

# THE NETHERLANDS NATIONAL PROGRAMME FOR THE COLLECTION OF FISHERIES DATA

(submission for the year 2005)

by

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## 1 Introduction

This document presents a proposal for the Dutch national programme for the collection of data in the fisheries sector in 2005. The programme has been developed in accordance with the rules laid down in the *Commission Regulation (EC) N<sup>o</sup> 1639/2001 of establishing the Minimum and Extended Community Programmes for the collection of data in the fisheries sector and laying down detailed rules for the application of Council Regulation (EC) N<sup>o</sup> 1543/2000*, hereafter in this programme called "Data Directive". On request of the European Commission the proposal takes into account the revisions to this data directive presented in a draft Commission Regulation (April 2004) and the agreed amendments on this draft by the Management Committee on April 7 2004.

In addition, a planning of the costs of the programme has been prepared following guidelines given in a *COUNCIL DECISION of 29 June 2000 on a financial contribution from the Community towards the expenditure incurred by Member States in collecting data, and for financing studies and pilot projects for carrying out the common fisheries policy (2000/439/EC)*. The planning of the costs are presented in separate spreadsheets using the revised formats forwarded by the Commission.

### 1.1 Task sharing within the Netherlands

The programme will be carried out in close co-operation between the following partners:

- 1) The Dutch Directorate of Fisheries (DV). The Directorate is a section in the Ministry of Agriculture, Nature Conservation and Food Quality and performs control and authority exercises at the commercial fisheries and the recreational and game fisheries. This partner also acts as national coordinator.
- 2) LEI B.V. (Institute of Agricultural Economics). This institute is a private research institution, part of the Wageningen University and Research Centre. LEI B.V. is responsible for collection of agricultural and fisheries economics statistics in The Netherlands and
- 3) The Netherlands Institute for Fisheries Research. This institution is a private research institution, as part the Wageningen University and Research Centre. The research focus on biology, chemistry, microbiology and technology of the Dutch fishery industry, including aquaculture. The institute provides knowledge and expertise to the needs of policy makers, nature conservation agencies and the Dutch fishery industry.

### 1.2 Co-operation and task sharing between the Netherlands and other Member States

Collection of information on fishing capacity, fishing effort, economic and landings statistics are carried out entirely on a national basis. Biological information on catches, information collected by research vessels and information on discards are in most cases co-ordinated internationally (ICES) and carried out in close co-operation with research institutes in Member States and third countries.

In this proposal there are three specific initiatives in which co-operation and task sharing with other Members States are important. Two of these concern the international surveys ASH (section 8.8) and ABWS (section 8.9) in which Member States cooperatively contribute to. Further arrangements have been made with other Member States on the sampling of landings, landed in foreign ports (section 9.1)

As for economics LEI is the Dutch representative in the Concerted Action 'Economic Assessment of European Fisheries' (QLRT-2000-1502), which to produce an Annual Economic Report on the Performance of Selected European Fishing Fleets in the years 2002-

2004. In this project application of common economic analytical methods is being promoted on European wide level.

### 1.3 National Correspondent

The Netherlands has assigned the Dutch Directorate of Fisheries as the National Correspondent. The new correspondent is Jan Water, who succeeded Pieter de Rijk by 31-5-2004. The Directorate is also acting as co-ordinator for the implementation of the Data Directive in the Netherlands. A Steering Group has been established with members from all three Institutes involved in the programme. The main objective of the Steering Group is to co-ordinate of the work carried out under this Directive in the Netherlands.

## 2 Module A: Contents of the Community programmes

The Community programmes as described in the Data Directive consists of a number of modules. In the following chapters a report is given of the activities will be carried out by the Netherlands related to this Regulation. This report is structured by chapter corresponding with the modules in the Regulation. Within each chapter a distinction has been made between the work carried out in the minimum programme and in the extended programme.

## 3 Module B: Appreciation of the level of precision

The Data Directive defines three levels of precision in chapter 1B in the Annex. Some quantitative targets required by the Regulation also require to meet a defined level of precision when they are not based on total information and are estimated by samples. If the targets are based on all observations no indication of level of precision is required.

Dutch fleet, effort and landing statistics are based on complete logbook information and no level or precision will be provided here. The level of precision for biological parameters and discard estimates will be provided in 2005 for the first time. Presently proposal for biological sampling of landings is based on targets in Appendix XV in the Directive. However, during 2005 levels of precision of the Dutch sampling schemes will be calculated as a basis for future sampling schemes

With regard to the economic information, the relation between the size of the random sample and the total population determines precision of this information. However, for the collection of this information LEI is obliged to rely on the voluntary willingness of the fishing companies to provide access to their accounts. The sample therefore cannot be considered as truly random. Still in view of the size of the sample, which exceeds 25% of the population, sufficient reliability can be expected. Technical characteristics of the sample will be compared regularly with the technical characteristics of the population (or segments) in order to allow an explicit evaluation of the representative ness.

Table 3-1 lists the requirements in the regulation with regard to the level of precision. The table also indicate in which way the Dutch NP will meet these requirements.

**Table 3-1 Appreciation of the levels of precision in the Dutch NP**

Summary table Precision Levels			Country	Netherlands	MP+EP
			Reference year	2005	
Module	Type of data	MP/EP	Required level of precision	Achieved level of precision	Method used
IIc-1	table capacity	MP	all or level 3	all	
IId-1-i	table fuel		all or level 2	level 2	
IId1-ii	fishing effort by type of technique		all or level 2	All	
IId1-iii	specific fishing effort		all or level 1	All	
IIIE-1	landings		all or 1,2,3	All	
IIIE-1	discards		1 or derogation	Derogation	

IIIi-1	biological parameters weight at age, maturity fecundity and sex ratio		3	2005	
IIIi-1	biological parameters sex ratio by age or length		2	2005	
IVj-1	economic parameters vessels		1	level 1	

#### **4 Module C: Collection of data concerning fishing capacities**

##### **minimum programme**

All Dutch fishing vessels with the right to undertake commercial fishery are registered in the Vessel Register of the Dutch Directorate of Fisheries. The Vessels Register is part of a computerised integral database (VIRIS), linked to several other databases controlling input and output of the Dutch fisheries and includes among others the following information:

- Vessel type e.g. trawler, seine
- Vessels age (age of the hull)
- Dimensions of the vessel; GRT, length, width, draught.
- Engine power, type and age.

The information in the Vessels Register is registered according to Regulations (EC) N° 2930/86 and N° 2090/98 and is updated daily. The information on fishing capacity is merged with other fishery dependent data and stored in the VIRIS as described in Section 14.

Data on fishing capacity on an aggregated level by segments as described in Annex III of the Implementation Regulation can at any time be delivered based on total registered activity.

##### **extended programme**

No data collection will be carried out within the framework of the extended programme.

#### **5 Module D: Collection of data related to fishing effort**

##### **minimum programme**

The base for the regulation concerning the collection of information on the catch origin is the EC-regulations on logbooks, etc. and the implementation of a control-regulation concerning the common fisheries policy and more explicit regulations of information on catches by Member States.

The set of regulations prescribes that all vessels used for commercial fishery are obliged to keep logbooks of the fishery. The only exception from these rules are vessels with a total length less than 10 m, and for fishing trips undertaken in agreement with a catch area declaration. A catch area declaration is made for vessels which limit its fishing activities to a single defined area (ICES sub-area).

All the information is stored in the Logbook database (VIRIS) which is a computerised database of the Dutch Directorate of Fisheries and includes among others the following information:

- Vessel name, number and captain
- Departure and arrival date and time
- Gear type employed
- Fishing ground, area and square
- Registration of fishing days
- Estimated catch per species once a day at the minimum.

The information in the logbook database is registered according to the provisions of Commission Regulation (EC) No 2807/83 and No 2847/93. The information on fishing effort is merged with other fishery dependent data and stored in the VIRIS as described in Section 14 in this report.

Data on fishing effort on an aggregated level by segments as described in Annex V, Annex VI and Annex VIII of the Implementation Regulation can at any time be delivered on a precision

level of 2. This includes tables of fishing effort by type of fishing technique and specific fishing efforts for stocks of special interest.

Information on fuel consumption will be collected separately within the data collection programme according to Chapter IV.

#### **extended programme**

No data collection will be carried out within the framework of the extended programme.

### **6 Module E: Collection of data related to catches and landings**

#### **extended programme**

No data collection will be carried out within the framework of the extended programme.

#### **minimum programme**

According to the legislation, information on fish and crustaceans, landed in Dutch harbours, has to be reported to the Dutch Directorate of Fisheries. Also all fish and crustaceans landed in Dutch harbours and sold in the Netherlands (except from freezer trawlers) has to be sold in Dutch fish auctions. Reporting duties apply to all fishing vessels, which land fish in Dutch harbours while there is also a duty to record by buyers.

Therefore, all information on landed fish and shellfish in the Netherlands are registered and all these information are stored in the VIRIS database which is a computerised database. This database also contains the landings of Dutch vessel landed abroad and landings by vessels flying a foreign flag in the Netherlands. The data base includes among others the following information:

- Vessel number.
- Landing place
- Species (and size-class: under construction).
- Weight in kilo
- Origin (Fishing area and square)

The information in the VIRIS database is registered according to the provisions of Council Regulation (EC) No 2847/93 and No 104/2000.

All fisheries conducted under the flag of the Netherlands are directed to direct human consumption. There are no industrial fisheries in the Netherlands.

#### **6.1 Collecting data on landings designated human consumption.**

The above mentioned information in the VIRIS database provides the background for collecting information of landings (quantities and species composition) made for human consumption landed by Dutch fishing vessels in the Netherlands and abroad. Information on human consumption landings by Dutch vessels landing in the Netherlands and abroad will be based on total landings.

#### **6.2 Collection data on discards**

Estimates on discards and confidence levels of these estimates will be provided based on observation on board of commercial vessels. The estimates will be restricted to the two major Dutch fisheries in the North Sea: the beam trawl fleet and the pelagic trawlers. The discard sampling programme is described in section 9.2.

#### **6.3 Conversion factors**

A list with conversion factors applied to the landings in the Netherlands in 2005 will be made available in the Technical Report.

#### **6.4 Recreational catches**

A pilot study (2 years) will be carried out to estimate the amount of catches by the recreational fishery. Cod is caught by recreational anglers, fishing from the shoreline or from boats. The amount of catches is unknown and a pilot study will be designed to make and estimate. The pilot study will be based on interviews.

