



FISKERIVERKET

MEMORANDUM

Date
2005-05-17

**SWEDISH NATIONAL PROGRAMME FOR
COLLECTION OF FISHERIES DATA 2006**

in accordance with

Council Regulation (EC) No 1543/2000

Council Decision 2000/439/EC

Commission Regulation (EC) No 1639/2001

Commission Regulation (EC) No 1581/2004

Table of content:

1. INTRODUCTION.....	3
1.1 Co-operation between Sweden and other member states and reporting to the Commission	4
1.2 National correspondent	4
1.3 Levels of precision.....	5
2. MODULE OF EVALUATION OF INPUTS: FISHING CAPACITY AND FISHING EFFORT	7
2.1.C. Collection of data concerning fishing capacity	7
2.2.D. Collection of data relating to fishing effort.....	8
3. MODULE OF EVALUATION OF CATCHES AND LANDINGS	9
3.1 E. Collection of data related to catches and landings	9
3.1.1 Game and recreational fisheries.....	10
3.2 E. Swedish discard sampling	11
3.2.1 Swedish sampling effort of relevant species and areas.....	11
3.2.2 International discard data storage	12
3.3. F. Collection of data concerning the catches per unit effort and/or effective effort of specific commercial fleets.	13
3.4 G. Eligibility of the scientific evaluation surveys of stocks	13
3.4.1 Baltic International Trawl Survey (BITS)	14
3.4.2 International Bottom Trawl Survey (IBTS).....	14
3.4.3 Herring Acoustic Survey.....	16
3.4.4. Atlantoscandic Herring Survey.....	16
3.5 H. Biological sampling of catches: composition by age and by length and I. Other biological sampling.....	16
3.5.1 The Swedish standard sampling procedure.....	17
3.5.2 The Baltic Sea ICES AREA IIIb-d	18
3.5.3 Kattegat and Skagerrak ICES AREA IIIa South and North	23
4. MODULE OF EVALUATION OF THE ECONOMIC SITUATION OF THE SECTOR	31
4.1 J. Collection of economic data by groups of vessels	31
4.2. K. Collection of data concerning the processing industry	34
5. CO-ORDINATION.....	35
6. DEVELOPMENT OF DATABASES.....	36
7. FINANCIAL CONTRIBUTION BY THE COMMISSION	37
8. REFERENCES.....	37
9. Appendixes I-XIV.....	39

1. Introduction

This document describes the Swedish Programme for 2006 for the collection of data in the fisheries sector.

Through its accession to the European Union in 1995, Sweden adopted the EU's Common Fisheries Policy (CFP). All Member States are covered by its provisions and are nationally responsible for its implementation. In Sweden, the Swedish Board of Fisheries is the administrative authority responsible for fisheries and fisheries issues.

The underlying Regulation¹ for the CFP states briefly that its aims shall be to protect and preserve aquatic resources through socially and economically responsible exploitation based on ecological considerations.

The Council has, in accordance with the CFP, decided to set up a community framework for the collection and management of data required for the evaluation of fishery resources and the fisheries sector, which is regulated in Council Regulation (EC) No. 1543/2000. According to the Regulation, national authorities are required to establish programmes to collect relevant data of a biological and economic nature, to describe the procedures involved and to make the aggregated data accessible for scientific analysis. These national programmes must, in accordance with the Regulation, run for six-year periods and achieve a minimum standard. This standard, referred to as the minimum programme, is specified in Commission Regulations (EC) No. 1639/2001 and 1581/2004. Member States that comply with the minimum programme are entitled to receive financial assistance. Advance application must be made for such assistance.

The programme will be implemented through close co-operation between different departments within Fiskeriverket (Swedish Board of Fisheries, SBF), which has its head office in Göteborg:

- Department of Fisheries Control (K-dep)
- Department of Resource Management (RF-dep)
- Department of Research and Development (FoU-dep) with the Institute of Marine Research (IMR) in Lysekil and Karlskrona, the Institute of Freshwater Research (IFR) and the Institute of Coastal Research (ICR) in Öregrund and Simpevarp

The Institute of Marine Research in Lysekil co-ordinates the Swedish programme.

Primary data collected within the Swedish programme will be stored in the following computerised databases:

- Loggbas. Integrated database containing:
- Vessel-register. Data on fishing capacity (RF-dep)

¹ Council Regulation (EC) No. 3760/1992

- Catch and landing figures from logbook coastal journal, landing declaration and sampling (species composition) . Data on origin of catches, landings and effort (K-dep)
- Sales notes figures. Data on quantities sold, prices, and size of fish. (K-dep)
- Fish sample database. Data on individual fish from market, discards and survey sampling (IMR, IFR, ICR)
- Economic data (RF-dep)

Every data-collecting unit is responsible for its own database and delivery to the respective international organisation

The primary data collected in accordance with this Regulation are treated confidentially and are not made available to anyone outside the Swedish Board of Fisheries without special authorisation.

1.1 Co-operation between Sweden and other member states and reporting to the Commission

The collection of information on fishing capacity, fishing effort, economics and landing statistics is conducted at a national level. Biological information about catches, information gathered by research vessels and information about discards are co-ordinated internationally in most cases and carried out in close co-operation with research institutes in Member States as well as third countries. In order to secure adequate sampling of Swedish landings in Denmark and Danish landings in Sweden, a formal agreement of co-operation has been signed between the two MS. This agreement also includes co-operation in biological analyses (Appendix X). A similar document will be signed with Germany in June 2005.

In the economic field, the RF-dep. constitutes the Swedish representative in the project Economic Assessment of European Fisheries organised under the Concerted Actions and Thematic Networks which is committed to developing a common method or standard for the evaluation of the economic situation in Community fisheries.

Sweden is also participating in the recently established Regional Planning Groups for the Baltic Sea area and for the North Sea.

Each Member State shall submit its national programme to the Commission by electronic means, no later than 31 May every year, as stipulated in Article 6 of Council Regulation (EC) No. 1543/2000.

1.2 National correspondent

In Sweden, the Swedish Board of Fisheries is the authority responsible for the national programme.

Swedish Board of Fisheries, Institute of Marine Research

P O Box 4
SE-453 21 Lysekil
Sweden
Tel: +46 523 187 00
Fax: +46 523 139 77

Contact person: Fredrik Arrhenius. E-mail: fredrik.arrhenius@fiskeriverket.se

1.3 Levels of precision

The ICES workshop on Sampling Design Fisheries data (WKSDFD) was the the most recent meeting considering this issue and was held in February 2005. This workshop aimed to look at sampling design and was the second one dealing with the problem of how to estimate precision related to the numerous biological parameters collected within the regulation (EC) No 1639/2001.

Different tools on how to calculate Coefficient of Variation (CV) on Other Biological parameters (Module I) were presented and it was discussed if and how they should be used as standard tools for these calculations. It was concluded that there is a need for establishing a group of a limited number of statisticians who shall discuss and develop these tools. It was then suggested that next workshop could focus on teaching – how to use the different tools on national datasets.

Three different tools on how to calculate CV on numbers at age and weight at age in national landings were suggested in the (WKSCMFD 2004). These different methods were compared during the workshop in 2005, by using the same dataset. The outcome of the exercise was that CV varied drastically depending on method used. Therefore, it seems to be of great importance to agree on methods to be used, before calculating CV's on different parameters, to receive comparable results between countries. Sweden will therefore take part in the international progress and participate in upcoming workshops.

