Biological Data Collection of pelagic fisheries in CECAF waters in compliance with the DCF

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Contents

1 Introduction

In most marine waters in the world, management of fisheries is based on information of the fisheries and information of the fish stocks. Information is needed on the amount of vessels, the size of the vessels, the amount of fishing and the composition of the catch. Managers need that information to regulate the fishing activity. Scientists also need the information in order to be able to give advice to the managers on the potential exploitation of the fish stock and what the likely consequences of different management scenarios are.

Information is made available from the fishery by log-books and documents from fish auctions. This information is used to compile statistics on the catch composition and fishing activity of the vessel. It also identifies the gear which was used in the fishing operation. In addition sometimes information on the fishing area of the vessels is available by satellite monitoring (VMS).

Biological information of the catches and the fish stocks is collected by scientists by sampling programmes of the catch (landings and discards). This information is used to assess the dynamics of the stocks and its response to the fishery. Also surveys can provide information of the dynamics of the stock. The information from the surveys is fishery independent and is often used together with the information from the fishery in an assessment of the historical dynamics of the stock.

In 2002 the European Union (EU) introduced legislation which obliges EU Member States (MS) to collect data from the fisheries by EU fleets and the fish stocks they are fishing. This legislation consists of a set of Data Collection Regulations also called the DCR. The DCR was split in a Minimum Programme (MP) and an Extensive Programme (EP). The collection of data in the MP was mandatory and the collection of data in the EP was optional. The sampling of the stocks and fishery in Mauritanian waters was part of the optional programme. Therefore the EU MS (with the exception of Spain) fishing in CECAF waters had not included the biological sampling of the catches in this area in their national sampling programme.

Since 2009, the EU legislation has been revised. In the new set of Regulation and Decisions (also called the DCF) the focus has changes to sampling metiers rather than fish stocks. A metier is a group of vessels fishing with a similar gear on the same target species in the same area. Also the optional programme has disappeared. This means that sampling of catches in non EU waters (including Moroccan and Mauritanian) has become mandatory. Although the European Commission (EC) has given derogations for sampling this fishery in 2009-2011 to some countries, it has announced it will expect MS to start a sampling programme in 2012. Since a large part of the catch is landed in non EU countries, the access of MS to the sample the catch is limited. Therefore cooperation is sought with the countries which have access to the catches.

This document describes what kind and how much biological information is required from the pelagic fishery by EU vessels fishing in relevant waters based on the DCF. A summary is given of the relevant chapters in the Commission Decision which apply to sampling of the fishery in CECAF waters. In addition, Regional Fisheries Management Organisation may define data needs which of which the collection is also mandatory.

In this document, the relevant elements for the sampling of the pelagic stocks in CECAF waters are extracted from the DCF, and a common sampling programme is proposed which defines the sampling needs on a regional basis supported by all EU MS operating a pelagic fishery in this area.

1.1 Member States fishing in CECAF waters (except of Madeira fishing ground)

The fishery in Mauritanian, Moroccan and Guinea-Bissau waters is regulated through agreements between those countries and other parties including the EU. The first agreement with the EU dates from 1996. The recent fishery agreements contain conditions regarding logbooks and (scientific) observers.

Scientific advice is provided through CECAF, which is a regional science organisation like ICES with no management responsibility but supporting assessment WG.

The pelagic fishery takes place all year round, within the 200 miles zones the fisheries carried out by The Netherlands, Germany and France target the same species composition and can be considered as one metier. In this fishery, the main activity is from May to October directed to *Sardinella aurita*. During the rest of the year, there is a limited fishery on other species (sardines and horse mackerels). Part of the catch is landed into the EU in Las Palmas (Spain).

Other EU MS conducting pelagic fisheries in this area are Poland, Lithuania and Latvia. The fisheries of these (East European) countries is mainly directed to horse mackerel species and can be considered as a different métier in future, after obtaining more reliable data from observers programme described in this document.

The catches of metier are listed in the table below (source:RCM participants data)

metier OTM_SPF_>40_0_0

Member State	2006	2007	2008	2009	2010	average 2006-2010
Netherlands	75 330	75 666	83 360	68 108	92 908	79 074
Germany	15 407	13 198	0	0	20 395	9 800
France	0	0	1 610	5 546	0	1 431
Poland	0	0	17 708	46 287	14 605	15 720
Lithuania	55 497	35 793	120 100	124 480	87 237	84 621
Latvia	21 913	62 015	68 410	81 282	115 420	69 808
TOTAL	168 147	186 672	291 188	325 703	330 565	260 455

The data in this table is incomplete and in the absence of reported information based on data provided by RCM participants. In 2008 and 2009, an Irish vessel was operating in Mauritania which does not show up in the logbook data base. The same applies for a UK vessel. German trawlers are all run by a Dutch company and are normally active in Mauritania occasionally (recently only in 2006 and 2007) and with one vessel in Morocco in 2010. Now (April 2011) they are back in Mauritania. Poland has started to fish in the 2008 and continues till now (by 2 vessels. There are 2 fishing companies from Lithuania that operates in CECAF area with total of 8 vessels.