### **7 Module F: Collection of data concerning the catches per unit of effort and/or effective effort of specific commercial fleets**

#### **minimum programme**

The collection of data concerning the catches per unit of effort and/or effective effort of specific commercial fleets will be done following the guidelines in the Minimum Programme on a yearly basis, as both the catch and effort data are collected in the National Programme (chapter 4,5 and 6).

#### **extended programme**

In order to be able to evaluate the effect of recovery plans, closed areas and other technical measures it is necessary to obtain catch, effort and cpue data available for a number of selected species on a less aggregated level as is required in the Minimum programme. These data are required on a rectangle basis. These data will be extracted from VIRIS and stored in aggregated format in an Excel database on a yearly basis. Appendix 2 specifies the selected species and the level of aggregation.

### **8 Module G: Eligibility of the scientific evaluation surveys of stocks**

For conducting the research surveys, the Netherlands Institute for Fisheries Research uses four research vessels.

The R/V TRIDENS is a stern trawler with an over all length of 74 meters. RIVO uses R/V TRIDENS when conducting the International Bottom Trawl Survey (IBTS), the International Beam Trawl Survey (BTS), the Herring Acoustic Survey (HERSUR), the International Mackerel and Horse mackerel egg-survey and the North Sea Mackerel and Horse mackerel egg-survey.

R/V ISIS is a stern trawler with an over all length of 27 meters and is used when conducting the International Beam Trawl Survey (BTS), the Demersal Young Fish Survey (DFS) and the Sole Net Survey (SNS).

Two smaller vessels, R/V STERN and R.V. SCHOLLEVAAR operate in fresh waters, in the estuaries and in the Wadden Sea. They are used in this programme for conducting part of the Demersal Young Fish Survey (DFS)

All member states are obligated to undertake scientific research at sea to evaluate the abundance and distribution of stock independently of the data provided by the commercial fisheries in the case of stocks mentioned in of the Data Directive. The Netherlands will undertake or participate in 10 surveys in the North Sea, Divisions VIIId,e and the Atlantic Ocean. Nine of the below described surveys are of priority 1 and are thus a part of the minimal program defined in Appendix XIV of the Directive. The herring larvae surveys is classified as priority 2.

All surveys described in this programme are internationally co-ordinated.

The activities carried out during the surveys include the collection of biological data as required in Module I of the Directive.

#### **8.1 International Bottom Trawl Survey (IBTS)**

According to the Implementation Regulation is this survey classified as a Priority 1 survey. The survey is undertaken twice a year, one in the first quarter (25 days at sea) and during the third quarter and is the Dutch part of the IBTS. R/V TRIDENS is used when conducting this survey. The Netherlands participates only in the first quarter survey

The purpose is to estimate abundance of commercial and non-commercial fish species by means of bottom trawling and to collect otoliths of commercial species (cod, haddock, whiting, Norway pout, saithe, herring, sprat, and mackerel) to assess abundance by age, in particular for the recruiting year classes in the North Sea, the Skagerrak and the Kattegat.

The sampling procedure and the level of precision are defined in the Manual for the International Bottom Trawl Surveys. ICES CM 1999/D:2.

The survey is ICES co-ordinated by the ICES IBTSWG and performed in collaboration with research vessels from France, Norway, England, Germany, Denmark, Scotland and Sweden. The survey is carried out as a bottom trawl survey deploying a GOV trawl during daylight hours as a standard aboard all research vessels involved. In addition to the trawl-surveys, a Method Isaac Kidd (MIK) trawl is deployed during night hours to estimate the abundance of fish larvae, in particular herring- and sprat larvae. Hydrographical data is collected with a CTD.

Data is stored in an international database at ICES and revised before usage in the relevant ICES Working Groups.

### **8.2 International Beam Trawl Survey (BTS)**

According to the Implementation Regulation is this survey classified as a Priority 1 survey. The survey is undertaken once during a year, in the 3<sup>rd</sup> quarter with the R/V TRIDENS (20 days) and the smaller R/V ISIS (25 days). Both vessels use a standard 8 meter beam trawl.

The primary purpose of the survey is obtain indices of stock abundance for plaice and sole in the North Sea. In addition information of abundance and the distribution of other demersal species are obtained

The sampling procedure and the level of precision is defined in the survey manual and reviewed and updated regularly by the ICES Study Group on Beam Trawl Surveys. The survey is ICES co-ordinated by this Study Group and performed in collaboration with research vessels from Belgium, France, England and Germany, Denmark. The survey is carried out as a beam trawl survey deploying different type of beam trawls between areas. The survey is carried out during daylight hours.

Data is stored in an international database format (IBTS format) and used by relevant ICES Working Groups.

### **8.3 ACOHER (International acoustic herring survey)**

According to the Implementation Regulation is this international survey classified as a Priority 1 survey. The Dutch contribution to the survey is undertaken during the 2<sup>nd</sup> and 3<sup>rd</sup> quarter and consists of a calibration part (2 days at sea) and an acoustic abundance estimate of herring stocks (18 days at sea) in the North Sea and Vla.

The purpose is to provide acoustic abundance estimates of herring and sprat in the North Sea, which are used in the assessments of these stocks.

The sampling procedure and the level of precision are defined in the Manual for the Herring Hydro Acoustic Surveys ICES CM 1994/H:3. The survey is co-ordinated by the ICES Planning Group for Herring Surveys.

The acoustic survey using a Simrad EK500 echosounder is carried out in collaboration between Denmark, Norway, Scotland, Germany, and The Netherlands. In addition, trawl hauls are made to identify the species composition of the acoustic recordings. The herring are length measured and weighted aboard and sent to the laboratory in IJmuiden for further examinations such as sex, maturity, age, and spawning type.

Hydrographical data is collected using a CTD.

Data is stored in a database and revised before usage in the relevant ICES Working Group.

#### **8.4 SNS (Sole Net Survey)**

According to the Implementation Regulation is this survey classified as a Priority 1 survey. The survey is carried during the 3<sup>rd</sup> quarter by R.V. ISIS during 10-12 days in the coastal waters of The Netherlands, Germany and Denmark.

The purpose of this (national) survey is to obtain recruitment estimates for 1- and 2- group plaice and sole in the North Sea. The station grid consists of 10 lines of stations (4-9) perpendicular or parallel to the coastline of these countries. The survey is carried out since 1969 with a light 6 meter beam trawl.

From 2005 onwards this survey will be integrated with the International Beam trawl survey (chapter 8.2). The sampling procedure are defined in a survey manual. Otoliths of plaice and sole are taken for age determination.

Data is stored in a database and revised before usage in the relevant ICES Working Group.

#### **8.5 DFS (Demersal young Fish Survey)**

According to the Implementation Regulation, this international survey is classified as a Priority 1 survey. The survey is undertaken during the 3<sup>rd</sup> and 4<sup>th</sup> quarter. Three vessels participate for the Netherlands. R.V. ISIS operates in the North Sea along the coast of the Netherlands, Germany and Denmark. R.V. STERN operates in the Wadden Sea and R.V. SCHOLLEVAAR operates in the Scheldt Estuary

The main purpose is to provide abundance estimates of juvenile plaice and sole (0-group and 1-group) recruiting to the North Sea stocks and of brown shrimps (*Crangon crangon*). In addition the survey provides information of changes in the abundance of other species in the nursery areas where the surveys are carried out.

The survey is carried out using a 6 meter shrimp trawl in the North Sea and a 3 meter shrimp trawl in the estuaries. Otoliths of plaice and sole are taken for age determination. The sampling procedure is defined in a survey manual.

All beam trawl surveys are co-ordinated by the ICES Study Group on Beam Trawl Surveys. Shrimp trawl surveys are carried out in collaboration between the Netherlands, Belgium, Germany, and England.

Data is stored in a database and revised before usage in the relevant ICES Working Group. Combined indices of derived from separate national surveys are used in the assessment.

#### **8.6 Egg Survey (International Mackerel and Horse Mackerel Egg Survey)**

According to the Implementation Regulation is this survey classified as a Priority 1 survey. The survey is undertaken during the 2<sup>nd</sup> quarter once every three years in western waters (Gulf of Biscay, West of Ireland and Scotland) and is carried out by R.V. TRIDENS. The last survey was carried out In 2004. The next survey will be carried out in 2007.

The purpose is to provide abundance estimates of the western and southern spawning stock components of mackerel and horse mackerel by measuring the egg abundance of these species. In combination with measurements of fecundity and atresia in the same year the egg abundance can be converted into spawning stock estimates.

The surveys are carried out in collaboration between England, Scotland, Norway, Germany, Spain, Portugal, Ireland and The Netherlands using a Gulf III plankton sampler and a 2000 mesh pelagic trawl. The surveys are co-ordinated by the ICES Working Group on Mackerel and Horse Mackerel Egg Surveys which also defines the sampling procedure and the level of precision.

Data is stored in a database and revised by the Working Group on Mackerel and Horse Mackerel Egg Surveys before usage in the relevant ICES Working Group.

#### **8.7 Mackerel egg survey in the North Sea**

The mackerel egg survey in the North Sea is an extension of the International Mackerel and Horse mackerel Egg Survey. The survey is carried out every three year in the same period of

the year as the international survey. In order to avoid competition for ship time with the international survey, the survey in 2005 is held in the year after the international survey.

The aim of the survey is to provide abundance estimates of the North Sea component of Atlantic mackerel by measuring the egg abundance.

The surveys are co-ordinated by the ICES Working Group on Mackerel and Horse Mackerel Egg Surveys. The surveys are carried out in collaboration between Norway and the Netherlands using a Gulf III plankton sampler and a 2000 mesh pelagic trawl.

Hydrographical data is collected using a CTD.

Data is stored in a database and revised by the Working Group on Mackerel and Horse Mackerel Egg Surveys before usage in the relevant ICES Working Group.

### **8.8 ASH (Acoustic Atlanto-Scandic herring survey)**

According to the Implementation Regulation is this international survey classified as a Priority 1 survey. The Netherlands participates in the international survey as part of an consortium of a group of Member States consisting of Denmark, Germany, United Kingdom, Ireland, Sweden, and the Netherlands. The survey is held in the 2<sup>nd</sup> quarter and consists of a calibration part and an acoustic abundance estimate of Atlanto Scandic (or Norwegian Spring spawning) herring in the North Sea and Norwegian Sea. In 2005, Country (not yet decided) will provide a vessel and provide accommodation for scientists of the other Member States. The operational costs of the vessels are shared by the members of the consortium applying an allocation key proportional to national share of the EU TAC. Country will claim the EU contribution to the costs of the vessel for all countries combined.