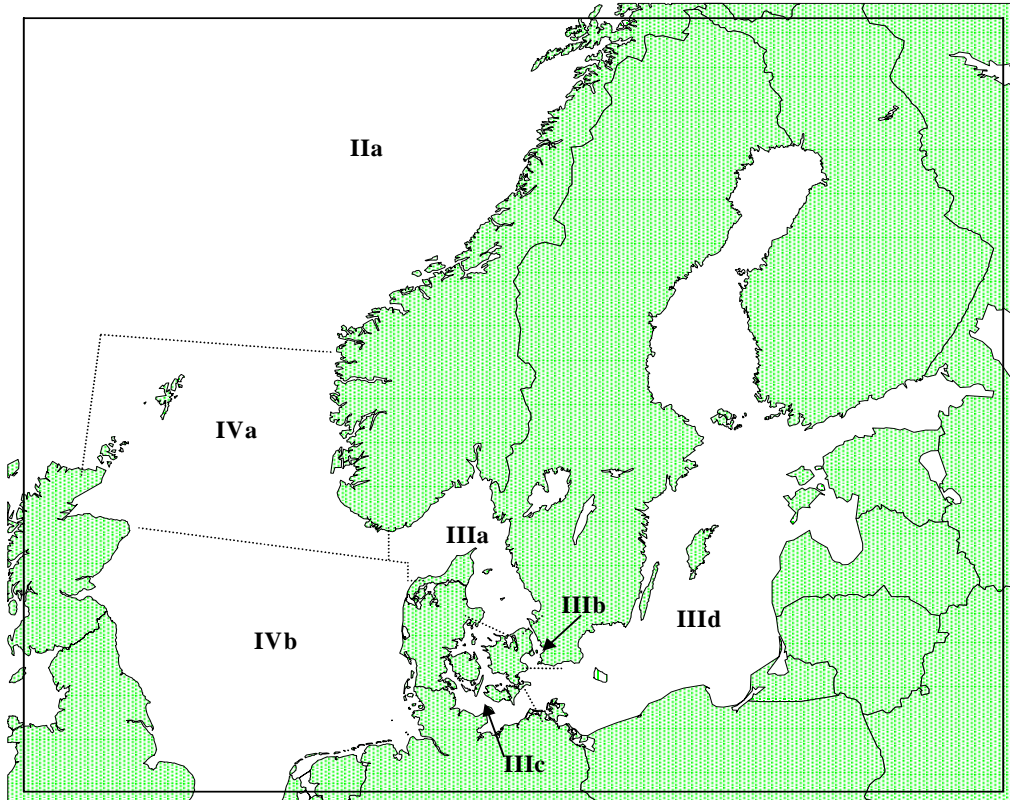
In Sweden all commercial landings are recorded and specified into time periods, regions and gear categories. It makes no sense calculating the margin of error as the selection of vessels is not done by random sampling.

For the collection of economic data on the fishing fleet the objective is to reach a precision level $\pm 25\%$ for a 95 % confidence interval using a stratified simple random sampling method. For small segments or if the falling off is high, other selection methods will be used. Where appropriate, the final level of precision will be calculated on the basis of the data provided by the sampled companies according to standard statistical methods. The calculations will consequently depend on sampling method.

Concerning the processing industry, precision levels are generally high as the data collection covers the whole industry. It makes no sense calculating the margin of error as the selection of companies is not done by random sampling. The information is collected in the form of direct inquires which are scrutinised in a special software programme for consistency as concerns additions, probability and connections between the parameters. Also the administrative information is scrutinised. After this

procedure the information is revised to compensate for the falling off. In the last step a final macro examination is conducted.

ICES FISHING AREAS



2. Module of evaluation of inputs: Fishing capacity and fishing effort

2.1.C. Collection of data concerning fishing capacity

Minimum programme

Member States are required to collect data to permit segmentation of the fishing fleets in accordance with Commission Regulation (EC) No. 1639/2001, Appendix III and IV. This segmentation is used as the basis for determining how capacity, fishing effort and economic data for the fishing fleet will be reported. Sweden will adhere to the minimum programme as defined in Appendix II.

The intention is to collect data on the number of vessels in defined segments and vessel length categories as well as on the average gross tonnage (GT), engine power (kW) and age of the vessels' hull.

The aggregated data meet the requirements in respect of accuracy stipulated in chapter 2. C.1.c. of the implementation regulations.

Vessels are segmented on the basis of the time for which a particular gear is used. The expression "time" is used to denote fishing days. If a vessel uses a type of gear for more than 50 % of the time, the vessel should be included in the segment that covers that type of gear. If no gear is used for more than 50 % of the reported fishing time, the vessel is allocated to a segment for multi-species gear use.

All vessels which are covered by the fourth multi-annual development programme for the fishing fleet (FUPIV) will be included in the collected data. This will include all vessels of five metres or more.

The following data is collected for every vessel covered by FUPIV:

DATA	SOURCE (log base)
Number of fishing days with a particular type of gear	Log base (log books and coastal fisheries journals)
Vessel length (Length Over All)	Log base (vessel register)
Gross tonnage	Log base (vessel register)
Engine power (main engine)	Log base (vessel register)
Age of hull	Log base (vessel register)

The fishing fleet is segmented at the end of each calendar year by mechanical processing of the data reported in the log base (log books and vessel register). Data in respect of fishing capacity in accordance with the above are reported for each segment. The data must be updated once a year.

Extended Programme

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

2.2.D. Collection of data relating to fishing effort

Member States are required to collect data for estimating the fishing effort and fuel consumption in accordance with Commission Regulation (EC) No. 1639/2001, Appendixes V to X. Sweden will adhere to the minimum programme.

The aggregated data meet the requirements in respect of accuracy stipulated in Chapter 2. D.1.c. of the implementation regulation.

Fuel consumption

Calculations of the average annual fuel consumption expressed in volume units for vessels in the respective segments (as defined in Appendix III) and the average cost will be dealt with in the collection of economic data on the fishing fleet. See Chapter 4.1 Collection of economic data by groups of vessels.

Fishing effort by type of fishing method

Fishing effort defined as the sum of weighted (as defined in Appendix V) fishing days (as defined in D.1.a) with a particular fishing method (as defined in Appendix VIII) must be reported by specific area (Level 3 as defined in Appendix I).

In addition, the effort defined as the sum of weighted (as defined in Appendix V) fishing days (as defined in D.1.a) with a particular fishing method (as defined in Appendix III) must be reported by area (Level 3 as defined in Appendix I) and vessel length category (as defined in Appendix IV).

Specific fishing effort

Effort defined as the sum of weighted (as defined in Appendix V) fishing days (as defined in D.1a) with a particular fishing method (as defined in Appendix VIII) must be reported by division (as defined in Appendix I) and species (as defined in D.1a (iii) and as defined in Appendix VI).

The following data are collected:

DATA	SOURCE
Fuel consumption	Log base (vessel register) Questionnaires
Fuel prices	Statistics Sweden (See Chapter 4.1)
Number of fishing days with a particular type of gear (as defined in Appendix III+IV)	Log base (log books and coastal journals)
Catching area (as defined in Appendix I)	Log base (log books and coastal journals)
Period	Log base (log books and coastal journals)
Quantity by species (as defined in Appendix VIII)	Log base (log books, coastal journals, sales notes and/or sampling)
Vessel length (as defined in Appendix III)	Log base (vessel register)

The fishing effort is estimated for every quarter by processing of reported data in the log base (log books, sales notes, sampling, vessel register, etc.). The result will be reported annually. A data application was developed in 2003 in order to facilitate the compilation of effort data.