There are 3 Latvian fishing companies - 7 vessels - operated in CECAF region. The main species in landings are horse mackerel, mackerel, pilchard, sardinella and anchovy. Catches are conducted for whole year.

Based on information from the NP2011 – 2013, tables below presents lists of countries which are obliged to sample. This ranking includes France, UK and Ireland, which have not included the area in theirs NP`s.

Selected metiers for sampling following DCF criteria are based on average of 2007-2008 data (Poland 2008 – 2009) (E: selected by effort, L: selected by landings, V selected by value

Region_REC	CECAF						
FG REC draft	From Morocco to Guinea-Bissau						
METIERS listed	ESP **	POL**	GER	LAT	LIT	NLD	FRA, IRL, UK*
OTM_SPF_>=40_0_0	***	E,L,-	E,L,V	E,L,V	E,L,V	E,L,V	-

Effort listed in NP

Region_REC	CECAF					
FG REC draft	From Morocco to Guinea-Bissau					
METIERS listed	POL**	GER	LAT	LIT	NLD	FRA, IRL, UK*
OTM_SPF_>=40_0_0	150	33	962	1,452	597	-

Landings listed in NP

Region_REC	CECAF					
FG REC draft	From Morocco to Guinea-Bissau					
METIERS listed	POL	GER	LAT	LIT	NLD	FRA, IRL, UK*
OTM_SPF_>=40_0_0	31,998	13,198	62,231	77,974	79,643	-

* area not listed in NP

** no data for value

*** selected by volume of landings and because the first sale takes place in its territory

1.2 Present sampling activities in pelagic fisheries in CECAF waters

Spain

Spain (IEO) has included the sampling of the landings of the pelagic EU metiers in the CECAF/Mauritanian EEZ in their NP 2011-2013. The NP also includes the collection of

biological parameters. Spain has been carrying out the sampling from 2004 till now, and the results of the monitoring are being presented to the relevant assessment WG.

Mauritania

After the termination of the RIVO-IMROP observer programme in 2005, a new observer programme has been set up by IMROP at present. This programme is financed entirely by the Mauritanian government. The Netherlands provided technical assistance through a small project (€50,000/yr in 2009 and 2010) financed by the Dutch ship owners association PFA and the Dutch Ministry of Agriculture, Nature and Food Quality. Corten Marine Research (CMR) is responsible for the Dutch technical cooperation project. The IMROP programme employs about 25-30 Mauritanian scientific observers which are to carry out an extensive sampling programme on board all industrial fishing vessels. This sampling also includes registration of discards and by-catches. The results of the monitoring are to be presented to the assessment WG for the CECAF area and used in the assessment.

Poland

Poland has started sampling programme in CECAF area in 2011. PL NP`s 2011 – 2013 include metiers and biological variables sampling during one trip per year which are carried out by the Sea Fisheries Institute observers.

Lithuania

In 2010 Fishery Service under the Ministry of Agriculture of Lithuania contracted 1 fishing company in for data collection. In 2011 a new contract was signed. Lithuania has neither scientists nor any other experts available for biological data collection in distant waters. Instead, fishing companies are obliged to commit one of the crew members to do such job (usually, they are fish technicians). In 2010 4th quarter in Morocco and Mauritania waters Lithuania sampled 6 different species in 9 trips, collected 16 samples and measured and weighed 4259 individuals.

Latvia

Research institute BIOR (Latvia) has signed agreement with one fishing company for data collection in 2011 in CECAF region.

Accordingly this agreement one technician provides fishing observation and collection of biological data due all fishing season from 1 vessel. The collection of biological data includes catch composition, discard data and length measurement.

The technician’s tasks in 2011 are:

- 1 length measurement of dominant fish species pro week (>=200 individuals in measurement);
- 1 by-catch length measurement 1 time pro 10 hauls;
- 1 discard length measurement 1 time pro 10 hauls.

2 Data Collection Framework (DCF)

The data collection framework consists of regulations adopted by the Council of Ministers of EU MS and regulations and decisions implemented by the European Commission (EC). The DCF consists of the following regulations and decisions (in force in 2011.)

2.1 COMMISSION DECISIONS

Commission Decision of 18 December 2009 (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 (notified under document C (2009) 10121).

2.2 COMMISSION REGULATIONS

Commission Regulation (EC) No 665/2008 of 14 July 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 Regulation (EC) No 1078/2008 of 3 November 2008: Laying down detailed rules for the implementation of Council Regulation (EC) No 861/2006 as regards the expenditure incurred by Member States for the collection and management of the basic fisheries data.

2.3 COUNCIL REGULATIONS

Council Regulation (EC) No 2347/2002 of 16 December 2002: establishing specific access requirements and associated conditions applicable to fishing for deep sea stocks.

Council Regulation (EC) No 861/2006 of 22 May 2006: Establishing Community financial measures for the implementation of the common fisheries policy and in the area of the Law of the Sea.

Council Regulation (EC) No 199/2008 of 25 February 2008: Concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy.

Corrigendum to Council Regulation (EC) No 199/2008 of 25 February 2008 concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the common fisheries policy.