The purpose is to provide acoustic abundance estimates of herring and blue whiting in the Norwegian Sea, which are used in the assessments of these stocks.

The sampling procedure are determined and the survey is co-ordinated by the ICES Planning Group on Northeast Atlantic Pelagic Ecosystem Surveys (PGNAPES).

The acoustic survey using a Simrad EK500 echosounder is carried out by Norway, Iceland, Faeroes and Russia, in collaboration with the EU consortium. In addition, trawl hauls are made to identify the species composition of the acoustic recordings. The herring are length measured and weighted aboard and biological characteristics are collected such as sex, maturity, age, and spawning type.

Hydrographical data is collected using a CTD.

Data is stored in a database kept in the Marine Institute in Bergen (Norway) and used by the relevant ICES Working Group (WGNPBW).

### **8.9 ABWS (Acoustic blue whiting survey)**

According to the Implementation Regulation is this international survey classified as a Priority 1 survey. The Netherlands participates in the international survey as part of an consortium of a group of Member States consisting of Denmark, United Kingdom, Ireland and the Netherlands. The survey is held in the March and consists of a calibration part and an acoustic abundance estimate of blue whiting on the spawning ground west of Ireland. In 2005, Country (not yet decided) will provide a vessel and provide accommodation for scientists of the other Member States. The operational costs of the vessels are shared by the members of the consortium applying an allocation key proportional to national share of the EU TAC. Country will claim the EU contribution to the costs of the vessel for all countries combined.

The purpose is to provide acoustic abundance estimates of the spawning stock of blue whiting which are used in the assessments of these stocks.

The sampling procedure are determined and the survey is co-ordinated by the ICES Planning Group on Northeast Atlantic Pelagic Ecosystem Surveys (PGNAPES).

The acoustic survey using a Simrad EK500 echosounder is carried out by Norway and Russia in collaboration with the EU consortium. In addition, trawl hauls are made to identify the species composition of the acoustic recordings. The blue whiting are length measured and

weighted aboard and biological characteristics are collected such as sex, maturity, age, and spawning type.

Hydrographical data is collected using a CTD.

Data is stored in a database kept in the Marine Institute in Bergen (Norway) and used by the relevant ICES Working Group (WGNPBW).

### **extended programme**

#### **8.10 Herring larvae surveys (HLS)**

According to the Implementation Regulation is this survey classified as a Priority 2 survey. The survey is undertaken around week 39-40 in the North Sea and week 4 and 51 in the English Channel by R.V. TRIDENS.

The aim of the survey is to estimate the adult population of herring in the southern North Sea, in particular the so called Downs component which is separated from the other components in winter in the English Channel. The abundance of your herring larvae is an index for spawning stock abundance.

Like the international acoustic herring survey this survey is co-ordinated by the ICES Planning Group for Herring Surveys and is not separately budgeted for here. The sampling procedure and the level of precision are defined in the Manual for the Herring Hydro Acoustic Surveys ICES CM 1994/H:3

The larvae surveys are done in collaboration between Norway, Germany, and the Netherlands. The larvae are staged an according agreed procedure and the data are exchanged with Germany which holds the international database.

Hydrographical data is collected using a CTD.

Data is stored in a database and revised before usage in the relevant ICES Working Group.

### **9 Module H: Biological sampling of catches: composition by age and by length**

The Implementation Regulation gives the instruction that biological sampling of catches must be performed in order to evaluate the composition in length and where appropriate in age of landings and discards for all stocks specified in Annex XV and Annex XII respectively in the Implementation Regulation and for some species also other biological samplings, specified in Annex XVI.

#### **9.1 Age length sampling of landings**

The Dutch sampling levels are calculated from the mean landings over 2001-2003 that are landed in the Netherlands by both Dutch and foreign vessels. However, based on bilateral agreements with Belgium and Germany the Dutch sampling levels are reduced, because these countries wished to sample part of their landings in the Netherlands. Belgium wished to take care of the sampling of nephrops that is transported in containers to Belgian auctions immediately after Belgian vessels have landed it in the Netherlands. Germany would like market samples to be taken by their observers on board of German freezer trawlers. The table below shows the numbers of samples that have to be reduced from the Dutch sampling scheme.

Species	Area	Mean landings 2001-2003 in Netherlands	nr of samples	Sampling responsibility moved from Netherlands to
Herring Atl.Scand.	IIa	867 t by DEU	1	Germany
Herring	IVa,b	23,352 t by DEU	23	Germany
Horse mackerel	IVa-c, VIIId	2,374 t by DEU	2	Germany
Horse mackerel	VI,VIIa-c,e-k,VIIIabde,XII,XIV	10,257 t by DEU	10	Germany
Mackerel	IVa-c, VIIId	3,585 t by DEU	4	Germany
Mackerel	IIa,Vb,VI,VIIa-c,e-k,VIIIabde,XII,XIV	14,792 t by DEU	15	Germany
Nephrops	IVa-c	52 t by BEL	1	Belgium

Biological samplings of landings must be carried out when the Dutch share of the EU TAC or when total landings of a certain species, listed in Annex XV of the Implementation Regulation, exceed certain thresholds defined in Chapter III, section H (1) (d) 1) and 2) of the Regulation. This Annex also defines the level of sampling required, which is in principle proportional to the landings. In principle the Dutch sampling scheme aims for complying with the sampling targets defined in this Annex. However this is not always possible or desirable. The following paragraph lists a few problems:

- At the time of the preparation of this proposal for data sampling the potential landings of the years for which sampling is planned (TAC's) have not been defined yet.
- Also the amount of landings by foreign fleets in the Netherlands cannot be predicted
- Reducing sampling targets when the TAC decreases cannot always be done while aiming simultaneously for maintaining the required level of precision defined in Chapter, section B (4) of the Regulation. Similarly increasing sampling targets when the TAC increases doesn't always result in a significant improvement of the level of precision.
- Chapter III, section H (1) (b) allows, under certain conditions, to deviate from the sampling targets defined in Annex XV. In a number of cases the Netherlands makes use of this possibility by maintaining a standard fixed sampling scheme. The Dutch sampling scheme is presented in Appendix 3.

The actual sampling scheme, to be applied in 2005 may deviate from the proposed scheme, pending on changes in quota in 2005 compared to the average over the period 2001-2003.

The purpose of the biological sampling of catches is to estimate the number of fish and their mean weight at age of the landings made in Dutch harbours. The sampling will be performed by segments and the data will ultimately together with data on landings sampled by other nations give the basic input data when analysing the historical exploitation of the stocks and further be the foundation when carrying out assessments on the stocks.

All biological sampling data will be stored in a central database at RIVO. Data security is ensured by common standards. Data collection and data entry is conducted at the RIVO laboratory in IJmuiden. To maintain data integrity and performance of the database a data manager will maintain the database.

### 9.1.1 The Dutch standard sampling schemes

All sampling- and measurement-procedures are described in a manual. The standard sampling procedure will be to carry out sampling on a quarterly basis by ICES division in all the main harbours where fish is landed. Samples will be collected randomly and the number of samples will reflect the fishery activity. For each stock the intended sampling level is given in Appendix III (as outlined in the Implementation Regulation) for landings made by both Dutch- and other Member States flagged vessels which land in the Netherlands.

Basically four different biological sampling systems are presently in operation in the Netherlands

- type 1: (combined age-length samples) a defined number of fish is collected from each size grade of the landing of a vessel. These fish are measured and aged, providing an

Age Length Key by size grade. Also other biological data are collected such as weight, maturity, and sometimes fecundity. Raising (by stratum: quarter, sex, area, fleet) of the total sampled weight in a size grade to the total landings in this grade provides an age and length composition of this size grade. The combination of all raised size grades provides an total age and a length composition of the stratum.

- **type 2:** (combined age-length sample, pelagic freezer trawlers) On selected pelagic freezer trawlers, members of the crew, trained by RIVO staff, take unsorted samples (20-23 kg) of the catch by species, which are delivered to RIVO frozen. From each sample the length composition is measured and 25 fish are selected for representative biological sampling. The age- and length compositions of the vessels are raised to the total landings of the fleet within by stratum (fleet, quarter, sex). Since freezer trawlers make fishing trips of 4-6 weeks and visiting several management areas, several samples from different areas can be obtained in the same trip. Often it is not known in advance which fishing areas will be visited by the vessel. This complicates the planning of samples per area as proposed. In practice the planning of the biological sampling for species sampled type 2 is therefore not area-based, but trip based, aiming for obtaining samples from all areas visited by the vessel during the trip.
- **type 3:** (separate age and length samples) a sample of fish, covering all size classes is collected from the landing of a vessel. The same biological characteristics as in type 1 are defined. In addition a representative length sample of the landings of the vessel is measured. The sampled ALK applies to the raised length composition provides an age composition of the landings of the vessel. The age- and length compositions of the vessels are raised to the total landings of the fleet within by stratum (fleet, quarter, sex)
- **type 4:** measurement of the length composition of the unsorted catch or stratified by size category. This type of sampling is applied to *Nephrops* and rays and skates in the North Sea.

The samples are either analysed in the harbour or send to the fishing laboratory, where all biological measures are performed. The standard measures are:

- length
- weight
- age
- maturity (females)
- sex

In addition vessel, gear, and fishery statistics (total landings, catch position) are recorded. The ageing is performed according to the standardised methods.

The disaggregated data are stored in the Biological database RIVO.

### **9.1.2 Sampling proposal voor 2005**

With reference to Appendix 3 a short description of the stocks that will be a part of the Dutch sampling programme is given below. Each stock is described by the following structure: The Dutch landings made in the Netherlands and the Dutch TAC is given and the fishery for the stock is shortly described. If the biological sampling of catches deviates from the standard described above, the sampling is described. If any other biological analysis is conducted, this is described.

### **9.1.3 Sampling of age and length**

#### **minimum programme**

#### **plaice (IV)**

The Dutch landings in 2001-2003 were 29,751 tonnes. In addition 18,955 tonnes was landed in the Netherlands by foreign vessels. The Dutch quota is 38.5% of the EC TAC, obliging the Netherlands to sample this stock.

