MINISTRY FOR AGRICULTURE, FISHERIES AND ANIMAL RIGHTS

Annual Report on efforts to achieve a sustainable balance between fishing capacity and fishing opportunities for the year 2021

In accordance with
Article 22 of Regulation (EU) No 1380/2013 on the Common Fisheries Policy

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List of Acronyms

AWL	Automated Weighing and Labelling system
BER	Break Even Revenue
DFA	Department of Fisheries and Aquaculture
DFN	Drift and/or fixed netters
DTS	Demersal trawlers and/or demersal seiners
F	Fishing mortality
FAD	Fishery Aggregating Devices
FIS	Fisheries Information System
FMZ	Fisheries Management Zone
FPO	Vessels using pots and/or traps
FVR	Fishing Vessel Registry
GFCM	General Fisheries Commission for the Mediterranean
GSA	Geographical sub-area
GT	Gross tonnage
HOK	Vessels using hooks
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Sea
LOA	Length overall
MGO	Vessel using other active gears
MSE	Management Strategy Evaluation
MSY	Maximum sustainable yield
PGP	Vessels using polyvalent passive gears only
PMP	Vessels using active and passive gears
PS	Purse seiners
ROFTA	Return on Fixed Tangible Assets
ROI	Return on Investment
SAC	Scientific Advisory Committee on Fisheries
SAR	Stocks at Risk Indicator
SHI	Sustainable Harvest Indicator
STECF	Scientific, Technical and Economic Committee for Fisheries
TM	Pelagic trawlers
VUR	Vessel Utilisation Ratio
WGSAD	Working Group on Stock Assessment of Demersal Species

Summary of Report

The Maltese fishery is a relatively small industry of a typically Mediterranean artisanal type and is frequently described as a multi-species and multi-gear fishery. The fleet during 2021 consisted of 859 professional (commercial) vessels with a total gross tonnage and (main engine) power of 6,421.04 GT and 71,099.72kW respectively. The absolute majority of the professional vessels (93%) are less than 12m in length and operate mainly in coastal waters. Larger vessels, those over 12m in length, mainly consist of trawlers, long-liners and netters, which operate mainly in off-shore waters all year round. The lengths of the registered vessels range from 3.0 to 35.0 metres.

The main exploited species include swordfish, dolphinfish, bluefin tuna, demersal and small-pelagic species – particularly mackerel, and a number of additional species, some of which have a high commercial value, for example the red shrimp, despite being caught in smaller quantities. The commercial part of the Maltese Fishing Vessel Register did not open for additional registrations during 2021. No vessels left the fleet through effort reduction schemes.

It should be noted that in 2021, the only stocks for which the Maltese fleet has been allocated fishing opportunities for are bluefin tuna and swordfish. The indicator results for fleet segments targeting other species should therefore be considered as indicative. The vessel use indicators were based on 2021 data whilst the biological indicators and economic indicators were based on 2018/2020 data.

The Inactive Fleet Indicator shows that that there is the possibility that the professional Maltese fleet might be operating in a technically inefficient manner. However, this can be explained since Maltese fishers regularly own several vessels, which are not used simultaneously. On the other hand, the Vessel Utilisation Indicator shows that overall (6 out of 10 segments), the professional Maltese fleet is in balance.

The Sustainable Harvest Indicator was only applicable to a limited number of fleet segments since the percentage of stocks assessed was very low. The scientific advice emanating from the stock status of deep-water rose shrimp, hake and red mullet is to reduce fishing mortality, whilst for the common dolphinfish the advice is to not increase fishing mortality. It should be noted that Malta's percentage catch for these stocks is extremely low (and thus negligible) and that Malta already reduced its trawling fleet by approximately 30% since 2011. The SAR indicator is not available for Malta for the latest reference period.

Two economic indicators were calculated. The first indicator (Return on Investment [ROI]) was selected over the Return on Fixed Tangible Assets (ROFTA) since data on intangible assets and tangible assets are both available. For reference year 2020, the fleet segments, Gears using Hooks (HOK) VL1218 and VL1824, other active gears (MGO) VL1824, and Polyvalent Passive Gears Only (PGP) VL0612 had a positive ROI, greater than the low-risk long term interest rate. On the other hand, the remaining segments did not have a positive ROI.

The Current Revenue against Break-Even Revenue Economic Indicator was calculated for the year 2020. For the year 2020, the fleet segments Gears using Hooks (HOK) VL1218 and VL1824, other active gears (MGO) VL1824 and Polyvalent Passive Gears Only (PGP) VL0612 had a ration greater than unity. The fleet segments Polyvalent Passive Gears Only (PGP) VL0006, Demersal Trawlers (DTS) VL2440, and Combined mobile and passive gears (PMP) VL0006 and VL0612; had a ratio less than unity, and the segment of other active gears (MGO) VL0612 recorded a BER value of one. This means that these fleet segments which had a BER less than unity generated insufficient income to cover variable, fixed and capital costs, whilst the latter had broken even. Nevertheless, these fleet segments are unprofitable, with potential over-capitalisation. The remaining other segments had a negative CR/BER result which means that variable costs alone exceed current revenue and hence they are in a loss-making position.

For the year 2020, the fleet showed that overall, it was economically insufficient given that only ROI showed balance, as BER for the entire fleet resulted in a value of 0.47, highlighting an overall unprofitability. Out of the ten clustered segments, four were balanced, four were unprofitable, one broke even, and the remaining segment was in a loss-making position.

Deterioration in the indicators were recorded for fleet segments PMP VL0006, and clustered segments DTS VL2440 and PS VL2440. Overall, out of ten fleet segments and clusters, eight recorded improvements in their economic development trend, four were balanced both in terms of ROI vs next best alternative indicator and in terms of BER.

Statement of Malta's opinion on balance of fleet capacity and fishing opportunity

The traffic light system was used to apply Malta's opinion on balance of fleet capacity and fishing opportunity, shown in Table i.

Table i Traffic light system; grey colour: non-applicable value, green colour: satisfactory value, yellow colour: somewhat unsatisfactory value, red colour: very unsatisfactory value as per STECF-11-17.

Indicator	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Inactive Fleet Indicator														
Vessel Utilisation Indicator														
Sustainable Harvest Indicator					*	*	*							
Stocks at Risk Indicator														
ROI vs Next Best Alternative														
CR vs BeR Indicator														

A.1. Description of the Fleet

The Maltese Islands are surrounded by the 25 nautical mile Fisheries Management Zone (FMZ), as outlined in Article 26 of the Council Regulation 1967/2006, which aims to safeguard the sustainability of fisheries by essentially limiting fishing effort and capacity by restricting size and engine power.

The Maltese fishery is a relatively small industry of a typically Mediterranean artisanal type. It is frequently described as a multi-species and multi-gear fishery, with the majority of the fishers switching from one gear to another several times throughout the year. The main fisheries in Maltese waters are those for small pelagics, swordfish, dolphinfish, bluefin tuna, and demersal species. These fisheries are mostly operated on a seasonal basis, according to the particular targeted species' migratory or biological behaviour.

In 2021, the Maltese fishing fleet consisted of 859 professional vessels, of which 404 (~47%) were professional full-time and 455 (~53%) were professional part-time vessels, as shown in Table 1. The total gross tonnage and (main engine) power of the professional fleet were 6,421.04 GT and 71,099.72 kW respectively. The absolute majority (93%) of the professional vessels are less than 12 m in length overall and more than half of them are of a traditional design, mainly 'luzzu' and 'kajjik', and these operate mainly in coastal waters. Larger vessels, those over 12 m in length, amount to 64 vessels and mainly consist of trawlers, long-liners and netters which operate mainly in off-shore waters all year round. The lengths of the registered fishing vessels range from 3 to 35 m.

Table 1 Total number of vessels, gross tonnage (GT) and primary engine power (kW) of the professional Maltese fishing fleet in 2021 by fishing technique (clustered).

Activity Status	Professional Status	Fishing Technique	Number of vessels	Total GT	Total kW
ACTIVE	Full-time	DFN	5	62.36	775.19
		DTS	12	1751.7	4556.2
		HOK	66	1459.52	11856.71
		MGO	12	187.43	2157.53
		PGP	135	249.85	8216.06
		PMP	105	387.56	9967
		PS	4	235.21	1286.54
	Part-time	DFN	3	8.5	124.59
		HOK	5	24.05	512.72
		PGP	234	329.04	10001.03
		PMP	43	105.09	2788.97
INACTIVE	Full-time	NA	65	1282.49	8751.05
	Part-time	NA	170	338.24	10106.13

In 2021, a total of 16 trawlers were registered on a full-time basis, of which 12 were active. The collective total power and tonnage of the registered trawlers were 5,971.81 kW and 2,113.42 GT respectively. These ranged between 19.08 m to 35.00 m in overall length.

The fleet as of 31st December 2021 consisted of 1,895 vessels holding the recreational fishing license. In accordance with Article 17 of Council Regulation 1967/2006, the use of towed nets, surrounding nets, purse seines, boat dredges, mechanised dredges, gillnets, trammel nets and combined bottom-set nets and longlines for highly migratory species are prohibited for recreational fisheries. The fish caught by vessels in this category are not commercialised.

Data Source and Coverage

The data used to compile the various indicators were collected under the Data Collection Framework (DCF), cf. Council Regulation (European Commission (EC) No 199/2008 of 25th February 2008), amended by the Multiannual Union Programme for the collection, management and use of data in the fisheries and aquaculture sectors for the period 2017-2019 (Commission Implementing Decision (EU) 2016/1251 of 12 July 2016 and the Council Regulation (EC) No 199/2008 on a framework for the collection of data in the fisheries sector). This EU-MAP has been extended for a period of two years through Commission Implementing Decision C(2019) 1001 of 18 February 2019 and Commission Delegated Decision C(2019) 1848 of 13 March 2019.