2.4 The contents of the DCF

The table below has been taken over from the JRC website and provides a lay out of the data to be collected for the DCF. In addition, the DCF gives direction on the management, storage, protection and access to data, management of the National Programmes and coordination of data collection between MS. Also, instructions are given on the eligibility of costs which can be declared by the MS to the EC for co-financing.

The area of data collection described in this document is indicated by a colour in the table below and applies only to the pelagic fishery in CECAF waters.

	DCF							
	Fishing					Aquaculture and Processing Industry		Marine Ecosystem
	Econ Data	Bio Data: Metier related	Bio Data: Stock related	Transv Data	Research surveys at sea	Aquaculture: Econ Data	Processing: Econ Data	
appendices	II , III , VI , VIII	I , II , IV , VII	VII	V , VIII	IX	X , XI	XII	II , XIII
variables								
variables (requested)	Enterprises Employment Income Expenditure Capital Value	Discards Effort Growth Landings Maturity ogive Sex ratio		Capacity Effort Landings	MEDITS Small Pelagic Bottom trawl Pelagic trawl		Income Personal c. Energy c. Raw Mat. c. otherOper . Capital c. Extraord. c. CapitalValue Net Investm. Debt Employment Enterprises	
disaggregation levels								
sampling strategy								
precision levels								
exemption rules								

3 Precision levels

In many cases it is required to report on the precision of the collected data. The DCF indicates what level of precision is required for certain data. The required precision affects the sampling strategy and the number of samples to be taken. The achieved precision can only be calculated afterwards and will be presented in the annual Report of Activities (former technical report) by each member state involved in sampling.

The required precision applies to the sampling of the national catches or regional catches.

Where reference is made to precision/confidence level the following distinction shall apply:

Level 0:	Precision of parameter is less than for 'level 1' i.e. parameter cannot be estimated within precision of plus or minus 40 % for a 95 % confidence interval and the coefficient of variation (CV) is higher than 20 %
Level 1:	Level making it possible to estimate a parameter either with a precision of plus or minus 40 % for a 95 % confidence level or a coefficient of variation (CV) of 20 % used as an approximation;
Level 2:	Level making it possible to estimate a parameter either with a precision of plus or minus 25 % for a 95 % confidence level or a coefficient of variation (CV) of 12,5 % used as an approximation;
Level 3:	Level making it possible to estimate a parameter either with a precision of plus or minus 5 % for a 95 % confidence level or a coefficient of variation (CV) of 2,5 % used as an approximation.
Level 4:	Level making: exhaustive data collection.
NR	Not Relevant. It is not possible to provide a meaningful calculation of the precision - e.g. because the variance is too large.
NA	Not Applicable. There is no obligation to estimate precision for this parameter.

4 Metier related variables

4.1 Pelagic metiers in Mauritanian waters operated by EU vessels

According to the metier classification rules in the Commission Decision there is one pelagic metier: OTM_SPF_>40_0_0. The code of the metier is given in the table below:

metier code	description
OTM_SPF_>40_0_0	Pelagic trawls fishing for small pelagic fish with a mesh size greater than 40mm.

4.2 Variables

- quarterly length distribution of catches
- quarterly volume of discards

on a metier level and for the stocks listed in Appendix VII of the Commission Decision (see chapter **Błąd! Nie można odnaleźć źródła odwołania.**).

4.3 Disaggregation level

- by metier as defined by level 6 in appendix IV in the Commission Decision (mesh size)
- merging of metiers is allowed provided statistical evidence is provided regarded homogeneity of the combined metiers.
- spatial unit to be defined by Regional Fisheries Management Organisation

4.4 Sampling strategy

4.4.1 for the landings

- There are several sampling strategies proposed in the Commission Decision to sample the **length distribution of the landings**. For the pelagic fishery in CECAF waters we aim for scheme 1: comprehensive sampling of all species by observers on board of the vessels.
- description of sampling protocol required

4.4.2 for the discards

- The quarterly **volume of discards** must be estimated where discards in a given metier are estimated to exceed 10% of the total volume of the catches. If the volume of discards is less than 10% derogation for not sampling can be obtained if this can be demonstrated by recent pilot studies.
- quarterly **length distribution of discards** by species if discards are more than 10% of the species catch in weight or 15% of the species catch in numbers. These percentages do not apply to an individual haul or trip but to the metier.
- Minimum number of fishing trips to be sampled is 2 trips per quarter
- description of the sampling protocol required

4.5 Precision levels

- for the length distribution of the landings precision level 2
- for the length distribution of the discards precision level 1
- for the discard volume estimates by species precision level 1

5 Stock related variables

5.1 Variables

For those species indicated in Appendix VII biological information must be sampled to determine:

- weight at length
- sex ratio by length
- maturity at length by sex

This information has to be provided on a triennial basis. In principle, this sampling starts in 2012 and is repeated in 2015. For continuity purposes, annual sampling has to be considered by the MS involved.

5.2 Precision levels

The precision levels required are given below. The DCF gives guidelines on the range of observation to which the precision levels have to be estimated. The estimation of the precision levels is part of the analyses of the data and is not directly of relevance to the data collection in the field.