Plaice caught in ICES area IV are landed mainly by beam trawlers in a mixed fishery for sole and plaice using 80 mm mesh size or a directed beam trawl fishery using 100 mm mesh-sizes.

Standard sampling procedure as described in 9.1.1 type 1. The standard fixed sampling scheme will be maintained. In addition gonad weights are measured in spawning time (December-March)

### **sole (IV)**

The Dutch landings in 2001-2003 were 12,712 tonnes. In addition 1.795 tonnes was landed in the Netherlands by foreign vessels. The Dutch quota is 75.2% of the EC TAC, obliging the Netherlands to sample this stock.

Soles are mainly caught in the ICES area IVb and c are landed fresh. Almost all landings are taken in a mixed beam trawl fishery for sole and plaice using 80 mm mesh size.

Standard sampling procedure as described in 9.1.1 type 1. The standard fixed sampling scheme will be maintained. In addition gonad weights are measured in spawning time (April-July).

### **sole (VIIa)**

There were no Dutch landings in the Irish Sea (area VIIa) in 2001. The Dutch quota is 15.6% of the EC share TAC, obliging the Netherlands to sample this stock, when there is a fishery.

In most years the fishery takes place in the 2<sup>nd</sup> quarter only by beam trawlers. Most soles caught in the Irish Sea are sold and sampled in Dutch harbours.

Standard sampling procedure as described in 9.1.1 type 1. Samples will be taken, when there is a Dutch fishery in this area.

### **turbot (IV)**

The Dutch landings in 2001-2003 were 2,032 tonnes. In addition 816 tonnes was landed in the Netherlands by foreign vessels. The TAC is for turbot and brill combined. The Dutch combined quota is 55.6 % of the EC TAC, obliging the Netherlands to sample this stock. Turbot is mainly caught as by-catch in the beam trawl fishery.

Standard sampling procedure as described in 9.1.1 type 1. In addition gonad weights are measured in spawning time. Because of the large number of age groups in the landings, it is likely that the required level of precision will not be met with the minimum sampling requirements. Therefore, a standard fixed sampling scheme of 2 samples per month is proposed. Due to the high value of turbot and in order to reduce the sampling costs, the samples are resold in the fish market after the otoliths have been taken.

### **brill (IV)**

The Dutch landings in 2001-2003 were 1,024 tonnes. In addition 210 tonnes was landed in the Netherlands by foreign vessels. The TAC is set for turbot and brill combined. The Dutch combined quota is 55.6 % of the EC TAC, obliging the Netherlands to sample this stock. Brill is mainly caught as by-catch in the beam trawl fishery.

Standard sampling procedure as described in 9.1.1 type 1. In addition gonad weights are measured in spawning time. Because of the large number of age groups in the landings, it is likely that the required level of precision will not be met with the minimum sampling requirements. Therefore, a standard fixed sampling scheme of 2 samples per month is proposed.

### **lemon sole (IV)**

The Dutch landings in 2001-2003 were 418 tonnes. In addition 658 tonnes was landed in the Netherlands by foreign vessels. The TAC is set for lemon sole and witch flounder combined. The landings mainly consist of lemon sole. Less than 10 tonnes of witch flounder were landed in 1999. The Dutch combined quota is 12.4 % of the EC TAC, obliging Netherlands to sample this stock. Lemon sole is mainly caught as by-catch in the beam trawl fishery.

Standard sampling procedure as described in 9.1.1 type 1. A standard fixed sampling scheme of 5 samples per year is proposed.

## **cod**

The Dutch landings in 2001-2003 were 3,509 tonnes. In addition 1,946 tonnes was landed in the Netherlands by foreign vessels. The Dutch quota is 11.6% of the EC TAC, obliging the Netherlands to sample this stock.

Cod is landed all year round exclusively for direct human consumption. About 50% of the landings originates from bycatches in the beam trawl fishery. The rest is landed mainly by a few pair trawlers.

Standard sampling procedure as described in 9.1.1 type 3. The standard fixed sampling scheme applied in previous year is well above the minimum requirement.

## **whiting**

The whiting landings in 2001-2003 were 2,212 tonnes. In addition 516 tonnes was landed in the Netherlands by foreign vessels. The Dutch quota is 7.6 % of the EC TAC. The annual share of the Dutch landings to the total catch is higher and varies pending quota swaps. There is only an obligation for the Netherlands for length sampling of this stock. Nevertheless the already in 2001 reduced sampling scheme, including age samples will be maintained. Whiting is landed all year round exclusively for direct human consumption. About 50 % of the landings originate from bycatches in the beam trawl fishery. Mainly pair trawlers land the rest.

Standard sampling procedure as described in 9.1.1 type 3.

## **herring (IV, VIId)**

The Dutch landings in are IVa,b in 2001-2003 were 40,017 tonnes. In addition 52,956 tonnes was landed in the Netherlands by vessels flying a foreign flag. The Dutch quota was 19.9 % of the EC TAC, obliging the Netherlands to sample this stock.

In addition 22.925 tonnes of Downs herring were landed in 2001-2003 from areas IVc and VIId plus another 13,592 tonnes by foreign vessels. The Downs herring are assessed as part of the North Sea stock but a separate TAC is set for this stock component. The Dutch quota was 45.9 % of the EC TAC

Most of the herring is caught by large freezer trawlers operating also in other areas such as Vb, VIaN, VIb, VIaS,VIIb,c, VIIg,h,j,k.

Standard sampling procedure as described in 9.1.1 type 2.

## **Atlanto-Scandian Herring ()**

The Dutch landings in 2001-2003 in the Netherlands were 7,350 tonnes. In addition 2,023 tonnes was landed in the Netherlands by vessels flying a foreign flag. The Dutch quota is 12.5% of the EC TAC in area II, obliging the Netherlands to sample this stock.

Atlanto-Scandian herring is landed during spring only for human consumption purposes in the Netherlands by pelagic freezer trawlers using gear with a mesh-size of 35 mm.

Standard sampling procedure as described in 9.1.1 type 2.

## **blue whiting (IV)**

The Dutch landings reported in 2001-2003 were 748 tonnes. The Dutch quota is 0.3% of the EC TAC. In addition 196 tonnes was landed in the Netherlands by vessels flying a foreign flag. There is no obligation by the Netherlands to sample this stock. This is the same stock as occurs in the other ICES areas and sampling of this stock has been combined with that area.

## **blue whiting ()**

Blue whiting occurs in several management areas but they are assessed as one stock. The Dutch landings in 2001-2003 were 45,881 tonnes excluding the North Sea. In addition 22,223 tonnes was landed in the Netherlands by vessels flying a foreign flag. The Dutch quota is 25.1% of the EC share TAC and applies to area Vb, VI, VII, XII and XIV, obliging the

Netherlands to sample this stock. Blue whiting landings by large Dutch freezer trawlers is landed only for human consumption mainly in the 1<sup>st</sup> half of the year.

Standard sampling procedure as described in 9.1.1 type 2.

### **mackerel (IV)**

The Dutch landings in 2001-2003 were 7,286 tonnes, mainly originating from the western stock component. In addition 9,238 tonnes was landed in the Netherlands by vessels flying a foreign flag. The Dutch quota is 6.8% of the EC TAC. There is only an obligation for length sampling. This is the same stock as occurs in the other ICES areas and sampling of this stock has been combined with that area. Mackerel is mainly landed by freezer trawlers, a small amount from the North Sea is landed fresh.

Standard sampling procedure as described in 9.1.1 type 2.

### **mackerel ()**

Mackerel occurs in several management areas but they are assessed as one stock. The Dutch landings in 2001-2003 originate mainly to the western stock component and were 23,856 tonnes excluding the North Sea. In addition 40,844 tonnes was landed in the Netherlands by vessels flying a foreign flag. The Dutch quota is 9.3% of the EC share TAC and applies to areas IIa, IIIa,b,c,d, IV Vb, VI, VII, VIII,a,b,d,e, XII and XIV, obliging the Netherlands to sample this stock for length. The threshold for age sampling is just not met. Nevertheless, given the large amount of landings by foreign vessels landed in the Netherlands, sampling for age will be continued. Mackerel is mainly landed by large Dutch freezer trawlers only for human consumption all year round.

Standard sampling procedure as described in 9.1.1 type 2.

### **horse mackerel (IV)**

The Dutch landings in 2001-2003 were 15,369 tonnes. In addition 6,147 tonnes was landed in the Netherlands by vessels flying a foreign flag. The Dutch quota is 11% of the EC TAC, obliging the Netherlands to sample this stock. The landings partly originating from the western stock component and sampling is included in the figures given for the areas combined. Horse mackerel are mainly landed by freezer trawlers. North Sea horse mackerel is also exploited in Division VIId.

Standard sampling procedure as described in 9.1.1 type 2.

### **horse mackerel ()**

Horse mackerel occurs in several management areas but they are assessed as one stock, with the exception of horse mackerel in Division VIId which is combined with the North Sea. The Dutch landings in 2001-2003 were 51,121 tonnes and originate mainly from the western stock component. In addition 32,827 tonnes was landed in the Netherlands by vessels flying a foreign flag. The landings apply to all areas except the North Sea, but mainly originate from area VII. The Dutch quota is 34.6% of the EC share TAC and applies to areas Vb, VI, VII, VIIIa,b,d,e, XII and XIV, obliging the Netherlands to sample this stock. Large Dutch freezer trawlers are landing horse mackerel for human consumption all year round.

Standard sampling procedure as described in 9.1.1 type 2.

### **argentines (VIa)**

Argentines landings mainly originate from area VIa. The Dutch landings in 2001 were 3,450 tonnes and this figure applies to all areas. In addition 159 tonnes was landed in the Netherlands by vessels flying a foreign flag. No TAC and quota information is available for this species. According the proposed revision of Reg. 1639/2001 the sampling of argentines should be come part of the MP, because argentines are deep sea species. Argentines are landed by large Dutch freezer trawlers.

Standard sampling procedure as described in 9.1.1 type 2.

## **nephrops**

The Dutch landings in 2001-2003 were 928 tonnes. In addition 191 tonnes was landed in the Netherlands by foreign vessels. The Dutch quota is 2.7% of the EC TAC. The main fishery is in management area H, mainly in functional unit 5, where the Netherlands took over 50% of the total international landings in recent years, obliging the Netherlands to sample this stock. Nephrops is exploited in a seasonal fishery by a few specialised vessels. Length distributions refer to carapace-length. From 2005 onwards other biological parameters are collected routinely (length, sex, weight).