All indicators provided and used in this report were calculated according to the 2014 Balance Indicator Guidelines (COM (2014) 545 final).[1] Technical and economic balance indicators were calculated using data submitted under the 2022 Data call for economic and social datasets on the EU fishing fleets issued by DG MARE in February 2022. The two biological indicators (SHI and SAR indicator) were calculated based on transversal (landings) data submitted under the same data call and any additional information used is listed under the indicator's heading. STECF-20-11 reiterated that no single indicator value, taken in isolation can determine imbalance in a fleet segment, as there are many additional factors which influence fishing activities and such factors together with the results of other results of other indicators need to be taken into account in carrying out an assessment of balance.

The 2022 fleet economic data call requested transversal and economic data for 2021 and 2020. Capacity data (GT, kW, number of vessels) was requested up to and including 2021, while employment and economic parameters were requested up to and including 2020. Most effort and all landings data were requested up to and including 2021, as well as value of landings (non-mandatory) to allow for economic performance projections to be estimated for 2021. For confidentiality reasons, to provide sensitive economic data, Malta aggregated the economic and social datasets for 2017–2021 fleet segments into clusters, as described in Annex II.

The two biological indicators (SHI and SAR indicator) were calculated based on the DC-MAP transversal (landings) data submitted under the same data call. Landings and effort data for fleet segments operating in the Mediterranean and Black Sea region (i.e. Area 37 or MBS), including Malta, were requested at the GFCM-GSA level by the 2021 economic data call. This level of aggregation was requested to correctly allocate landings to the relevant stocks when calculating the biological balance indicators. Additional information needed to calculate the biological indicators was obtained from other sources as explained in each section.

In this report, the terms "in balance" and "out of balance" are used strictly in relation to the criteria given in the Commission guidelines (COM (2014) 545 Final). These terms describe a favourable and unfavourable situation respectively, based on the value computed for specific indicators in relation to the threshold specified for such indicators.

[1] Communication from the Commission to the European Parliament and the Council – Guidelines for the analysis of the balance between fishing capacity and fishing opportunities according to Art 22 of Regulation (EU) No 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy COM(2014) 545 final.

A.2. Development in the Fleet

The professional part of the Maltese Fishing Vessel Register (FVR) did not open for new registrations during 2021, though registrations were accepted for recreational vessels. Table 2 and Table 3 show the replaced and new vessels respectively in 2021; some vessels were changed into the non-professional fishing category. Requests for replacements are submitted by the vessel owners for Departmental approval. The plan may only be altered following an approval by the Department of Fisheries and Aquaculture (DFA).

Table 2 Overview of vessels replaced in 2021.

Length Class	Number of vessels	Total GT	Total kW
VL0006	7	6.38	250.64
VL0612	10	31.82	1321.6
VL2440	1	106	410.3

Table 3 Overview of the new vessels which replaced some of the vessels listed in Table 2 in 2021.

Length Class	Number of vessels	Total GT	Total kW
VL0006	6	5.67	232.06
VL0612	6	30.5	1175
VL1824	1	106	410.3

A.3. Fisheries Covered by Multiannual Management or Recovery Plans

Currently there are three management plans in place within the 25 nm Maltese FMZ. These were developed in line with Article 19 of Council Regulation (EC) No 1967/2006 of 21 December 2006 concerning management measures for the sustainable exploitation of fishery resources in the Mediterranean Sea and include: lampara purse seine fishery, bottom otter trawler fishery and lampuki FAD fisheries. The two main objectives of management plans are to ensure the sustainability of stocks through better monitoring and to ensure financial stability for fishers.

Lampara fishery targets mainly small pelagic species, including chub mackerel (*Scomber colias*) and round sardinella (*Sardinella aurita*). The stocks targeted by the Maltese lampara fishery are stocks shared with Sicily. The objectives of the lampara fishery management plan are to ensure that stocks are fished at sustainable levels, to ensure financial stability for fishers and to safeguard artisanal fishing activity. Following this management plan, the lampara vessel activities are monitored by a tracking system and catch logbooks, whilst the fishing capacity in terms of GT and dimensions of the gear is frozen. In addition, the lampara management plan indicated a 20% reduction (in line with the precautionary approach) of the assessed lampara capacity in terms of number of vessels to be reached by the end of 2015.

The bottom otter trawl fishery targets mainly shared stocks including red shrimps (*Aristaeomorpha foliacea*), red mullet (*Mullus* spp.) and deep water rose shrimp (*Parapenaeus longirostris*). The status of the latter stock together with that of European hake (*Merluccius merluccius*) is monitored annually at a regional level. The statuses of both stocks are in overfishing. This management plan serves to aid in the recovery of the stocks whilst ensuring financial stability of fishers. The plan indicates that a 20% capacity reduction was to be concluded by end of 2016, together with a temporal reduction of 10% which had to be implemented as from 2014 for a period of three years.

The lampuki fish aggregating device (FAD) fishery targets juvenile species of *Coryphaena hippurus*. Lampuki is a highly migratory species and stocks are shared between diverse Mediterranean countries. The management plan for this fishery affects Maltese fishing fleet licensed to fish for the lampuki using FADs inside and outside the 25 nm FMZ. As per Article 27(2) of Council Regulation (EC) No 1967/2006, the number of fishing vessels authorised to fish in the FAD fishery are frozen (130 vessels). Following this management plan, the activities of these vessels are monitored by means of tracking system and catch logbook. Moreover, the management plan stated that the DFA will continue to enhance data collection and research on the stock.

The three management plans are currently under revision.

A.4. Statement of Effort Reduction Schemes

There were no exits from the fleet by effort reduction schemes during 2021.

A.5. Impact on Fishing Capacity of Effort Reduction Schemes

Not applicable since there were no exits from the fleet by effort reduction schemes during 2021.

A.6. Statement of Compliance with Entry/Exit Scheme and with Level of Reference

Malta's ceiling for fishing capacity as per the latest amendment of (EU 1380/2013) is 14,965 GT and 95,776 kW. The total capacity of the fleet expressed in terms of either tonnage or power cannot exceed these levels, and for 2021 did not exceed the reference levels. The levels for 2021 for the professional category were 6,417 GT and 70,796 kW respectively.

Malta bases its entry/exit mechanism on Commission Implementation Regulation (EU) 2017/218 on the Union fishing fleet register. In fact, it strictly ensures that the fishing capacity is kept within the limits as set by the European Union. Malta has complied with Commission Implementation Regulation (EU) 2017/218 and has successfully uploaded fleet register data into the FIDES – FRONT system in line with the same Regulation. As illustrated in the Fleet Register on the Net website, the GT and power of the Maltese Fishing Fleet in 2021 have been kept below the respective ceilings. Correction of data in tonnage and power is an ongoing exercise. The Maltese authorities are screening each registered vessel to ensure that the reported capacity data is in fact authentic. Following this, random control checks shall continue to ensure the correctness and integrity of the reported data.

A.7. Summary of Weaknesses and Strengths of Fleet Management System

Strengths:

- Fishing vessel licences are issued on an annual basis from the Fishing Vessel Register Office which maintains an electronic database including also electronic data on all registered vessels. Thus, such database, besides being annually updated in this regard, is also being maintained on a daily basis with logging in the various changes that are continuously being requested by vessel owners;
- Snapshots of the fleet register to be submitted to the European Commission every quarter can be generated from the said database in an automatic manner. In addition, prior to issuing an operative licence, registration in the national Maritime Register (applicable to vessels of 6m and over) is ensured;

- Fishing vessel owners are obliged to request the approval of the DFA prior to making any structural changes to the vessel in order to control the GT and power levels within the Maltese fishing fleet register;
- Monitoring of the landings of individual vessels is conducted in order to ensure that the catch value thresholds specified for each category and length class as detailed in the Fishing Vessels Regulations (Subsidiary Legislation 425.07) are followed. These regulations aim to maximise utilisation of fishing capacity. As the greater part of the fishing fleet are below the length required to have a logbook (i.e. below 10m LOA), the DFA, as part of a pilot project, has installed an Automated Weighing and Labelling (AWL) system in the major of homeports. Apart from meeting the statutory traceability requirements that all catches placed on the market are to be labelled, the system automatically generates the necessary landing and takeover declarations. Consequently, through this system, the DFA is now receiving the data of catches that are landed, thus providing a clearer picture for the eventual evaluation of the sustainability of the fleet.

Weaknesses:

- Entries into the professional part of the fleet are constrained as openings of the Maltese Register are regulated and highly restricted;
- Data on the activities of the Maltese fleet has only been recorded since 2005, while detailed records are available in electronic format as from 2013 onwards;
- The existing Fisheries Information System (FIS) database does not perform automatic cross-validation of data. Presently this is still being tackled manually but it is planned to be developed in the near future.
- Few of the small-scale vessels (<12 m LOA) are not utilising the licence. These may result in being inactive since there is no data on their activity.

A.8. Plan for Improvements in Fleet Management System

The reporting of fishing activities in Malta to the EU, MSs, and other organisations were always sent with the second options available and not through the normal channels as required by DG MARE.

The requirements for the fishing activities reporting to be as requested by EU, DG MARE are being analysed in order to evaluate what systems are required for the reporting to be through these channels, currently FLUX TL. Tenders will be issued in order to implement the required reporting systems that will bring Malta in line with current EU reporting regulations.

