ANNUAL REPORT

On the Greek National Fisheries Data Collection Programme for 2013

(IN APPLICATION OF EC DECISION 93/2010)

MINISTRY OF RURAL DEVELOPMENT AND FOOD

DIRECTORATE GENERAL FOR FISHERIES

MAY 2014

TABLE OF CONTENTS

I. GENERAL FRAMEWORK

The current document is an Annual Report (AR) of the work which was carried out in Greece for the year 2013 with reference to the aims described in the Greek National Programme (NP) and the requirements listed in the DCF. The programme has been carried out following the rules of the:

Commission Regulation No 199/2008 establishing a Community framework *for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy*

Commission Regulation No 665/2008 laying down detailed rules for the application of Council Regulation (EC) No 199/2008 concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy.

Commission Decision 2010/93/EU adopting a multiannual Community programme for the collection, management and use of data in the fisheries sector for the period 2011-2013.

The format of the document follows the most recent guidelines from the Commission (DCF_Guidelines_AR_version2013_finalv2.doc and DCF_Standard-Tables_AR_version2013 _final Rev13-5-2013.xlsx).

During 2013 Greece had a better implementation of data collection NP comparing to 2012. Apart from module IV.A Collection of data concerning the aquaculture, all the other modules have been implemented, however to a different degree. Bureaucratic, administrative and financial constraints delayed the start of 2013 NP or even cancelled some actions. The implementation of 2013 NP was launched on 31.05.2013 with the signing of the concession contract between the Department of Fisheries of the Ministry of Rural Development and Food (MRDF) and the Greek Agricultural Organization (ELGO)-DEMETER. However the financing of the project started in late September. It is not feasible to refer to methodological changes in approach compared to the year(s) before, since the data collection program wasn't carried out in Greece in 2011 and in 2012 few activities were completed.

The only derogation requested by Greece is presented in the following table:

Short title of derogation	NP proposal section	Type of data - Variables	Region	Derogation approved or rejected	Year of approval or rejection	Reason / Justification for derogation
Derogation in relation to the collection of catches of Bluefin tuna by recreational fisheries	III. D. MODULE OF THE EVALUATION OF THE FISHING SECTOR *Recreational fisheries*	Catches	Mediterranean Sea	Approved	2005	The fishery of large pelagic species (i) can only be practiced by professional fishermen with a special licence, (ii) is forbidden by the Greek law for recreational fishermen

II. NATIONAL DATA COLLECTION ORGANIZATION

II. A. National correspondent and participating institutes

The Data Collection Programme is co-ordinated by the General Directorate of Fisheries, Ministry of Rural Development and Food (MRDF), under the national correspondent Apostolos Karagiannakos, whose contact details are:

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The Data Collection Programme for Greece is carried out by two partners, the **Hellenic Agricultural Organization – Demeter** (ELGO-DEMETER) that is the project's Scientific Co-ordinator and the **Hellenic Centre for Marine Research** (H.C.M.R.). Two institutes from each partner contribute to the realization of the NP. Specifically, from the ELGO-DEMETER participates the **Fisheries Research Institute** (F.R.I) and the **Agricultural Economics Research Institute** (AGR.E.R.I). The FRI is a semi state marine research organisation responsible for collection of scientific data on the fisheries sector in North and Central Aegean Sea, on eel and on processing industry. The AGR.E.R.I is also a semi state research organisation responsible for collection and evaluation of economic data on the fisheries sector. From **H.C.M.R** participates the **Institute of Marine Biological Resources & Inland Waters of Athens** (I.M.B.R-Athens) and the **Institute of Marine Biological Resources of Crete** (I.M.B.R-Crete)**.** The I.M.B.R is a semi state marine research organisation responsible for the collection of scientific data on the fisheries sector in South Aegean Sea, Ionian Sea and Cretan Sea. It also has the management of the database and GIS Fisheries Information System called IMAS-Fish which supports the Data Collection programme.

 The contact details of the participating institutes are:

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The national DCF website is under construction. Till its finalization, all the basic information and references concerning Greek data collection programme is hosted in the website of FRI which is the scientific co-ordinator (web-site: http://www.inale.gr).

A national co-ordination meeting was held in Athens on 4/6/2013 among representatives of FRI, AGR.E.R.I and HCMR. During the meeting it was discussed the procedure for quick staffing and training of new staff to fill the gaps that were resulted in the Institutes from dismissals in the previous years; procedures for the realization of the scientific surveys at sea (MEDITS and MEDIAS) and the organization of the on-board and on-shore sampling.

II B Regional and International coordination

II B 1 ATTENDANCE OF INTERNATIONAL MEETINGS

The Standard **Table II.B.1** indicates which meetings have been attended by Greece.

Some of the planned meetings were not attended by MS due to financial constraints.

II B 2 FOLLOW-UP OF REGIONAL AND INTERNATIONAL RECOMMENDATIONS

The list of recommendations addressed by the Liaison meetings of 2012 and 2013 and the action taken by the MS is reported in the following tables:

Liaison Committee in 2013 -Recommendations from the Liaison Meeting in 2013

10.Quality assurance – Managed repository for RDB upload successes and the data status repors	
RCM NS & EA 2013 Recommendation 6	RCM recommends that MS document their interpretation of trips, samples and sampling events and describe what the Trip ID and Sample ID represent in the uploaded data
Follow-up actions needed	MS to provide a summary document of their interpretation of these key fields in the upload data formats. RCG to collate these documents for storing in the RDB repository (see earlier recommendation).
Responsible persons for follow-up actions	MS, SC-RDB
Time frame (deadline)	Next SC-RDB meeting
LM comment	The LM endorses the recommendation
MS response	*MS will consider the applicability of the recommendation*
12. Quality assurance – Member States QA before loading to the RDB	
RCM NA 2013 Recommendation 2	MS to document Quality Control and Quality Approach procedures in summary for review at the next RCM. MS have a duty of care and are required under the current DCF to ensure that the data within their own MS databases are also checked for inaccuracies before uploading anything to the RDB.
Follow-up actions needed	All RCM NA Member States to ensure quality checks are in place and are being carried out and documented.
Responsible persons for follow-up actions	MS and all RCMs
Time frame (Deadline)	Before RCMs in 2014
LM comment	The LM endorses the recommendation
MS response	*MS supports the recommendation and already perform checks for inaccuracies in its database.*
On the regional database 1	
RCM Med&BS 2013 Recommendation	The Group agreed that the MED&BS RDB will include biological and transversal data. It was decided that also economic data should be incorporated in the future MED&BS-RDB.
Follow-up actions needed	
Responsible persons for follow-up actions	DGMARE, MS, LM, RCM MED&BS,
Time frame (Deadline)	
LM comment	

MS response	*MS supports the recommendation*
On the regional database 2	
RCM Med&BS 2013 Recommendation	The Group agreed that the MED&BS RDB could be hosted by GFCM. Upon the clearance of the RCMMed&BS, a formal procedure will be activated in order to contact GFCM officially and consequently evaluate the related feasibility and necessary funding. Upon availability of the required funds, GFCM would dispose human resources, technical expertise and IT infrastructure that can be up-scaled in order to provide database development, administration and security.
Follow-up actions needed	
Responsible persons for follow-up actions	DGMARE, MS, LM, RCM MED&BS, GFCM
Time frame (Deadline)	
LM comment	
MS response	*MS supports the recommendation*
Recommendation 2013-3: Regional cordination on Large Pelagics	
RCM LDF 2013 Recommendation (LP sub-group)	The RCM LDF recommends the creation of a coordination group on Large Pelagics covering areas of competence of RCM LDF, NA, Med&BS and dealing with all large pelagic species and fisheries. In order to avoid the risk of duplication of meetings for some scientists dealing with large pelagics in particular in the Mediterranean and in Other areas (for example swordfish, bluefin tuna), it is recommended to expand the RCM "Med&BS" to a RCM "Med&BS & Large Pelagics", which then would consist of two sub-groups (one dealing with the MD&BS and other with LP issues).
Follow-up actions needed	LM, STECF, DGMare
Responsible persons for follow-up actions	Chairs of the RCM LDF and the RCM Med&BS
Time frame (Deadline)	Before the next RCM meeting in 2014
LM comment	
MS response	*MS supports the recommendation*
Strategic comments 2013-4: Cooperation with RMFOs	
RCM LDF 2013 Recommendation (LP sub-group)	RCM LDF (LP sub-group) reiterates the need expressed by RCM Med&BS 2012 on a joined meeting among tuna related RFMOs (ICCAT and IOTC) representatives, scientists involved in large pelagic data collection, as well as representatives from RCM (LP sub-group). The aim of the meeting will be harmonizing the biological sampling

	issues on large pelagic and specifying additional data or modifications that should be included in the future DCMAP, taking into account the ICCAT /IOTC requirements for stock assessment, as well as providing guidelines for best statistically sound sampling schemes and data quality indicators. Knowing that the LM didn't endorse this recommendation as they considered this as a task for the RCMs, RCM LP sub-group expresses the need for some guidelines in order to know which are the exact steps to follow, with the aim to invite ICCAT and IOTC representatives, and in particular where corresponding funds should be foreseen under EMFF.
Follow-up actions needed	Guidelines from LM / Commission
Responsible persons for follow-up actions	EC, ICCAT/IOTC, RCM (LP sub-group),
Time frame (Deadline)	Before the next RCM meeting in 2014
LM comment	
MS response	*MS agrees with the comment*
Suggestion 2013-5: RDB on Large Pelagics	
RCM LDF 2013 Recommendation (LP sub-group)	The Large Pelagic sub-group reiterates that there is a great need to progress in the direction of better exchange ability between fisheries information systems among UE fishing countries. Regarding the approach to a RDB, the members of the Large Pelagic sub-group agree that a standardization of formats and tools at the MS level should be a first step. Level of data aggregation and localization of a physical RDB will have to be considered in a second step. LP sub-group recommends that a RDB LP Steering Committee be established to work in close cooperation with other Steering Committees to ensure similar approaches, procedures and systems between Large Pelagic RDB and other RDBs.
Follow-up actions needed	establishing the new RDB-LP Steering Committee or joining the existing RDB SCs
Responsible persons for follow-up actions	LP sub-group
Time frame (Deadline)	Next RCM meeting in 2014
LM comment	
MS response	*MS supports the suggestion*

Liaison Committee in 2012 -Recommendations from the Liaison Meeting in 2012

Metier-related variables: on the accuracy of geographical origin of landings and effort data	
RCM Med&BS 2012	The RCM Med&BS recalls its 2008 recommendation and

Recommendation	recommends MS to investigate the accuracy of the geographical origin of landings and effort data (using the VMS data where possible). This information should be reviewed during the next RCM Med & BS.
Follow-up actions needed	Forward to MS
Responsible persons for follow-up actions	MS, RCM Med& BS
Time frame (Deadline)	Before next RCM Med& BS
LM comment	The LM endorses the recommendation
MS response	*MS follows the recommendation*
*** On the regional database	
RCM Med&BS 2012 Recommendation	The Group agreed that the Med&BS RDB will include biological and transversal data. It was decided that economic and survey data will be excluded for the time being from the RDB, following the decision by PGECON to develop one European Database for including economic and transversal data from all supra-regions. The Group agreed that the Mediterranean & Black Sea regional database could be hosted by GFCM and that the Steering Committee for the development of the RDB will include 1 person per MS, 2 economists for the transversal data, the Chairs of Medias and Medits and a GFCM representative. It was further agreed that the RDB steering group will be represented at the planned GFCM Workshop for the finalization of GFCM Task 1 and Task 2.
Follow-up actions needed	Forward to DG MARE
Responsible persons for follow-up actions	DGMARE, MS, LM, RCM MED&BS, GFCM
Time frame (Deadline)	Before the new DCMAP
LM comment	LM notes that GFCM will cover the data for the BS area as well. LM supports the recommendation and suggests that a representative from the Med&BS RDB participates in the RDB FishFrame Steering Committee. However, LM notes the different approaches in selecting members for the steering committees as well as the approval procedures for proposals from the committees. LM suggests the steering committees to streamline the procedures in cooperation with the Commission to prevent both groups to develop own procedures.
MS response	*MS will consider the recommendation*

III MODULE OF THE EVALUATION OF THE FISHING SECTOR

III A General description of the fishing sector

The Greek fishing fleet consists of a large number of vessels. According to the National Fleet Register of 31-12-2013 the fleet consists of 15.809 active fishing vessels with a total tonnage of 77.316 GT and total power of 455.271,79 KW. The great majority of the fleet consists of vessels of relative small capacity and horsepower exploiting the extensive coastline of the mainland, and the shoreline of the numerous Greek islands targeting the coastal fishing stocks. Specifically, the 94.83% (14.993 vessels) of the fishing fleet consists of inshore vessels fishing with static gear in the coastal zone; the 1,58% (251 vessels) consists of purse seiners targeting small pelagic species mainly anchovy and sardine; the 1.79% (283 vessels) consists of otter trawls fishing mainly hake, mullets, and shrimps. Greek fishing activities cover three GSAs:(a)Aegean Sea (GSA 22), (b)Ionian Sea (GSA 20) and (c)Cretan Sea (GSA 23).