Standard sampling procedure as described in 9.1.1 type 4 and stratified by size category.

## **rays and skates (IV)**

The Dutch landings in 2001-2003 were 747 tonnes consisting of a mixture of different species. The main species landed are roker and spotted ray. In addition 101 tonnes was landed in the Netherlands by foreign vessels. The Dutch combined quota is 14.4% of the EC TAC, obliging the Netherlands to sample this stock. Skates are mainly caught as by-catch in the beam trawl fishery. Given the small numbers by species landed by a vessel it will often not be possible to measure the requested number of fish by sample. Alternatively it is proposed to measure more smaller samples of the separate species. . From 2005 onwards other biological parameters are collected routinely (length, weight, sex and maturity).

Standard sampling procedure as described in 9.1.1 type 4.

## **other species (IV)**

Other species, such as haddock, saithe, hake, anglerfish, sprat and megrim, are landed in small amounts and do not qualify for sampling according the criteria set in the Regulation

## **Sardinella spp (CECAF FAO 34)**

Sardinella landings originate from area CECAF FAO 34. The Dutch landings in 2001-2003 were 101,339 tonnes and were landed either in the Las Palmas Canarian Isles or directly exported outside of EU. No TAC and quota information is available for this species.. Sardinellas are caught by large Dutch freezer trawlers.

Standard sampling procedure as described in 9.1.1 type 4.

## **Scomber japonicus (CECAF FAO 34)**

Scomber japonicus landings originate from area CECAF FAO 34. The Dutch landings in 2001-2003 were 166 tonnes and were landed either in the Las Palmas Canarian Isles or directly exported outside of EU. No TAC and quota information is available for this species.. Scomber japonicus are caught by large Dutch freezer trawlers.

Standard sampling procedure as described in 9.1.1 type 4.

## **Sarda sarda(CECAF FAO 34)**

Sarda sarda landings originate from area CECAF FAO 34. The Dutch landings in 2001-2003 were 1,354 tonnes and were landed either in the Las Palmas Canarian Isles or directly exported outside of EU. No TAC and quota information is available for this species.. Sarda sarda are caught by large Dutch freezer trawlers.

Standard sampling procedure as described in 9.1.1 type 4.

## **Trachurus spp (CECAF FAO 34)**

Trachurus spp landings originate from area CECAF FAO 34. The Dutch landings in 2001-2003 were 9,377 tonnes and were landed either in the Las Palmas Canarian Isles or directly exported outside of EU. No TAC and quota information is available for this species.. Trachurus spp are caught by large Dutch freezer trawlers.

Standard sampling procedure as described in 9.1.1 type 4.

## **Trichiuridae (CECAF FAO 34)**

Trichiuridae landings originate from area CECAF FAO 34. The Dutch landings in 2001-2003 were 562 tonnes and were landed either in the Las Palmas Canarian Isles or directly exported outside of EU. No TAC and quota information is available for this species.. Trichiuridae are caught by large Dutch freezer trawlers.

Standard sampling procedure as described in 9.1.1 type 4.

#### **extended programme**

### **dab (IV)**

The Dutch landings in 2001-2003 were 5,271 tonnes. In addition 2,260 tonnes was landed in the Netherlands by foreign vessels. The TAC is for dab and European flounder combined. The Dutch combined quota is 62% of the EC TAC, allowing the Netherlands to sample the length composition of this stock in the extended programme. Dab is mainly caught as by-catch in the beam trawl fishery.

Standard sampling procedure as described in 9.1.1 type 3. Instead of the extensive length sampling required by Annex XV of the Regulation, it is proposed to continue the existing sampling scheme for length and age. Therefore, a standard fixed sampling scheme of 2 length and 1 age samples per month is proposed.

## **9.2 Age-length sampling for discards**

According to the Data Directive chapter 3.E.1.b the Netherlands must collect discard data in order to be able to present estimates of discard rates for selected species. Collection of discard data in Dutch fisheries was initiated in 1968 on *ad hoc* basis and since 1999 on a regular basis in the beam trawl fishery, which is the most important Dutch fishery in the North Sea. The monitoring of discards in the beam trawl fishery since 1999 has been carried out as an international study supported by the Commission and since the introduction of the Directive in this programme.

Appendix 1 gives an overview of the species and areas for which discard estimates have to be made according Annex XII of the Implementation Regulation. Furthermore this Appendix gives the number of samples to be taken according to the Implementation Regulation Annex XV. Apart from estimating the total amount of discards, the sampling of age- and length distributions (Module ) and other biological parameters is included in the Dutch discard sampling programme.

As in the previous years, discard sampling by the Netherlands will be restricted to the two most important fleet segments, the beam trawl fleet fishing for flatfish in the North Sea and pelagic trawlers fishing for herring, mackerel, blue whiting and horse-mackerel in various areas (IV, VI, VII, VIII and international waters).

### **9.2.1 Discards beam trawl fishery**

The discard sampling programme will be continued in 2005. It is plan to make 10 discard trips with a duration of one week (5 days). At the start of the sampling programme a Discard Steering Group was established consisting of representatives of the Ministry, Dutch Fishermen Organisations and RIVO, which meets several times a year. The task of this group is to develop and evaluate the sampling plans and to perform a quality check of the sampled data of the beam trawl fleet in the North Sea also with respect to representatives of the programme.

### **9.2.2 Discards pelagic fishery**

A similar Steering Group with the same task has been established for discard sampling on the pelagic freezer trawlers. Vessel trips have a duration varying between 4 and 6 weeks. Usually discard samples from several management areas can be obtained during one trip. Due to financial and capacity restraints the sampling is restricted to about 6 discard trips a year with an average duration of 26 days (based on trip duration in 2001).

In order to comply with two new Council Regulations dealing with monitoring of catches of deep sea fish and bycatches of cetaceans, the sampling programme of discards in 2005 will

be combined with a programme to estimate bycatches of cetaceans in this fishery. This means that the available number of observations of discards in this fishery may increase.

### **9.2.3 Discard sampling procedures**

All Dutch discard sampling in the North Sea follows the rules laid down in the international agreed sampling manual established under EU study 98/097: "Discard Monitoring". In this document all aspects of "at sea sampling" are covered (including: selection procedures for selecting fishing trips, description of sub-sampling procedures, recording of data, safety at sea etc). The same sampling procedure will be practised in other areas. The two fisheries differ considerably by area with respect to trip duration, number of stations per trip and handling of the catch. In the North Sea trips with vessels operating beam trawls are often 5 days at sea, while trips with pelagic trawlers, operating in distant waters, last mostly 4-6 weeks. Because of differences in these fisheries, different sampling procedures may be applied. If possible, information on discards as well as landings will be sampled from each station. Manuals for sampling procedures have been produced and will be updated when necessary.

The sampling will be stratified on:

- ICES Division/Sub-division (if possible).
- Quarter.

The segments will be defined on vessel size, gear type, mesh size and target species. The vessels to be monitored will be selected randomly among a large number of vessels identified in close co-operation with the Steering Groups. There is no authority in Dutch law, which give the possibility to enforce the fishermen to have observers' onboard. Therefore, the vessels will not be sampled randomly among all vessels performing a given fishery but only among the vessels where the skipper beforehand has agreed in having observers on board. By the involvement of the Dutch Fishermen's Organisations in the selection of vessels potential for sampling, some mutual concessions are facilitated allowing the broadest possible basis for the sampling, representing most categories of behaviour among fishermen and assuring representative data.

The sampling of discards will normally be done on board during normal active fishery by observers trained and employed at RIVO.

In many cases the observer on board will have the possibility in the spare time between hauls to obtain length distributions for species not defined as mandatory according to Data Directive..

The information sampled includes the biological sampling required in chapter 31 of the Regulation and contains"

- Vessel and gear characteristics
- Place, date, time and duration of fishing operation
- Total weight of discards and landings by all species caught.
- Separate length distributions of discard and landings by all relevant species caught.
- Otoliths and individual mean weight per cm-length group of selected species.

All data recorded in connection with the collection of discards will be included in a added to the biological database held at RIVO (Chapter 14.3).

## **10 Module I: Other biological samplings**

The 'Other biological sampling' outlined in the Implementation Regulation Chapter III I. (1) (a) (ii) will be fully completed for the relevant stocks.

In addition to the age and length sampling, biological parameters are collected routinely on growth (age/length and length/weight), maturity at age and length, sex ratio's at length and at age, on gonad weight and fecundity. For all species the parameters (except fecundity) are collected on an annual basis. The collection of these data has been included in the sampling programmes on landings, discards and surveys (also in the budget).

All biological sampling data will be stored in a central database at RIVO. Data security is ensured by common standards. Data collection and data entry is conducted at the RIVO laboratory in IJmuiden. To maintain data integrity and performance of the database a data manager will maintain the database.

## 11 Module J: Collection of economic data by groups of vessels

### minimum programme

#### 11.1 Collection of data on the cutter fleet

The Dutch programme for section J covering the information for the Community Programme as defined in Appendix XVII and XVIII of the Reg. 1543/2000, will be implemented through the on-going LEI survey of the Dutch cutter fleet. The results will be further completed and cross-checked with the data from the Directorate of Fisheries (Fleet Register and Logbook Database). Appendix 4 presents the details of the data collected on the cutter fleet.

Depending on the indicator, it is collected on trip by trip or on annual basis. Together with the Logbook database seasonal patterns can be distinguished down to months or even weeks.

Furthermore six different fisheries 'métiers' are distinguished: beam trawling for flatfish, otter trawling, pair trawling for roundfish, pair trawling for herring, shrimp trawling and other fisheries. Because these fisheries 'métiers' are more specific than the gear types specified in the regulations, aggregated data can be provided for these groups. Registration of the vessel number and homeport allows regional subdivision. Registration of the horsepower and the length allows distinction between various size groups, including those specified by MAGP.

The number of surveyed vessel by size group and gear type is presented in Table 11-1, along with the respective size of the population, situation in 2002.