Extended Programme

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

3. Module of evaluation of catches and landings

3.1 E. Collection of data related to catches and landings

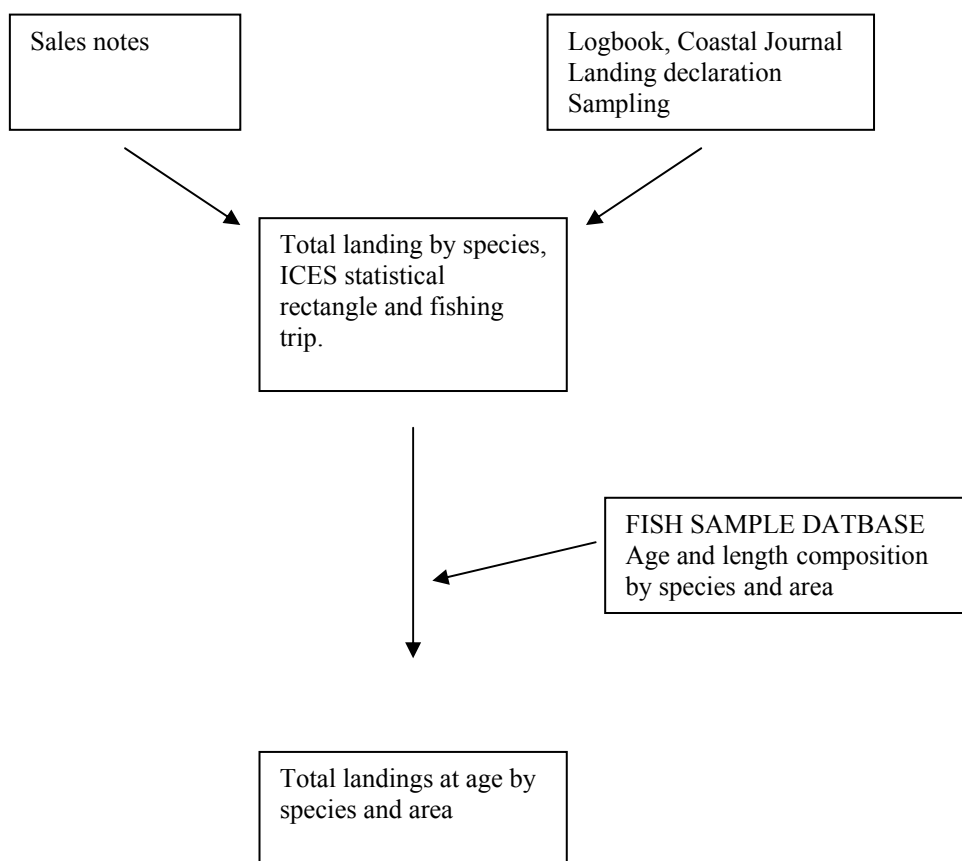
Member States are required to report commercial landings of all stocks. The data must relate to the total landed quantity and must be reported by species sub-divided by catching area and by year. For the fish stocks specified in Appendix XII in Commission Regulation (EC) No. 1639/2001, details of the catch thrown overboard and the total catch must also be reported.

The geographical origin of catches and landings will be reported at level 2, Appendix I, in Commission Regulation (EC) No. 1639/2001. For stocks included in Appendix XII of the regulation, the aggregation level will meet the terms specified for the different areas. For the purpose of this programme, the North Sea, the Skagerrak, the Kattegat and the Baltic Sea will be taken as defined in Article 2 (4) of Council Regulation (EC) No 850/98.

The aggregated data meet the requirements in respect of accuracy stipulated in Chapter 3.E.1.c of the Commission Regulation.

Details of the landed quantity are collected from fishermen and first-hand buyers in accordance with Council Regulation (EC) No. 2847/93 establishing a control system applicable in the common fisheries policy. Data will reflect Swedish landings in Sweden and abroad and transshipment to third country vessels as well as other countries' landings in Sweden. Details in respect of the value of the landed quantities sub-divided by species are provided in the context of the economic data in accordance with Chapter 4.J. Catches and landings from vessels under ten meters (l.o.a.) are collected by a system with coastal journals. For most fisheries the information covers aggregated figures for a period of one month. Even fishing without a vessel, for example from ice, is covered by this system. It is also possible to record discard information in the journal, however this is not mandatory. One journal contains 25 numbered forms and is sent out to all licensed fishermen. Every single form within the journal is bound to the licence.

The estimation procedure is illustrated by the flow diagram below.



For all stocks, the quantities landed in Sweden will be reported annually. The reported quantities will relate to the adjusted catch after having conducted a cross-checking of data from the log sheets, landing declarations, sales notes and sampling. Data relating to the species, quantity and catching area are taken from the database in which information from log sheets, sales-notes and other documentation are recorded and stored in accordance with Commission Regulation (EC) No. 2847/93.

3.1.1 Game and recreational fisheries

Swedish recreational salmon fishery in the Baltic region takes place in rivers, at the coast and in the sea. The structure of the fishery differs among areas. Data on landings from the recreational fishery for salmon in the three areas is collected by using the same strategy as described in the pilot study in 2003 (Anon. 2003).

Collection of data on catches in the totally approximately 20 salmon rivers follows the routines developed in earlier years. Salmon fishery in Swedish rivers is mainly carried out by non-commercial fishermen. The fishery categories are:

- Angling
- Broodstock fishery (catch of spawners used for rearing purposes)
- Net, seine fishery or fishery with trapnets by recreational fishermen

- Trapnet fishery by licensed fishermen in two rivers

Statistics are collected by a number of methods in order to get an estimate of the catch in each river:

- Licensed fishermen are required to use logbooks or equivalent (coastal journals)
- In those cases where the owners of local fishing rights collect a reliable statistics from anglers, this is of course used. In rivers where the statistics collected by the fishing right owners is incomplete, individual fishermen are contacted for complementary information
- Surveys to fishermen are used to estimate the catches by angling in the two largest rivers
- Statistics from broodstock fisheries is among the most reliable source of information, as each individual fish is normally entered in a register.

Coastal salmon fishery takes place almost exclusively with trapnets. Most of these are operated by commercial fishermen. They are obliged to use logbooks and to report their fishery and catches to the Swedish Board of Fisheries. Some of the trapnets are also operated by recreational fishermen without obligations to report. In order to estimate the catch by recreational fishermen, information on the number of trapnets in an area operated by commercial and recreational fishermen is used. Catches per trapnet by commercial fishermen has been used to estimate likely catch in nearby trapnets operated by recreational fishermen. A survey of the number of trapnets was carried out in 1999 and a slightly enlarged survey was carried out in the pilot study in 2003. Information on the number of trapnets operated by different categories of fishermen in 2003 and the catch by commercial fishermen in 2004 was used to calculate the coastal catch by recreational fishermen in 2004. A new survey of the number of trapnets is planned to take place in 2007.

Baltic salmon fishery in the sea is dominated by an offshore fishery with driftnets and longline. Recreational salmon catch in the sea has traditionally been very small, but it has increased since the introduction of trolling in the early 1990s. Trolling in the sea is concentrated to the southern Baltic and in particular to the Hanö Bay, ICES subdivison 25. An investigation was carried out within the framework of the pilot study in 2003 to get an overview of the trolling fishery and catches in year 2002 (Anon. 2003). The catch figure from 2002 has been used as a constant to estimate the recreational catch by trolling in 2003 and 2004. An update of the investigation of the trolling fishery is planned to take place in year 2007. It will cover the fishery and catches in 2006 and partially also 2007.

3.2 E. Swedish discard sampling

According to Commission Regulation (EC) No. 1581/2004 Chapter 3.E.1.b Sweden is obliged to collect discard data in order to present estimates of discard rates for selected species. Since 1996 Sweden has systematically sampled discard data in the most important Swedish fisheries in the Baltic and the Kattegat. For the Skagerrak and the North Sea, Swedish discard sampling started in 1999.

3.2.1 Swedish sampling effort of relevant species and areas

Appendix I contains a summary of the species and areas for which discard estimates are to be made according to Article H section e). The Swedish discard sampling effort given in Appendix I will be proportional to the fishing effort by strata and achieve the minimum levels given in Appendix XV Commission regulation EC (No) 1581/2004. Swedish discard sampling will cover area IIIb-d and area IIIa.

Vessels to be monitored will be selected randomly among a large number of vessels >12 m. There is no authority in Swedish law, which gives the possibility to enforce the fishermen to have observers on board. Therefore, only vessels where the skipper has agreed on having observers on board will be sampled.

The sampling will be stratified on:

- ICES Division/ Sub-division
- Quarter
- Discard pattern in relevant fleets

The fleets are defined on gear type and target species.

Data will be collected by staff from IMR, primarily by sampling on board commercial fishing boats, but also in ports during landing. In such cases, the part of the catch, which normally will be discarded, will be brought ashore separate from the normal landing part of the catch and worked up and recorded. In this case the same information is collected and recorded as if an observer had been on board.