A major change in the fishery was a reduction of the active vessels. From 2008 till the end of 2012 the Greek fishing fleet has decreased by 2198 vessels in application of the rules of the Common Fisheries Policy. The greater proportion of fleet reduction was observed in the coastal vessels; in the smaller length category of trawlers (12-18m) and purse seiners (6-12m &12-18m) while in the shore seiners the reduction was 26%.This had an impact on sampling opportunities.

The Greek fishing fleet is categorized in the following three (3) major categories depending on the fishing activity

Demersal fisheries

The demersal fishery in Greece is the otter trawl fishery that consists of 283 vessels with total capacity 27.405,16 GT and engine power 82.818,34 KW. Although it represents a small part of the Greek fishing fleet (1.79%), its production represents approximately the 25% of total fisheries production. It is a mixed fishery that targets demersal species and is only one metier (OTB_DES_>=40_0_0). It is a common fishery in the Aegean, Ionian and in a lower extent in Cretan sea and exploits mainly fishing grounds covering the continental shelf and the first part of the slope (depths up to 300 meters) in the national and international waters of the Mediterranean Sea.

Pelagic fisheries

The pelagic fishery in Greece is the purse seine fishery that consists of 251 vessels with total capacity 11.311,85 GT and engine power 47.957,62 KW.

Purse seine fishery targets mainly small pelagic species (anchovy and sardine), mackerel and horse mackerel as well. It performs fishing trips of short duration (rarely more than 24 hours), because of the vulnerability of the main target species. It is a common fishery in the Aegean, Ionian and in a lower extent in Cretan sea. It is only one metier (PS_SPF_>=14_0_0).

Coastal fisheries

The coastal fishery in Greece represents the largest part of the Greek fishing fleet. It consists of 14.993 vessels which according to their overall length are divided into:

A) Vessels with an overall length of less than 12 meters. This category consists of 14.636 vessels with a total capacity 28.419,44 GT and total power 271.999,01 KW.

B) Vessels with an overall length equal to or greater than 12 meters. This category consists of 347 coastal fishing vessels with a total tonnage 6.151,66 GT and total power 31.752,12 KW.

The Greece coastal fishery is the largest among all EU countries both in number of vessels and fishermen causing difficulties in the monitoring of fishing activity and production. It has a multi-gear and multi-species character. The most common metiers that have been recorded in coastal fishery are the following:

Set gillnet for demersal fish	GNS_DEF_>=16_0_0,
Set trammelnet for demersal fish	GTR_DEF_>=16_0_0,
Set longlines for demersal fish	LLS_DEF_0_0_0,
Drifting longlines	LLD_LPF_0_0_0,
Pots and traps for demersal species	FPO_DEF_0_0_0,
Beach and boat seine for demersal species	SB_SV_DEF_0_0_0
Hand and pole lines for finfish	LHP_LHM_FIF_0_0_0,
Trolling lines for large pelagic fish	LTL_LPF_0_0_0

However, the first five of them have been selected for sampling purposes according to ranking system as described in the EU Dec. 93/2010. The last three were not selected by the ranking system.

A general description of the Greek fishing sector is given in the **Table III.A.1**

III B Economic variables

Supra region: Mediterranean Sea and Black Sea

III B 1 ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

This section focuses on the estimation of economic variables of the fishing sector in Greece. The economic data collected refers to the year 2012 (reference year).

In order to estimate the economic parameters of the sector a specific sample survey was conducted. Data required for the estimation of the value of fixed assets and annual depreciation costs were calculated by processing records derived from the National Fleet Register.

The target population was the Fleet Register and there were no exclusions of any part of the vessel population. However, it should be emphasized that there are some differences in the composition of the target population, compared to what was described in the 2011-2013 NP proposal, as indicated in table III.B.1. These changes can be explained by the fact that for the 2011-2013 NP proposal the vessel population of the year 2008 was used. As it has been mentioned above from 2008 till the end of 2012 the Greek fishing fleet has decreased by 2198 vessels, and the reduction was observed in the coastal vessels, in the smaller length category of trawlers (12-18m)

and purse seiners (6-12m and 12-18m) while in the shore seiners the reduction was 26%. Furthermore, it should be noted that in the case of Greece the segments "Demersal trawlers and/or demersal seiners 6-12" and "Demersal trawlers and/or demersal seiners 12-18" refer to demersal boat seiners and the segments "Demersal trawlers and/or demersal seiners 18-24" and "Demersal trawlers and/or demersal seiners 24-40" refer to Demersal otter trawlers.

The number of sample units per stratum and the coverage rate is reported in **Table III.B.1**.

To carry out the sample survey the statistical methods (sample design, sample size, strata allocation, raising factors, variance estimators) described in the 2011-2013 NP proposal have been applied.

Data were collected through face -to-face interviews using a structured questionnaire specifically designed for the survey.

Following the NP proposal, no clustering has been done; therefore, standard **Table III.B.2** is not filled.

Standard tables III.B.1 and III.B.3 have been updated with the information collected during the sampling year.

The shortfalls in the achieved data collection compared to what was planned in the relevant NP focus on the difference from the sample size. The survey for the data collection took place in the last quarter of the 2013, after significant delays in the implementation of the NP. The survey was conducted for the first time after 2008 and many bureaucratic obstacles arose. These delays led to the low achieved sample rate (24.45%). However, no shortfalls are listed regarding the methods used for collecting the data and for the estimation of the economic parameters.

Capital value and capital cost

For the estimation of the value of fixed assets and of the capital data from the National Fleet Register were used. The methodology suggested by the study on "evaluation of the capital value, investments and capital costs in the fisheries sector" (No FISH/2005/03) was applied.

In order to estimate the capital value (GCS) three steps were followed:

1. Specification of the composition of the active fleet by age

2. Estimation of price per LOA

3. Calculation of the value of each vintage (year of construction) of the fleet and either converting values of all vintages to current prices or to historic prices using price indices.

The year of construction for each vessel was taken from the National Fleet Register.

Questions	Answers
1. Which are the reference values taken into account for the estimation of the price per capacity unit (e.g. book value,	The reference values were estimated through the sample survey. They were also crosschecked with information

second hand market, etc…)?	provided by market stakeholders.
2. Which estimation methods and/or models have been used to estimate the PCU?	The reference values were estimated through the sample survey.
3. If a net value has been used, what is the method used to calculate the gross value? (e.g. formula, figures from the balance sheets, etc..)?	digressive (replacement) formula: historical value/(1-depreciation rate of each asset)^age of the asset.
4. What type of index price series have been used (e.g. heavy machinery index, etc..)?	Heavy machinery index.
5. What depreciation rates? From where do they come (e.g. national legislation, general scheme excel spreadsheet, etc…)?	Hull (7%), Engine, (25%), Electronics (50%), other equipment (35%) (see study No. FISH/2005/03).
6. Which age schedule (service life time) has been used?	Hull (25), Engine (10), Electronics (5), other equipment (7).
7. What is the share of each asset on the total value of the capital?	Hull (46%), Engine, (25%), Electronics (2%), other equipment (27%).

Inactive vessels have been included in the evaluation of capital value and capital costs.

FTE and engaged crew

Total employment and FTE are estimated according to the methodology suggested by the study on "calculation of labour including FTE (full-time equivalent) in fisheries" (No FISH/2005/14).

In order to estimate the FTE data from the questionnaires are gathered regarding the average number of days at sea, the number of average crew per vessel excluding and including rotation and the average number of hours of work per crew member per day at sea, all of which are estimated through the questionnaire.

The estimation of the employment in terms of FTE has been made by assuming a FTE threshold (representing the standard working time for the fishing sector) expressed in terms of yearly hours per man.

The FTE threshold is equal to 2,000 hours per year. It is also assumed that:

• each crewman working annually 2,000 hours or more is counted as one FTE

• each crewman working less than 2,000 hours per year is counted as a percentage of an FTE according to the number of hours worked in relation to the threshold of 2,000 hours

• working time is the time spent on fishing and related activities on board or on shore. This means that working time is only a part of the duration of a fishing trip.

The sampling strategy and the achieved values of the accuracy indicators are presented in **Table III.B.3**.

Data quality is given in terms of achieved precision levels (CV) and in terms of coverage rate. The delayed start of the program led to low "achieved sample rate" (24.45%). Also, the non implementation of the NP for some years made the fishermen reluctant to give information. Therefore, the coverage rate was small especially in small scale fishery. All economic variables of Appendix VI are collected through the sample survey and therefore data is consistent.

In the case of the value of fixed assets and annual depreciation costs data form the National Fleet Register was also used. As far as the FTE is concerned, the information about calculation procedures is reported in the previous paragraph.

III B 3 FOLLOW-UP OF REGIONAL AND INTERNATIONAL RECOMMENDATIONS

Definition variable "direct subsidies":	
PGECON 2012 Recommendation	"direct subsidies" should include: refunds of fuel duty, subsidies for temporary cessation, socio-economic compensation for fishermen "direct subsidies" should exclude: Fuel tax exemption ,Subsidies for permanent cessation of fishing activities, investment subsidies (fleet modernization
Follow-up actions needed	Guidelines DCF should be adjusted
Responsible persons for follow-up actions	DGMARE, MS,
Time frame (Deadline)	Beginning 2013
LM comment	No specific comment from LM
MS response	*MS already apply the recommendation*

III B 4 ACTIONS TO AVOID SHORTFALLS

The shortfall in the achieved data collection was the low achieved sample rate, due to delays in the implementation of the NP. This was the first year Greece collected economic data since 2008 and many obstacles arose. In order to avoid this shortfall and achieve a higher sample rate the collection of the data should start earlier in the year. For 2014 the data collection has already started and we expect better outcomes.

III C. Metier-related variables

III C 1 ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

The sampling was carried out for the evaluation of length distribution of species in the catches and the quantity of catches and discards. The data have been collected by metier referred to as level 6 of the matrix defined in Appendix IV (EU Dec. 93/2010),

and has been agreed at regional level (RCMMed and BS 2009 and 2010), per GSA as defined in Appendix I Level 4 (EU Dec. 93/2010) and for the stocks listed in Appendix VII (EU Dec. 93/2010).

The **Table III.C.1** provides information on the metiers that are realised by the Greek fishing fleet and the metiers that were considered as major and were selected for sampling purpose through the ranking system, at GSA level, based on the requirements of the Commission Decision (EU Dec. 93/2010). In grey are the metiers that were not included in the selection. None of métiers were merged in any GSA, therefore **Table III.C.2** is not filled.

The **Tables III.C.3** and **III.C.4**, provide information on the sampling strategy and the sampling scheme for the collection of metier related variables, also on the number of trips that were achieved by metier in each GSA for 2013. Sampling has been carried out in each GSA, through concurrent sampling on-board the fishing vessels and on-shore, providing data on all the species that were fished in the first case (on-board) and only on landings in the second case (on-shore).The sampling has been designed taking into account the spatial and temporal variability in order to detect seasonal differences in the demographic structure and composition of the landings for different métiers. The sampling unit was the fishing trip. The planned total number of trips that have to be sampled was estimated according to the average total number of trips during the reference year 2008 for each metier. The year 2008 was used as reference year due to the non-implementation of the Data Collection Program the years 2007, 2009 - 2011 and in 2012 few activities were completed. However, from 2008 till the end of 2012 the Greek fishing fleet has decreased by 2198 vessels in application of the rules of the Common Fisheries Policy. This had an important impact on the average total number of trips carried out during one year period. The consequence of this reduction was that the planned total number of trips that had to be sampled was greater than the number of trips attributable to the fleet that occurred in 2013.

The discards were estimated for all the metiers that were selected for sampling through the ranking system.

A brief description of the sampling's coverage per métier is given below:

Bottom otter trawl fisheries targeting demersal species (OTB_DES_>=40_0_0)

The trawl fishery was sampled to a lesser extent compared to what was planned in all GSAs. Due to the delayed start of the programme the data collection took place in the second half of the year which coincides partially with the closed season for the trawl fishery (1/6-30/9).Thus the sampling was restricted to the last quarter of the year. Bad weather conditions reduced even more the sampling. The sampling intensity was 17% (32 trips instead of 190) in GSA 22, 12% (9 trips instead of 128) in GSA 23 and 7% (7 trips instead of 60) in GSA 20.

Purse seine fisheries targeting small pelagic fish (PS_SPF_>=14_0_0)

The purse seine fishery was also sampled to a lesser extent compared to what was planned in all GSAs. The purse seine owners were very reluctant to cooperate because of their dissatisfaction with the restrictions that were imposed on purse seine by the

EC Reg1967/2006. The sampling intensity was 17% (32 trips instead of 188) in GSA 22, 4% (7 trips instead of 160) in GSA 20 while in GSA 23 no trip was realized.