- level 2 for weight at length
- level 3 for sex ratio
- level 3 for maturity

6 Sampling programme data requirements

In principle, sampling of the catches encompasses both landings and discards, but when sorting takes place the length distribution of discards might differ due to the sorting practice. If only undersized fish is discarded, the length composition of the catch provides information on the length distribution of the discarded fraction. However, if discarding takes place due to other reasons, e.g. quality issues or species sorting, separate length distributions have to be determined, both for the discarded fraction as well as for the landings.

6.1 Metier related variables

In principle, this sampling programme aims for comprehensive sampling of all catches during a trip. This implies that during a trip, all hauls have to be sampled for length distribution of landings and discards for all species, as well as estimates of the proportion of discards have to be made.

For each trip the following parameters have to be registered:

- Name and registration number of the vessel
- Name and address details of the skipper
- Vessel power (in kW)
- Harbour and date/time of departure
- Harbour and date/time of arrival
- Target species of the trip
- Type of gear
- Mesh size of the cod-end
- Other special remarks

On haul level, a trawl list has to be used to register haul specific parameters:

- Haul number
- Date
- Time (UTM)
- Haul position (deg.min)
- Haul duration (hours, minutes)
- Estimated catch by species

6.1.1 Length distribution of landings

For each haul, the length distribution of the landings has to be determined by species. A representative sample of 25kg is taken from the retained catch. This sample is then sorted by species and for each species, the number of fish per cm-class (total length head-to-tip of the tail, cm-below except for sardine which is measured to 0.5cm-below is registered as well as the total weight of the sampled fish per species.

6.1.2 Length distribution of discards

As for landings, the length distribution of the discarded fraction has to be determined by species. A representative sample of 25kg is taken from the discarded catch. This sample is then sorted by species and for each species, the number of fish per cm-class (total length head-to-tip of the tail, cm-below except for sardine which is measured to 0.5 cm-below) is registered as well as the total weight of the sampled fish per species.

Incidental catches of less frequent or rare species (e.g. sharks, swordfish, tuna etc.) are collected and measured from a larger part of the catch or the whole catch. A multiplier for these measurements must be estimated and provided in order to raise the measurements to the total catch.

6.1.3 Estimation of proportion of volume of discards of the total catch

Proportion of discards has to be estimated on a haul level for all species combined based on the proportion of the weight discarded in relation to the catch. Distinguish between discarding and slipping. Slipping is the part of the catch which is released directly from the net and does not come on board. Also it is possible that part of the catch is kept on board in a tank and released in sea afterwards. Therefore no catch composition or length measurements are available from this part of the catch. It is acknowledged that estimates of slipping and tank releases are less precise that discard estimates.

In most cases the percentage discards in volume can be estimated from the information provided in sections 6.1, 6.1.1 and 6.1.2

6.1.4 Estimation of proportion of discards in weight and numbers by species listed in Appendix VII

For the species listed in Appendix VII, the proportion of discards in weight and in number has to be provided. These can be estimated from the information described above.

6.2 Stock related variables

Unlike the metier related variables, stock related variables have to be sampled for selected species only and with a lower frequency, once every three years. However, for continuity and assessment purposes, these data are to be collected every year. The species for which sampling of stock variables apply are specified in Appendix VII (chapter **Błąd! Nie można odnaleźć źródła odwołania.**). For all species and each parameter, the sampling target is 100 measurements by quarter. The measurements will be carried out by the observers on board on the vessel.

On the sample level, the trip number, haul number and date has to record in order to enable trace back position of the samples.

The following parameters have to be collected for each individual fish:

- Length: total length to the millimeter (head to tip of the tail)
- Weight: ungutted weight in grams
- Sex: male, female, undetermined
- Maturity: scale as defined and used in the RFMO region. Maturity determination must be performed using relevant workshop results, following up Spanish experience and methodology.

7 Data formats, transfer and reporting

7.1 Aggregation of data

Chapter 6 describes the parameters needed to address the requests as laid down in the DCF. Data must be available in a database at the sampling level. This means that no aggregation must be applied for data stored in the database.

For the purpose of analyses e.g. in working groups data must be made available in aggregated in a format as is required by the data user.

7.2 Data formats for exchange

As sampling activities are carried out for several MS, no national data exchange format can be used. To facilitate easy data exchange in an international context, standardized Excel-spread sheet for non-aggregated data must be used for data exchange towards the MS. Each MS converts and transfers the information into its own national database. By means of bilateral agreements between MS, a different arrangement can be agreed.

Data will be provided by Microsoft Excel spread sheets. Examples of the data format are given in section 8.

7.3 Data storage

Pending alternative arrangements between MS, each MS holds its own responsibility towards the EU to collect data and to store this data in a national centralized database. Data collected within this sampling programme has to be stored in this database as well. Alternative arrangements can be made between MS and included in bilateral agreements between MS.

7.4 Data use

Data will be used to

- mandatory reporting on achieved sampling in AR
- to calculate precision levels by MS or RCM
- made available to end users in aggregated format as defined by the end user

7.5 Deadlines data transfer

- The deadline for reporting the achieved sampling in the Annual Report of Activities is 31 May of the year following the year where the data have been collected. This is also the date where data must be made available on request. This means that the data needs to be available for analyses in an accessible database before 31 May.
- The deadline for data transfer to the MS is April 1st in the year after the year where the data have been collected. This deadline is required in order to transfer the data to the national database, analyse the precision of the data and report the data in the AR.
- Data may need to be available earlier if they are used by a working group which is meeting in the first half of the year.
- Data will be send to contact persons listed in Annex 7.