The information to be sampled is:

- Vessel and gear characteristics
- Place, date, time and duration of fishing operation
- Total weight of discard and landing by all species caught
- Separate length distributions of discard and landings by all species caught. If the retained part of the catch is landed in commercial weight categories, separate length frequencies are obtained by category
- Otoliths per cm group of undersized fish (discard part of the catch) of selected species in accordance with EC (No) 1581/2004 appendix XII and XV.

Weight measurements are generally recorded as un-gutted fish and the measurements are made on un-gutted fish. When gutted fish are used a weight conversion factor will be applied.

All collected discard data are recorded in the Fish sample database (see Section 1) at IMR.

3.2.2 International discard data storage

All Swedish catch data sampled during discard sampling in the Kattegat and the Baltic Sea are included in the international common database: FISHFRAME. This database constitutes the backbone in the international discard calculations made for the area

and is essential for the further development and international co-operation concerning discard.

All countries around the Baltic Sea submit data to the database and have full access to all data collected if the data are used for scientific purposes.

Extended programme

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

3.3. F. Collection of data concerning the catches per unit effort and/or effective effort of specific commercial fleets.

Minimum programme

Catch and effort data are collected in the National Programme (Sections 2 and 3) and are used internally within the different institutes. Our C.P.U.E. data for salmon, Pandalus and Norway lobster are also used within the relevant ICES working groups.

Extended Programme

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

3.4 G. Eligibility of the scientific evaluation surveys of stocks

The Swedish Board of Fisheries commands two research vessels. The R/V ARGOS which is a 61 meters long stern trawler. IMR uses R/V ARGOS when conducting the Baltic International Trawl Survey (BITS), International Bottom Trawl Survey (IBTS) and the Herring Acoustic Survey.

Member States are required to conduct scientific research at sea to enable them to evaluate the size and distribution of the stocks, regardless of the data submitted by the commercial fisheries in relation to stocks for which such evaluations are possible and appropriate according to Commission Regulation (EC) No. 1639/2001. Sweden will undertake five surveys in the Baltic Sea, the Kattegat and the Skagerrak by using R/V ARGOS. These five surveys are of priority 1 and are included in the minimum programme as defined in Appendix XIV of Commission Regulation (EC) No. 1639/2001. Staff from IMR will in 2006 also participate in the international Atlantoscandic Herring Survey.

The trawl surveys described in this programme are internationally co-ordinated and will remain so. The planning and co-ordination of the surveys are done in ICES

working groups connected with the surveys (BITS Working Group, IBTS Working Group, WGBIFS Working Group, Herring Survey Planning Working Group).

Minimum programme

3.4.1 Baltic International Trawl Survey (BITS)

The survey is conducted twice during a year, in the 1st quarter (15 days at sea, 40 trawl stations) and one in the 4th quarter (10 days at sea, 30 trawl stations) with the research vessel ARGOS. The surveys cover area III d.

The primary purpose is to produce indices for recruitment and stock abundance of the Baltic cod stock. Sampling of individual cod includes fish length, age, weight, sex and gonadal maturity and is carried out on board the survey vessel. Data on gonadal maturity and individual weight are obtained to establish sex specific maturity ogives and mean weight at age for cod. The otoliths are analysed at IMR in Lysekil. Age determination takes place in accordance with standardised methods (Anon. 2000a).

The sampling procedure and the level of precision are defined in the Manual for the Baltic International Trawl surveys. ICES CM 2002/G:05(Addendum).

The survey is ICES co-ordinated and performed in collaboration with research vessels from Denmark, Germany, Poland, Latvia and Russia. However, all countries are not involved in every survey. During the survey a TV3 bottom trawl is used at day-time. This gear is rather newly developed and is used as a standard by the countries involved. Hydrographical data are collected with a CTD.

Primary survey data are stored in a fish sample database administered by IMR in Lysekil. Aggregated data are reported and used annually by relevant ICES Working Groups. Since 1997, data are also stored in an international co-ordinated database (DATRAS) at ICES in Copenhagen

3.4.2 International Bottom Trawl Survey (IBTS)

The survey is conducted twice a year, one in the 1st quarter (15 days at sea, 45 trawl stations) and one in the 3rd quarter (15 days at sea, 45 trawl stations) with the research vessel ARGOS. The surveys cover area III a and are the Swedish part of the IBTS.

The purpose is to estimate abundance by age, in particular for the recruiting year classes of target species (cod, haddock, whiting, herring, sprat, Norway pout, mackerel and plaice) in the Kattegat and the Skagerrak. Sampling of target species includes fish length, age, weight, sex and gonadal maturity and is carried out on board ARGOS. The otoliths are analysed at IMR in Lysekil. Age determination takes place in accordance with standardised methods (Anon. 2000a).

The sampling procedure and the level of precision are defined in the Manual for the International Bottom Trawl Surveys ICES CM 2000/D:07.

The survey is ICES co-ordinated and performed in collaboration with research vessels from Denmark, Norway, Germany, Netherlands, England, Scotland and France. During the surveys, a GOV bottom trawl is used at day-time. This gear is a standard and used by all countries involved. A Method Isaac Kidd trawl is used at night-time in the quarter 1 survey to estimate the abundance of fish larvae, in particular herring- and sprat larvae. Hydrographical data are collected with a CTD.

Intercalibration

Since Sweden is the only country sampling Skargerrak and Kattegatt (compared to the rest of the IBTS areas where several MS sample), a quality check of the towing characteristics was made. A number of tows for the purpose of intercalibration were made with the Danish R/V Dana and the Swedish R/V Argos during the 1st quarter survey 2005, but bad weather conditions restricted the amount of useful hauls that could be achieved. Hence, additional time for intercalibration is required, preferably one extra week.

New sampling design

Compared to the rest of the North Sea IBTS area, the Skargerrak is much deeper and its topography is much more diverse. Additionally, the spatial coverage by Sweden has not covered all the different rectangles in the area and at the same time over-sampled other rectangles. The habitat characteristics and the physical environment influence the spatial distribution of demersal species and depth is often considered to be the main factor driving the fish fauna gradient changes occur. A first attempt to analyse the effect of changing the sampling design has been performed. The objective of this study was first to explore how representative the present sampling design is compared to depth stratified sampling design. Secondly, to explore what affect a depth stratified sampling design would have on the index of gadoids, and thirdly, to consider a spatially more disaggregated sampling design compared to the sampling design presently used. The results suggest that changing the sampling design will affect the time series. The reason for why the index is slightly lower with a depth stratified sampling design is related to that the depth stratified sampling design includes fewer hauls where we have caught more cod in the past. Making the design depth stratified will only affect it qualitatively but changing it towards a more spatially stratified will have a serious effect on the index and the variance. The Working Group recommends Sweden to change their sampling design in the Skagerrak because Sweden is not covering the entire area. However, the WG recognises the problem with breaking a long time series and suggests that Sweden keeps as many hauls as possible from previous years but at the same time tries to cover all rectangles with at least 1 haul where ever possible. A new sampling design in Q3 can only be possible if extra ship time is allocated due to longer distances. Additional ship time is required, preferably three extra days.

Primary survey data are stored in a fish sample database administered by IMR in Lysekil. Aggregated data are reported and used annually by relevant ICES Working Groups. Since 1977, data are also stored in an internationally co-ordinated database (DATRAS) at ICES in Copenhagen.

3.4.3 Herring Acoustic Survey

The survey is conducted during the 4th quarter (15 days at sea, 40 trawl stations) with the research vessel ARGOS. The Swedish part of the survey covers area IIIId (sub-divisions 25-29S).

The purpose is to provide acoustic abundance estimates of herring and sprat in the Baltic Sea.

The sampling procedure and the level of precision are defined in the Manual for the Baltic International Acoustic surveys ICES CM 1994/H:3.

The acoustic abundance estimate is done in collaboration between Germany, Denmark, Poland, Russia, Latvia and Estonia. The herring and sprat are length measured on board and sent to IMR in Lysekil for further examinations such as age, weight, sex and gonadal maturity. Age determination takes place in accordance with standardised methods (Anon. 2000a).