**Table 11-1 Segmentation of the Dutch cutterfleet with the number of vessels within the panel in 2002**

Length (m)	Fishing technique	Population	Panel
0-12	Drift and fixed nets	2	1
12-24	Beam trawl	187	42
12-24	Demersal trawl and demersal seine	12	2
12-24	Drift and fixed nets	5	0
24-40	Beam trawl	66	15
24-40	Demersal trawl and demersal seine	18	11
24-40	Polyvalent	1	1
40+	Beam trawl	110	36
40+	Demersal trawl and demersal seine	1	0
Total		402	108

As can be seen from this table only the beam trawlers and demersal trawlers and seiners comprise enough vessels to be regarded as separate groups. All other segments comprise very few vessels, in many cases even only one. Although the group of gillnet vessels seems worth mentioning by the number of vessels, the economic value of the catch of this segment represents only 0.1% of the fleet total. The number of vessels under 24 metres using demersal trawl and demersal seine gears has increased in 2002 to more than 10 and

therefore should formally be seen as a separate fleet segment. Most of the vessels use more than one gear, however and because of the small quota on cod in 2003 and 2004 this number will be lower in the years after 2002. Therefore, only four segments are taken into account in the data collection programme: three beam trawl segments and one segment including all demersal trawlers and seiners.

The collection of the data in the Dutch cutter fleet, described above, allows fully to comply with the requirements of the regulation as discussed in the workshop on economic indicators, held in Paris in May 2004 (IFREMER, 2004).

Regarding investments, the LEI uses the book value of the vessels, calculated on the basis of estimations of the replacement value. This is in line with the current professional standard, as used in the 'Annual reports regarding the Economic performance of selected European fishing fleets'. In 2003, the LEI has also started to collect information on insurance value data and by now around 40% of the vessels this information is available.

In the Dutch cutter fleet, a large number vessels participate occasionally or never in the sea fishery. A large part of these vessels merely exist because of administrative reasons (e.g. to store licences, capacity, or ITQ). Because their effort and catches are too low to be considered an economic activity and their total effort and catches are negligible, compared to those of the other vessels within the fleet, they are not considered within the economic sampling program. In order to distinguish between economically inactive and active vessels we use a lower threshold for economic active vessels of 30 000 Euro on gross revenue. Based on this threshold, the active fleet included 402 cutter vessels in 2002.

## **11.2 Pelagic freezer trawlers**

Since 2002 detailed economic information is collected for all pelagic freezer trawlers (MAGP segment 4J2) in the Dutch fleet. This information is in accordance with the EU data regulation, except for the indicator own/foreign capital. As there are only 4 operators in this segment, the problem of confidentiality of published information is serious and will have to be dealt with appropriately.

### **11.2.1 Compiling sample statistics**

The economic data collection of the LEI is expected to be increasingly efficient in the coming years because of:

- Obtaining digital information on catches and prices from auctions
- Renewed database system
- More efficient selection plan

Because of this, LEI expects to be able to accomplish the data collection for the EU regulation for both the minimal and extended programme with three full time accountants, from 2005 onwards. These accountants have access to the full accounting of the firms (all individual bills and invoices), which co-operate on the survey. The data of individual vessels is elaborated by week (trip) and fishery. Subsequently this data may be aggregated to average results per fishery, hp-group or region, or in case of the EU regulation per fishery and size-group

### **extended programme**

The LEI method of data collection integrates minimum and extended programme. Data is collected at the lowest level (i.e. single vessel on trip basis) so that subsequent aggregations are possible in various dimensions like fleet segments, time, region, etc. The costs of the minimum and extended programme cannot be uniquely separated. For the purposes of this proposal it is therefore assumed that 75% of the costs could be earmarked as minimum programme and 25% as extended programme.

So far, price data have been collected from auction information (average prices per species and market category per month) and information from vessels (average prices per species per month). The information from vessels is available for each of the fleet segments, but the information from the auctions has until now only been available for the total landings. When detailed information from the auction will become available in 2004 the required price information on market categories will also become available.

The segment of beamtrawl vessel between 24 and 40 metres is highly heterogeneous, both in technical characteristics as well as in economic and fishing performance. This is mainly due to the fact that 26 vessel longer than 24 metres are in fact eurocutters. Therefore variability in this segment is large and the segment is stratified further based on the engine power as specified in the extended program, according to appendix IV of the EC regulation.

## **12 Module K: Collection of data concerning the processing industry**

### **minimum programme**

Based on a pilot study carried out in 2002 on the possibilities of gathering data concerning the processing industry, the collection programme will include the following:

- General information concerning the processing industry will be gathered from Statistics Netherlands.
- Additional information will be gathered quarterly through an electronic survey of 50 companies, involved in the LEI fish monitor panel.

As the information from the Statistics Netherlands database is available with a time lag of two years, a model will be build to estimate the economical data of the latest year.

In 2003, collection of information on fish processing, fish trade has been carried out by reviewing data collected by the National Statistical Office (CBS). Micro data of fish processing businesses have been analyzed in order to test representatively of the sample. Several analysis have been made to achieve a better understanding of the dataset: compilation of 1993-2002 time series, statistical tests to study the degree of variation as regards the company size in terms of turnover and number of employed, allocation of individual companies to specific sub-sectors depending on quota or non-quota species, comparison of aggregated data to public statistics. This work will be continued in 2004.

Given the reservation of the sector against additional data collecting (see results of pilot study reported in 2003) and in spite of the limitations of the data provided by CBS (2003), it was decided that working with the data of CBS is the best way to go forward. This has implications on the type of work to be done in next years. The major tasks will be to further analyze and process secondary data by scientists in stead of surveys conducted by technicians. This will change the daily cost rate.

The work in 2005 will build on the dataset developed in 2003 and 2004. It will focus on construction of models that link the processing sector's costs and earnings structure that appears from the dataset to up-to-date statistics on landings, landings value and international trade statistics. The models will also include estimations of the price flexibilities of the species that are of major concern for national fleets. The models will be used to estimate costs and earnings data in recent years but they provide also a tool to assess the impact of future TAC changes.

## 13 Co-ordination

### 13.1 National coordination

A steering group consisted of the three national partners involved in the data collection and the national coordinator takes care of the coordination. The group is responsible for coordination, communication, monitoring progress of the work laid down in the programme and trouble shooting. The group meets 3-4 times each year

In addition the discard sampling programmes carried out on the beam trawl fleets is coordinated by steering groups consisting of representatives of Netherlands Institute for Fisheries Research, Directorate of Fisheries and fishery organisation representing this fleet sector.

### 13.2 International coordination

All surveys are coordinated internationally by existing ICES groups. PGCCDBS coordinates the biological sampling of landings and discards. In addition workshops on ageing have been foreseen. The actual decision on the duration and venue of the coordination meeting in 2005 takes place at the Annual Science Conference by ICES in September 2004 Table 13-1 gives a summary of those groups, which are expected to meet in 2005.

**Table 13-1 Coordination Groups**

group	task	meeting	number of Dutch participants
	Working group on definitions of economic indicators	to be decided	1
IBTSWG	Coordination of the International Bottom Trawl survey (IBTS)	to be decided	2
PGNAPES	Planning Group of Northeast Atlantic Ecosystem survey	to be decided	1
WGBEAM	Coordination of international beam trawl and shrimp trawl surveys (BTS, SNS, DFS)	to be decided	2
WGMEGGS	Coordination of the international mackerel and horse mackerel surveys	to be decided	2
PGHERS	Coordination of acoustic and larvae surveys on herring	to be decided	1
PGCCDBS	Coordination of biological sampling of landings and discards	to be decided	2
	Regional coordination subgroups from PGCCDBS	to be decided	2

## 14 Data storage and management

### 14.1 LNV database

LNV operates an ORACLE based relational database VIRIS (Visserij Registratie en Informatie Systeem). VIRIS holds all logbook information from vessels landing fish in the Netherlands and vessels flying the Dutch flag. The database contains data on landings, effort, inspection results and vessel characteristics since 1988 and is updated daily. Part of the data is subject to a regulation protecting the privacy of individual company results.

## 14.2 LEI database

All economic data are held in databases at LEI. These data used to be stored in several relational databases, but this system is currently under transition to a central object orientated database (ARTIS). ARTIS was developed at LEI for the collection and analysis of all its economic data. Data from the following years will be added routinely to ARTIS. In the near future, the historical data will also be loaded into this database after they have been "quality checked".

## 14.3 RIVO database

All biological sampling data will be stored in a central database at the Netherlands Institute for Fisheries Research. Data security is ensured by common standards. To maintain data integrity and performance of the database a data manager will maintain the database.

All data are held in an ORACLE based relational database (FRISBY). FRISBY was developed in 2000 to contain all biological data collected by RIVO over the years. Presently FRISBY holds all fish survey data (including benthos) and biological data from discard- and landing sampling programmes collected in 2002-2004. All data collected in the future will be added routinely to FRISBY. Historical data, collected in previous years, have partly be added to this database. The remaining historical data will be added as soon as they have been "quality checked". Data from herring larvae- and egg survey are presently hold in Excel spreadsheets. The database also holds all historical tagging data.

## 14.4 other databases

ICES holds a copy of the IBTS data. The international mackerel egg survey database is maintained by Aberdeen. The international herring larvae survey database is maintained by Kiel. Herring larvae sampled during the IBTS are maintained by DIFRES. The data on Atlanto-scandic herring are stored in a database maintained by the Institute of Marine Research in Bergen (Norway)

RIVO holds a copy of the complete international IBTS data set. The international mackerel egg survey database is maintained by Aberdeen. The international herring larvae survey database is maintained by Kiel.

## 15 Budgets and costs (Finforms)

The budget has been recalculated for the year 2005 based on predicted labour time applying the standard rate for staff costs, according the conditions given in the Annex in Council Decision 200/439/EG. No definitive rates have been agreed for 2005 yet. Therefore the calculated costs are provisional and are based on the 2004 rates increased by 1.858%

Costs of research vessels are based on average operational costs over the years 2003, increased by the expected inflation rate of 4% over 2 subsequent years.

At request of the Commission, financial forms are provided separately from this document for the minimum programme and extended programme separately. Since the new format has no provisions for budgetting more than 1 vessel in one sheet, the surveys carried out with several vessels have been split up in the financial forms in separate sheets. For the Netherlands this applies to the BTS and DFS.

## 16 Major changes in the programme

The following major changes have been made to the programme:

- Market sampling targets for some species have been changed, while maintaining within the minimum requirement by the Data Directive.
- New species have been included in the sampling of age/length and biological parameters following the revision in the Directive.
- The mackerel egg surveys in the North Sea will be carried out in 2005. The international mackerel egg survey has been carried out last year and will not be carried out in 2005. Both surveys are done once every three years.