A.9. Information on General Level of Compliance with Fleet Policy Instruments

The DFA ensures that the fleet policy is complied with. In view of this, the vessel marking requirements and vessel engine specifications falling under the remit of Council Regulations (EC) 1224/2009 and (EU) No 1380/2013 are complied with, as well as the standards for the Vessel Registry established by Commission Implementing Regulation (EU) 2017/218 of 6 February 2017 on the Union fishing fleet register.

The fleet register provides information on all vessels along with the description of changes that have occurred in their lifetimes since the creation of the Fleet Register. All this information is kept even after the vessel stops fishing.

In view of this, the data contained in the Fleet Register consists of:

- Administrative identifications: such as name, port, external marking and International Radio Call Signs (IRCS).
- Technical characteristics: such as length, tonnage, power and fishing gear.
- Historical events: entry into and exit from the fleet, modifications of characteristics.
- Information about the owner: agent and owner´s name and address.

A.10. Information on Changes of the Administrative Procedures Relevant to Fleet Management

In the recent years, the Maltese authorities have embarked on a very important plan involving the development of an Electronic and Reporting System. The main aim has been to improve on the existing components that were operating in isolation, by creating a single integrated structure that caters for all the fisheries control operations. Essentially, the system as being projected signifies greatly to fleet management as it has been custom built around the rules of the Common Fisheries Policy. In fact, it will include data validation systems, including systems of cross-checks of vessel monitoring systems, catch, effort and market data and data related to the Community fishing fleet register as well as the accurate issuing of licences and fishing authorisations. Other than this it has also permitted the expansion on certain fleet management items which could not be built in the previous limited system. These include a new format of the fishing licence which now includes more details on the vessel and the fishing gears that can be used. Of comparable importance is the generation and issuing of special authorisations which was not possible under the previous system. Furthermore, the present system can be easily expanded or modified by the developer on request of the authority, in order to take into account new needs and requirements. In fact, now that the system has been set up, users are identifying improvements and additions, so that the system incorporates the entire business process.

A.11. Technical indicators

The technical indicators, also described as the 'Vessel Use Indicators', describe how intensively the vessels in a fleet segment are being utilised. The vessel use indicators were calculated following guidelines stipulated the 2014 Balance Indicator Guidelines (COM 2014, 545 Final).

As per STECF 19-13, assessment of economic and technical indicators for small scale fleet segments is challenging. Economic indicators are generally calculated based on the assumption that fishing is the main economic activity of the fleet segments being assessed. This is often not the case for small-scale fishing fleets where fishing is often only a supplementary source of income. STECF-20-11 notes that given that the Mediterranean and Black Sea is composed mainly by small scale fleets, the technical indicators are unlikely to provide any reliable information to assess the balance in this sea basin.

It is important to highlight that as from 2017 data, clustering was introduced for data confidentiality reasons, as described in Annex II. Moreover, especially for the small-scale vessels, the composition of fleet segments is always changing due to the registered gears and the 'dominance criteria' (listed in Commission Decision 2008/949/EC; Annex I, section A2.2), so there are inherent inconsistencies even when not considering clusters.

A.11.1. Inactive Fleet Indicator

The inactive fleet indicator is a measurement of the proportion of vessels that did not show any activity in 2021. Table 4 shows the proportion of inactive vessels of the total fleet with respect to number of vessels, GT and kW, for the Maltese fleet in 2021. There are no length-classes which exceed the 20% threshold as per the 2014 Balance Indicator Guidelines (COM 2014, 545 Final).

Table 4 The inactive fleet indicator by number of vessels, GT and kW in 2021 with respect to the overall fleet.

Length Class	% Number of fleet	% GT of fleet	% kW of fleet
VL0006	13.3	1.8	5.0
VL0612	12.1	0.06	14.4
VL1218	0.5	1.0	0.9
VL1824	1.3	13.1	4.8
VL2440	0.2	3.3	1.4

In 2021, five vessel length segments had inactive vessels (VL0006, VL0612, VL1218, VL1824 and VL2440). The total inactive Maltese vessels account for 27% of the total number of vessels and the total kW separately, and 25% of the total GT. The segment with the highest level of inactivity were the VL0006 segment with 13.3% in terms of number of vessels, the VL1824 segment with 13.1% of the GT and the VL0612 segment with 14.4% of the kW. By vessel-length group, all segments were in balance in all three categories (number of vessels, GT and kW).

EWG 19-13 notes that the inactive fleet indicators (by vessel numbers, GTs and kWs) estimated by length class do not provide appropriate measures of the inactivity level within the length class or each length class inactivity is measured as the percentage of the entire fleet rather than the percentage of inactivity within the length class. The current method allows identification of the length class that contributes most to the overall fleet inactivity. However, this method masks the level of inactivity within the length class.

STECF 19-13 thus put forward an alternative and putatively more appropriate measure of the inactivity level within a length class can be obtained by dividing the number of inactive vessels in the class by the total number of vessels in the same length class.
Table 5 shows the inactive fleet indicator calculated as recommended by STECF 19-13.

Table 5 Inactive fleet indicator by number of vessels, GT and kW in 2021 with respect to the length class, as suggested by STECF 19-13

Length Class	% Number of length class	% GT of length class	% kW of length class
VL0006	27.5	26.3	26.0
VL0612	27.3	23.7	26.2
VL1218	19.0	15.2	16.8
VL1824	31.4	31.9	31.5
VL2440	25.0	16.6	26.6

The STECF EWG repeatedly stress, including EWG 18-14, that especially in fleet segments with under 10m LOA vessels (small-scale coastal fleets), many vessels are only used part-time and fishing is often not the only source of income. This is particularly the case in the Mediterranean, where the high 'inactivity' may be due to various reasons: many small vessels only operate on a seasonal basis; fishers may own several boats, some of which are used as stand-by vessels for various reasons.

Therefore, this indicator needs to be treated with care, in particular the case for small-scale fleet segments, and does not necessarily indicate that these fleet segments are not in balance. In fact, Maltese fishers frequently own more than a single vessel, and in several cases one boat may be used during a given year whilst the other is kept inactive.

Table 6, Table 7 and Table 8 show the inactive fleet indicator computed by STECF 21-16, based on the data submitted by Malta under the 2019 DCF Economic data call, covering the time-series 2010-2018. Values greater than 20% are highlighted in red (as according to the 2014 Balance Indicator Guidelines). The trend analysed for the period 2015-2019, using the slope equation and a 5% threshold to indicate significance[2] indicate that for there is a decreasing trend in terms of number of vessels, gross tonnage and engine power.

[2] Slope > 0.5 increasing; slope < -0.5 decreasing; -0.5 < slope < 0.5 no significant trend and slope = 0 flat/null trend

Table 6 Analysis of the inactive fleet indicator (% number of inactive vessels) as per STECF 21-16. Values > 20% highlighted red (as according to the 2014 Balance Indicator Guidelines).

Length Class	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Trend (5%) 2015/19	Status 2019*
VL0006	26.75	16.74	12.86	24.66	14.43	15.19	16.65	12.7	14.99	14.55	11.41	14.05	decreasing	in balance
VL0612	17.55	11.25	9.08	15.36	10	9.13	13.21	9.91	11.54	10.7	9.17	10.1	decreasing	in balance
VL1218	1.52	1.44	1.53	1.01	1.04	0.38	0.96	0.96	0.49	0.32	0.43	0.22	decreasing	in balance
VL1824	0.46	0.72	0.36	0.28	0.28	0.58	0.77	0.67	0.39	0.53	0.96	0.66	increasing	in balance
VL2440	0.3	0.36	0.36	0.28	0.47	0.29	0.57	0.58	0.49	0.53	0.43	0.22	decreasing	in balance
	46.58	30.51	24.28	41.68	26.22	25.57	32.16	24.82	27.9	26.63	22.4	25.25	decreasing	out of balance

Table 7 Analysis of the inactive fleet indicator (% number of inactive GT) as per STECF 21-16. Values > 20% highlighted red (as according to the 2014 Balance Indicator Guidelines).

Length Class	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Trend (5%) 2015/19	Status 2019*
VL0006	4.76	2.25	1.17	2.21	1.98	1.86	2.3	1.84	2.18	2.25	1.76	2.17	no trend	in balance
VL0612	10.77	5.38	2.9	4.61	5.21	4.84	6.65	5.29	5.71	5.71	4.96	5.38	decreasing	in balance
VL1218	4.96	4.07	2.63	1.82	3.25	0.97	2.68	2.54	1.31	0.71	1.06	0.54	decreasing	in balance
VL1824	3.93	9.22	2.82	2.26	3.2	6.14	9.83	8.56	5.63	6.09	9.29	6.97	no trend	in balance
VL2440	8.03	10.24	6.17	3.99	11.16	5.89	12.03	13.49	12.45	9.87	7.44	4.41	decreasing	in balance
	32.45	31.16	47.08	46.79	24.8	19.7	33.49	31.72	27.28	24.63	24.51	19.47	decreasing	in balance

Table 8 Analysis of the inactive fleet indicator (% number of inactive kW) as per STECF 21-16. Values > 20% highlighted red (as according to the 2014 Balance Indicator Guidelines).