Primary survey data are stored in a fish sample database administered by IMR in Lysekil. Aggregated data are reported and used annually by relevant ICES Working Groups. Since 2000, data have also been stored in an internationally co-ordinated database (EC 99/06) DFU in Hirtshals, Denmark.

3.4.4. Atlantoscandic Herring Survey

Sweden will participate with two staff members during two weeks of the survey.

Extended programme

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

3.5 H. Biological sampling of catches: composition by age and by length and I. Other biological sampling

Member States are required to collect biological, random samples in order to evaluate the composition in length and where appropriate in age of landings for all stocks specified in Appendix XV in Commission Regulation (EC) No. 1639/2001 and for some species also other biological samplings.

Biological sampling must be performed if the Swedish TAC or total landings of a certain species exceed thresholds defined in 1639/2001 Chapter H.1(d). Appendix II shows the landings made in Sweden by Swedish flagged vessels and by other Member States flagged vessels. Information on Swedish and total EU TAC is given for each stock as a three-year average (2002-2004).

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 Swedish fishing ports. The data provide the basis, together with data from other fishing nations, for analysis of historical exploitation and for forecasts of future catches.

Biological sampling is performed by different laboratories within Sweden. For most stocks included, sampling is covered by IMR in Lysekil and Karlskrona. All data sampled by IMR will be stored in a fish sample database at IMR in Lysekil. Most species included in the extended programme in the Baltic are sampled and recorded by the Institute of Coastal Research, and salmon stocks in the Baltic by the Institute of Freshwater Research, but in close co-operation with IMR.

3.5.1 The Swedish sampling procedure

The standard sampling procedure will be carried out on a quarterly basis by ICES division in the main fishing ports where landings take place. Standard samples are collected from landings, which are sorted in commercial weight categories. This standard sampling strategy will carry on during 2006 but changes in how to make the sampling more optimal is discussed for most stocks included in the minimum program. The changes are aiming towards a more precision based approach. Sampling strategy varies between countries and has been discussed in for example ICES workshop (WKSDFD) 2005. A move towards a harmonized sampling strategy on stock level should be the most optimal way of sampling a fish stock.

The basic idea of the new approach is to collect random samples within each category and to sample all age classes in the population equally in number within a quarter and area. The individuals are collected from a number of boats representing the fishery in the area, in time and space. The ideal number of individuals to be sampled depends on number of age classes in the population, and differs between stocks. This approach will be implemented, meaning that independent of landing size a certain number of individuals will be sampled to make sure a high quality (good precision) on all relevant age classes on a quarterly basis.

We will evaluate the idea to sample both landings and discards onboard fishing vessels in Kattegat were the quotas are very low for demersal species, which make sampling occasions scarce.

Total TAC, Swedish TAC and landings together with minimum sampling level required for each stock is given in Appendix II.

The samples are normally analysed in the fishing ports, but some samples are analysed at the different laboratories. All individuals in a sample are analysed according to the standard measures:

- Length
- Weight
- Age

Age determination always takes place at the laboratories according to standardised methods (Anon. 2000a).

The intention of 'Other biological sampling' is to describe annually the distribution by sex, sexual maturity and spawning biomass by age and by sex for some fish stocks. The parameters mentioned in Chapter III I.(1)(a)(i) and (iii) will be sampled on all species during surveys and from landings of cod in the Kattegat. Samples of herring are subject to the parameters mentioned in section 1(a) (i) and (ii) as an improvement of the estimation of spawning stock biomass and recruitment to the spawning stock. Precision levels for these parameters are outlined in the Commission Regulation (EC) No 1639/2001 Chapter III I. (1) (c). The level of precision for the parameters collected during a survey is a result of the sampling strategy outlined in the internationally agreed manual existing for each survey. Suggested tools to calculate the CV for these parameters are discussed in section 1.3 precision level. The accuracy of these parameters is applicable to aggregated data at an international level according to Chapter III I (1)(d)(2).

A description of each stock that is included in the Swedish sampling is described below, following the structure: The Swedish landings, the Swedish TAC of the EC shared TAC in percent and a short description of the fishery. The sampling procedure is described if it deviates from the standard sampling procedure described above following by a short description of how other biological sampling is performed. More information on Swedish sampling on catches is given in Appendix II.

Minimum Programme

3.5.2 The Baltic Sea ICES AREA IIIb-d

Cod

The Swedish landings of cod from areas IIIb-d in 2004 were 15 126 tonnes, obliging Sweden to sample this stock. Cod in the Baltic Sea is regarded to be two different stocks: the Western stock (sub-divisions 22-24), and the Eastern stock (sub-divisions 25-32). Biological sampling and results are reported by stock.

The cod fishery in the Baltic is conducted mainly with trawls and gill-nets, but also long-lines are used with increasing intensity. The bottom trawling is conducted during day-time at 30-100 meters depths all year round with exception for the obligatory summer closure. The optimum temperature range for adult cod is at 6-8 C°. By using temperature sensors on the trawl most of the fishing is done at depths within the optimum temperature range.

The gill-net fishery is conducted primarily by smaller vessels, fishing along the coast. Each vessel uses 4-6 km gillnets.

Sampling of cod follows the standard sampling procedure. Cod are sorted with respect to weight, in accordance with EU standard 1-5. The proportion of fish landed in size categories 1-3 is small and is thus sampled as one single category. Sampling of the Western and Eastern stocks takes place in fishing ports situated in Karlskrona, Nordersund, Simrishamn and the islands of Gotland and Öland.

The Swedish sampling of cod in the Baltic is over-sampled in relation to the Minimum Programme requirements since the stock is subject to a recovery plan. The sampling strategy is set to “achieve a precision level 2 for length and where appropriate, for age composition of landings”.

The additional sampling is also based on the fact that the Western and the Eastern stocks must be sampled separately and that trawl, gill-net and long-line fisheries are separated as well.

Sampling of other biological parameters (including fish length, age, weight, sex and gonadal maturity) is carried out on board R/V ARGOS during the BITS surveys conducted in the 1st and 4th quarters and supplements the sampling of landed cod. Sex and maturity are determined following the international 5 scale maturity key.

Collected data are stored in a fish sample database at IMR. Results are reported annually to the ICES Working Group (WGBFAS).

Herring IIIb-d

The Swedish officially reported landings in 2004 were 38 thousand tonnes, obliging Sweden to sample this stock. All Swedish landings derive from III d. Sweden is sampling the areas sd 22-24, sd 25-29, sd 30 and sd 31 as separate sampling units.

Herring is caught mainly in pelagic trawls, but also in bottom trawls and in the coastal zones during spawning season also in gill-nets. The herring fishery takes place in all seasons, but is more intensive during winter and spring. The majority of the catch is landed for industrial purposes.

Sampling is sub-divided between two fishing fleets:

- a/ herring fisheries with bottom trawls or ring nets with ≥ 32 mm mesh size,
- b/ mid-water trawl fisheries with both <32 mm and ≥ 32 mm mesh, which land herring mainly for industrial purposes.

Standard sampling procedure as described in 3.5.1 is performed on both fishing fleets, except that samples are taken from unsorted catch. Samples from fishing fleet b/ are collected by the Swedish Coast Guard during their standard control of the pelagic fishery regarding species composition. Samples from fishing fleet a/ are purchased, and all samples are transported to IMR in Lysekil for analysis.

Sampling of other biological parameters such as sex and gonadal maturity is performed on fishing fleet a/. Sampling of fishing fleet b/ includes no adequate sampling by sex and by sexual maturity, because in principle all landings are intended for the fish-meal and oil industry. The samples are thus not suitable for anatomical/histological examination. The parameters are also collected during the Herring Acoustic survey conducted in the 4th quarter. Sex and maturity are determined following the international 8 scale maturity key.

Collected data are stored in the fish sample database at IMR. The results are reported annually to the ICES Working Group (WGBFAS).