- Participation in an acoustic survey on blue whiting is included in the minimum programme from 2005 onwards, following the proposed changes in the Data Directive. A derogation has been asked to submit the details and financial information of this survey later in the year, since the coordination of this EU survey has not been completed.
- A pilot study is proposed to estimate the catches in the recreational fishery for cod.
- The activities planned for 2004 only, have been deleted from the programme.
- In the previous years, all discard sampling activities has been budgetted in module E. In this year's programme the estimation of discard levels is submitted in module E. The sampling of age/length has been budgetted in module H, which is the more appropriate place.

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## 18 Acronyms and abbreviations

ABWS	Acoustic Blue Whiting Survey
ACOHER	Herring Acoustic Survey in the North Sea
ARTIS	Database with economic data maintained by LEI
ASH	Atlanto-scandic herring acoustic survey
BTS	Beam Trawl Survey
DFS	Demersal Fish Survey
DIFRES	Danish Institute for Fishery Research
DV	Dutch Directorate of Fisheries
FRISBY	Database with biological data maintained by RIVO
IBTS	International Bottom Trawl Survey
ICES	International Council for Exploitation of the Sea
HLS	Herring Larvae Surveys in the North Sea
LEI	Institute of Agricultural Economics
LNV	Ministry of Agriculture, Nature Conservation and Food Quality
ORACLE	Relational Database computer software
RIVO	Netherlands Institute for Fisheries Research
SNS	Sole Net Survey
STECF	Scientific, Technical and Economic Committee for Fisheries
STECF-SGRN	Research Needs and Data Collection (subgroup from STECF)
PGCCDBS	ICES Planning Group on Commercial Catch, Discards and Biological Sampling
VIRIS	Visserij Registratie en Informatie Systeem (Database with logbook entries in the Netherlands, maintained by DV)

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## 20 Appendices

**Appendix 1 Calculation of Dutch discards sampling effort requirements by species and area**

Species	Area	NL-flag	beforehand estimates		yearly	sampling frequency rules				sample frequency		
			%	%	discard	length		nos fish	nos fish	length	nos	nos
			landings	discard	discard	measur-	age	meas. per	aged per	samples	fish	fish
			in NL 2002	weight	numbers	required	ment	readings	sample	sample		measured
Anglerfish	IVa-c	79	<10	<20	N	200	200	25	25			
Brill	IVa-c	960	<10	<20	N	200	200	25	25			
Cod	IVa-c	1,921	>10	>20	Y	200	200	50	25	10	480	240
<i>Crangon</i>	IV Vlld		>10	>20	Y	not defined						
Dab	IVa-c	4,948	>10	>20	Y	100	0	25	0	49	1237	0
Haddock	IVa-c	365	>10	>20	Y	200	200	50	25	2	91	46
Herring	IVa,b	30,633	>10	>20	Y	1000	1000	50	25	31	1532	766
Herring	IVc, Vlld	9,096	>10	>20	Y	1000	1000	50	25	9	455	227
Herring	Vb, VIaN, VIb	4,345	>10	>20	Y	1000	1000	50	25	4	217	109
Herring	VIaS, VIIb,c	633	>10	>20	Y	1000	1000	50	25	1	32	16
Herring	VIIg,h,j,k	258	>10	>20	Y	1000	1000	50	25	0	13	6
Horse mackerel	IVa-c	10,408	>10	>20	Y	1000	1000	100	25	10	1041	260
Horse mackerel	VI, VII, VIII, XII, XIV	35,994	>10	>20	Y	1000	1000	100	25	36	3599	900
Lemon sole	IVa-c	417	>10	>20	Y	200	200	25	25	2	52	52
Mackerel	IVa-c	9,098	>10	>20	Y	1000	1000	50	25	9	455	227
Mackerel	IIa,Vb, VI, VII, VIII, XII, XIV	20,802	>10	>20	Y	1000	1000	50	25	21	1040	520
<i>Nephrops</i>	IVa-c	971	>10	>20	Y	50	0	400	0	19	7768	0
Plaice	IVa-c	28,753	>10	>20	Y	500	500	50	25	58	2875	1438
Skates	IVa-c	798	>10	>20	Y	500	0	25	0	2	40	0
Sole	IVa-c	12,059	<10	<20	N	200	200	50	25			
Sole	VIIa	0	<10	<20	N	50	50	200	50			
Turbot	IVa-c	1,921	<10	<20	N	200	200	25	25			
Blue Whiting	IVa-c	374	>10	>20	Y	1000	1000	50	50	0	19	19
Blue Whiting	Vb, VI, VII, XII, XIV	34,763	>10	>20	Y	1000	1000	50	25	35	1738	869
Whiting	IVa-c	2,435	>10	>20	Y	200	200	50	25	12	609	304

**Appendix 2 Aggregation levels for detailed cpue on rectangle basis of selected species and fleets (extended programme)**

Variabels	
COUNTRY	country of registration vessel
GEAR	fishing gear (see below)
HPCLS	engine power (see below)
YEAR	year of landing
QUARTER	quarter of landing
MONTH	month of landing
RECT	ICES rectangle
SPECIES	(see below)
CATCH	landings in tonnes
CPUE_D	CPUE in kg / day at sea
CPUE_H	CPUE in tonnes / HP corrected day at sea
EFFORT	days at sea
HPEFFORT	HP corrected day at sea
VALUE	landings x average price

Species		Fishing Gear	Engine Power (HP)
SOL	sole	OTB	1-260
PLE	plaice	TBB	261-300
COD	cod	TBS	301-800
WHG	whiting	DRB	801-1500
HER	herring	PTB	1501-2000
MAC	mackerel	SDN	2000-9999
HOR	horse mackerel	SSC	other
NEP	Nephrops	OTM	
BWL	blue whiting	PTM	
ARG	argentinnes	PS	
		LL	
		LLS	
		LLD	
		GN	
		GNS	
		GND	
		GTR	
		LHP	
		FPO	
		MIS	

**Appendix 3 Calculation of Dutch sampling effort by species and area based on landings made in Dutch harbours**

Species	Area	Total EU	Dutch	Dutch	Landings in Netherlands		Length	Age
		TAC	TAC	TAC	average 2001-2003		sampling	required
		2,004	2,004	in %	NL-flag	Other-flag	required	NL
Sole	IVa-c	17,000	12,790	75.2	12,712	1,795	Y	Y
Sole	VIIa	800	125	15.6	0	2	Y	N
Plaice	IVa-c	58,889	22,650	38.5	29,751	18,955	Y	Y
Brill	IVa-c, VIId	1,474	819	55.6	1,024	210	Y	Y
Turbot	IVa-c, VIId	3,403	1,891	55.6	2,032	816	Y	Y
Dab	IVa-c, VIId	13,497	8,361	62.0	5,271	2,260	Y	N
Flounder	IVa-c, VIId	6,054	3,751	62.0	3,111	268	N	N
Lemon sole	IVa-c, VIId	6,975	866	12.4	418	658	Y	Y
Witch flounder	IVa-c, VIId	48	6	12.4	1	6	N	N
Megrim	IVa-c, VIId	1,890	24	1.3	8	18	N	N
Cod	IVa-c, VIId	22,659	2,619	11.6	3,509	1,946	Y	Y
Whiting	IVa-c, VIId	12,294	940	7.6	2,212	516	Y	N
Haddock	IVa-c, VIId	58,975	469	0.8	267	440	N	N
Hake	IVa-c, VIId	1,373	46	3.4	28	70	N	N
Saithe	IVa-c, VIId	91,200	199	0.2	9	46	N	N
Anglerfish	IVa-c, VIId	7,000	187	2.7	85	231	N	N
Red mullet	IVa-c, VIId				305	56	Y	N
Red mullet	VIIe, VIIa-b				0	0	N	N
Sea bass	IVa-c, VIId				95	5	N	N
Skates	IVa-c, VIId	3,503	503	14.4	747	101	Y	N
Scallop	VIId				0	4	N	N
Nephrops	IVa-c	18,987	511	2.7	928	191	Y	N
Herring Atl.Scand.	IIa	71,542	8,927	12.5	7,350	2,023	Y	Y
Herring	IVa,b	260,502	50,068	19.2	40,017	52,956	Y	Y
Herring	IVc, VIId	66,098	30,621	46.3	22,925	13,592	Y	Y
Herring	Vb, VIaN, VIb	29,340	3,280	11.2	3,947	6,945	Y	Y
Herring	VIaS,VIIb,c	14,000	1,273	9.1	748	180	Y	N
Herring	VIIg,h,j,k	13,000	802	6.2	988	1,296	Y	N
Horse mackerel	IVa-c, VIId	46,788	5,161	11.0	15,369	6,147	Y	Y
Horse mackerel	VI,VIIa-c,e-k,VIIIabde,XII,XIV	131,879	45,631	34.6	51,121	32,827	Y	Y
Mackerel	IVa-c, VIId	21,381	1,437	6.7	7,286	9,238	Y	N
Mackerel	IIa,Vb,VI,VIIa-c,e-k,VIIIabde,XII,XIV	297,595	27,656	9.3	23,856	40,844	Y	N
Blue Whiting	IVa-c, VIId	53,934	159	0.3	748	196	N	N
Blue Whiting	IIa,Vb,VI,VIIa-c,e-k,VIIIabde,XII,XIV	209,653	52,693	25.1	45,881	22,223	Y	Y
Argentines	all				3,450	159	Y	Y
Redfish	I, II	1,000	0	0.0	32	4	N	N
Redfish	IVa-c				2	65	N	N
Redfish	Va, XII, XIV	17,921	5	0.0	0	772	Y	Y
Sprat	IVa-c, VIId	238,000	2,738	1.2	266	278	N	N
Sardinella spp	CECAF FAO 34				101,339	0	Y	N
Scomber japonicus	CECAF FAO 34				166	0	Y	N
Sarda sarda	CECAF FAO 35				1,354	0	Y	N
Trachurus spp	CECAF FAO 36				9,377	0	Y	N
Trichiuridae	CECAF FAO 37				562	0	Y	N