Length Class	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Trend (5%) 2015/19	Status 2019*
VL0006	9.85	5.95	3.89	9.08	4.54	5.36	5.96	4.19	4.96	5.77	4.46	5.82	increasing	in balance
VL0612	20.38	13.23	9.17	16.07	11.38	10.13	15.21	10.92	13.19	13.54	10.66	12.4	no trend	in balance
VL1218	3.29	2.82	3.07	2.01	2.05	1.18	2.25	2.27	1.18	0.59	1.03	0.51	decreasing	in balance
VL1824	1.92	4.58	1.76	1.18	1.53	2.88	3.4	2.9	1.92	2.49	3.62	2.39	increasing	in balance
VL2440	1.98	1.98	2.88	1.6	2.56	1.45	3.11	3.9	3.73	3.31	2.83	1.34	decreasing	in balance
	37.42	28.56	24.57	33.83	22.06	21	29.93	24.18	24.98	25.7	22.6	22.46	decreasing	out of balance

A.11.2. Vessel Utilisation Indicator

The Vessel Utilisation Indicator, also known as the Vessel Utilisation Ratio (VUR) concerns the average activity levels of vessels that did fish least once in the year, taking account of the seasonality of the fishery and other restrictions. The VUR is calculated as average days at sea divided by the maximum number of days at sea per fleet segment. The maximum number of days at sea was provided in the 2022 data call for economic and social datasets on the EU fishing fleet. Table 9 shows the technical indicator per fleet segment for 2014-2021.

Table 9 Summary of the observed technical indicator for the Maltese fishing fleet for 2014-2021.

Fishing Technique	Length Class	2014	2015	2016	2017	2018	2019	2020	2021
DFN	VL0006	0.4	0.65	0.6					
DFN	VL0612	0.75	1	1					
DTS	VL1824	0.4	0.5	0.6					
DTS	VL2440	0.7	0.7	0.6	1	1	1	1	1
FPO	VL0006	1	1	1					
FPO	VL0612	1							
HOK	VL0006	0.5	0.5	0.4					
HOK	VL0612	0.3	0.35	0.35					
HOK	VL1218	0.8	0.6	0.6	1	1	1	1	1
HOK	VL1824	0.4	0.6	0.5	1	1	1	1	1
MGO	VL0612	0.5	0.4	0.3	1	1	1	1	1
MGO	VL1218	0.7	0.8	0.7					
MGO	VL1824	1	0.6	1	1	1	1	1	1
PGP	VL0006	0.2	0.1	0.05	0.2	0.2	0.2	0.2	0.2
PGP	VL0612	0.2	0.1	0.1	0.6	0.4	0.3	0.2	0.2
PMP	VL0006	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2
PMP	VL0612	0.3	0.15	0.1	0.1	0.2	0.1	0.2	0.1
PMP	VL1824			1					
PS	VL0612		1						
PS	VL1218	1	0.9	0.4					
PS	VL1824	1	1	1	1	1	1	NA	1
PS	VL2440	0.7	0.6	0.6					
TM	VL2440	1							

The results show that in 2021 there is a possibility that the professional Maltese fleet is overall in balance.

Nonetheless, there are four segments out of 10 active fleet segments which may be operating in a technically inefficient manner. The imbalanced sectors consisted of the small-scale segments: PMP and PGP for vessel length classes VL0006 and VL0612.

This means that there is a relatively low level of homogeneity between the effort exerted within the segment. Vessels less than 10 m LOA are subject to complementary data collection consisting of a probability sampling survey, whilst vessels larger than 10 m LOA are subject to data collection as mandated by the Control Regulation. Therefore, the low indicator values for the small-scale segments may be due to the methodology used to collect the data.

In addition, STECF 19-13 states that in some MSs, vessel use within fleet segments is not homogenous because only parts of the fleet are fishing full time for various reasons (e.g. fleet segments include a proportion of part-time fishers; older vessels being inactive during periods of maintenance or repair, breaks imposed on parts of fleet segments due to management measures with some vessels compensating by targeting other stocks and others remaining inactive). All the aforementioned reasons are applicable to Malta.

Therefore, as pointed out by STECF 16-09, technical indicators always be interpreted with caution, and that local expert knowledge is generally required to accurately interpret indictor results/trends. This is in particular the case for small-scale fleet segments.

Furthermore, the findings of the STECF in its most recent 'Balance/Capacity' report (STECF 19-13) stresses again that especially in fleet segments with under 10 m vessels (small-scale coastal fleets), many vessels are only used part time and fishing is often not the only source of income. Therefore, this indicator needs to be treated with care and does not necessarily indicate that these fleet segments are not in balance.

As for the inactive fleet indicator, STECF 19-13 reiterated findings from EWG 18-14, stating that for the VUR indicator, the small-scale fleet should be treated differently due to the fact that many fishers are only working part-time or fishing is only one source of income.

On the other hand, the high level of homogeneity in activity within a fleet segment (value approx. 1) may be due to the low number of vessels in that particular fleet segment. Although the maximum days at sea is not a mandatory variable under the current fleet economic data call, Malta submits this variable annually in its data call. The maximum days at sea is based on the average of the days at sea of the top 10 most active vessels in that particular fleet segment; this means that when a fleet segment consists of approximately 10 vessels or less, the VUI indicator will always have a value of one.

Table 10 shows the vessel utilisation ratio calculated by STECF 21-61. The trend analysed for the period 2014-2019, using the slope equation and a 5% threshold to indicate significance[3] indicate that the status of most of the Maltese fleet segments are in balance.

[3] Slope > 0.5 increasing; slope < -0.5 decreasing; -0.5 < slope < 0.5 no significant trend and slope = 0 flat/null trend

Table 10 Summary of the Vessel Utilisation Ratio as per STECF 21-16.

Fishing Technique	Length Class	Vessel Utilisation Ratio								
		2013	2014	2015	2016	2017	2018	2019	Trend (5%) 2015/19	Status 2019*
DTS	VL1824					1.0	1.0	1.0	flat/null	in balance
DTS	VL2440					1.0	1.0	1.0	flat/null	in balance
HOK	VL1218	1.1	1.0	1.0	1.0	1.0	1.0	1.0	no trend	in balance
HOK	VL1824	0.9	0.9	1.0	1.0	1.0	1.0	1.1	no trend	in balance
MGO	VL0612	1.0	1.0	1.0	1.0	1.0	1.0	1.0	no trend	in balance
MGO	VL1218					1.0	1.0	1.0	flat/null	in balance
MGO	VL1824					1.0	1.0	1.0	flat/null	in balance
PMP	VL1824						1.0	1.0	-	in balance
DFN	VL0006						0.2	0.2	-	out of balance
PGP	VL0006						0.2	0.2	-	out of balance
HOK	VL0006						0.2	0.2	-	out of balance
PGP	VL0612					0.6	0.2	0.3	decreasing	out of balance
HOK	VL0612					0.6	0.2	0.3	decreasing	out of balance
PMP	VL0006	1.0	1.0	1.0	1.0	0.2	0.2	0.2	decreasing	out of balance
PMP	VL0612	1.0	1.0	1.0	0.3	0.1	0.2	0.1	decreasing	out of balance
PS	VL1218					1.0	1.0	1.0	no trend	in balance
PS	VL1824					1.0	1.0	1.0	no trend	in balance
PS	VL2440					1.0	1.0	1.0	no trend	in balance
		17.5	20.3	20.4	19.8	12.1	12.6	12.6	decreasing	in balance

A.12. Biological indicators

A.12.3. Sustainable Harvest Indicator

Malta referred to stock assessments carried out by ICCAT, STECF and GFCM based on data from 2012-2020 when analysing this indicator. The most recent GFCM stock assessments refer to reporting year 2022. The results of the GFCM Working Group on Stock Assessment of Demersal Species (WGSAD) stock assessments carried out early in 2022 will be presented and validated in the Scientific Advisory Committee (SAC) of the GFCM in June 2022.

Error! Reference source not found. shows the SHI indicator as per STECF 21-16. The SHI indicator values are available for 10 fleet segments. The trend analysed for the period 2015-2019, using the slope equation and a 5% threshold to indicate significance.

Table 11 The results of the SHI biological indicator as per STECF 21-16.

Fishing Technique	Length Class	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Trend (5%) 2015/19	Status 2019*
DTS	VL1824													-	
DTS	VL2440										1.6	1.3	1.5		
HOK	VL1218	1.0	1.0	1.1	1.0	0.9	0.9	0.9	1.1	1.2	1.1	1.0	1.0	no trend	in balance
HOK	VL1824	1.0	1.0	1.1	1.0	0.9	0.9	0.9	1.1	1.2	1.0	0.9	0.9	decreasing	in balance
MGO	VL0612	1.0	1.0	1.1	1.0	0.9	0.8	0.9	1.1	1.2	1.0	0.9	1.0		
MGO	VL1218													-	
MGO	VL1824										1.1	0.9	0.9		
PMP	VL1824													-	
DFN	VL0006													-	
PGP	VL0006										1.2	1.0	1.0		
HOK	VL0006													-	
PGP	VL0612										1.0	0.9	0.9		
HOK	VL0612													-	
PMP	VL0006	1.1	1.1				0.8	0.9	0.9	1.2	1.0	0.9	0.9		
PMP	VL0612	1.0	1.0	1.1	1.1	0.9	0.9	0.9	1.1	1.2	1.0	1.0	1.0		
PS	VL1218													-	
PS	VL1824										1.0	0.9	0.9		
PS	VL2440													-	
		14.3	19.0	13.6	15.7	13.7	15.9	16.0	16.4	21.3	10.9	9.9	10.1	decreasing	out of balance

According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 9 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

STECF notes that for the only fleet segment (HOK VL1824) for which SHI indicator may be considered meaningful to assess balance or imbalance, the trend for the period 2015/2019 shows that this segment may be out of balance with their fishing opportunities; this segment displayed a decreasing (improving) trend.