Regarding the metiers of the coastal fishery, since their sampling took place in the second half of the year it was focused mainly on the sampling at sea in order to record the discards. Therefore, the sampling on shore was lesser to the sampling at sea. Also, the delayed start of the programme has affected the sampling intensity and the number of trips that were planned was not achieved. More specifically

Pots and traps for demersal species (FPO_DES_0_0_0)

The pots and traps fishery is realised only in GSA 22. It was sampled to a lesser extent compared to what was planned because of the delayed start of the programme. The data collection took place in the second half of the year which coincides partially with the closed season for the pots and traps fishery (1/7-30/9).The sampling intensity was 53% (27 trips instead of 51).

Set gillnet for demersal fish (GNS_DEF_>=16_0_0)

The gillnet fishery was also sampled to a lesser extent compared to what was planned in all GSAs due to the delayed start of the programme. The sampling intensity was 33% (76 trips instead of 232) in GSA 22, 15% (22 trips instead of 144) in GSA 20 and 3% (4 trips instead of 120) in GSA 23.

Set trammel net for demersal fish (GTR_DEF_>=16_0_0)

The trammel net fishery was sampled to a lesser extent compared to what was planned in all GSAs due to the delayed start of the programme. The sampling intensity was 18% (89 trips instead of 504) in GSA 22, 12% (33 trips instead of 272) in GSA 20 and 8% (10 trips instead of 132) in GSA 23.

Set long lines for demersal fish (LLS_DEF_0_0_0),

The set longline fishery was also sampled to a lesser extent compared to what was planned in all GSAs. The main fishing period for this metier is from April to October, thus the delay in the start of the programme affected the sampling intensity. The sampling intensity was 21% (58 trips instead of 272) in GSA 22, 10% (21 trips instead of 220) in GSA 20 and 9% (11 trips instead of 120) in GSA 23.

Drifting long lines (LLD_LPF_0_0_0).

Regarding the drifting long line fishery, in Greece it targets only swordfish. Bluefin tuna and albacore are by-catch in swordfish fishery. Thus, the métier LLD_LPF_0_0_0 is only for SWO. The drifting long line fishery has nearly met the sampling requirements; the sampling intensity was 82% (290 trips instead of 354). Most of the sampling was realized on shore.

The **Table III.C.5** provides the achieved length sampling by species for all metiers combined, and the **Table III.C.6** provides the achieved length sampling by species and by metier. Landings and discards were monitored for the Group 1, 2 of Appendix VII and Group 3 species that were decided by 2008 RCM Med and BS

The number of individuals that were collected for length sampling was achieved only in GSA 22 and partly in GSA 20 while there was a shortfall in the achieved length sampling in GSA 23.

There was an excess in the number of individuals collected for length sampling (>50%), for a number of species (in GSA 22: *Anguilla anguilla, Boops boops, Eledone moschata, I. coindetii, M. surmuletus, P. erythrinus, P. longirostris, S.colias, S.officinalis, T.trachurus*, in GSA 20: *Boops boops, L.vulgaris, P. erythrinus*). Nevertheless, this excess sampling did not affect the expenses of the Greek NP.

Regarding the large pelagic species, as it was mentioned above, in Greece there is only swordfish fishery that is realized with drifting longline. The sampling plan (i.e. number of individuals to sample) for drifting longlines was set following the Regional agreement (RCMMed&BS reports 2009, 2010, 2011 and 2012).

For some species the number of fish caught is zero or very low; thus the planned number of fish to be measured could not be assessed. These species were sampled on an opportunistic basis and were measured whenever found during sampling. In these cases, in the corresponding cell was written "zero or low catch". Also for Group 3 species there were no planned numbers in the Greek NP and were sampled for length whenever they were encountered during sampling

III C 2 DATA QUALITY: RESULTS AND DEVIATION FROM NP PROPOSAL

As recommended by the Commission Decision 2010/93/EU, the precision achieved on the length sampling intensity of the retained landings have to be calculated. Precision of sampling intensity is expressed here as the Coefficient of Variation (CV) of the length frequency distributions. The estimation of the precision was done using COST tools. This method allows estimating the precision, in terms of coefficient of variation (CV) for each length class and for the whole LFD at stock level. **In Table III.C.5,** the required precision (CV) level for the length distribution of the retained catches, discards and unsorted catches is provided.

III C 3 FOLLOW-UP OF REGIONAL AND INTERNATIONAL RECOMMENDATIONS

Metier-related variables: on the planned minimum number of fish to be measured	
RCM Med&BS 2012 Recommendation .	RCM Med&BS recommends that in the future NPs the planned minimum no. of fish to be measured for métier related variables will not be required. Since the métier related variables are required to be collected during concurrent sampling, the Group considers that only the proposed and actual number of trips for concurrent sampling should be requested
Follow-up actions needed	Forward for approval to responsible bodies
Responsible persons for follow-up actions	DGMARE, STECF, LM
Time frame (Deadline)	Prior to the NEW DCMAP

LM comment	LM recommends that the overview of numbers of fish to be measured is not evaluated by STECF as this number is not required by the regulation. (Table III_C_5, column J (planned no. of fish aged/measured
MS response	*MS strongly supports the recommendation*

Metier-related variables: on the accuracy of geographical origin of landings and effort data	
RCM Med&BS 2012 Recommendation	The RCM Med&BS recalls its 2008 recommendation and recommends MS to investigate the accuracy of the geographical origin of landings and effort data (using the VMS data where possible). This information should be reviewed during the next RCM Med & BS.
Follow-up actions needed	Forward to MS
Responsible persons for follow-up actions	MS, RCM Med& BS
Time frame (Deadline)	Before next RCM Med& BS
LM comment	The LM endorses the recommendation
MS response	*MS follows the recommendation*

III C 4 ACTIONS TO AVOID SHORTFALLS

The existing shortfalls (sampling intensity lower than the required levels) are related to the delayed start of the project which resulted in reduced coverage of fishing activities for 2013. For 2014 data collection has started on time. Also, the number of trips that have to be sampled should be calculated again based on the new composition of the fishing fleet.

III D. Recreational fisheries

III D 1 ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

Recreational fisheries of bluefin tuna

There is no recreational fishery of bluefin tuna in Greece. According to the Ministerial Decision 170317/162669/20-4-2004) which lays down specific rules for the fisheries of large pelagic species (*Thunnus thynnus*, *Thunnus alalunga* and *Xiphias gladius*) in Greek waters, the fisheries for these species (i) can only be practiced by professional fishermen with a special licence, and (ii) is strictly forbidden for recreational fishermen.

Also, in 2003, a derogation was requested by Greece concerning blue fin tuna and the derogation was justified according to SGRN document: 05-01 Evaluation of NP for 2005_Sec(2005)-255 (pages 55, 103-104)

Recreational fisheries of eels

According to pilot study conducted in 2012 for eel fishery, no recreational fishery for eels was recorded. Therefore MS will request a derogation in the first given opportunity.

<u>Recreational fisheries of sharks</u>

Sharks and rays are not target but by-catch species in commercial fishery of Greece. In recreational fishery, according to recreational fishing associations, the capture of sharks and rays is rare and random. However, in the submission of the new NP (2015-20) Greece intends to include a pilot study in order to investigate the existence of recreational fishery of sharks.

<u>III D 2 Data quality: results and deviation from NP proposal</u>

Not applicable

<u>III D 3 Follow-up of Regional and international recommendations</u>

There is no relevant recommendation from the Liaison Meeting (LM)

<u>III D 4 Actions to avoid shortfalls</u>

Not applicable

III E Stock-related variables

<u>III E 1 Achievements: results and deviation from NP proposal</u>

The **Table III.E.1** provides the species included in the sampling scheme in compliance with NP 2011-2013. The **Table III.E.2** provides the biological variables collected in 2013 according to the sampling scheme. Biological parameters were collected from surveys, on board sampling, landings and market place.

The **Table III.E.3** provides the achieved sample numbers and precision levels for the stocks sampled according to Greek NP.

For 7 out of 23 species (30%) the planned number of individuals that had to be measured was achieved for most of the variables, while for the rest species it was not achieved. The main reason was that the sampling was realized in the second half of the year and in some cases the last quarter of the year. However, it should be noticed that the "achieved number of individuals" is referred to the number of individuals for which age, weight, sex or maturity sampling was performed, not the number of individuals that were measured.

Boops boops: The number of individuals collected was lower than the planned, ~50% in GSA 22 and ~35% in GSAs 20 and 23, also in GSAs 20 and 23 sampling for maturity was poor due to lack of availability of samples during the spawning season.

Eledone moschata: The species was sampled for biological variables only in GSA 22 and the number of individuals collected was lower than the planned (20%).

Engraulis encrasicolus: The planned number of individuals was achieved in GSA 22 and over sampling occurred for most variables because of the opportunity to collect samples from MEDIAS survey. In GSA 20 the number of individuals collected was

low (~15%) while in GSA 23 no sample was available for biological variables since the anchovy fishery is limited in that area.

Illex coindetii: The species was sampled for biological variables only in GSA 22 and the number of individuals collected was lower than the planned (<50%)

Loligo vulgaris: The species was sampled for biological variables in GSA 22 and 20 and the number of individuals collected was lower than the planned (~30%) in both areas.

Lophius budegassa: The species was sampled for biological variables in GSA 22 and 20 and the number of individuals collected was lower than the planned (~30% in GSA 20 and ~20% in GSA 22).

Merluccius merluccius: The species was sampled for biological variables in all GSAs. The planned number was not achieved, the number of individuals collected was low (~35% in GSA 20, ~15 in GSA 22, ~10 in GSA 23), the sampling for maturity was poor since no mature individuals were collected.

Mullus barbatus: The species was sampled for biological variables in all GSAs. The planned number was nearly archived in GSA 22 (~65-90%) while in GSA 20 the number of individuals collected was lower (35-48%) and in GSA 20 was (32%).

Mullus surmuletus: The species was sampled for biological variables in all GSAs. The planned number was nearly archived in GSA 22 (~66-93%) while in the other GSAs the number of individuals collected was lower (29-51% in GSA 20; 26% in GSA 23).

Nephrops norvegicus: The species was sampled for biological variables only in GSA 22 and the number of individuals collected was lower than the planned (~45%).

Octopus vulgaris: The species was sampled for biological variables in GSA 22 and 20 and the number of individuals collected was lower than the planned in both areas (11% in GSA 22 ; 2% in GSA 20). It should be mentioned that from 1/6 to 30/9 is closed season for trawlers and pots fishery in Greece which are the main fishing gears targeting octopus.

Pagellus erythrinus: The species was sampled for biological variables only in GSA 22 and the number of individuals collected was lower than the planned (52-58%) depending of the variable, also no mature individuals were collected during the sampling.

Parapenaeus longirostris: The species was sampled for biological variables in all GSAs and the number of individuals collected were relatively close to the planned in GSAs 22 and 20 (~64% and ~77% respectively) while in GSA 23 was lower than the planned (29-50%).

Penaeus kerathurus: The species was sampled for biological variables only in GSA 22 and the number of individuals collected was lower than the planned (20%).

Sarda sarda: The number of individuals collected was lower than the planned (<40%) and no mature individuals were collected during the sampling.

Sardina pilchardus: The species was sampled for biological variables in GSAs 22 and 20 and the number of individuals collected were fairly close to the planned in GSA 22 (~74-91%) particularly for some variables while in GSA 20 the number of individuals collected was lower than the planned (15%).

Scomber colias: The species was sampled for biological variables in GSAs 22 and 20 and the number of individuals collected was lower than the planned particularly for some variables (35-40% in GSA 22; 11-31% in GSA 20)

Sepia officinalis: The species was sampled for biological variables in GSAs 22 and 20 and the number of individuals collected was lower than the planned (18% in GSA 22; 23% in GSA 20).

Solea solea: The species was sampled for biological variables only in GSA 22 and the number of individuals collected was lower than the planned (23%).

Spicara smaris: The species was sampled for biological variables in all GSAs. The planned number in GSA 22 was achieved for length@weight variable while was lower for the other ones (~59%). In GSA 20 the number of individuals collected was lower (19-39%) depending on the variable and in GSA 23 was (38%). Also, no mature individuals were collected during the sampling in GSAs 22 and 23.

Trachurus mediterraneus: The species was sampled for biological variables in GSAs 22 and 20 and the number of individuals collected was lower than the planned particularly for some variables (47-68% in GSA 22; 17-24% in GSA 20). No mature individuals were collected during the sampling in GSA 22.

Trachurus trachurus: The species was sampled for biological variables in GSAs 22 and 20 and the number of individuals collected was lower than the planned (~30-60%) in GSA 22 while in GSA 20 were negligible.

Xiphias gladius: The species was sampled for biological variables in all GSAs. The planned sampling intensity, in terms of number of individuals measured has been achieved.

For the species *Todarodes spp. Scomber scombrus, Thunnus alalunga, Thunnus thynnus s*amples were not available because of the limited sampling period.

III E 2 Data quality: results and deviation from NP proposal

The precision levels were estimated for the species of G1 and G2 Group, for all metiers combined, and per GSA. The estimation was done using the COST tool. For cephalopods and crustaceans only the length-based variables were estimated.

In most of the cases the estimated value of CV was higher than the planned for the majority of the variables. Only for the variable length@age the CV was achieved in. nearly all the species that the age was estimated.