7.6 Information required for reporting of planning and progress

MS of the EU are responsible for submitting a National Programme which describes the annual sampling programme and lists in detail the planned numbers of samples and

measurements. The Annual Report of Activities reports on the achieved sampling in the previous years. All MS have to use the same format for reporting and the quantitative planning and reporting of achievements has to be done in a standard Microsoft Excel tables provided by the EC.

For planning and reporting, the same tables are used and a justification has to be given if the achieved sampling deviates from the planning. In addition the AR must report on achieved precision levels achieve by the sampling. This requires some analyses of the sampling data prior to reporting.

To fill these tables the following information of the sampling and the metiers has to be provided on yearly basis:

For the NP (planning)

- For metier (Table III_C_3):
    - Total number of trips planned in the area
    - Number of trips to be sampled on board
    - Number of trips to be sampled on shore

metier code	year	Total number of trips per year	Number of trips to be sampled on board per year	Number of trips to be sampled on shore	stratification
OTM_SPF_>40_0_0	2012	12	12	0	quarter
OTM_SPF_>40_0_0	2013	12	12	0	quarter

- For metiers combined by species (Table III_C_5):
    - Planned minimum number of fish measured at the regional level
    - precision level aimed for
    - time stratification of sampling (monthly)

species	year	Planned total minimum number of fish measured	precision level aimed for	stratification	Achieved total number of fish measured
Fanfantepenaeus notialis	2012		Level 2 (12.5%)	quarter	
Lepidopus caudatus	2012		Level 2 (12.5%)	quarter	
Sepia hierredda	2012		Level 2 (12.5%)	quarter	
Sepia officinalis	2012		Level 2 (12.5%)	quarter	
Loligo vulgaris	2012		Level 2 (12.5%)	quarter	
Merluccius spp.	2012		Level 2 (12.5%)	quarter	
Octopus vulgaris	2012		Level 2 (12.5%)	quarter	
Parapenaeus longirostris	2012		Level 2 (12.5%)	quarter	
Pristis pectinata	2012		Level 2 (12.5%)	quarter	
Pristis pristis	2012		Level 2 (12.5%)	quarter	
Pteroplatytrygon violacea	2012		Level 2 (12.5%)	quarter	
Rajidae (d)	2012		Level 2 (12.5%)	quarter	
Rhinobatos cemiculus	2012		Level 2 (12.5%)	quarter	
Rhinobatos rhinobatos	2012		Level 2 (12.5%)	quarter	
Sardina pilchardus	2012	2000	Level 2 (12.5%)	quarter	
Sardinella aurita	2012	2000	Level 2 (12.5%)	quarter	
Sardinella maderensis	2012	500	Level 2 (12.5%)	quarter	
Scomber japonicus	2012	500	Level 2 (12.5%)	quarter	
Shark-like Selachii	2012		Level 2 (12.5%)	quarter	
Squatina aculeata	2012		Level 2 (12.5%)	quarter	
Squatina aculeata	2012		Level 2 (12.5%)	quarter	
Squatina squatina	2012		Level 2 (12.5%)	quarter	
Trachurus spp.	2012	2000	Level 2 (12.5%)	quarter	
Fanfantepenaeus notialis	2013		Level 2 (12.5%)	quarter	
Lepidopus caudatus	2013		Level 2 (12.5%)	quarter	
Sepia hierredda	2013		Level 2 (12.5%)	quarter	
Sepia officinalis	2013		Level 2 (12.5%)	quarter	
Loligo vulgaris	2013		Level 2 (12.5%)	quarter	
Merluccius spp.	2013		Level 2 (12.5%)	quarter	
Octopus vulgaris	2013		Level 2 (12.5%)	quarter	
Parapenaeus longirostris	2013		Level 2 (12.5%)	quarter	
Pristis pectinata	2013		Level 2 (12.5%)	quarter	
Pristis pristis	2013		Level 2 (12.5%)	quarter	
Pteroplatytrygon violacea	2013		Level 2 (12.5%)	quarter	
Rajidae (d)	2013		Level 2 (12.5%)	quarter	
Rhinobatos cemiculus	2013		Level 2 (12.5%)	quarter	
Rhinobatos rhinobatos	2013		Level 2 (12.5%)	quarter	
Sardina pilchardus	2013		Level 2 (12.5%)	quarter	
Sardinella aurita	2013	2000	Level 2 (12.5%)	quarter	
Sardinella maderensis	2013	2000	Level 2 (12.5%)	quarter	
Scomber japonicus	2013	500	Level 2 (12.5%)	quarter	
Scomber japonicus	2013	500	Level 2 (12.5%)	quarter	
Shark-like Selachii	2013		Level 2 (12.5%)	quarter	
Squatina aculeata	2013		Level 2 (12.5%)	quarter	
Squatina aculeata	2013		Level 2 (12.5%)	quarter	
Squatina squatina	2013		Level 2 (12.5%)	quarter	
Trachurus spp.	2013	2000	Level 2 (12.5%)	quarter	