In 2022, the joint stock assessments for European hake (*Merluccius merluccius*) and deep-water rose shrimp (*Parapenaeus longirostris*) in combined GSAs 12-16, were updated by Maltese, Tunisian and Italian scientists

using reference years 2007-2020 (**Error! Reference source not found.**). The assessment for the red mullet in GSA 15 was also updated. The stock assessments were conducted under the auspices of the MedSudMed project and finalised at the 2022 GFCM WGSAD. The biological reference points used were $F_{current}/F_{0.1}$. Furthermore, this year the assessment of *Coryphaena hippurus* was validated as qualitative advice; the assessment covered GSAs 5, 10, 12-16 and 19. This work was done under the auspice of the MedSudMed, CopeMed and GFCM.

Table 12 The overfishing index ($F_{current}/F_{0.1}$) of hake, deep-water rose shrimp and red mullet in the Strait of Sicily per GSA area as per GFCM Stock Assessment Forms.

Species	GSA	2011	2012	2013	2014	2015	2016	2017	2018	2020	2021
Hake	12-16	Overfishing (3.6)	Overfishing (5.8)	Overfishing (4.5)	Overfishing (4.9)	Overfishing (1.66)	Overfishing (3.6)	Overfishing (4.55)	In overexploitation and overexploited (F/F_{MSY} = 1.65; B/B_{MSY} = 0.75)	In overexploitation and overexploited (F/F_{MSY} = 1.72; B/B_{MSY} = 0.68)	In overexploitation and overexploited (F/F_{MSY} = 1.24; B/B_{MSY} = 0.7)
Deep-water rose shrimp	12-16	Overfishing (1.3)	Overfishing (1.8)	Overfishing (1.3)	Overfishing (1.3)	Overfishing (1.44)	Overfishing (1.63)	Overfishing (1.51-1.69)	In overexploitation with relatively intermediate biomass (1.52)	In overexploitation with relatively low biomass (F/F_{MSY} = 1.46)	In overexploitation with relatively low biomass (F/F_{MSY} = 1.34)
Red mullet	15	N/A	N/A	N/A	N/A	N/A	N/A	Overfishing (1.114)	N/A	Sustainably exploited, with relative low biomass (0.84)	In overexploitation with relatively low biomass (F/F_{MSY} = 1.83)
Common dolphinfish	5,10, 12-16,19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The stock is sustainably exploited on a precautionary basis.

The scientific advice emanating from the stock status of deep-water rose shrimp, hake and red mullet is to reduce fishing mortality, whilst for the common dolphinfish the advice is to not increase fishing mortality.

Using the annual catches data from countries exploiting the assessed shared stocks in the MedSudMed area, the contribution of the different operational units to the total catches are as follows (based on GFCM SAC Stock Assessment Form 201):
P. longirostris: 65.1% Italy; 33.1% Tunisia; 1.8% Malta
M. merluccius: 33.8% Italy; 65.9% Tunisia; 0.3% Malta

It is important to note that Malta's contributions to the catches of the hake and deep-water rose shrimp are insignificant and even if trawling by the Maltese fleet had to be banned, this would be to no benefit to the stock. Furthermore, the Maltese fleet in terms of number of vessels has been reduced since 2011 as indicated in **Error! Reference source not found.**.

Table 13 The reduction in capacity of the Maltese bottom otter trawling fleet from 2011.

	Number of vessels	**kW**	**GT**
Fleet in 2011	23	9501	3351
Permanent reduction	7	2518	779
Temporary reduction	2	779	292
Fleet in 2018	14	6203	2281
Reduction from 2011	39%	35%	32%

Since a reduction of 20% in fishing mortality to approach F_{MSY} for shrimps, when the overfishing index was 1.3 in 2014, the same reduction would have been suggested with regards to earlier years (e.g. 2011 and 2013), since the overfishing index remained constant. This reduction applied earlier, would not have only the same effects, but should have better results as it would have been applied during earlier years. Thus, Malta's reduction in fleet capacity since 2014 should be taken into consideration.

A.12.4. Stocks-At-Risk Indicator

The SAR indicator is generally not available for Malta for the reporting period since the Maltese fishing fleet did not exploit any stocks at high biological risk as defined by the 2014 indicator guidelines (COM (2014) 545 Final), with the exception of one stock. This is because:

a) For the limited number of assessed stocks harvested by the Maltese fleet, B_{lim} is not available;

b) No stocks harvested by the Maltese fleet are subject to an advice to close the fishery, to prohibit directed fisheries, to reduce the fishery to the lowest possible level, or similar advice from an international advisory body, even where such advice is given on a data-limited basis;

c) No stock is subject to fishing opportunities regulation which stipulates that the fish should be returned to the sea unharmed or that landings are prohibited; and

d) The Maltese fleet does not harvest stocks which are on the IUCN "red list" or is listed by CITES.

The only exception is swordfish in the Mediterranean, since it is considered as a stock at-risk as per criteria a and b, with a B_{MSY} of 0.12 with advice for a rebuilding plan by ICCAT.

It is to be noted that STECF 19-13 highlights that criterion a specified for the identification of stocks at risk in the 2014 Balance Indicator guidelines was generally not applicable for most of the stocks in Mediterranean, since these stocks lack B_{lim} estimates.

As highlighted in STECF 16-18 report, and again STECF 21-16, currently only landings from EU fleets are used to calculate whether the landings of a certain fleet segment comprise more than 10% of the overall landings. The impact of EU fleets on stocks that are shared with non-EU countries may therefore be overestimated.

A.13. Economic indicators

A.13.1. Return on Investment (ROI) vs Next Best Alternative

For the purpose of evaluating whether the fleet segments are economically sustainable in the long term and in the short term, two indicators are evaluated. To calculate these two indicators, the fleet was segmented by fishing technique. This is due to the fact that the same data which was made available for the EU Data Collection Programme (Commission Regulation (EC) 1639/2001, Commission Regulation (EC) 1581/2004 and Commission Decision (EU) 93/2010, and Commission Delegated Decision (EU) 2019/910) was reused for the purpose of this exercise.

The first indicator (Return on Investment [ROI]) was selected over the Return on Fixed Tangible Assets (ROFTA) since data on intangible assets and tangible assets are both available. Data on direct income subsidies was excluded in order to be in line with the latest guidelines. ROI was compared to the low risk long term investment. For the purpose of the calculation of this indicator, net profit is considered to be equal to the sum of income from landings, other income, income from rental of fishing rights; less crew costs, unpaid labor, energy costs, repair and maintenance costs, other variable costs, non-variable costs, cost for leasing fishing rights, and depreciation. Capital asset value is equal to the sum of the vessel replacement value, which was obtained using the Perpetual Inventory Method (PIM), and estimated value of fishing rights. Digressive depreciation was used for the purpose of the calculation of this indicator in order to be in line with the recent advice from PGECON (16th-19th April 2012, Salerno, Italy). The ROI for the previous years was also calculated in line with the latest guidelines, as shown in Table 14.

Table 14 Return on Investment (ROI) vs next best alternative

Low risk long term interest rate of 4.57% was used for the year 2008
Low risk long term interest rate of 4.62% was used for the year 2009
Low risk long term interest rate of 4.59% was used for the year 2010
Low risk long term interest rate of 4.52% was used for the year 2011
Low risk long term interest rate of 4.55% was used for the year 2012
Low risk long term interest rate of 4.43% was used for the year 2013
Low risk long term interest rate of 4.14% was used for the year 2014
Low risk long term interest rate of 3.76% was used for the year 2015
Low risk long term interest rate of 3.22% was used for the year 2016
Low risk long term interest rate of 2.49% was used for the year 2017
Low risk long term interest rate of 1.93% was used for the year 2018
Low risk long term interest rate of 1.53% was used for the year 2019
Low risk long term interest rate of 1.14% was used for the year 2020

Fishing Technique	Length Class	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
DFN	**VL0006**	-23.85%	-66.72%	-43.04%		-103.38%	-21.26%	-65.37%	-42.55%	-19.25%				
DFN	**VL0612**	-8.26%	-33.23%	-5.25%		-40.18%	8.28%	-24.56%	-23.51%	-11.80%				
DFN	**VL1218**				-23.31%	-16.93%								
DTS	**VL1824**	-16.28%	-9.21%	-17.58%	-1.48%	-6.40%	-6.59%	-3.90%	-2.76%	-5.73%				
DTS	**VL2440**	-23.94%	-9.00%	-12.92%	-10.68%	-11.53%	-16.23%	-15.00%	-9.69%	-16.55%	-10.97%	-4.88%	-0.09%	-3.09%
FPO	**VL0006**		-132.34%		-86.86%		-10.72%	-71.28%	60.02%	-4.57%				
FPO	**VL0612**	-16.80%	-71.15%				-28.26%	-47.55%						
HOK	**VL0006**	-49.76%	-90.82%	-51.57%	-56.92%	-423.19%	-4.92%	-24.89%	-13.66%	-25.20%				
HOK	**VL0612**	-25.58%	-42.89%	-29.11%	-33.83%	3.65%	9.14%	-30.34%	-4.13%	-21.32%				
HOK	**VL1218**	-2.55%	-8.17%	-14.80%	-17.85%	-0.57%	8.01%	4.35%	4.87%	14.87%	1.07%	-5.56%	35.07%	30.23%
HOK	**VL1824**	-8.79%	-21.36%	-13.84%	-15.05%	-2.20%	-4.58%	2.51%	-4.19%	-11.09%	27.76%	-0.72%	20.17%	3.03%
HOK	**VL2440**	-8.27%	-4.29%	-38.39%	-23.12%	-10.13%								
MGO	**VL0006**		-67.61%		-64.89%									
MGO	**VL0612**	-4.44%	-42.89%	-30.80%	-34.17%	-9.07%	-2.24%	-18.50%	-12.77%	0.36%	-22.82%	6.07%	-4.39%	-0.06%
MGO	**VL1218**	-8.39%	-1.95%	-9.30%	-14.44%	-1.05%	10.54%	-19.54%	-1.07%	12.31%				
MGO	**VL1824**			10.99%	17.57%	-51.79%		-22.10%	3.01%	28.01%	13.66%	18.95%	22.58%	20.79%
PGP	**VL0006**	-44.38%	-103.47%	-57.15%	-18.65%	-11.32%	-5.14%	-31.67%	-13.27%	-21.47%	-14.12%	-25.25%	-24.56%	-8.90%
PGP	**VL0612**	-34.77%	-53.84%	-29.51%	-30.74%	-12.00%	10.46%	-13.19%	-17.11%	-26.50%	-10.31%	-12.16%	4.85%	10.13%
PMP	**VL0006**	610.18%	1128.84%	-32.47%		-55.42%	-1.07%	-54.76%	-19.28%	-49.24%	-25.41%	-82.28%	11.20%	-3.12%
PMP	**VL0612**	39.28%	-35.62%	-31.26%	-61.00%	-10.87%	-10.02%	-43.31%	-19.72%	-24.22%	-17.06%	-3.82%	-15.26%	-5.03%
PMP	**VL1218**	-11.83%			-22.12%		31.68%			-52.04%				
PMP	**VL1824**	-10.85%	-8.70%				8.04%			-10.90%				
PMP	**VL2440**													
PS	**VL0612**		-47.06%						-118.19%					
PS	**VL1218**		-9.28%	12.05%	16.17%		31.08%	17.67%	6.15%	11.98%				
PS	**VL1824**					0.66%		-5.20%	-5.40%	54.18%	72.21%	28.71%	6.39%	
PS	**VL2440**	-162.02%	-57.79%			11.11%	46.84%	10.79%	122.66%	-2.57%				-10.97%