Also, for the species: *Penaeus kerathurus, Sepia officinalis, Loligo vulgaris, Spicara smaris, Sarda sarda* the estimated CVs were either achieved or were very close to the planned for most of the variables.

For the species *Lophius budegassa, Trachurus trachurus and Parapenaeus longirostris* except of length@age also for the variable length@maturity the CV was achieved.

<u>III E 3 Follow-up of Regional and international recommendations</u>

There are no relevant recommendations from the Liaison Meeting (LM).

<u>III E 4 Actions to avoid shortfalls</u>

Due to the late start of the programme, the sampling was realized in the second half of the year and in some cases the last quarter of the year and consequently the planned number of individuals was not achieved for most of the species. For 2014 data collection has started on time and we expect better outcomes.

<u>III E 5 Monitoring of commercial eel</u>

III.E.5. Introduction

<u>i) General information for European eel fishery in Greece.</u>

The population of European eel (*Anguilla anguilla* (L.)) has been reduced and the current fishery is considered to be outside the limits of sustainability. Factors contributing to the decline include the fishing activity, and also other anthropogenic interferences (habitat loss, migration barriers, pollution) and physical factors (e.g. cormorants). Further assessment of the eel's biological status requires additional and continuous data (Dekker, 2005).

For this purpose, the eel was included in the regulations for the data collection of the E.U. (Council Regulation 1543/2000 and Commission Regulations 1639/2001, 1581/2004). According to the EU Regulation 199/08 (Article 3) the monitoring of the commercial and recreational fishery of the eel in inland waters must be included in the national programme of each Member State. The estimates must refer to the total production, effort and biological efforts of the landings.

The fishery for European eel in Greece is limited to the capture of adults during their migration to the Atlantic for reproduction. In Western Greece there is limited fishery of yellow eels, as part of the local tradition of consuming younger eels, a practice that is not found elsewhere in Greece.

It has to be mentioned that the fishery of glass eels is prohibited, and requires special permission from the regional authorities. Also there are no scientific data for the existence of eel recreational fishing until now.

The majority of eels are caught in the lagoons. Most of the lagoons are found in North Greece (estuarine systems of Evros, Nestos and Lake Vistonis) and in Western Greece (Mesolongi and Amvrakikos lagoons). The regional authorities are responsible for the management of the lagoons, while some belong to the Ministries of Development and Economics and some belong to local municipalities. In any case, the economic exploitation of the lagoons is performed for a certain period of time by fishing cooperatives, which lease the lagoons (in most cases for 10 years). The local fishing

cooperatives have the exclusive right to exploit the fishes of the lagoons (Koutrakis et al., 2007).

The Hellenic Eel Management Plan defines four Eel Management Units (EMU) (Figure 1.1.1). The management measures concerning fishing restrictions and environmental aspects are applied to all EMUs.

EMU-01 (7 Prefectures, 3 Regions) is located on the North Western Greece. It comprises 70% of the total Hellenic lagoons surface and 45% of the lakes surface. Despite the considerable decrease of the EMU-01 landings (180 t in mid 1980's, 50 t the recent years), the unit remains the most important eel producer. EMU-02 (5 Prefectures, 2 Regions) is located on the Western Peloponnesus. It comprises 5% of the total Hellenic lagoons surface and 3% of the lakes. The eel landings of this EMU increased since the mid-1980's, contrary to the general pattern and now represents about 40% of the Hellenic lagoon landings (about 40 t). EMU-03 (4 Prefectures, 1 Region) is located on the North Eastern part of the country. It comprises 24% of the total Hellenic lagoons surface and 9% of the lakes surface. The landings dropped from 70 t in early 1980's to less than 10 t. EMU-04 covers the rest of the country, mainly central eastern continental Greece and the islands of the Aegean Sea (35 Prefectures and 8 Regions). The landings of the EMU-04 are very low.
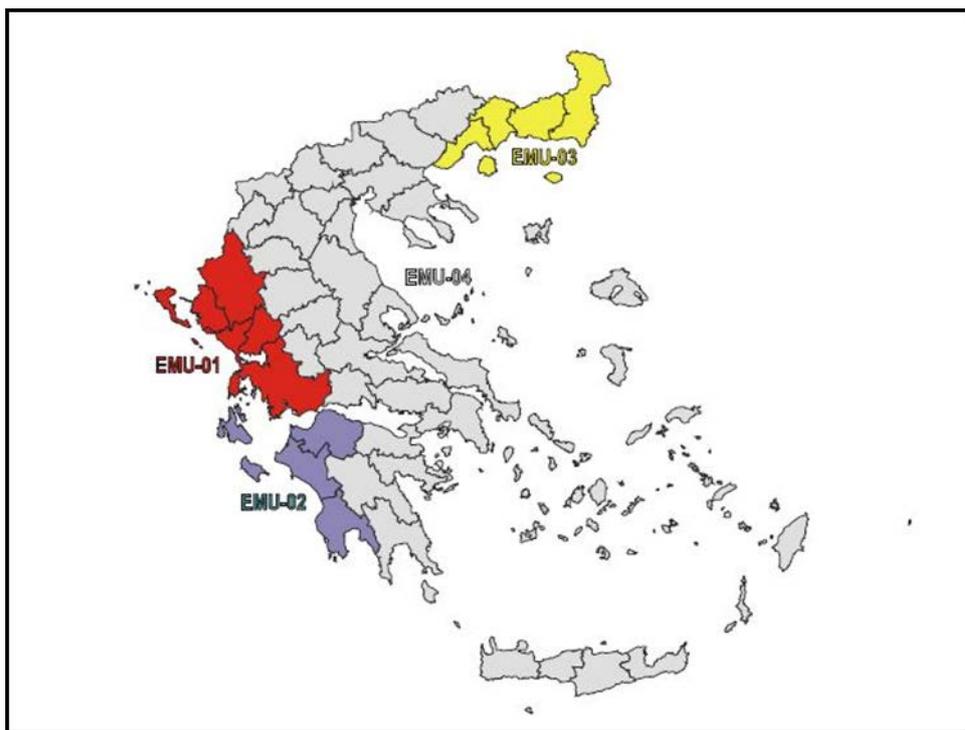
Figure III.E.5.1. Geographical distribution of the Hellenic Eel Management Units (HEMU).

ii) Fishing activity and relevant fishing reforms

Fishing in the lagoons is based on the use of fixed barrier traps, which catch fishes during their seasonal or ontogenic offshore migration. Barrier traps (V-shape traps) are passive, fixed gears and are part of the fence installed at the interface between the lagoon and the sea (for more details see Ardizzone et al., 1988). The traps are covered

by a nylon or PVC net (mesh size 14 mm). The traditional barrier fish traps used to be wooden installations, consisting of wooden sticks hammered into the lakebed sustaining a net of reeds. Most of these installations were replaced after 1980 with cement installations (modern barrier fish trap) copied from the Italian "vallicultura" capture systems (Figure 1.4.1). The last two years an effort to increase the selectivity of the traps was made in the Mesolongi -Aitoliko Lagoons (EMU-1, 40% of total surface of the Hellenic lagoons).

In the past the eels' fisheries was performed also in lakes with the use of fyke nets. Fyke nets equipped with wings and leaders are used in sheltered places in lakes, where there is plenty of plant life. The system is secured to the bottom so the fish move with the flow of the water trapped in the bag.

According to the Ministerial Decision 643/39462/01-04-13 (in implementation of Regulation (EC) No. 1100 to 1107) eel fisheries with fyke nets is prohibited in all the lagoons of the country. Since 2013, eel fishing in lagoons, in accordance with the above mentioned Ministerial Decision, is only permitted with the use of permanent installed fishing devices and with the precondition of the mandatory release of 30% of the lagoon's annual eel production.

Fishing in estuaries is conducted primarily by commercial fishermen, who are also using fyke nets. According to the same Ministerial Decision the period November 1st - end of January next year, fishing eels by any means and every tool in the rivers and deltas, around and within 3 nm from the mouth, is prohibited.

Moreover coastal eel fishing can only be conducted by specially licensed professional boats. The owners of these specially licensed vessels should declare to the regional state fisheries services, the number and weight of eels and the catch area.

Small quantities of eels are caught by independent fishermen using longlines. These particular quantities of eels are placed on the internal market and in any case these quantities are not recorded.

III.E.5.1. ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

III.E.5.1.1.Eel landings

The total landings of all legally caught eels (ie TL> 30cm) for 2013 in Greece (EMU-1, EMU-2 and EMU-3) was 44.83 t. The recorded landings in 2013 for Western Greece (EMU-1) including the Mesolongi - Aitoliko lagoons, lagoons of Ambrakikos Gulf, Preveza and Lefkada lagoons were 25.2 t. Ilia and Achaia lagoons of Western Peloponnese (EMU-2) eel landings were approximately 18,25 t. Finally the landings recorded in 2013 for Eastern Macedonia and Thrace was 1.38 t (Lake Vistonida and Evros).

III.E.5.1.2. Eel measurements

In the framework of the National Fisheries Collection Program (EPSAD) 2013, a sample of 1434 eels were collected from the 3 EMUs in Greece. For those samples the

length and weight measurements were recorded. Moreover, for a subset of 406 specimens, the age, sex, the fecundity and the number of parasites were determined

For EMU-3, the Total length and Total weight were measures in a sample of 359 specimens (305 from Lake Vistonis, 51 from Evros Delta and 3 from Ptelea lagoon). From those eels, the 45 were yellow eels, while the remaining were silver eels. In EMU-2, in the length and weight were measured in a sample of 998 eels (551 from Mesolongi and Aitoliko lagoons, 89 from Arta lagoon, 182 from Lefkada and 176 Preveza lagoon). Finally in EMU-1 77 eels from Prokopos and Papas lagoons were used to collect length and weight measurements

III.E.5.1.3. Age assessment

The age determination of the eels was performed with the use of otoliths collected from 103 specimens from EMU-3, 226 specimens from EMU-2 and 77 eels from EMU-1. The determination of the age was performed according to the methodology proposed by the ICES age assessment protocol.

For EMU-3, the maximum age determined for all samples was 5 with a mean age of 4.68 (SD ± 1.06) years. The age determined for the EMU-3 eel population was not in agreement with those proposed from the existing literature regarding the length at age structure. Compared with other eel populations, the EMU-3 population had for the same age, biggest length.

In the case of Mesolongi and Aitoliko Lagoons the mean age was estimated at 5.86 years (SD ±1.76) and the most common age in the sample, was age 6. In EMU-2, the mean age was estimated at 3.8 years (SD±1.33).

III.E.5.1.4. Fecundity assessment

The fecundity assessment was performed for a sample of 44 eel specimens. Samples maximum length (TL) was 994 mm, minimum length was 687 mm and the average length of the sample was 873 ± 69 mm. The fecundity of the samples ranged between 3,287,500 to 10,832,000 eggs (6,413,250 ± 1,719,874 oocytes). Relative Fecundity was calculated equal to 3,906,153 oocytes per kilogram of body weight (MacNamara et al. 2013).

III.E.5.1.5. Parasites and various diseases

The eels sample collected from Lake Vistonida (EMU-1) in 2013 was tested in the laboratory for parasites revealing that a large number of fish were carrying parasites. Out of the 103 specimens, 72 (70 %) were carriers of a parasite, the nematode *Anguillicoloides crassus*. From the Mesolongi - Aitoliko Lagoons a total of 201 specimens were examined, finding that the parasite *A.crassus* was carried by 13 specimens (6.5%). Finally, for EMU-2 a total of 77 specimens were checked for parasites, resulting that 18 specimens (23.4 %) of the sample were carriers of the parasite

III.E.5.2.DATA QUALITY: RESULTS AND DEVIATION FROM NP PROPOSAL

As recommended by the Commission Decision 2010/93/EU, the precision achieved on the length sampling intensity of the retained landings have to be calculated.

Precision of sampling intensity is expressed here as the Coefficient of Variance (CV) of the length measurements in the overall sample of eels for 2013 (1434 specimens) and is calculated to be 0.04. The planned CV for the same year was 0.025.

The Coefficient of Variation (CV) was separately calculated for each EMU, because of the high differentiation among the biological measurements of the samples (Table III.E.5.2.1).

For the EMU-1, the Length-at-Age CV was estimated for 225 specimens. The age of the population ranged from 2+ to 10+ year. The most common age in the sample was age 6+ (56 specimens) and the next common age was 7+ (49 specimens). The Length-at-Age CV was 0.157. For EMU-2, the Length-at-Age CV was estimated for 76 specimens. The age ranged from 2+ to 7+. The most common age was 3+ (36 specimens) and the next common age was 4+ (21 specimens). The Length-at-Age CV was 0.067. For EMU-3 the Length-at-Age CV was estimated for 198 specimens. The age in the sample ranged from 2+ to 7+. The most common age was 5+ (85 specimens) and the next common was 6+ (41 specimens). The Length-at-Age CV was 0.07.