- For the stock related variables by stock (Table III_E_3)
    - Planned number of fish measured for weight & length,
    - Planned number of fish investigated for maturity & length and
    - Planned number of fish investigated for sex-ratio & length

species	by year	data source	precision required	Planned minimum No of individuals to be measured at a national level		
				weight & length	maturity & length	sex-ratio & length
Fanfantepenaeus notialis	2012-2013	commercial	0.025			
Lepidopus caudatus	2012-2013	commercial	0.025			
Sepia hierredda	2012-2013	commercial	0.025			
Sepia officinalis	2012-2013	commercial	0.025			
Loligo vulgaris	2012-2013	commercial	0.025			
Merluccius spp.	2012-2013	commercial	0.025			
Octopus vulgaris	2012-2013	commercial	0.025			
Parapenaeus longirostris	2012-2013	commercial	0.025			
Pristis pectinata	2012-2013	commercial	0.025			
Pristis pristis	2012-2013	commercial	0.025			
Pteroplatytrygon violacea	2012-2013	commercial	0.025			
Rajidae (d)	2012-2013	commercial	0.025			
Rhinobatos cemiculus	2012-2013	commercial	0.025			
Rhinobatos rhinobatos	2012-2013	commercial	0.025			
Sardina pilchardus	2012-2013	commercial	0.025	400	400	400
Sardinella aurita	2012-2013	commercial	0.025	400	400	400
Sardinella maderensis	2012-2013	commercial	0.025	400	400	400
Scomber japonicus	2012-2013	commercial	0.025	400	400	400
Shark-like Selachii	2012-2013	commercial	0.025			
Squatina aculeata	2012-2013	commercial	0.025			
Squatina aculeata	2012-2013	commercial	0.025			
Squatina squatina	2012-2013	commercial	0.025			
Trachurus spp.	2012-2013	commercial	0.025	400	400	400

For the AR (reporting)

- For each metier (Table III_C_3):
    - Total number of trips carried out by the metier
    - Total achieved number of sampling trips
    - Achieved number of trips carried out on board
    - Achieved number of trips carried on shore

metier code	year	Total number of trips achieved in the area	Number of trips to be sampled on board	Number of trips to be sampled on shore
OTM_SPF_>40_0_0_I	2012	12	12	
OTM_SPF_>40_0_0_I	2013	12	12	

- For metiers combined by species(Table III_C_5):
    - There is a problem with this table (specification will follow later)
- For the stock related variables by stock (Table III_E_3)
    - Achieved number of fish measured for weight & length,
    - Achieved number of fish investigated for maturity & length and
    - Achieved number of fish investigated for sex-ratio & length

species	by year	data source	Achieved No of individuals measured at a regional level			precision achieved		
			weight & length	maturity & length	sex-ratio & length	weight & length	maturity & length	sex-ratio & length
Fanfantepenaeus notialis	2012-2013	com						
Lepidopus caudatus	2012-2013	com						
Sepia hierredda	2012-2013	com						
Sepia officinalis	2012-2013	com						
Loligo vulgaris	2012-2013	com						
Merluccius spp.	2012-2013	com						
Octopus vulgaris	2012-2013	com						
Parapenaeus longirostris	2012-2013	com						
Pristis pectinata	2012-2013	com						
Pristis pristis	2012-2013	com						
Pteroplatytrygon violacea	2012-2013	com						
Rajidae (d)	2012-2013	com						
Rhinobatos cemiculus	2012-2013	com						
Rhinobatos rhinobatos	2012-2013	com						
Sardina pilchardus	2012-2013	com	400	400	400	Level 2	Level 2	Level 2
Sardinella aurita	2012-2013	com	400	400	400	Level 2	Level 2	Level 2
Sardinella maderensis	2012-2013	com	400	400	400	Level 2	Level 2	Level 2
Scomber japonicus	2012-2013	com	400	400	400	Level 2	Level 2	Level 2
Shark-like Selachii	2012-2013	com						
Squatina aculeata	2012-2013	com						
Squatina aculeata	2012-2013	com						
Squatina squatina	2012-2013	com						
Trachurus spp.	2012-2013	com	400	400	400	Level 2	Level 2	Level 2

Next to the technical information in the tables, the sampling methodology has to be described as well as a description of sampling problems encountered during the year. The information has to be ordered following the strict guidelines as laid down by the EU.

Reporting to the EC

The Netherlands will include the planning and reporting of the monitoring activities of the pelagic fisheries in CECAF waters in its NP and AR. The other MS, which are included in the co-ordinated programme will refer in their NP and AR to the programme of the Netherlands. The delegation of the sampling responsibities between MS will be adressed in their bilateral agreements.

8 Data exchange formats

The IMROP observers presently use Excel spreadsheets for reporting their data to IMROP. These sheets can also be used for the DCF programme. The main formats are:

(a) Trawl station list (caractéristiques des stations). An example of this is given in annex 1.