Sprat IIIb-d

The Swedish officially reported landings in 2004 were 78.6 thousand tonnes, obliging Sweden to sample this stock.

The Swedish sprat fishery in the Baltic Sea is conducted with mid-water trawl with <32 mm mesh size and the catches are mainly landed for industrial purposes. The fishery is most intensive during winter and spring.

Samples are collected by the Swedish Coast Guard during their standard control of the species composition in the pelagic fishery. Samples are transported to IMR in Lysekil and analysed using standard procedure described in 3.5.1, except that samples come from unsorted catch. Data (age, length and weight) on sprat are also collected at the Herring Acoustic Survey conducted in the 4th quarter.

Data are stored in the fish sample database at IMR.

No adequate sampling for other biological parameters is conducted because in principle all landings are intended for the fish-meal and oil industry. The samples are thus not suitable for anatomical/histological examination.

Flounder (*Platichthys flesus*) IIIa S, IIIb, IIIc

In recent years, the total commercial flounder catches have varied between 200 and 500 tonnes annually being 198 tonnes in IIIb-d and 14 tonnes in IIIa in 2004. Flounder is caught mainly in ICES subdivisions 25 and 27. The majority of the catches is taken with gill-nets and a large amount is taken as a by-catch in demersal trawling.

Sampling is weighted according to fishing method and expected landings. The number of samples required according to the minimum program (three samples, 150 individuals) is not adequate to cover sampling of all gear types and catch areas. The annual sampling schedule consists of 28 samples (1400 fish) in ICES subdivisions 25, 27 and 28 (Appendix VIII). Simple random sampling is applied. Each individual will be measured for length and in total of 1000 fish will be aged. To obtain highest possible standard in age reading, a method of sectioning the otoliths will be used. The

sampling scheme will be modified annually, depending on catch rates and fishing activities. Precision will be calculated as coefficient of variation per age group.

Eel (*Anguilla anguilla*) IIIa S, IIIb, IIId

The commercial eel catches consist of 50% silver eel and 50% yellow eel. The total annual catches of both eel types have varied between 400 and 600 tonnes recently. In 2004, the total eel catches amounted to 220 tonnes in IIIa and 234 in IIIb-d. There is a clear subdivision of the catches of the two eel types with silver eel being caught on the Swedish east coast and yellow eel on the west coast. Yellow eel catches are concentrated on the west coast with most catches in SD 20. The dominating gear type in the yellow eel fishery is fyke nets. Silver eel is caught mainly in Subdivisions 25 and 27. The dominating gear type in silver eel fishery is pound nets.

The annual yellow eel sampling schedule consists of 15 samples (1 500 individuals) in ICES subdivisions 20, 21, 23 and 27. Silver eel will be sampled in subdivisions 23, 24, 25 and 27. Nine samples of silver eel will be collected. All individuals will be measured for length and age.

Salmon IIIb-d

Catch samples

The total Swedish landings including both commercial and recreational catches was on average 128300 salmon during the years 2002-2004. These landings oblige Sweden to sample this stock. The sampling of salmon follow the standard sampling procedure described in 3.5.1. Scale samples are taken for age determination.

A sampling scheme was planned for all countries with salmon fishery at sea in the Main Basin by the ICES Working Group in April 2005. This sampling scheme takes into account that earlier sampling has neglected some areas. Sampling of the commercial fishery in ICES sub-divisions 25-29 takes place in major landing ports for salmon caught at sea. It is planned according to the previous year's fishing pattern and it is concentrated on salmon caught by drift-nets but also long-line catches will be examined. As drift-nets will be phased out it is expected that catches by long-line will increase and the proportion of long-line samples may have to increase.

Sampling of the commercial catches in the coastal fishery takes place in the Gulf of Bothnia (ICES sub-divisions 30-31). The sampling is carried out by selected fishermen themselves in four sections of the coast, off Nordmaling, Skellefteå, Kalix and Haparanda.

Recreational fishery is sampled in four different rivers in the Gulf of Bothnia, where catch samples are collected throughout the fishing season in the second and third quarter of the year. The monitored variables include smolt age, sea-age, sex, origin (wild/reared) and size at capture (weight and length). These data is an integral part of the assessment of the spawning run composition and the effects of the fishery.

The purpose of other biological sampling is to determine the proportion of wild and reared salmon in the landings. Scale characters are used to determine whether the salmon is of wild or reared origin. These data are collected in conjunction with the age determination of the sampled salmon and their cost is included in the Age/length of Landings. It has been recommended by the ICES Working Group to include DNA-analysis of salmon in the DCR, in order to determine the salmon origin and improve assessment. At the moment such analyses are funded nationally, and are not included in the Swedish NP unless the DCR is revised following the recommendations of the ICES Working Group.

Data concerning the proportion of sexually mature salmon and the sex-ratios will be collected by observers onboard commercial offshore vessels in the southern Baltic. These cruises will also be used to collect data on discards of salmon. The samples of legal size fish from these cruises will be utilized as catch samples. Data on fecundity will be collected by a recreational broodstock fishery in River Dalälven.

Salmon data are sub-divided by length and age and are stored in a database administered by the Institute of Freshwater Research (IFR). Sampling results are collected annually to the ICES Working Group (WGBAST).

Monitoring of salmon in rivers

The IBSFC has adopted long-term management goals for the Baltic salmon stocks, the so-called Salmon Action Plan 1997-2010 (SAP). The most important operational management objective is to gradually increase the natural smolt production of wild Baltic salmon to attain at least 50% of the natural production capacity of every individual wild salmon river. To evaluate the achievement of this goal two types of information are needed:

- The smolt production capacity of each Baltic wild salmon river
- The current smolt production of each Baltic wild salmon river

This information plays a crucial role in the assessment of Baltic salmon, as a basis of stock projections and management advice. The need of the information above calls for direct measurement of juvenile production and collection of data on the size of the spawning run by establishing so called index rivers. In addition to these data information are needed on the development of the stock in each individual wild salmon river. This is carried out by collection of data from fish ladders and young fish surveys. ICES Working Group (WGBAST) has explicitly described these data as necessary to improve the assessment of Baltic salmon.

There are 14 Baltic wild salmon rivers in Sweden; two of these are located in the Main Basin (Sub-divisions 22-29) and 12 in the Gulf of Bothnia (Sub-divisions 30-31). The largest of the salmon rivers, River Torneälven, flows along the border of Sweden and Finland and the monitoring of the salmon stock in this river is organised in close co-operation between the two countries. Finland has a large share of the total programme in this river and also much higher monitoring costs than Sweden has. In particular Finland operates a large scale smolt trapping to estimate the present

production. This division of the monitoring is recognized and supported by both countries.

In the year 2006 monitoring of the Swedish wild salmon river stocks will be included in the NP: Electrofishing of salmon parr will take place in the autumn in all 14 wild salmon rivers. Such surveys have been going on annually for more than 10 years, but this is the first time that the surveys will be included in the NP. These surveys follow a well developed methodology and covers between 7-42 sites in different rivers, in total slightly more than 200 sites. In about every fourth year high water flows will make it impossible to carry out the surveys. Electrofishing are carried out by subcontractors in approximately six of the rivers.

Smolt trapping will take place in one regional index river in the Gulf of Bothnia in the year 2006. Smolt trapping is carried out for the first time in this river, Sävarån, in year 2005 and an investment was made in specialized smolt traps for this study and a five-year depreciation period was established. The depreciation of these smolt traps are included in the NP for 2006. Subcontractors are carrying out the smolt trapping study in year 2005 and according to present plans they will run the survey also in 2006. An evaluation of the resulting report in late 2005 may however result in that the Board of Fisheries will carry out the survey in 2006. In that case Sweden would like to change the budget of the NP accordingly.

Fish ladders will be operated in three different rivers; Kalixäven, Lögdeälven and the index river Sävarån. Operation of fish ladders in some other rivers are not included in the NP as the maintenance of them is covered by other financing (primarily through power companies).

Sweden has two potential salmon rivers where a wild salmon stock is being introduced. Electrofishing surveys in these rivers are not being included in the NP, but it is expected that surveys in them in 2006 will be carried out in other national programmes.