Fishing Technique	Length Class	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TM	**VL2440**						-23.93%							

For reference year 2020, the fleet segments, Gears using Hooks (HOK) VL1218 and VL1824, other active gears (MGO) VL1824, and Polyvalent Passive Gears Only (PGP) VL0612 had a positive ROI greater than the low-risk long term interest rate. This indicator is showing that for these four fleet segments, abnormal profits are being generated and it could also be an indication of under-capitalisation.

The other segments had a negative ROI, indicating an economic over-capitalisation. However, it is important to note the segment of other active gears (MGO) VL1824 which generated enough revenue to cover all operating and non-operating costs, resulting in an overall net profit position. The resulting negative ROI is derived from the fact that the low-risk long-term interest rate is higher than the resulted ROI. The other fleet segments had a negative gross profit and net profit during the reference year in subject.

During 2020, the best performing fleet segments were vessels classified as Gears using Hooks (HOK) VL1218, other active gears (MGO) VL1824, Polyvalent Passive Gears Only (PGP) VL0612, and Gears using Hooks (HOK) VL1824. The worst performing segment were vessels using Polyvalent Passive Gears Only (PGP) VL0006 and Purse Seiners (PS) VL2440.

Overall, in 2020 the ROI trend of the entire fleet remained a positive one, considering that the Covid-19 pandemic has impacted the performance of segments that had shown significant improvements and even shown balanced indicators in 2019. The ROI vs next best alternative for the fleet remained in balance for 2020 nonetheless.

Given that for the calculation of this indicator, income from direct subsidies is not included, below is a table of the direct subsidies received by the fleet segments in 2019 for further analysis.

Fishing Technique	Length Class	Total Direct Subsidies (€)
DTS	VL2440	2,600.00
HOK	VL1218	123,346.84
HOK	VL1824	152,525.88
MGO	VL0612	36,491.18
MGO	VL1824	39,289.31
PGP	VL0006	15,867.59
PGP	VL0612	194,626.48
PMP	VL0006	3,876.00
PMP	VL0612	135,611.47
PS	VL1824	-

It is also important to point out that throughout 2020, the sector received investment injections through subsidies on investment issued via government schemes funded through EMFF and also National Funds. A breakdown, by funds received by segments/clusters is shown below.

Fishing Technique	Length Class	Total Subsidies on Investment (€)
DTS	VL2440	-
HOK	VL1218	-
HOK	VL1824	-
MGO	VL0612	5,904.85
MGO	VL1824	-
PGP	VL0006	103,377.43
PGP	VL0612	107,347.51
PMP	VL0006	14,000.02
PMP	VL0612	106,238.07

Fishing Technique	Length Class	Total Subsidies on Investment (€)
PS	VL1824	-

A further €45,136 were distributed in the sector, though this amount of subsidies on investment was allocated to vessel deemed inactive for the reference year.

A.13.2. Current Revenue against Break-even Revenue Economic Indicator

For the second indicator, the Current Revenue against Break-Even Revenue Economic Indicator was calculated for the years 2008-2020 (Table 15). For the purpose of the calculation of this indicator, fixed costs are considered to be equal to depreciation, non-variable costs and opportunity cost of capital while current revenue is equal to the income from landings, income from the lease of fishing right and other income. Direct income subsidies were excluded from this calculation. Variable costs included crew wages, unpaid labor, energy costs, repair and maintenance costs, expenditure from the leasing of fishing rights and other variable costs. The calculation of the ratio that indicates the long-term view of financial viability was selected over the calculation that gives the short-term view of financial viability. The reason being that all data for this calculation is available under the Data Collection Framework while the opportunity cost is calculated in the previous indicator. Income and expenditure from lease of fishing rights, is included in the calculation as stated above.

Table 15 Current Revenue against Break-even Revenue Economic Indicator for 2008-2019. Indicators worked for reference year 2019 below the threshold indicated in the EC's guidelines are highlighted in bold.

Fishing Technique	Length Class	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
DFN	VL0006	-0.6	-4.1	-2		-9	-0.9	-3.4	-1.8	-1				
DFN	VL0612	0.3	-1.7	0.6		-2	1.4	-1.2	-1.7	0				
DFN	VL1218				-1.4	-0.3								
DTS	VL1824	-0.5	0.3	-0.6	0.9	0.4	0.4	0.6	0.7	0.5				
DTS	VL2440	-1.7	0.1	-0.1	0.1	-0.1	-0.7	-0.4	0.1	-0.4	-0.11	0.48	0.99	0.68
FPO	VL0006		-10.1		-7		0	-5.5	8.3	0.6				
FPO	VL0612	-0.5	-5				-1.4	-3.4						
HOK	VL0006	-2.9	-6.6	-3.5	-3.8	-74.5	0.6	-1.3	-1.4	-1.1				
HOK	VL0612	-1.2	-2.8	-1.6	-2.2	-0.6	1.8	-1.8	0.9	-0.9				
HOK	VL1218	0.8	0.2	-0.6	-0.7	0.9	1.9	1.6	2.3	2.6	1.13	0.27	6.05	5.13
HOK	VL1824	0.2	-0.9	-0.3	-0.4	0.7	0.9	1.5	1	-0.1	3.81	0.91	3.43	1.38
HOK	VL2440	0.1	0.6	-2.2	-1.3	0.1								
MGO	VL0006		-5		-6.2									
MGO	VL0612	0.7	-2.6	-1.8	-2.1	0.2	1	-0.8	0.2	1	-1.19	1.52	0.49	1.00
MGO	VL1218	0.2	0.9	0.2	-0.5	0.9	2.5	-0.8	2.2	2.1				
MGO	VL1824			2.1	3	-4.3		-1.8	1.7	3.9	2.54	3.26	4.18	4.38
PGP	VL0006	-2.7	-8.1	-3.9	-0.6	0.1	0.6	-1.8	-0.1	-0.9	-0.32	-1.44	-1.17	0.04
PGP	VL0612	-2	-3.8	-1.5	-1.7	0	2	-0.1	-0.5	-1.5	0.05	-0.30	1.60	2.37
PMP	VL0006	54.6	94.7	-1.7		-3.8	1	-4.2	-0.6	-3.7	-1.75	-7.93	2.09	0.59
PMP	VL0612	4.6	-2.1	-1.7	-4.1	0.1	0.1	-2.8	-0.6	-1.3	-0.77	0.58	-0.82	0.35
PMP	VL1218	0			-1.3		4.1			-3.6				
PMP	VL1824	0.2	0.3				1.7			0				
PMP	VL2440				1.9									
PS	VL0612		-4						-12.5					
PS	VL1218		0.2	2.7	2.5		5.3	3.8	2.3	2.1				
PS	VL1824					1.2		0.6	0.6	7.1	9.27	4.09	1.72	
PS	VL2440	-2.9	-3			2	5.3	0.4	1.6	0.8				-0.49
TM	VL2440						-1.5							

For reference year 2020, the fleet segments, Gears using Hooks (HOK) VL1218 and VL1824, other active gears (MGO) VL1824 and Polyvalent Passive Gears Only (PGP) VL0612 had a ratio greater than 1. This result shows that these fleet segments generated enough income to cover the variable, fixed and capital costs and hence these fleet segments are profitable, with potential under-capitalisation.

The segment other active gears (MGO) VL0612 has improved upon 2019, and has broken even for 2020, given that it recorded a BER ratio of 1.

For reference year 2020, the fleet segments Polyvalent Passive Gears Only (PGP) VL0006, Demersal Trawlers (DTS) VL2440, and Combined mobile and passive gears (PMP) VL0006 and VL0612; had a ratio less than 1. This means that these fleet segments generated insufficient income to cover variable, fixed and capital costs. The segment of other active gears (MGO) VL0612 has improved upon 2019, and has broken even for 2020, given that it recorded a BER ratio of 1. Nevertheless, these fleet segments are unprofitable, with a potential over-capitalisation. The other segment, Purse Seiner (PS) VL2440 had a negative CR/BER result which means that variable costs alone exceed current revenue and hence they are in a loss-making position.