(b) Trip summary (fiche de synthèse).This format allows a rapid analysis of data on catch composition and length data, without the need of first entering them in a relational data base. An example is given in annex 2.

(c). Biological data form (fiche données biologiques). This form contains one line per fish, with data on catching time and position, length, weight, sex, maturity and fat content. An example is given in Annex 3.

9 Budget

To comply with the DCF requirements, a minimum of three observer trips will be made per type of fishery (metier) and per quarter of the year.

The sampling will be conducted by IMROP observers that normally also work on other industrial fishing vessels in Mauritania. In order to fulfil the requirements of the DCF, additional trips will have to be scheduled on board EU vessels.

The data entry and quality control will be done by IMROP observers, under the supervision of CMR (Corten Marine Research). The final responsibility of data quality and transmission of data to the European Commission rests with CMR.

When sampling catches on board large pelagic trawlers, IMROP observers normally work in pairs. This facilitates the sampling in the factory, and it also allows one observer to monitor by-catches of protected species on the fishing deck while the other continues the sampling in the factory. For all trips to be made, two observers have been budgeted. The minimum duration of a trip on board a pelagic trawler is 15 days.

The project will use the existing facilities of CMR at the IMROP institute in Nouadhibou (office space, car etc.) at no extra costs. Part of the work by CMR will be done in the framework of the existing cooperation project between the Netherlands and Mauritania. This work is financed by the Dutch Pelagic Freezer trawler Association (PFA) and the Ministry of Economic Affairs, Agriculture and Innovation (ELI). Only the addition costs (including labour) made by CMR will be charged to the Commission.

For EU vessels that operate from the port of Las Palmas, the observers will have to embark or disembark in this port. For this purpose, a budget for air tickets has been included.

Estimated costs of the data collection in Mauritania for the DCF per year (in Euro)

IMROP observer per day (Euro)	120	
observer days per year = 12 x 15 x 2	480	
total costs IMROP observers per year		43200
material (balance, working clothes, etc.) per year		4000
travel costs IMROP observers per year*		4800
CMR fee for 12 working days (incl. VAT) per year		8568
CMR additional travel costs (2 trips to Nouadhibou) per year		4000
CMR bank fees per year		200
total estimated costs per year		64768

*) 12 tickets of 400 Euro

Annex 1 Format for exchange of trawl station data

CARACTERISTIQUES DES STATIONS				bateau:								
STATION	DATE	HEURE (UTC)		DUREE	LATITUDE	LONGITUDE	PROFONDEUR (m)		TEMP °C	CAPTURE TOT	LATITUDE	LONGITUDE
N°		début	fin	mn	début	début	sol	chalut	(en surface)	(Kg)	fin	fin

Annex 2 Format for exchange of catch composition and length data

Fiche de synthèse						bateau	
						observateur(s)	

numéro du trait	date	espèce	cons / rejet	poids échantillon en kg	coeff. pond.	poids capture totale en kg	longueur totale mesurée au centimètre inférieur										
							10	11	12	13	14	15	16	17	18	19	20	21

Continued until 100 cm -------->>

Example of format used for reporting of observer data in Mauritania.

For each species and each category (conserved or discarded) a separate line is used. The raising factor (coeff. pond.) allows the extrapolation of the numbers measured in the sample to absolute numbers in the haul. The spreadsheet isused to combine samples from all catches measured, extrapolate the numbers measured to absolute numbers, and to construct length distributions in absolute numbers of all catches sampled. This is done both for the conserved species (or fractions) and the discards.

The "fiche de synthèse" is used for all fish ≤ 100 cm. For larger fish and accidental catches of protected species, a different form is used.

Annex 3 Format for exchange of biological data

bateau	trait	date	heure	longitude	latitude	espèce	longueur	poids	sex	maturité	adiposité

Example of format used for reporting biological data in Mauritania.

For each fish a separate line is used. One sample consist of 25 individuals that are taken randomly from the catch.
Entries for date, time, longitude and latitude refer to start of the haul
Time is given in UTC
Species are given in 4-letter code (first letter of genus + 3 first letters of species)
length is total length in mm
weight in g
sex in 3 categories: male (M), female (F) and Immature (I)
maturity in 7 stages according to the scale of Fontana
Fat content in 5 stages from empty to very full

Annex 4 Extract from Appendix IV from the Commission Decision of 18.12.2009

Extraction from Appendix IV from the Commission Decision of 18.12.2009 adopting a multiannual Community programme for the collection, management and use of data in the fisheries sector for the period 2011-2013. C(2009)10121 final

5) Other regions where fisheries are operated by EU vessels and managed by RFMO's to which the Community is contracting party or observer (e.g. ICCAT, IOTC, CECAF…)