The Maturity-at-Age CV was estimated for 225 specimens for the EMU-1 population. The age of the population ranged from 2+ to 10+. The most common age in the sample was 6+ (56 specimens) and the next common age was 7+ (49 specimens). The Maturity-at-Age CV for EMU-1 was 0.220. For the EMU-2 population, the Maturity-at-Age CV was estimated for 76 specimens. The age of the population ranged from 2+ to 7+. The most common age was 3+ (36 specimens) and the next common age was 4+ (21 specimens). The Maturity-at-Age CV was 0.136. Finally, for the EMU-3 population, the CV was estimated for 60 specimens. The age ranged from 3+ to 6+, with the most common age to be the 5+ (20 specimens). The Maturity-at-Age CV was 0.176.

The Weight-at-Age CV of the EMU-1 population was estimated for 225 specimens. The age of the samples ranged 2+ to 10+. The most common age in the sample was 6+ (56 specimens) and the next common age was 7+ (49 specimens). The CV of the EMU-1 population was 0.459. The Weight-at-Age Coefficient Variation of the Weight-Age for the EMU-2 population was estimated for 76 specimens. The age structure of the population ranged from 2+ to 7+. The most common age was 3+ (36 specimens) and the next common age was 4+ (21 specimens) and a CV of 0.176. Finally, for EMU-3 population Weight-at-Age was determined for 198. The age of the specimens was ranged from 2+ to 7+. The most common age was 5+ (85 specimens) and the next common age was 6+ (41 specimens). The CV of the EMU3 was 0.206.

The Weight-at-Length CV for the EMU-1 population was estimated for 446 specimens. The most common length class in the sample was the 501-600 mm (158 specimens) and the next common length class was 601-700 (95 specimens). The Weight-at-Length CV of the EMU-2 samples was 0.263. For the EMU-2 Weight-at-Length CV was estimated for 61 specimens. The most common length class was 501-600 mm (29 specimens) and the next common length class was 401-500 (24 specimens), and the CV was determined to be 0.139. The CV for EMU-3 was estimated for 305 specimens. The most common length class was 1501-1600 mm (51

specimens) and the next common length class was 1601-1700 (43 specimens), with a CV equal to 0.257.

Table III.E.5.2.1 The Coefficient Variation for the Length-Ages, Maturity-Ages, the Weight-Ages and the Weight-Length for all the 3 EMUs of Greece and for each EMU separate.

	EMU-1	EMU-2	EMU-3
Length-Ages	0,157	0,067	0,07
Maturity-Ages	0,22	0,136	0,176
Weight-Ages	0,459	0,176	0,206
Weight-Length	0,263	0,139	0,257

III.E.5.3.FOLLOW-UP OF REGIONAL AND INTERNATIONAL RECOMMENDATIONS

There are no recommendations about Eel *Anguilla anguilla* (L.) from the Liaison Meeting (LM) for 2013.

III.E.5.4.ACTIONS TO AVOID SHORTFALLS

There are no shortfalls

Eel Report Contributors

For the derivation of the results of the chapter III.E.5 MONITORING OF COMMERCIAL EEL the following organisations collaborated, under the scientific supervision of Dr. Manos Koutrakis:

· Laboratory of Freshwater systems and Lagoons (Scientific Supervisor: Dr. Manos Koutrakis) / FRI (Institute of Fisheries Research) Kavala, Greece
· Division of animal Biology (Scientific Supervisor: Dr. Kostantinos Koutsikopoulos) / Department of Biology, University of Patra, Patra, Greece
· Laboratory of Zoology (Scientific Supervisor: Dr. Ioannis Leonardos) / Department of Biological Applications and Technology Department, University of Ioannina, Ioannina, Greece

III F Transversal variables

III F 1 CAPACITY

III F 1 1 ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

Data on fleet capacity for 2013 was available from the National Fleet Register and includes vessels operating in GSA-20, GSA-22 and GSA-23.

The following parameters were estimated:

- Number of professional fishing vessels
- Length
- GT
- kW
- Age

Parameters were estimated annually, by fleet segment, GSA and supra-regions (in case of large pelagic fishery).

III F 1 2 DATA QUALITY: RESULTS AND DEVIATION FROM NP PROPOSAL

Data were collected exhaustively from the fleet register, cover the entire Greek fleet so, no further estimation is required and it is in accordance with the NP with no deviations.

III F 1 3 ACTIONS TO AVOID SHORTFALLS

There are no shortfalls

III F 2 EFFORT

III F 2 1 ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

Data on effort were collected for all the required métiers. The main problem relating to the required disaggregation derives by the obligation to be disaggregated by métier (Level 6 of Appendix IV, 4). Official information for the activity of the fleet is not available, since in Greece it is not mandatory for vessels to indicate the type of activity they practice along the year. Each vessel can use all the fishing gears indicated in the license. The majority of the fishing licenses of the Greek fishing vessels allow the use of more than one gear (~96%). This framework is also more complex if we consider the high number of existing métiers, with differences in seasonality and geographical areas

In order to estimate fishing effort by métier and GSA, the following data sources have been used:

- field survey to detect the prevalent fishing activity

- sample survey to estimate the monthly distribution of activity by métiers. The sample survey was based on a frame of 592 vessels (**Table III.F.2.1.1**) distributed in the 12 major fishing areas (GSA20: N-ION, C-ION, S-ION, GSA-22: ARGSAR, EVIA, THERM, THR-LIM, CHI-MIT, CYCL, DODEC, VOL_SPOR, GSA-23: CRETE). Data on fishing effort, vessel activity and fishing area were recorded by gear using purposely formulated questionnaires. Results for each area, by month and by métier were obtained by applying raising factors to the sampled data.

- VMS data to estimate fishing effort for trawlers (100% of vessels) and purse seines (88.84% of vessels)

Table III.F.2.1.1.The number of vessels per fleet segment and length category that were sampled for effort and landings data in each of the 12 major areas of Greek territory.

| | | Fishing Areas | | | | | | | | | | | | |
| FLEET_SEG1 | Length Class | ARGSAR | EVIA | THERM | THR-LIM | CHI-MIT | CRETE | CYCL | DODEC | N-ION | C-ION | S-ION | VOL-SPOR | Total |

FLEET_SEG1	Length Class	Fishing Areas												Total
		ARGSAR	EVIA	THERM	THR-LIM	CHI-MIT	CRETE	CYCL	DODEC	N-ION	C-ION	S-ION	VOL-SPOR	
Trawlers	VL1218	1	0	0	1	0	0	0	0	0	0	0	0	**2**
(Demersal trawlers)*	VL1824	3	1	2	5	1	1	1	1	1	2	1	1	**20**
	VL2440	14	10	23	16	7	4	2	3	2	3	1	3	**88**
PurseSeine	VL0612													**0**
(Purse seiners)	VL1218	3	4	1	1	1	1	1	1	1	2	0	1	**17**
	VL1824	4	4	2	3	1	1	1	1	1	2	1	2	**23**
	VL2440	0	4	6	4	1	1	1	0	0	0	0	1	**18**
BoatSeine	VL0006													**0**
	VL0612	6	5	2	1	3	1	3	4	5	3	2	1	**36**
	VL1218	1	1	0	1	1	1	1	1	0	1	1	0	**9**
	VL1824													**0**
Bottom longlines	VL0006	5	5	2	2	4	3	2	3	2	2	3	2	**35**
(Vessels using hooks)	VL0612	10	5	3	3	4	4	3	5	3	3	3	2	**48**
	VL1218	2	1	1	1	1	1	2	1	1	1	1	1	**14**
	VL1824	0	0	0	1	0	1	0	0	0	0	0	0	**2**
Fixed nets	VL0006	7	8	7	7	11	3	3	4	9	6	5	4	**74**
(fixed netters)	VL0612	18	10	11	12	11	6	7	8	17	10	7	5	**122**
	VL1218	3	1	1	2	1	2	4	3	1	1	1	1	**21**
	VL1824	0	0	0	0	0	0	1	1	0	0	0	0	**2**
Pots and Traps	VL0006	1	1	1	1	1	0	0	1	1	1	1	0	**9**
(pots and/or traps)	VL0612	1	1	3	2	1	0	0	1	1	1	1	1	**13**
	VL1218	0	0	0	1	0	0	0	1	0	0	0	0	**2**
	VL1824	0	0	0	0	0	0	0	1	0	0	0	1	**2**
Drifting longlines	VL0006	1	1	1	1	1	0	0	1	1	1	1	1	**10**
(vessels using other Passive gears)	VL0612	1	1	1	1	1	0	1	1	1	1	1	1	**11**
	VL1218	0	1	1	1	1	1	2	0	1	0	1	1	**10**
	VL1824	0	0	0	0	0	0	1	0	1	0	1	1	**4**

Statistical methods described in the 2011-2013 NP have been applied. The **Table III.F.1** provides the information collected during the sampling year.

III F 2 2 DATA QUALITY: RESULTS AND DEVIATION FROM NP PROPOSAL

Elementary and aggregated data have been checked to verify their reliability. Consistency among different variables has been analyzed. A census of effort for all bottom trawlers operated in Greek territorial waters has been obtained from VMS data. Concerning purse seines, the estimated fishing effort value from VMS data

cover 88.84% of fishing fleet. The remaining data was collected through the sample survey and therefore data is consistent

III F 2 3 FOLLOW-UP OF REGIONAL AND INTERNATIONAL RECOMMENDATIONS

There is no relevant recommendation from the Liaison Meeting (LM)

III F 2 4 ACTIONS TO AVOID SHORTFALLS

Data collection was in accordance with the NP with no deviations.

III F 3 LANDINGS

III F 3 1 ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

Landings by métier were sampled in the same way as effort was sampled and outlined above (according to the variables and desegregation levels listed in Appendix VIII). The landings indicators from the sampling programme are:

- Total live weight per vessel

- Total value per vessel

- Unit value per species per vessel

These indicators were disaggregated to live weight or value per day, per kw*day or per effort unit.

Data related to BFT landings are provided by a specific data collection implemented by the national administration in accordance with ICCAT procedures.

The **Table III.F.1** provides the information collected during the sampling year.

III F 3 2 DATA QUALITY: RESULTS AND DEVIATION FROM NP PROPOSAL

Landings data by species and métier have been sampled in detail for all fleet segments. All variables of Appendix VIII were collected through the sample survey and therefore data is consistent. Data quality is given in terms of coverage rate.

III F 3 3 FOLLOW-UP OF REGIONAL AND INTERNATIONAL RECOMMENDATIONS
There is no relevant recommendation from the Liaison Meeting (LM

III F 3 4 ACTIONS TO AVOID SHORTFALLS
Data collection was in accordance with the NP with no deviations.

III G Research surveys at sea

III G 1 ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

According to appendix IX of DCF (EU Dec. 93/2010), the Greek National Programme for 20011-2013 included two surveys:

- MEDITS, MEDiterranean International bottom Trawl Survey

- MEDIAS, MEDiterranean International Acoustic Survey

MEDITS

The purpose of the MEDITS-GR survey is to assess the benthic and demersal resources in the trawlable areas of the Greek territory (GSAs 20, 22 and 23). The survey takes place as part of the Greek National Data Collection Programme. The sampling gear characteristics (feature and handling), the design of the survey, the sampling methodology and the processing of samples have been done according to MEDITS instruction manual (version 7, 2013, MEDITS WG: 120pp). The achievements for 2013 are summarized in Table III.G.1. The survey was accomplished in North and Central Aegean (GSA 22). GSAs 20 and 23 were not surveyed due to late funding of the project and incapability of HCMR to finance both MedITS and MEDIAS surveys with own funds.

GSA 22 was surveyed as planned by the NP proposal. 66 hauls (Figure III.G.1.1) were carried out from 15/7 to 13/8/2013 with the approval of MEDITS steering committee. The hauls were positioned following a depth stratified sampling scheme (10-50, 50-100, 100-200, 200-500 and 500-800 m. depth zones), with random drawing of the positions within each stratum. The number of positions in each stratum is proportional to the area of these strata. The hauls were made in the same position with the previous years.
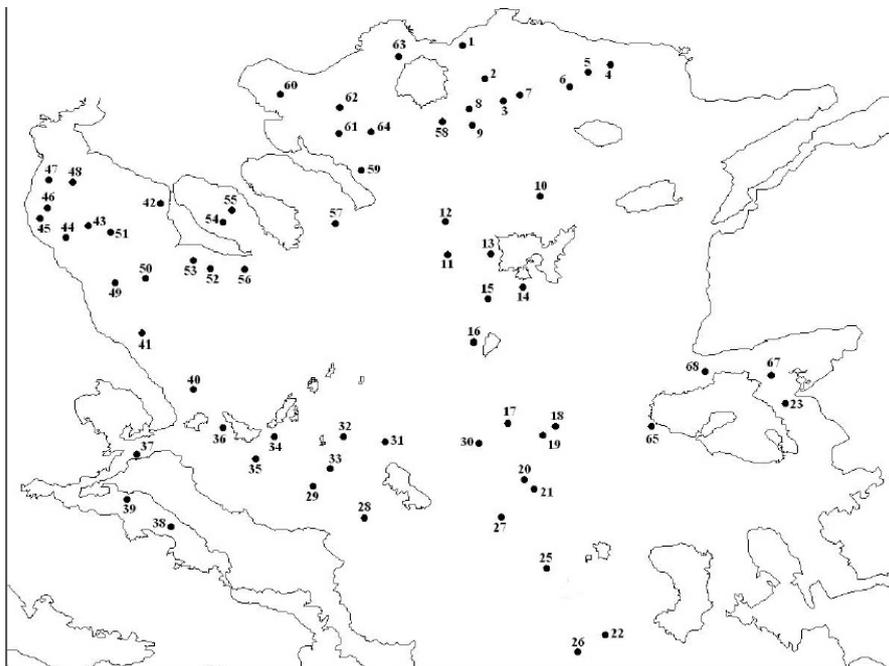

Figure III.G.1.1. Map of the area covered during the MEDITS survey .Sampling stations distribution during the 2013 survey.