## Appendix 3 continued

Species	Area	Length sampling required	Age required NL	Sampling requirements according Commission Regulation 1639/2001			
				Tonnes of fish for 1 length sample	Tonnes requiring 1 age sample	Nos fish per length sample	Nos fish per age sample
Sole	IVa-c	Y	Y	200	200	50	25
Sole	VIIa	Y	N	50	50	200	50
Plaice	IVa-c	Y	Y	500	500	50	25
Brill	IVa-c, VIId	Y	Y	200	200	25	25
Turbot	IVa-c, VIId	Y	Y	200	200	25	25
Dab	IVa-c, VIId	Y	N	100	0	25	0
Flounder	IVa-c, VIId	N	N				
Lemon sole	IVa-c, VIId	Y	Y	200	200	25	25
Witch flounder	IVa-c, VIId	N	N				
Megrim	IVa-c, VIId	N	N	500	500	50	25
Cod	IVa-c, VIId	Y	Y	200	200	50	25
Whiting	IVa-c, VIId	Y	N	200	200	50	25
Haddock	IVa-c, VIId	N	N	200	200	50	25
Hake	IVa-c, VIId	N	N	100	0	25	0
Saithe	IVa-c, VIId	N	N	200	200	50	25
Anglerfish	IVa-c, VIId	N	N	200	200	25	25
Red mullet	IVa-c, VIId	Y	N	200	0	50	0
Red mullet	VIIe, VIIa-b	N	N	1000	0	50	0
Sea bass	IVa-c, VIId	N	N	200	0	50	0
Skates	IVa-c, VIId	Y	N	500	0	25	0
Scallop	VIId	N	N	200	0	50	0
Nephrops	IVa-c	Y	N	50	0	400	0
Herring Atl.Scand.	IIa	Y	Y	1000	1000	50	25
Herring	IVa,b	Y	Y	1000	1000	50	25
Herring	IVc, VIId	Y	Y	1000	1000	50	25
Herring	Vb, VIaN, VIb	Y	Y	1000	1000	50	25
Herring	VIaS, VIb,c	Y	N	1000	1000	50	25
Herring	VIIg,h,j,k	Y	N	1000	1000	50	25
Horse mackerel	IVa-c, VIId	Y	Y	1000	1000	100	25
Horse mackerel	VI, VIIa-c, e-k, VIIIabde, XII, XIV	Y	Y	1000	1000	50	25
Mackerel	IVa-c, VIId	Y	N	1000	1000	50	25
Mackerel	IIa, Vb, VI, VIIa-c, e-k, VIIIabde, XII, XIV	Y	N	1000	1000	50	25
Blue Whiting	IVa-c, VIId	N	N	1000	1000	50	25
Blue Whiting	IIa, Vb, VI, VIIa-c, e-k, VIIIabde, XII, XIV	Y	Y	1000	1000	50	25
Argentines	all	Y	Y	1000	1000	200	100
Redfish	I, II	N	N	500	0	100	0
Redfish	IVa-c	N	N	100	0	25	0
Redfish	Va, XII, XIV	Y	Y	100	500	100	50
Sprat	IVa-c, VIId	N	N	2000	2000	50	50
Sardinella spp	CECAF FAO 34	Y	N	1000	0	50	0
Scomber japonicus	CECAF FAO 34	Y	N	200	0	100	0
Sarda sarda	CECAF FAO 35	Y	N	1000	0	100	0
Trachurus spp	CECAF FAO 36	Y	N	200	0	100	0
Trichiuridae	CECAF FAO 37	Y	N	200	0	100	0

## Appendix 3 continued

Species	Area	DUTCH AND FOREIGN FLEETS ACCORDING EU SAMPLE SIZE SYSTEM				DUTCH 2004 SAMPLING incl. foreign fleets ACCORDING DUTCH SAMPLE SIZE SYSTEM							Reduction of samples based on bilateral agreements				WORKPLAN 2005	
		Estimated LENGTH	Estimated AGE	Estimated LENGTH	Estimated AGE	nos length	nos age	Nos fish measured	Nos fish aged per	nos fish measured	nos fish aged		Nr length samples	Nr age samples	Nr length samples	Nr age samples	nr length samples	nr age samples
		samples	samples	measured	determin.	samples	samples	per sample	sample	measured	aged	note	to DEU	to DEU	to BEL	to BEL	samples	samples
Sole	IVa-c	73	73	3627	1813	70	70	50	50	3500	3500					70	70	
Sole	VIIa	0		7	0	1	1	50	50	50	50					1	1	
Plaice	IVa-c	97	97	4871	2435	80	80	60	60	4800	4800					80	80	
Brill	IVa-c, VIIId	6	6	154	154	24	24	40	40	960	960					24	24	
Turbot	IVa-c, VIIId	14	14	356	356	24	24	45	45	1080	1080					24	24	
Dab	IVa-c, VIIId	75		1883	0	24	12	75	25	1950	300	EP				24	12	
Flounder	IVa-c, VIIId																	
Lemon sole	IVa-c, VIIId	5	5	134	134	5	5	30	30	150	150					5	5	
Witch flounder	IVa-c, VIIId																	
Megrim	IVa-c, VIIId			0	0	0	0											
Cod	IVa-c, VIIId	27	27	1364	682	40	40	50	50	2000	2000					40	40	
Whiting	IVa-c, VIIId	14		682	0	40	24	50	50	2000	1200					40	24	
Haddock	IVa-c, VIIId			0	0	0	0											
Hake	IVa-c, VIIId			0	0	0	0											
Saithe	IVa-c, VIIId			0	0	0	0											
Anglerfish	IVa-c, VIIId			0	0	0	0											
Red mullet	IVa-c, VIIId	2		90	0	4	4	25	25	100						4	4	
Red mullet	VIIe, VIIIa-b			0	0	0	0	25	25	0								
Sea bass	IVa-c, VIIId			0	0	1	1	25	25	25						1	1	
Skates	IVa-c, VIIId	2		42	0	50	0	30		1500						50	0	
Scallop	VIIId			0	0	0	0	50		0								
Nephrops	IVa-c	22		8952	0	24	0	400		9600				1		23	0	
Herring Atl.Scand.	IIa	9	9	469	234	10	10	87	25	868	250		1	1		9	9	
Herring	IVa,b	93	93	4649	2324	93	93	193	25	17930	2325		23	23		70	70	
Herring	IVc, VIIId	37	37	1826	913	37	37	156	25	5765	925					37	37	
Herring	Vb, VIaN, VIb	11	11	545	272	11	11	175	25	1925	275					11	11	
Herring	VIaS, VIIb,c	1		46	0	1	1	150	25	150	25					1	1	
Herring	VIIg,h,j,k	2		114	0	3	3	150	25	450	75					3	3	
Horse mackerel	IVa-c, VIIId	22	22	2152	538	23	23	157	25	3611	575		2	2		21	21	
Horse mackerel	VI, VIIa-c, e-k, VIIlabde, XII, XIV	84	84	4197	2099	85	85	210	25	17854	2125		10	10		75	75	
Mackerel	IVa-c, VIIId	17		826	0	20	20	87	25	1736	500		4	4		16	16	
Mackerel	IIa, Vb, VI, VIIa-c, e-k, VIIlabde, XII, XIV	65		3235	0	65	65	79	25	5149	1625		15	15		50	50	

Appendix 3 continued

Species	Area	DUTCH AND FOREIGN FLEETS ACCORDING EU SAMPLE SIZE SYSTEM				DUTCH 2004 SAMPLING incl. foreign fleets ACCORDING DUTCH SAMPLE SIZE SYSTEM						Reduction of samples based on bilateral agreements				WORKPLAN 2005	
		Estimated LENGTH	Estimated AGE	Estimated LENGTH	Estimated AGE	nos length	nos age	Nos fish measured	Nos fish aged per	nos fish	nos fish	Nr length samples	Nr age samples	Nr length samples	Nr age samples	nr length samples	nr age samples
		samples	samples	measured	determin.	samples	samples	per sample	sample	measured	aged	note	to DEU	to DEU	to BEL	to BEL	samples
Blue Whiting	IVa-c, VIIId			0	0	0	0	50	25							0	0
Blue Whiting	IIa,Vb,VI,VIIa-c,e-k,VIIIabde,XII,XIV	68	68	3405	1703	68	68	172	25	11711	1700					68	68
Argentines	all	4	4	722	361	15	15	87	25	1302	375	EP				15	15
Redfish	I, II			0	0	0	0	50	25	0	0						
Redfish	IVa-c			0	0	0	0	50	25	0	0						
Redfish	Va, XII, XIV	8	2	772	386	16	16	50	25	800	400					16	16
Sprat	IVa-c, VIIId			0	0	0	0										
Sardinella spp	CECAF FAO 34	101		5067	0	101	0	50	25	5050	0	EP				101	0
Scomber japonicus	CECAF FAO 34	1		83	0	2	0	50	25	100	0	EP				2	0
Sarda sarda	CECAF FAO 35	1		135	0	3	0	50	25	150	0	EP				3	0
Trachurus spp	CECAF FAO 36	47		4689	0	94	0	50	25	4700	0	EP				94	0
Trichiuridae	CECAF FAO 37	3		281	0	6	0	50	25	300	0	EP				6	0

**Appendix 4** Indicators in LEI survey Support data on total population and source

<b>Technical data</b>	
Horse power	Vessel register
Age engine	Vessel register
Gross tonnage	Vessel register
Age hull	Vessel register
Sea days	Logbook database
Man-days	
Man-days on shore	
Total man-days	
Crew	

<b>Revenues</b>	
Landings: volume, value, price	Volume – Logbook database , prices – auction averages
- sole	Volume – Logbook database , prices – auction averages
- plaice	Volume – Logbook database , prices – auction averages
- turbot / brill	Volume – Logbook database , prices – auction averages
- dab	Volume – Logbook database , prices – auction averages
- cod	Volume – Logbook database , prices – auction averages
- whiting	Volume – Logbook database , prices – auction averages
- other roundfish	Volume – Logbook database , prices – auction averages
- herring / mackerel	Volume – Logbook database , prices – auction averages
Shrimp	
Hire / rent of quota	
Other revenues	
<b>total revenues</b>	

fuel consumption (liters)	
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<b>Costs</b>	
Fuel	
Lubricant	
Deck equipment	
Navigation	
Hull	
Engine	
Insurance	
Gear	
Shrimp related costs	
Ice / refrigeration	
Salt	
Travel expenses	
General	
Price support fee	
Auction	
Dutch Fish Board fee	
Unloading	
Transportation	
Commission	
Food	
Social security	
Share crew	
Depreciation	
Interest	
Total costs	
Profit	

<b>Financial data</b>	
Fixed assets	
Current floating assets	
Intangible assets	
Financial assets	
Long-Term Debt	
Short-Term Debt	
Investments	
Book value of vessels	
Number of business partners	
Net interest costs	
Net result before taxes	