All data from electrofishing surveys are collected in a national database covering all Swedish surveys (SERS). All data from river monitoring will be reported to the relevant ICES Working Group (WGBAST).

3.5.3 Kattegat and Skagerrak ICES AREA IIIa South and North

Cod

The Swedish landings in 2004 were 499 tonnes in the Kattegat and 547 tonnes in the Skagerrak, obliging Sweden to sample both stocks. In 2006 the sampling is intensified as the stocks are subject to a recovery plan.

Cod in the Kattegat and the Skagerrak is caught mainly in bottom trawls, both in directed fishery for fish but also as by-catch in Nephrops fishery. Cod is also caught in directed gill-net fishery. The major part of the catch is taken during the 1st and 4th quarters. Sampling of cod is performed in the fishing ports in Bua and Göteborg.

Standard sampling procedure is followed as described in 3.5.1. Cod are sorted according to weight, as defined in EU standard 1-5. The proportion of fish landed in size categories 1-3 is small and is thus sampled as a single category.

Sampling of other biological parameters (includes fish length, age, weight, sex and gonadal maturity and fecundity) is carried out on board R/V ARGOS during IBTS surveys conducted in the 1st and 3rd quarters and supplements the sampling of landed cod. Sex and maturity are determined following the international 4 scale maturity key.

The data are stored in the fish sample database at IMR and the results are reported annually to the ICES Working Group (WGBFAS) for data on cod in the Kattegat and (WGNSSK) for data on cod in the Skagerrak.

Herring

The total Swedish herring catch in area IIIa was in 2004 30,7 thousand tonnes, obliging Sweden to sample this stock.

Sampling of herring in IIIa takes place by spawning stock (Chapter III.I.1.a.ii). Herring in IIIa consist of:

- a/ autumn-spawners from the North Sea
- b/ spring-spawners from the Western Baltic Sea
- c/ local winter and spring-spawning stocks.

The size of these stocks varies between years, seasons and age groups. The variations are evaluated annually with the help of special biological sampling. From 1990 onwards, two spawning stocks are identified: autumn-spawning and spring-spawning herring.

Since 1990, sampling has been divided between two fishing fleets:

- a/ herring fisheries with trawls or ring nets with >32 mm mesh size,
- b/ purse seine fisheries with <32 mm mesh and other fisheries with <32 mm mesh which land herring mainly for industrial purposes.

Sampling on fleet a/ is purchased and transported to IMR in Lysekil for analysis. Sampling on fishing fleet b/ is performed by the Swedish Coast Guard and transported to IMR for analysis. Standard sampling procedure is used as described in 3.5.1 except that sampling is performed on unsorted catch.

The purpose of the other biological sampling is to estimate on a yearly basis the distribution by sex and maturity per age and spawning stock. Identification of spawning stocks takes place on an individual basis.

Sampling of fishing fleet a/ includes supplementary data by sex and gonadal maturity. The spawning type is determined by analyses of otoliths and vertebra in individual fish. Sampling of fishing fleet b/ includes no adequate sampling by sex and by sexual maturity, because in principle all landings are intended for the fish-meal and oil industry. The samples are thus not suitable for anatomical /histological examination. Samples of other biological parameters are also collected during IBTS surveys

conducted in the 1st and 3rd quarters. Sex and maturity are determined following an 8 stage international key.

Data are stored in the fish sample database at IMR. The results are reported annually to the ICES Working Group (HAWG).

Sprat

The Swedish landings in 2004 in area IIIa were 5,6 thousand tonnes obliging Sweden to sample this stock.

More than half of the landings originate from fisheries in the Skagerrak.

Sampling is sub-divided into fish for human consumption and fish for industrial purposes.

a/ Sprat for human consumption is caught with fine-mesh purse seines and ring nets mainly during autumn and winter in the Skagerrak.

b/ Fisheries for fish for industrial purposes take place throughout the year using ring nets, mid-water trawls and bottom trawls.

Sampling from the human consumption fisheries a/ is performed on landings from representative purse seine boats during the 1st and 4th quarters. Sampling of animal feed fisheries b/ is performed all year round on landings made at the fish-meal factory on Ängholmen. Standard sampling procedure is used as described in 3.5.1 except that sampling is performed on unsorted catch.

The purpose of the other biological sampling is to estimate on a yearly basis the distribution by sex and maturity per age and sex.

Samples from the human consumption fisheries are purchased and transported to IMR a/. Sampling includes supplementary data relating to sex and gonadal maturity. Samples of the animal feed fisheries b/ are collected by the Swedish Coast guard and include no adequate sampling by sex and by gonadal maturity because in principle all landings are intended for the fish-meal and oil industry. The samples are thus not suitable for anatomical /histological examination.

Supplementary data relating to sex and gonadal maturity together with data relating to age, weight and length, are obtained from non fisheries-dependent studies on board R/V ARGOS during IBTS surveys in the 1st and 3rd quarters.

The data are stored in the fish sample database at IMR. The results are reported annually to the ICES Working Group (HAWG).

Plaice

The Swedish landings in 2004 were 136 tonnes in the Kattegat and 174 tonnes in the Skagerrak. Plaice in the Kattegat and the Skagerrak are assumed to belong to the same stock. These landings oblige Sweden to sample this stock.

Plaice are caught in trawls, Danish seines and gill-nets. Catches are taken all year round. Sampling of plaice is carried out in the fishing port in Göteborg. The sampling of plaice follows the standard sampling procedure described in 3.5.1. Plaice are sorted in respect of weight, as defined in EU standard 1-4. Size categories 1 and 2 are sampled as one size class due to few fish landed.

Sampling of other biological parameters is conducted on board R/V ARGOS during IBTS surveys in the 1st and 3rd quarters and supplements the sampling of landed plaice.

Data are stored in the fish sample database at IMR. Results are reported annually to the ICES Working Group (WGSSK).

Haddock IIIa N

The Swedish landings in 2004 in area IIIa were 153 tonnes, obliging Sweden to sample this stock. Sampling of this stock must only include fish length according to exemption provision in Chapter III.H (1) (d).

Haddock is landed all year round and only for human consumption purposes. Haddock is caught in bottom trawls, Danish seines and gill-nets.

The sampling of haddock is not following the standard sampling procedure. Sampling of haddock caught in the Skagerrak is carried out on board fishing boats and includes only length measurements on unsorted catch. Only undersized individuals are sampled for age.

The purpose of the other biological sampling is to estimate on a yearly basis the distribution of sex and maturity per age. Sampling of other biological parameters such as fish length, age, weight, sex and gonadal maturity, is carried out on board R/V ARGOS during IBTS surveys conducted in the 1st and 3rd quarters and supplements the sampling of landed haddock.

Data are stored in the fish sample database at IMR. Results are reported annually to the ICES Working Group (WGSSK).

Mackerel

The Swedish landings were for 2002-2004 on average 4655 tonnes, obliging Sweden to sample this stock. However, on average more than 90% of the landings were made in Denmark and Norway and no sampling in Sweden is planned for 2006.

Norway lobster

The Swedish landings in 2004 were 902 tonnes, obliging Sweden to sample this stock.

The purpose of biological sampling of catches is to yearly estimate the number of Norway lobsters and their average weight by length and estimated age in Swedish catches.

The fishery for Norway lobster (*Nephrops*) is conducted in the Skagerrak and the Kattegat, using *Nephrops* trawls and crustacean-creels.

Sampling of Norway lobster is not following the standard sampling procedure and differs between the two areas. The sampling is carried out on board commercial Norway lobster trawlers (single and twin trawlers) and onboard crustacean-creel boats and is performed by personnel from IMR. Sampling onboard trawlers is performed on the sorted catch, i.e. both on the proportion of the catch to be landed and the proportion to be discarded, separated into sex, and includes length measurement of the carapax.

Other biological parameters such as sex and gonadal maturity are sampled as supplementary data on females for those individuals which are measured for length, in accordance with the procedure described above. The analytical stock assessment is carried out on each sex separately.