On board, after each haul, the catches were split into categories and sub-categories as reported in Annex V and XV of the MEDITS manual.

For each species of the Annex VI (MEDITS manual) the total weight and number of individuals was collected, excluding the faunistic category V, G, H for which only the total weight was collected.

When the catch of a species was too abundant to be measured extensively a representative random sub-sample of 100 individuals was measured.

For the 82 species of the MEDITS reference list and all species of the Epinepheus and Scomber genera, the total number of individuals, the total weight and the individual length was collected.

Especially, for the MEDITS G1 species the total number of individuals, the total weight, the individual length, and also biological parameters including sex, maturity, individual weight and age was collected.

For MEDITS G2 and G3 species only total number of individuals, total weight and individual length and was collected.

The bottom water temperature was also recorded at the start and the end of each haul as well as data on litter during MEDITS trawl surveys.

MEDIAS

The **table III.G.1** summarizes the achievements accomplished within the framework of the acoustic surveys held in Aegean and Ionian Seas in September – October 2013. Any deviation from the proposed plan was due to the delay in the funding of the project that made the survey feasible at early autumn (September-October). This impaired the need to cover as much as possible both the Aegean and the Ionian Sea within 48 days period adjusting at the same time to the R/V Philia availability.

According to contract one acoustic survey was carried out in September-October 2013. Collected data were used for:

- Abundance and biomass estimation of anchovy stock and sardine stock by a fishery-independent technique: Acoustics.

- The survey focused on the delimitation of the juvenile grounds distribution for anchovy and sardine stocks and the biomass estimation of the respective stocks.

Below there is a detailed description concerning a) the hydrographic sampling b) the acoustic sampling followed in order to assure the harmonization of the survey with the MEDIAS protocol. In a subsequent step results related to the project deliverables are presented.

1. Hydrographic sampling.

Hydrographic parameters were recorded over a grid of 123 sampling stations in Aegean Sea and 41 sampling stations in Ionian Sea (Fig III.G.1.2). At each station of the sampling grid vertical profiles of temperature and salinity were obtained by a Temperature-Salinity-Depth (CTD) system SBE-19 of Seabird Electronics.

2. Acoustic sampling and stock assessment for anchovy and sardine.

According to the project, the size and the geographic distribution of anchovy (*Engraulis encrasicolus*) and sardine (*Sardina pilchardus*) stocks in Aegean and Ionian Sea were estimated with the acoustic methodology. The methodology of the acoustic survey will follow the protocol of MEDIAS so that results will be harmonized and comparable to the other Mediterranean areas.

Acoustic echoes were registered continuously along 83 pre-defined transects in the Aegean Sea and along 28 pre-defined transects in the Ionian Sea during September-October 2013 (**Fig. III.G.1.2**) with a Biosonics Split Beam 38 kHz DT-X. The size of the Elementary Distance Sampling Unit (EDSU) was one nautical mile. The partitioning of integrated deflection was done by comparing the echogram at corresponding times. Echograms were examined in order to identify school marks that characterize anchovy and sardine in conjunction with the target strength of each species. Acoustic survey covered a total area of 35431 Km^2 in Aegean Sea and 5931 Km^2 in Ionian Sea. In order to estimate anchovy's and sardine's biomass, the weight-length relationship is required as well as species length frequency distribution per area. Therefore, 26 pelagic trawls were held along transects in the positions of high fish concentrations.
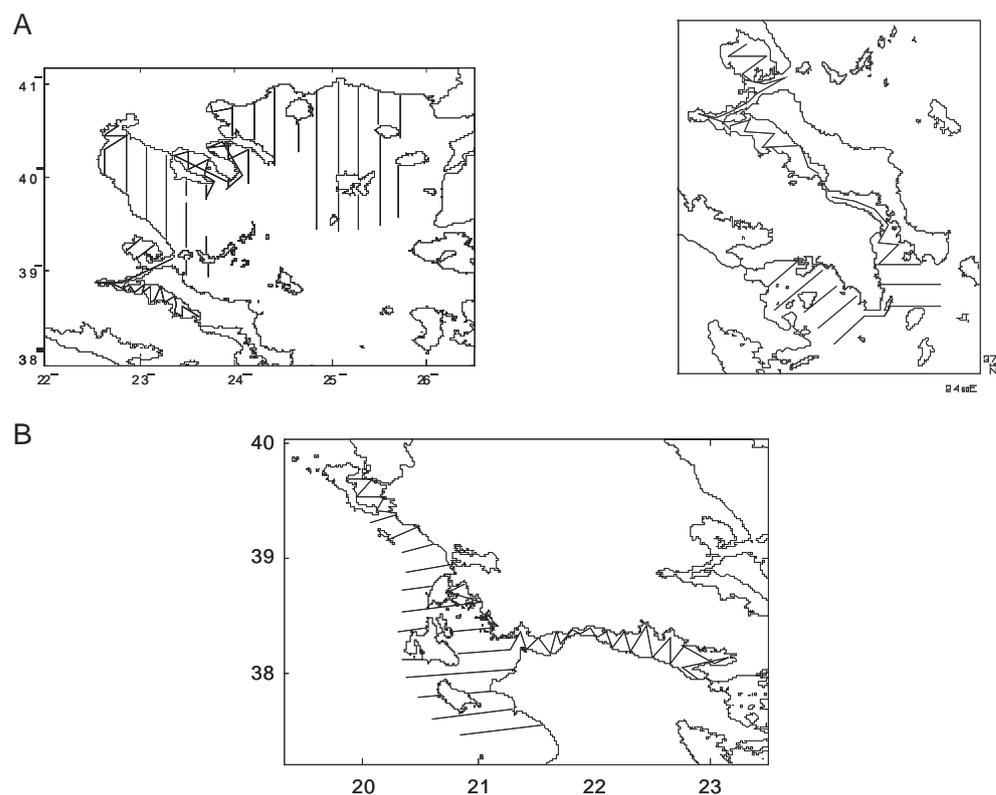
A

B

Fig III.G.1.2 Map of the area covered during the MEDIAS survey in September-October 2013. Pre-defined transects in A) Aegean Sea and B) Ionian Sea.

The mean frequencies of each length class were estimated

- In 6 sub-areas in Aegean Sea (in the area east of Thasos, in the area west of Thasos, in Thermaikos gulf, in the wider region of Sporades – N. Euvoikos gulf, in S. Euvoikos gulf and in Saronikos gulf).

- and in 4 sub-areas in Ionian Sea (in Patraikos gulf, in the south part of Ionian Sea, in the north part of Ionian Sea and in Amvrakikos gulf).

The mean frequencies of each length class were estimated as

$$f_j = \frac{\sum_{k=1}^{M} \left(\frac{n_{jk}}{t_k} \right)}{\sum_{k=1}^{M} \left(\frac{N_k}{t_k} \right)}$$

Where f_j is the mean frequency of anchovy/sardine of the length class j; n_{jk} is the number of individuals of anchovy/ sardine in the length class j at the sampling station k; N_k is the total number of individuals of anchovy/ sardine at the sampling station k; t_k is the fishing duration in station k; and M is the number of sampling station in the area (MacLennan and Simmonds 1992).

Also, the following relationship was estimated for each sub-area:

$$W = a L^b$$

Where W is the total weight; L is the total length and a and b are constants estimated with regression analysis.

The density of targets (F) from the observed echo integrals were estimated according to the equation $F = (K/\langle\sigma\rangle)E$, were K is the calibration factor, $\langle\sigma\rangle$ is the mean cross-section and E is the Echo integral after partitioning (MacLennan and Simmonds 1992). The $\langle\sigma\rangle$ was calculated for the mean total fish length of each area according to the equations $\langle\sigma\rangle = 4\pi \sum_i f_i 10^{TS/10}$, where f_i is the corresponding length frequency as deduced from the fishing samples (MacLennan and Simmonds 1992).

The abundance Q was estimated separately for each sub-area. The abundance Q in each elementary statistical sampling area was calculated from the average density within each sub-area according to the equation:

$$Q = A_k \sum_i F_i / N_k \quad ,$$

where F_i is the i sample; A_k is the area of each elementary statistical sampling area and N_k is transects in A_k. The variance V was estimated as

$$V = \sum_i (AF_I - Q)^2 / [N_r(N_{r-1} - 1)]$$

The data have been log transformed and the means and variances of F estimated according to the following equations:

$$F = \exp(m) \mathbf{G_N}[0.5\ S/(n-1);\ V = F^2 - \exp(2m)\ \mathbf{G_N}[S(n-2)/(n-1)^2];$$

where m = average (lnF); S= variance (lnF) and n = independent observations of F.

The total abundance Q_t and its variance are obtained by summing the results for each region $Q_t=Q_1+Q_2+\ldots$, and $V_t=V_1+V_2+\ldots$. Standard error of Q_t is the square root of V (MacLennan and Simmonds 1992).

DELIVERABLES

According to the proposal the following abundance indices were estimated and can be provided to the Commission upon request.

1. **Total fish NASC per EDSU (Elementary Distance Sampling Unit)**
2. **Target Species (anchovy and sardine) NASC per EDSU (Elementary Distance Sampling Unit)**
3. **Biomass per EDSU per target species**
4. **Number of individuals per EDSU per target species**
5. **Number of individuals/age/Target species**
6. **Biomass/age/Target species**
7. **Number of individuals/length class/Target species**
8. **Biomass/length class/Target species**

In addition in the report the following items are provided:

1. **Point maps of total pelagic fish NASC per ESDU**
2. **Point maps of anchovy and sardine biomass per EDSU**