For the year 2020, the best performing fleet segment was Gears using Hooks (HOK) VL1218, amounting to a value of 5.13. The worst performing fleet segment for 2020 is Purse Seiner (PS) VL2440 amounting to a value of –0.49.

In the year 2020, the national fleet has been economically insufficient, in fact as a whole the CR/BER ratio of the fleet is below 1. The unprofitability potentially stems from the Covid-19 pandemic and its impacts on revenues made. During this reference year a number of segments have made improvements over the previous year, at the same time there have been segments which have shown deterioration in their economic performance. In 2020, out of ten fleet segments, four were balanced, four were unprofitable, one broke even and the remaining segment was in a loss-making position.

A.14. Action Plan

A.14.1. Background

The Maltese authorities have made an analysis of the biological, technical and economical parameters for 2019 using data collected through a census of the entire fleet and information collected through landing declarations and sales notes. The results lead the Maltese authorities to the conclusion that the only meaningful indicator for the Maltese fleet is that for the Return on Investment (ROI) and Current Revenue vs Break Even Revenue (BER) given the absence of reliable information on the biological situations of stocks. In the current report the only segment that shows a negative trend and is considered as imbalanced is the PMP segment.

Based on this report, the Maltese authorities acknowledge that the segments which show a trend of being imbalanced over time may benefit from the application of an Action Plan as explained below.

A.14.2. Analysis of Trends

Since Article 22 of the Common Fisheries Policy refers to balance (and imbalance) over time, it is appropriate to consider several years rather than a single year (COM (2014) 545 Final).

Following the adoption of clustered segments in 2017, the time-series trend analysis for clustered groups had been affected. For this year clustered segments were compared to the previous year and begin a new trend analysis for these groups. For the fleet segments which have not been clustered, a trend analysis was still carried out (Table 16).

The above economic indicators show that, in the year 2020, four of the clustered fleet segments have shown balance in the economic indicators calculated for this report. Whilst in 2019, the Maltese fleet had made great leaps in terms of its economic performance particularly over the previous years, in 2020 this positive trend was hindered from the Covid-19 pandemic, and as such saw a deterioration in the progress of the sector. It is still in a better picture than in previous years (other than 2019). These trends are summarised to the fleet segment level in Table 17 below. Out of these segments, four segments were balanced, all of which had an improving economic performance trend, three other fleet segments showed an improving trend in their economic performance and economic indicators, and the remaining segment showed deteriorations across their development trend and economic indicators.

Table 16 Analysis of trends for all segments. A traffic light approach; green for balanced and improving fleet segments, yellow for fleet segments showing an improving trend and red for fleet segments which showed an overall deteriorating trend.

Fleet Segment	Vessel Length	Population following fleet segmentation	No of licenses according to the FVR as at 31.12.2017	Economic development trend (2008-2019)	ROI trend analysis- R	BER trend analysis- R	Conclusions
HOK	VL1218	10		Improved	Balanced indicator	Balanced indicator	Balanced. Trend analysed was that between 2008 and 2020
MGO*	VL1824	6		Improved	Balanced indicator	Balanced indicator	Balanced. Trend analysed was that between 2017 and 2020 i.e. post-clustering
PGP*	VL0612	148		Improved	Balanced indicator	Balanced indicator	Balanced. Trend analysed was that between 2017 and 2020 i.e. post-clustering
HOK	VL1824	15		Improved	Balanced indicator	Balanced indicator	Balanced. Trend analysed was that between 2008 and 2020
MGO	VL0612	10		Improved	Improved	Breakeven	Showed improvement in economic trend but deterioration in indicators. Trend analysed was that between 2008 and 2019
PGP*	VL0006	261		Improved	Improved	Improved	Improvement in economic development trend and improvements in ROI and BER Indicators. Trend analysed was that between 2017 and 2020 i.e. post-clustering

Fleet Segment	Vessel Length	Population following fleet segmentation	No of licenses according to the FVR as at 31.12.2017	Economic development trend (2008-2019)	ROI trend analysis- R	BER trend analysis- R	Conclusions
PMP	VL0612	128		Improved	Improved	Improved	Showed improvement in economic trend, ROI and BER indicators. Trend analysed was that between 2008 and 2020
DTS*	VL2440	9		Improved	Deteriorated	Deteriorated	Improvements in economic development trend and declines in BER indicator, and ROI indicator. Trend analysed was that between 2017and 2020 i.e. post-clustering
PMP	VL0006	24		Deteriorated	Deteriorated	Deteriorated	Declines in all indicators assessed. Trend analysed was that between 2008 and 2020
PS*	VL2440	1			Imbalanced	Imbalanced	No trend available, since segment recorded data since 2016.

A.14.3. Fishing Opportunities

It is pertinent to note that the only fishing opportunities allocated to Malta in 2019 and 2020 was for bluefin tuna and swordfish. These fishing opportunities are fixed through a Council Regulation issued every year in line with the Treaty on the Functioning of the European Union.

A.14.4. Context

In summary, depreciation costs are deemed "normal" whilst the replacement value, even for old hulls, is high. To overcome these values a higher income value needs to be inputted in the formula in order to obtain positive values for the ROI.

A negative ROI vs next best alterative indicator infers that the investment being made in the fishing enterprise would have been more profitable if invested elsewhere. This could be due to low activity of the vessel especially in the case of license holders who work in the fishing sector on a part-time basis and therefore do not depend entirely on their fishing activities to sustain them. Another possibility linked to a negative value is that the marine biological resources available are not able to sustain the fleet. This could either be due to the necessary biomass not being harvested at sustainable levels or that the market is not providing adequate returns requiring some type of intervention. With regard to the available biomass this could be addressed through closed areas and/or closed seasons which would have a positive impact on the stocks exploited especially if targeted to improve their spawning potential. Interventions on the market to improve the returns of the sector could include promotion of the fishery products or to incentivize the better organization of the sector to access more profitable markets.

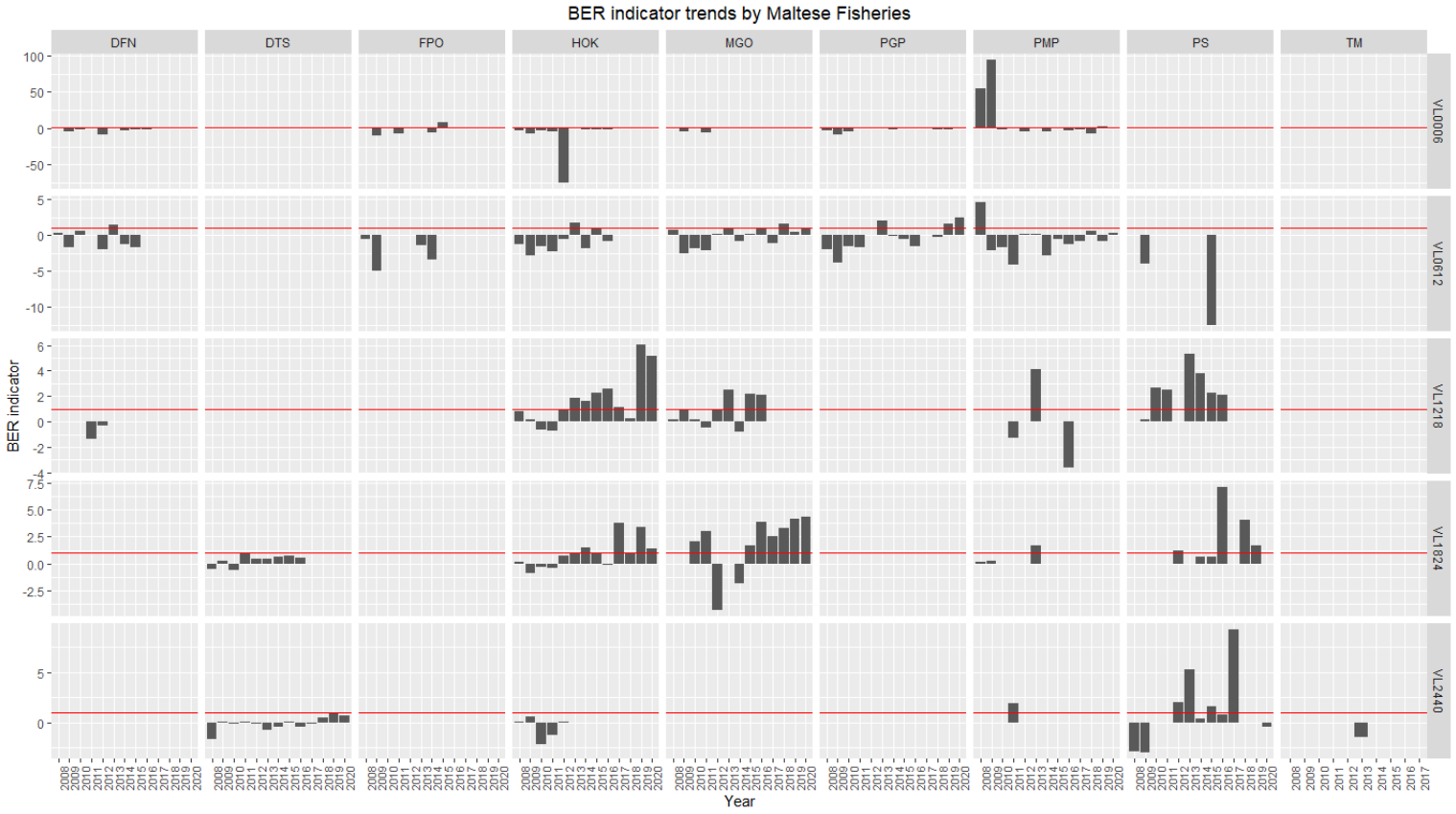
Management measures under the Mediterranean Regulation, General Fisheries Commission for the Mediterranean (GFCM) and International Commission for the Conservation of Atlantic Tuna (ICCAT) also contribute to achieving sustainable exploitation of stocks. In particular, the bluefin tuna fleet is in balance with the fishing opportunities allocated to it, whilst the fleets targeting swordfish fall within the segments having a positive ROI.

