Part-Time                                 |
| MS         | Member state                                                             |
| MSDEC      | Ministry for Sustainable Development, the Environment and Climate Change |
| NP         | National Programme                                                       |
| NSO        | National Statistics Office                                               |
| OTB        | Bottom Otter Trawl                                                       |
| PGMed      | Mediterranean Planning Group on Methodological Development               |
| PPCU       | Price Per Unit Capacity                                                  |
| PSU        | Primary Sampling Unit                                                    |
| RCM Med&BS | Regional Co-ordination Meeting for the Mediterranean and Black Seas      |
| RFMO       | Regional Fisheries Management Organisation                               |
| RPI        | Retail Price Index                                                       |
| STECF      | Scientific, Technical and Economic Committee for Fisheries               |
| TA         | Type of MEDITS data file                                                 |
| TB         | Type of MEDITS data file                                                 |
| TC         | Type of MEDITS data file                                                 |
| VMS        | Vessel Monitoring System                                                 |
| WGCATCH    | Working Group on Commercial Catches                                      |

## **VIII Comments, suggestions and reflections**

Not applicable.

## **IX       References**

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## X Annex

### Cyprus-Malta Bilateral agreement

#### ANNEX I



Department of Fisheries  
and Marine Research



MALTA CENTRE FOR  
FISHERIES SCIENCES

**Bilateral Agreement between Cyprus and Malta  
for the sampling of a shared metier in GSA 15 within their National Programmes  
under the Data Collection Framework  
(EC Regulations 199/2008, 665/2008 and Decision 2008/949/EC)**

The following agreement has been made between Cyprus and Malta concerning the sampling of their shared metier *Bottom otter trawl targeting mixed demersal and deep sea species* in GSA 15, selected by both countries to be sampled as part of their National Data Collection Programmes:

The Cyprus trawlers involved in the shared métier and landing their catch in Maltese ports will be included in the sampling scheme organized by Malta for the collection of biological-métier-related variables. This agreement will apply until further notice.

Signed for Cyprus:

Date: January 27<sup>th</sup>, 2009

Myrto Ioannou  
National Correspondent of Cyprus

Signed for Malta:

Date: January 27<sup>th</sup> 2009

Mark Dimech  
National Correspondent of Malta