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	LOA classes (m)					
Activity	**Gear classes**	**Gear groups**	**Gear type**	**Target assemblage (b)**	**Mesh size and other selective devices**	**< 10**	**10-<12**	**12-<18**	**18-<24**	**24-<40**	**40 & +**
Fishing activity	Trawls	Bottom trawls	Bottom otter trawl [OTB]	Crustaceans	(a)						
				Demersal fish	(a)						
				Mixed cephalopods and demersal fish	(a)						
			Multi-rig otter trawl [OTT]	Crustaceans	(a)						
		Pelagic trawls	Midwater otter trawl [OTM]	Small pelagic fish	(a)						
	Hooks and Lines	Rods and Lines	Hand and Pole lines [LHP] [LHM]	Large pelagic fish	(a)						
				Demersal fish	(a)						
		Longlines	Drifting longlines [LLD]	Large pelagic fish	(a)						
			Set longlines [LLS]	Demersal fish	(a)						
	Traps	Traps	Pots and Traps [FPO]	Crustaceans	(a)						
				Finfish	(a)						
	Nets	Nets	Trammel net [GTR]	Demersal fish	(a)						
			Set gillnet [GNS]	Demersal fish	(a)						
			Driftnet [GND]	Demersal fish	(a)						
	Seines	Surrounding nets	Purse seine [PS]	Small pelagic fish	(a)						
				Large pelagic fish	(a)						
	Misc.	Misc.			(a)						
Other activity than fishing				Other activity than fishing							
Inactive				Inactive							

Footnote:

(a) As defined in Regulations (EC) No 600/2004, 830/2004, 115/2006, 563/2006, 764/2006, 805/2006, 1562/2006, 1563/2006, 1801/2006, 2027/2006, 450/2007, 753/2007, 893/2007, 894/2007, 1386/2007, 1446/2007, 31/2008, 241/2008 and 242/2008

(b) The retained part of the catch should be classified by target assemblage (crustaceans, cephalopods, demersal fish, etc.) at a trip level or at a fishing operation level where possible, and sorted by weight or by total value in the case of valuable species (e.g. *Nephrops, Tunas*). The target assemblage that comes up at the first position should be considered as the target assemblage to be reported in the matrix.

Annex 5 Extract from Appendix VII from the Commission Decision of 18.12.2009

Extraction from Appendix VII from the Commission Decision of 18.12.2009 adopting a multiannual Community programme for the collection, management and use of data in the fisheries sector for the period 2011-2013. C(2009)10121 final

List of Biological variables with species sampling specification

(Y= Yearly; T= every three years)

CECAF FAO 34								
Species (Engl.)	**Species (Latin)**	**Area/Stock**	**Species group(a)**	**Age no/1000t**	**Weight**	**Sex**	**Maturity**	**Fecundity**
Black scabbardfish	*Aphanopus carbo*	Madeira	G1		T	T	T	
Anchovy	*Engraulis encrasicolus*	Morocco	G1		T	T	T	
Southern pink shrimp	*Fanfantepenaeus notialis*	all areas	G1		T	T	T	
Silver scabbardfish	*Lepidopus caudatus*	Mauritania	G2					
Common squid	*Loligo vulgaris*	all areas	G2		T	T	T	
Hake	*Merluccius spp.*	all areas	G1		T	T	T	
Common octopus	*Octopus vulgaris*	all areas	G1		T	T	T	
Deepwater rose shrimp	*Parapenaeus longirostris*	all areas	G1		T	T	T	
Smalltooth sawfish	*Pristis pectinata*	all areas	G1					
Common sawfish	*Pristis pristis*	all areas	G1					
Blue stingray	*Pteroplatytrygon violacea*	all areas	G1					
Other rays and skates	*Rajidae (d)*	all areas	G1					
Blackchin guitarfish	*Rhinobatos cemiculus*	all areas	G1					
Common guitarfish	*Rhinobatos rhinobatos*	all areas	G1					
Sardine	*Sardina pilchardus*	all areas	G1		T	T	T	
Round sardinella	*Sardinella aurita*	all areas	G1		T	T	T	
Short-body sardinella	*Sardinella maderensis*	all areas	G1		T	T	T	
Chub mackerel	*Scomber japonicus*	Madeira	G1					
Chub mackerel	*Scomber japonicus*	all areas except Madeira	G1		T	T	T	
Cuttlefish	*Sepia hierredda*	all areas	G1		T	T	T	
Cuttlefish	*Sepia officinalis*	all areas	G1		T	T	T	
Sharks	*Shark-like Selachii*	all areas	G1					
Sawback aculeata	*Squatina aculeata*	all areas	G1					
Smoothback angelshark	*Squatina aculeata*	all areas	G1					
Angelshark	*Squatina squatina*	all areas	G1					
Horse mackerel	*Trachurus spp.*	all areas	G1		T	T	T	

Annex 6 Abbreviations used in this document

AR	Annual Report of Activities (previously Technical Report). This is a report to be submitted by the MS every year to report on the achieved data collection in the previous year
CMR	Corten Marine Research
CV	Coefficient of variation
EC	European Commission
EU	European Union
DCF	Data Collection Framework. A set of Regulations and Decisions by the European Council and European Commission which describes the data collection
DCR	Data Collection programme before the DCF
EEZ	Exclusive Economic Zone
IEO	Instituto Español de Oceanografia
IMARES	Institute for Marine Resources and Ecosystem Studies in the Netherlands
IMROP	Mauritanian Institute for Oceanographic Research and Fisheries
MS	Member States of the European Union
PFA	Pelagic Freezer-Trawler Association
RIVO	now included in IMARES

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