For non–target pelagic species that are considered important in each area, **Length–Weight relationships (where an adequate number of samples is available) and Length frequency distributions in Aegean Sea and Ionian Sea can be provided.**
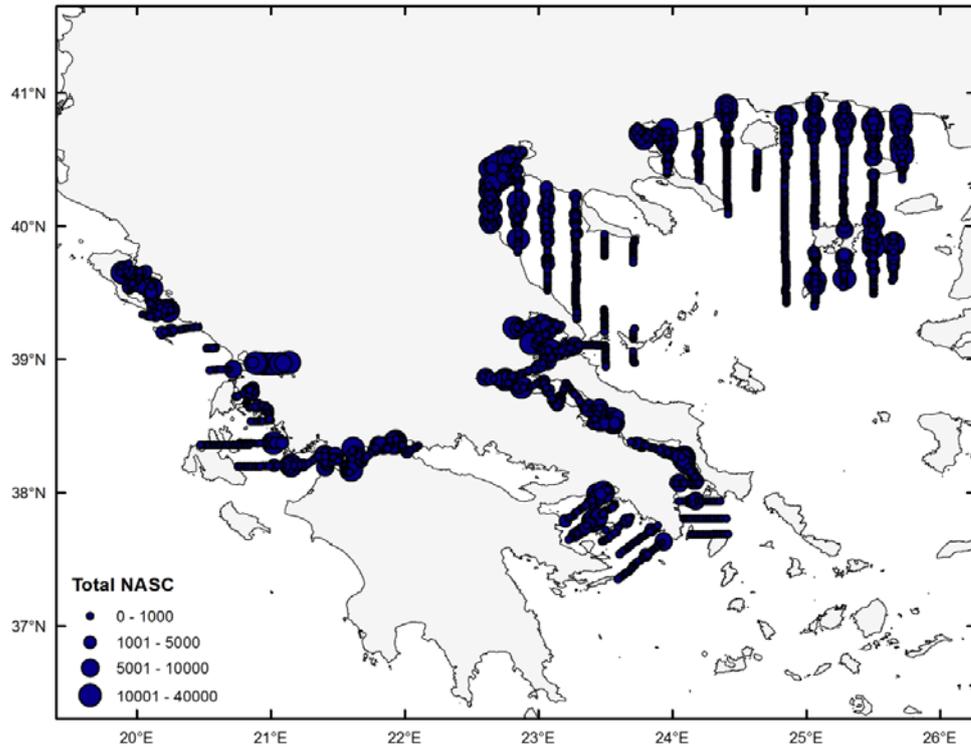
Fig 2. The distribution of the total fish NASC (m^2/nm^2) per EDSU in Aegean and Ionian Sea during September-October 2013
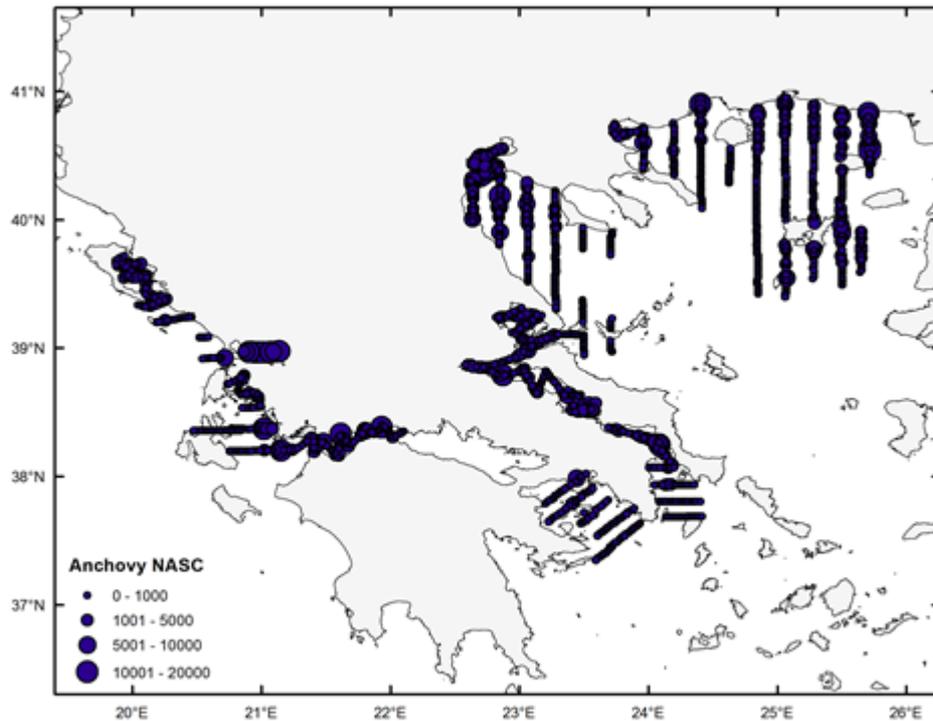
Fig 3. The distribution of anchovy NASC (m^2/nm^2) per EDSU in Aegean and Ionian Sea during September-October 2013
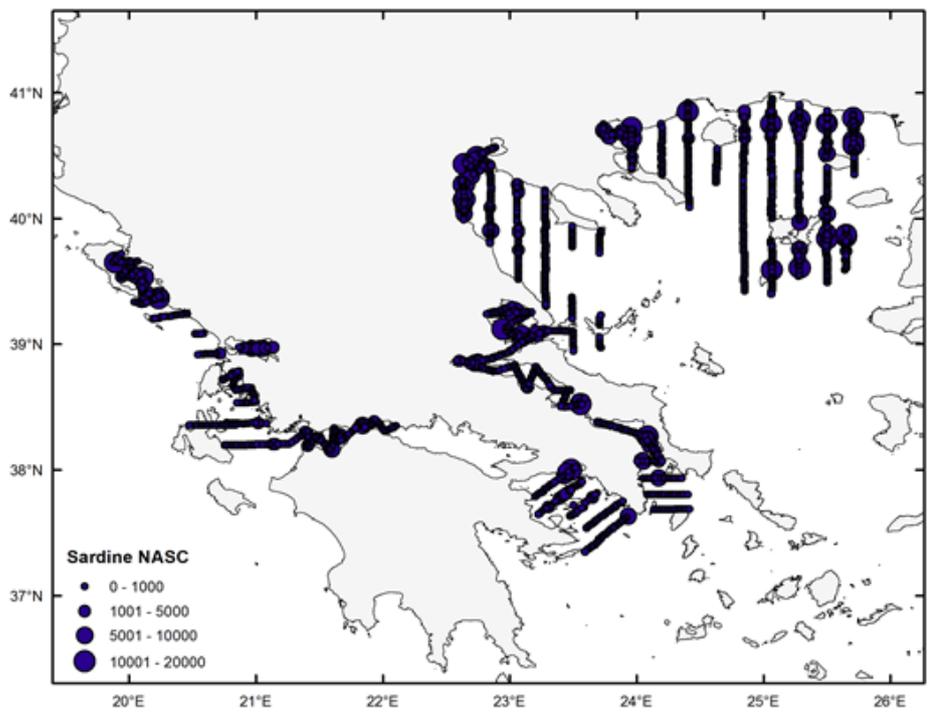

Fig 4. The distribution of sardine NASC (m^2/nm^2) per EDSU in Aegean and Ionian Sea during September-October 2013
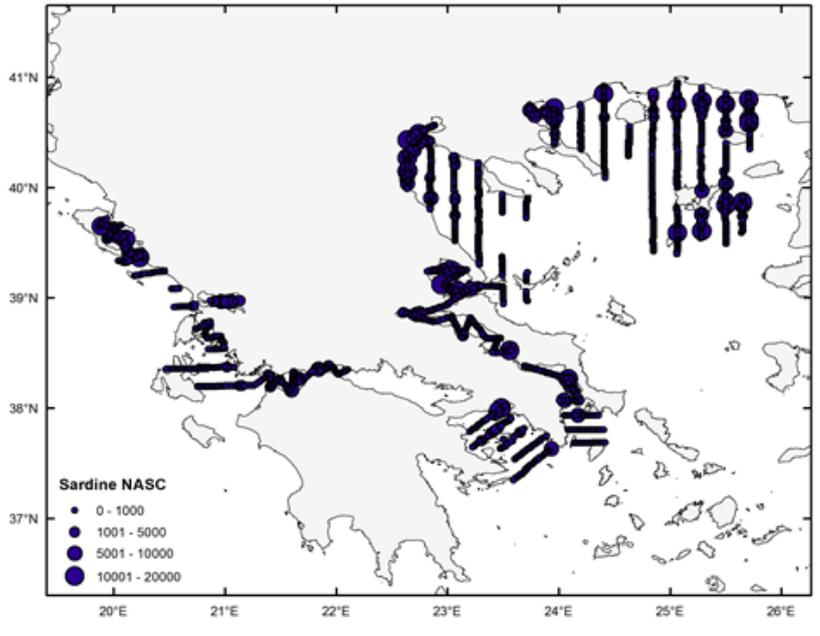
Fig 5. The distribution of anchovy biomass (t) per EDSU in Aegean and Ionian Sea during September-October 2013
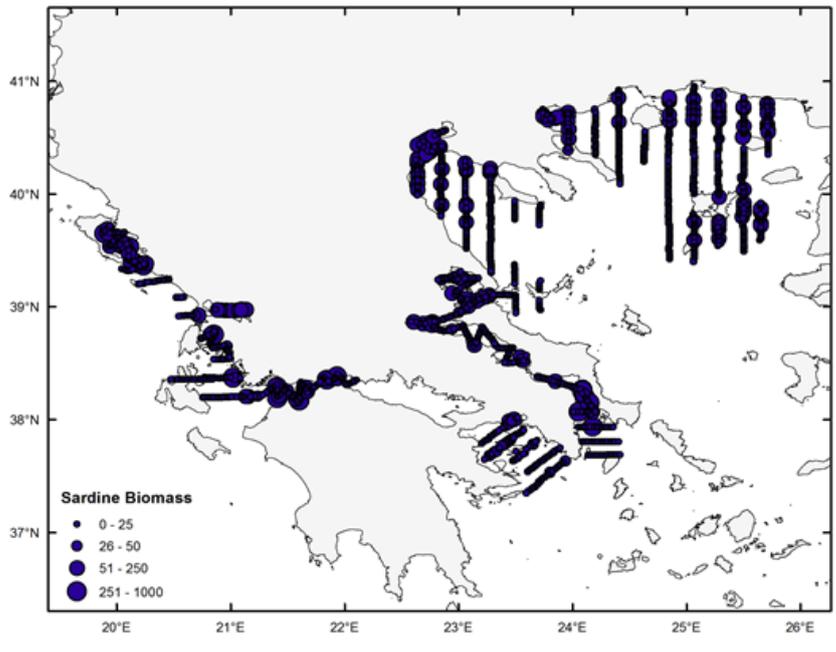

Fig 6. The distribution of sardine biomass (t) per EDSU in Aegean and Ionian Sea during September-October 2013.

MEDITS

For GSA 22, the sampling procedure was carried out based on the methodology defined in the MEDITS instruction manual without any deviations. No data were collected for GSAs 20 and 23 due to financial constrains as stated above.

MEDIAS

Any deviation from the proposed plan was due to the delay in the funding of the project that made the survey feasible at early autumn (September-October). This also impaired the need to cover as much as possible both the Aegean and the Ionian Sea within a 48 days period adjusting at the same time to the R/V Philia availability. This resulted in the reduced percentage in the number of hauls (79%), and the CTD stations (72%) whereas we succeeded in 96% cover of the planned EDSU (Elementary Distance Sampling Units) for acoustics. Moreover, the survey was carried out during early autumn instead of early summer (June-July) which was the usual survey time for the acoustic surveys. Although autumn is within the eligible period of the DCF and the suggested period by the MEDIAS protocol, this survey period makes the assessment of anchovy and sardine stocks not directly comparable with the previous assessments and the available time series.

III G 3 FOLLOW-UP OF REGIONAL AND INTERNATIONAL RECOMMENDATIONS

Enlargement of pelagic survey (Medias)	
RCM Med&BS 2013 Recommendation	Considering the tasks addressed by the Chair of the Medias survey and following the output of the Medias Steering Committee, the RCMMed&BS recommends the enlargement of the MEDIAS survey in the GSA 9 (Ligurian and North Tyrrhenian Sea) and GSA 10 (Central and Southern Tyrrhenian Sea) starting from 2014, and the increase of the number of vessel days in the French waters (Gulf of Lions, GSA 7). The echosurvey in the GSA 9 and GSA 10, will permit to assess the small pelagic resources, mainly anchovy (*Engraulis encrasicolus*) and sardine (*Sardina pilchardus*), that in this area are economically relevant
Follow-up actions needed	
Responsible persons for follow-up actions	DGMARE, MS, LM, RCM MED&BS,
Time frame (Deadline)	Before next RCM Med& BS
LM comment	
MS response	The recommendation is not relevant for Greece, however MS supports the recommendation.

<u>III G 4 ACTIONS TO AVOID SHORTFALLS</u>

<u>MEDITS</u>

The shortfalls of the 2013 survey will not be encountered again in 2014. Funding is on time and the public tender for trawler's leasehold has already finished

<u>MEDIAS</u>

In order to avoid deviations from the proposed plan for 2014, we have assured the contract and the funding of 2014 survey. This will allow the total coverage of the study areas and the optimization of the surveys taking also into account the R/V PHILIA availability. Specifically, the Aegean Sea is planned to be covered during the June-July whereas Ionian Sea during September. This will also allow the comparison of Aegean Sea estimates with the available time series of data.

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 NP PROPOSAL

In order to meet the requirements of data collection for aquaculture sector the Fisheries Research Institute had planned to launch an open contest for the contractor nomination for the task "Collection and Processing of Aquaculture Statistical Data" in order to record and categorize the units involved in the aquaculture sector as well as the collection of relevant financial data.

Certain problems like the disbursement of funds for the financing of the action during September, the two-month duration of the contest process required by the Greek legislation as well as the need to complete the task with receipt of deliverables by the end of the year, prevent the timely completion of the above-mentioned contest.

Because of time pressure and taking into consideration the number of units and the extent of the quantitative and economic data required, it was estimated that the implementation of the task was not feasible until 31/12/2013.

IV A 2 DATA QUALITY: RESULTS AND DEVIATION FROM NP PROPOSAL

Not applicable

IV A 3 FOLLOW-UP OF REGIONAL AND INTERNATIONAL RECOMMENDATIONS

Not applicable

IV A 4 ACTIONS TO AVOID SHORTFALLS

Not applicable

IV B Collection of data concerning the processing industry

In Greece, the traditionally important, due to its geographical location, fishing industry has led to the development of fisheries processing industry on almost all the coastal areas with intense economic activity. For the fiscal year of 2012, there are 159 companies with proven activity of freezing, processing (filleting, salting, drying, marinating, smoking, cooking, canning) of fish, and the de-shelling of mussels of which 147 participated in the survey

Following Greece's NP proposal, the data collection methodology included the mailing of a properly structured questionnaire to the processing industry enterprises, on site visits and interviews and finally data collection from public sources and published balance sheets.

The questionnaire included the following topics: (1) value of total sales per processed products, (2) personnel costs, (3) energy related costs, (4) quantity and value of purchased processed raw material and other material necessary for the production, (5) production costs and value of the final product, (6) capital costs, (7) special costs, (8)

investments, and (9) debt. The socio-economic criteria of the sector are attributed to: (1) employment per sector, (2) number and location of enterprises, and (3) the problems of the enterprises.

A 40 day period was provided for the collection of the required data and the completion of the questionnaire.