A.14.5. Link to Previous Actions and Rationale for a New Action Plan

The new action plan was compiled by taking into consideration the trend analysis of the economic performance of the Maltese fishing fleet and the trend analysis of the two economic indicators for the years 2008-2020 (Table 17). This consideration is suggested in the 2014 guidelines (COM (2014) 545 Final), whereby it states that the Common Fisheries Policy refers to balance (and imbalance) *over time* rather than one single year. Hence Malta considered several years rather than a single year when compiling the action plan in Annex II of this report.

Table 17 Summary of the difference between the status obtained for fleet segments and clustered fleet segments with regard to reference years 2019 and 2020 as well as the overall historical trend, based on the two economic indicators. ✓ indicates balance, × indicates imbalance, ↑ shows an improving trend, while ↓ indicates a deteriorating trend. Rows shaded in grey indicate fleet segments showing imbalance during both 2018 and 2019 as well as a deteriorating historical trend.

Fishing Technique	Length Class	2019	2020	Historical trend
HOK	VL1218	✓	✓	↑
MGO VL1824*		✓	✓	↑
PGP VL0612*		✓	✓	↑
HOK	VL1824	✓	✓	↑
MGO	VL0612	×	×	↑
PGP VL0006*		×	×	↑
PMP	VL0612	×	×	↑
DTS VL2440*		×	×	↓
PMP	VL0006	×	×	↓
PS VL240*		×	×	


BER indicator trends by Maltese Fisheries
DFN
DTS
FPO
HOK
MGO
PGP
PMP
PS
TM
VL0006
VL0612
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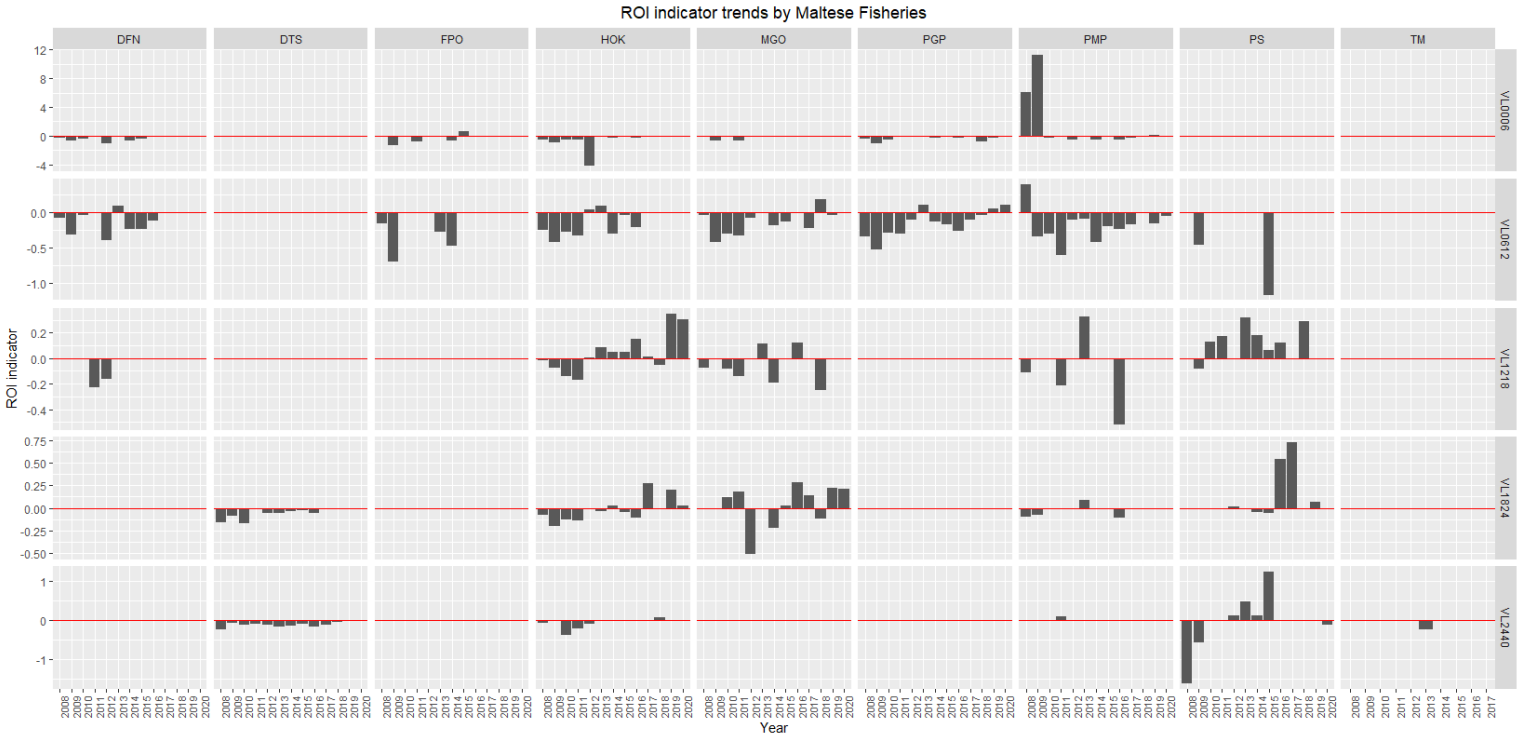
VL2440
BER indicator
Year


ROI indicator trends by Maltese Fisheries
DFN
DTS
FPO
HOK
MGO
PGP
PMP
PS
TM
VL0006
VL0612
VL1218
VL1824
VL2440
ROI indicator
Year

Annex I – Action Plan

Timeframe	Segments addressed	Measure	Action	Indicator
2017-2020	All vessels <12m	Monitoring of landings	Weighing of fishery products on the Automatic weighing and Labelling machines	All catches recorded
	All vessels <10m	Monitoring of activity	Sampling plan	All landings of vessels <10m monitored through sampling and sales notes
	Vessels ≥ 6m and <12m	Monitoring of activity	The vessels will be equipped with a monitoring system to detect fishing activity leading to better monitoring.	All fishing activity
	DFN	Conservation	Prohibition of fishing in bays and creeks from 15 February to 30 August with all types of nets.	Increase in biomass by 2020
	FPO	Conservation	Closed season for the months of April and May	Increase in biomass by 2020
Ongoing	Entire fleet	Analysis of the market to identify any structural deficiencies or market forces resulting in a low average price at first sale for fishery products	This analysis will be assisted by the implementation of an innovative traceability system being implemented at national level and co-funded by the EU covering primary production up to the first sale as it is expected to yield better information on the fishery products caught and marketed for the first time	Identification of measures to achieve better prices at first sale to help generate more income for the fishers

Annex II – Documentation on Clustering

Clustering, or "fleet segment aggregation", may be required when compiling the Fleet Economic Data Call. This methodology is recommended by several STECF working groups (e.g. EWG 13-28). The fact that indicator values are based on clustered fleet segments one year and un-clustered fleet segments another year creates inconsistencies. Clustering is currently based on thresholds that define which fleet segments are clustered. The number of vessels in a fleet segment can vary from year to year. If time-specific analyses are done, then ideally the fleet segment clusters should be consistent over time. In order to achieve consistent clustering of segments in future, it would be necessary for MS to present fleet segments clustered in the same groups for all years (even if the threshold is not reached for some years).

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) CHAPTER III – 4.
In cases where a fleet segment is in the risk of breaching data confidentiality:

(a) clustering may be necessary in order to design the sampling plan and to report economic variables;
(b) Member States shall report which fleet segments have been grouped at the national level and shall justify the clustering on the basis of statistical analysis;
(c) in their annual report, Member States shall report the number of sampled vessels for each fleet segment regardless of any clustering made to collect or provide the data;
(d) Regional Coordination Meetings shall define homogeneous clustering methodology at the level of supra regions so that economic variables are comparable.

Approach taken by Malta for the reference years 2017 and 2018

Clustering was carried out according to the available guidelines, for confidentiality reasons only. Sampling is performed as per previous years, in line with Malta's Work Plan for data collection in the fisheries and aquaculture sectors 2019 (Work Plan 2019). A probability sampling survey is carried out on vessels < 10m LOA, whilst logbooks are used to collect data for vessels > 10m LOA, in line with the Control Regulation (Council Regulation (EC) No 1224/2009). In case of a very low number of vessels in fleet segments HOK, FPO and DFN, data will be clustered together with the fishing technique PGP. Therefore, as STECF categorise vessels according to the 12m LOA threshold, the rules set for clustering is firstly dependent on the length class, whether it is under or over 12m LOA. As a precautionary approach, fleet segments will be clustered for confidentiality reasons, when the number of vessels is three or less, in line with the Eurostat definition of "confidential".

Bibliography

- *Approach to clustering as recommended by SGECA 09-02 (Sub-group on research needs report 09-02 is available from: https://publications.europa.eu/en/publication-detail/-/publication/bda55143-6cea-4f23-b5b0-be0e90282428/language-en)*

- "Clustering of fleet segments for the economic data call on the EU fishing fleet" is accessible from: *https://datacollection.jrc.ec.europa.eu/documents/10213/1235778/Clustering_2014.pdf*