Regarding the completion of the questionnaires, only 29 were sent back completed in addition to the 118 questionnaires completed during the onsite interviews (total 147 questionnaires).

Following the NP proposal, the onsite visits were as follows: 83 visits to enterprises with ≤10 employees (achieved no. 85% NP proposal 75%) and 35 visits to enterprises with >10 employees (achieved. no. 90%, NP proposal 100%).

Additional to the questionnaire data, basic financial ratios of economic liquidity, productivity, structure and activity are estimated for the fiscal year 2012, with the purpose of estimating the basic financial indices of LTD or SA companies that are obliged to publicize their balance sheets and also have the largest sales of seafood products in the Greek and the International food market.

IV B 1 ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

The enterprises that received the aforementioned questionnaire, were generally positive in providing the required data. The completed questionnaires produced a significantly high percentage of sample (<90 %), thus ensuring reliability of the estimations and conclusions.

The collected data provided by completed questionnaires (filled out by the companies or during onsite interviews) were supplemented with and cross checked by data from the following sources: (a) Prefectural Chambers of Commerce, Industry and Trade (e.g. brand name, location, VAT number, phone and fax numbers) (b) Prefectural Directorates of Fisheries and Veterinary Services, as well as the National Food Control Agency (EFET), and the Hellenic Ministry of Rural Development and Food (e.g. purchase of raw material, production per species, total sales in quantity and value, employment, functioning regulations) and (c) World Wide Web (e.g. location, phones, projected investments, sales, general economic data).

The analysis of the financial statements of corporations (gross revenue, net profits, assets, liabilities) and key indicators (profitability, liquidity, economic structure and activity) for the year 2012, consists of processing data acquired from published balance sheets of 47 SA and Ltd companies (25 of freezing and 22 of processing sector) out of a total of 50 companies, (3 companies had not a published balance sheet by the time of the survey). The 47 firms account for over 80% of the fish processing industry based on raw material purchases.

The main difficulties of collection and processing of questionnaire data from companies were the following:

- Distrust and in some cases refusal to provide information, particularly on larger-sized businesses, on questions concerning loans and selling prices of finished.

- Difficulties in filling in the questionnaire appeared again mainly in larger companies, due to the lack of time and available staff.

- The time period in which the research was implemented, coincided with a period of intensive production activity for the processing companies and their participation in international food fairs leading to lack of available key personnel.

- Crosschecking questionnaire data was not always feasible due to delayed publication of companies' balance sheets. (3 out of 50 had not a published balance sheet by the completion of the survey).

IV.B.2 DATA QUALITY: RESULTS AND DEVIATION FROM NP PROPOSAL

All requested indicators listed in Appendix XII of Commission Decision 2010/93/EC were collected in the Greek data collection programme for the fish processing industry.

As mentioned before, the data sources were the completed questionnaires, data provided by official bodies, the fishing ports, official financial agencies and published balance sheets

For most variables the achieved sample rate and the response rate exceeded 90% (Table IV.B.2.).

Also, according to the NP proposal, the data collection for the variables of Energy Costs and Other Operational Costs was estimated by Probability Sample Survey (Type B in Table IV.B.2). The census method was used for the rest required variables.

Of the 159 active processing companies for the fiscal year 2012, 12 companies either refused to participate or had no published balance sheets or data from official bodies, a percentage acceptable according to the NP proposal (>10-15%).

IV.B.3 FOLLOW-UP OF REGIONAL AND INTERNATIONAL RECOMMENDATIONS

There are no relevant regional or international recommendations.

IV.B.4: ACTIONS TO AVOID SHORTFALLS

Companies with parallel activities other than processing did not provide sufficient data for allocation of costs per activity, due to difficulty determining the distribution. This distinction is also not reflected in the balance sheets and financial statements. The only relevant information is derived from questionnaires and relates solely to distinguish sales of finished products. To estimate the relevant energy costs, employed staff and other operating expenses, additional information was requested

during the onsite interviews and via telephone. As action to avoid this problem, an adjustment is required for the cost topic of the questionnaire.

Furthermore, companies with parallel aquaculture activity, showed no cost when using their own aquaculture products in the processing activity. In this case, the minimum raw material price for the financial year 2012 was used as the aforementioned cost, a suggestion from companies' representatives during the onsite interviews.

Regarding the research difficulties that were described above (page 40), actions to avoid or overcome them are as follow:

- *Distrust and in some cases refusal to provide information, particularly on larger-sized businesses, on questions concerning loans and selling prices of finished.*

  To tackle the mistrust of companies, a brief presentation of the research program will be attempted and emphasis will be placed on the confidentiality of the provided information.

- *Difficulties in filling in the questionnaire appeared again mainly in larger companies, due to the lack of time and available staff.*

- *The time period in which the research was implemented, coincided with a period of intensive production activity for the processing companies and their participation in international food fairs leading to lack of available key personnel.*

  To address the previous two topics, due to the next year's research longer timetable available, more time-wise flexible meetings will be available for the onsite interviews.

- *Crosschecking questionnaire data was not always feasible due to delayed publication of companies' balance sheets. (3 out of 50 had not a published balance sheet by the completion of the survey)*

  Due to a recent change of legislation concerning the publication of companies' economic data, a new website of the Hellenic Ministry of Finance provides retrieval of economic data in a timely manner.

V. MODULE OF EVALUATION OF THE EFFECTS OF THE FISHING SECTOR ON THE MARINE ECOSYSTEM

V. 1. ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

Indicators 1-4: Conservation status of fish species Proportion of large fish Mean maximum length of fishes Size at maturation of exploited fish species

Data for the Indicators for this module were collected by MEDITS & MEDIAS survey.

Indicators 5-7: Distribution of fishing activities, Aggregation of fishing activities, Areas not impacted by mobile bottom gears.

According to the Commission Regulation (EC) No 2244/2003, fishing vessels larger than 15 meters in total length, are obligated to be equipped with Vessel Monitoring System (VMS), which at regular intervals (every 2 hours) provides data to the fisheries authorities on the location, course and speed of vessels. In case of Greece, all trawlers are equipped with VMS, while the majority of purse seiners (~89%) and 84 coastal vessels have total length greater than 15 meters and therefore are controlled by VMS. The rest of coastal fishing vessels are not obligated to have VMS. For the purposes of the DCF, VMS data are provided by the Hellenic Ministry of Maritime Affairs, Islands and Fisheries and specific routines were implemented for analysis and mapping (Kavadas S. & Maina I). It has already proven possible to link daily VMS positional data with logbook information. The distribution of fishing activities, aggregation of fishing activities and areas not impacted by mobile bottom gears can be mapped and provided as required. Greece continued to manage and analyse all of the relevant resulting data sets, and made these data available to various expert groups under a formal data request.

Indicator 8: Discarding rates of commercially exploited species

Metier based discard sampling is conducted as part of the concurrent sampling at sea programme. Trip specific discard rates by species measured in weight are raised to discard rates by quarter and metier using species landings data.

Indicator 9: Fuel efficiency of fish capture

The collected economic data were used to calculate the indicator of the relationship between fuel consumption and the value of landed catch. It provides information on trends in the fuel efficiency of different fisheries.

V. 2. ACTIONS TO AVOID SHORTFALLS

There are no shortfalls

VI. MODULE FOR MANAGEMENT AND USE OF THE DATA

VI. 1. ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

The data are hosted in a centralized integrated database and GIS Fisheries Information System called IMAS-Fish which supports the Data Collection programme. IMAS-Fish was developed between 2003 and 2006. During the development of the IMAS-Fish databases, a particular attention was attached to design the system to fulfill the requirement of the Data Collection Regulation in force at that time. The system was updated to fit with the new DCF requirements. This includes the update of the database structure, the update/constructing of data entry forms and the update of the query tool that support the data mining procedure and EU data calls. In addition, supplementary tests were done to ensure that the system is working properly and is able to provide the expected results. The COST structure was incorporated into IMAS-Fish as well as the required insert/update procedures were constructed.

Use of the data

The data of the surveys (MEDITS and MEDIAS) are stored on ORACLE database server, and a special tool generates output to the relevant international database of each survey.

Biological data from commercial fishery are transmitted to EU organizations for international stock assessment. Greece continued to use the tools developed by the COST project to analyse and report on the sampling data. Greece has also been involved in the plans for the establishment of a regional database.

Greece responded to data requests from the EC in 2013, and achieved successful transmission in all cases.

The continuing effort to upgrade and integrate database as well as to improve the analysis and data mining tools has helped to avoid many shortfalls, with the Greek DCF data.

VI. 2. ACTIONS TO AVOID SHORTFALLS

The access to logbooks and VMS data is of great importance for Greece's ability to comply with the DCF. The FRI and HCMR have gone to great efforts to build and maintain good relationships with the fishing industry, and the State authorities that have primary responsibility for logbooks and VMS data.

VII FOLLOW-UP OF STECF RECOMMENDATIONS

Below the table with general comments of STECF is presented.

STECF EWG 12-20	MS Actions
Recommendation 2012-15: *Concerning Sampling of métier related variables: Making usage of the outcome of the Lot 2 pro-ject on VMS and logbook data: In order for all MS to gain the knowledge concluded in the Lot 2 project on VMS and logbook data, the RCM recommends a training workshop on how the different appropriate tools can be used.* *LM 2011: supports this approach and recommends that MS gain experience with the VMS tools dur-ing 2012, before reporting to a workshop in 2013.* *LM 2012: Not completed and should be taken by SC-RDB* **STECF EWG 12-20 reminds MS to gain experience with VMS &Logbook tools before the proposed workshop takes place as the experience exchange will be crucial for the success of the Workshop.**	*MS already use VMS tool*
Recommendation 2012-45: Concerning Large pelagic issue: Workshop proposal concerning large pelagic sampling: The two groups (RCM LDF and RCM MED&BS) propose a joined workshop among ICCAT representatives, scien-tists involved in large pelagic sampling, as well as representatives from RCM LDF and RCM MED&BS in order to harmonize the biological sampling issues on large pelagic and specify additional data or modifications that should be included in the future DCF, taking into account the ICCAT requirements for stock assessment. LM 2011: recommends that STECF set up an EWG in 2012. LM 2012: COM to check the follow up. LM doesn't endorse this recommendation as LM considers this as a task for the RCMs. The RCM should invite the relevant end-user to deal with this issue. Given the confusion which RCM is dealing with large pelagic fish. LM requests the Commission in cooperation with the relevant chairs to provide the RCM LDF and RCM Med&BS with a final conclusion where large pelagics are dealt with. The deadline for this decision is the December NC meeting where the decision will be announced.	*MS supports the recommendation*

STECF-EWG 12-20: Concerning the large pelagic coordination among RCMMed&BS and RCM LDF, EGW 12-20 refers to the LM 2009 recommendation and supports the decision that all the sampling activities for the large pelagic species, included in Appendix VII of Decision 2010/93/EU for the Mediterranean and Black Sea area (i.e. albacore (ALB), swordfish (SWO), bonito (BON) and bluefin tuna (BFT)), will be managed solely by the RCMMed&BS. **RCMLDF will then deal with all other large pelagic species, operating outside the Mediterranean and/or third countries and in international waters, as several tuna fleets operating in the Atlantic or the Indian Ocean and Pacific**.	
Recommendation 2012-48: Concerning Economic variables: Data calls - RCM is aware that too many data calls take place each year requiring too much administrative costs to MS, especially having in mind that every data call contains the whole set of data available. Given that the new DCF does not oblige for the data to be destroyed after 20 days, the Group does not realize why the same set of data are required more than once in the same year and in different formats every time. The Group suggests that one coordinated data call takes place each year. LM 2011: recognizes the observed differences in Data Calls and the Commission will follow-up. LM 2012: The issue raised has improved but still ongoing **STECF EWG 12-20 agrees with the recommendation and suggests taking this approach also for biological and transversal variable data calls. The EWG further recommends going further and to omit the data call structure and to replace it by deadline only. Data calls would only be made in exceptional cases. MS should be able to submit biological and economic data whenever they are available rather than being restricted to a defined time window. Moreover, MS would be able to update older data whenever better data are available. This approach would have another advantage: Both recent data and amended older data can be made available earlier compared to the data call approach**.	*MS supports the recommendation*

VIII LIST OF ACRONYMS AND ABBREVIATIONS

AR	Annual Report
EC	European Community
EU	European Union
DCF	Data Collection Framework
GFCM	General Fishery Commission for the Mediterranean
GSA	Geographical Sub Areas
ICCAT	International Commission for the Conservation of Atlantic Tunas
MEDIAS	Pan-Mediterranean pelagic survey
MEDITS	Mediterranean International Trawl Survey
MS	Member State
NP	National Programme
PGMED	Mediterranean Planning Group for Methodological Development
RCM MED&BS	Regional Coordination Meeting for the Mediterranean and Black Sea
RDB	Regional data Base
SGRN SUB	Group on Research Needs
STECF	Scientific, Technical and Economic Committee for Fisheries
SAC	Scientific Advisory Committee of GFCM

IX. COMMENTS, SUGGESTIONS AND REFLECTIONS

None

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XI. ANNEXES

None