Sweden and Denmark has signed an agreement of co-operation in data collection. The agreement has an emphasis on foreign landings but it also covers specific parameters. For Norway lobster it has been agreed that only Sweden will carry out sampling for Other Biological Parameters and will therefore increase its sampling intensity to compensate for the missing Danish sampling.

Data are recorded and stored at IMR. The results are reported annually to the ICES Working Group (WGNEPH).

Pandalid shrimps IIIa N

The Swedish landings in 2004 were 2145 tonnes, obliging Sweden to sample this stock.

The purpose of biological sampling of catches is to estimate annually the number of prawns and their average weight by length and age in Swedish catches.

The pandalid shrimps are caught in trawls fishing at 150-400 meters depth. The catch is sorted on board according to size. The fraction of larger shrimps is boiled on board, the middle fraction landed fresh to the canning industry and the smallest shrimps are discarded.

The sampling of shrimps is not following the standard sampling procedure. Samples from both parts of the landings are purchased and transported to IMR for analysis of carapax length, sex and weight.

Sampling of other biological parameters such as sex and gonadal maturity comprises supplementary data on the individuals whose length is measured in accordance with the procedure described above.

Data are stored at IMR. The results are reported annually to the ICES Working Group (WGPAND).

Extended programme

Collection of data according to Chapter H. Biological sampling of catches: composition by age and length, and Chapter I. Other biological samplings, will be carried out within the framework of the extended programme for the stocks:

- Turbot IIIb-d
- European whitefish III d
- Pikeperch III d
- Pike III d
- Perch III d

Turbot IIIb-d

Swedish landings in 2004 were 33 tonnes and are locally of considerable significance for the small-scale coastal fisheries. The fishery is not subject to quotas. The landings have decreased from the top values in the mid nineties with catches over 200 tonnes and misgivings have been expressed about over-fishing, although it has not been possible to evaluate these due to the lack of biological data.

Although the division into sub-stocks is uncertain, the stocks in the central and northern parts are considered to be local. Turbot in this area spawn in the shallow waters close to the coast. This is reflected in the fisheries, which land the largest catches in conjunction with the spawning period during summer. The most intensive fisheries are conducted in sub-division 28, in the shallow area to the east and south of the island of Gotland, representing 42% of total Swedish landings. The second most important fishery area (25% of total landings) is SD 25, southern Öland and the Bornholm Basin. This provides sufficient reason for Sweden to conduct biological sampling on the stock in these areas.

The fishery is operated almost exclusively with turbot gillnets (large-mesh nets) on the seabed. The extensive nature of the fishery and its isolated location in the middle of the Baltic Sea justify the establishment of a system for biological sampling in the area east of the island of Gotland. To enable evaluation of geographic stock variation an additional area chosen for sampling is SD 25. Stratified sampling is conducted in co-operation with the fishermen in the area. Fishermen conduct length measurements on board the vessel, divided into landed size grades and fish below the legal minimum size (30 cm). Fish intended for age analysis are collected by the fishermen and frozen for storage and future preparation in the laboratory of otoliths and recording of their lengths and weights. The fishermen keep a detailed log of the fishing effort, the mesh size in their gear, fishing grounds and catches sub-divided by size grades (Subcontract, Appendix XI).

The fishery is concentrated to the 2nd and 3rd quarters and the collection process is adapted to this fishing pattern. Sampling includes the length measurement of at least 100 fish per vessel, size grade and month. The total weight of the sub sample that is measured for length is recorded. Age samples are taken at random from 100 fish by size grade, and area, including fish below the minimum size.

Age determination takes place in accordance with standardised methods (Anon. 2000a).

Sampling of other biological parameters such as sex and gonadal maturity comprises supplementary data to describe the distribution by sex and by age and sexual maturity by age and sex.

Data are stored in a database administered by the Institute of the Coastal Research in Öregrund. Sampling results and aggregated data will be reported annually to the ICES Working Group (WGBFAS).

European whitefish (*Coregonus lavaretus*)

Commercial whitefish fishery is most intensive in ICES subdivisions 30 (Bothnian Sea) and 31 (Bothnian Bay). In recent years, the annual whitefish catch in the coastal areas in Sweden has been about 200-300 tonnes, being 295 tonnes in 2004. In 2004, 27% of the total whitefish catch was taken from subdivision 30 and 58% from subdivision 31. Whitefish is also caught in subdivisions 29 and 27, with catch proportions of 7-8% each. The dominating gear type in all areas is gill-nets with mesh-sizes between 25 and 65 mm bar length. In total, about 49% of all whitefish is caught with gill-nets and 42% with various types of trap nets.

There are at least two whitefish forms in the sea area of Sweden, the river-spawning migratory whitefish and sea-spawning whitefish. Usually the catches consist of both forms, the migratory whitefish being more common. Pure samples of each whitefish form can only be obtained from spawning populations.

The biological sampling should cover both whitefish forms and gear types. Most of the gill-net catches are taken with mesh-sizes between 36 and 45 mm bar length, less than one third are taken with meshes larger than 45 mm. Selectivity of different mesh-sizes vary considerably, and therefore the sampling covers these two mesh-size categories. The number of samples calculated according to the Commission Regulation (1 sample per 100 tonnes landings) is not sufficient to guarantee a successful assessment of the whitefish stocks, given the different gear types and whitefish forms.

Sampling is weighted according to fishing method and expected landings in each subdivision. The annual sampling scheme consists of 45 samples (2250 individuals) covering gill-net and trap net catches in Sub-divisions 27, 29, 30 and 31 (Appendix IV). Simple random sampling is applied. Each individual will be measured for length and in total of 1000 individuals will be aged. The sampling scheme will be modified annually, depending on catch rates and fishing activities.

Pikeperch (*Sander lucioperca*)

The annual pikeperch catch in Sweden varies between 20 and 70 ton. The catches have steadily declined since 1997 being 30 tonnes in 2004. The commercial pikeperch catch is taken mainly with gill-nets in spring, summer and autumn. The majority (95 %) of catches are taken in subdivisions 27 and 29N. About 92 % of the catches are taken with gill-nets. Mesh sizes between 28 and 60 mm (bar length) are used, but mesh sizes over 45 mm are dominating the catches. The sampling is thus only needed of gill-nets with mesh sizes over 45 mm.

Sampling is weighted according to fishing method and expected landings in each subdivision. The annual sampling schedule consists of 6 samples and 300 individuals (Appendix V). Simple random sampling is applied. Each individual will be measured for length and aged. To improve the accuracy, both otoliths and scales are used in age readings. The sampling scheme will be modified annually, depending on catch rates and fishing activities.

Perch (*Perca fluviatilis*)

The total commercial perch catch varies between 100 and 160 tonnes annually, and was about 103 tonnes in 2004. The perch catch is taken mostly with gill-nets (62 %) and trap nets (31 %) in spring, summer and autumn. In 2004, 39 % of the catches were taken in subdivision 31 (Bothnian Bay), 32 % in subdivision 30 (Bothnian Sea), 19 % in subdivision 27 and 8 % in subdivision 29N.

The number of samples based on the extended program C3 (2 samples, 100 individuals) is not adequate to cover sampling of all gear types and catch areas. Gill- and trap net catches of perch differ from each other in terms of size selectivity, and therefore both gear types must be covered in the sampling programme. Mesh sizes between 20 and 60 mm bar length are used in the gill-net fishery, but the majority of the catches are taken with mesh-sizes over 38 mm.

Sampling is weighted according to fishing method and expected landings in each subdivision. The annual sampling schedule consists of 30 samples (1500 fish) in ICES subdivisions 27, 29N, 30 and 31 (Appendix VI). Simple random sampling is applied. Each individual will be measured for length and in total of 650 individuals will be aged. The sampling scheme will be modified annually, depending on catch rates and fishing activities.

Pike (*Esox lucius*)

The total commercial pike catches have declined from 80 tonnes 1999 to about 39 tonnes in 2004. The majority of the catches are taken with gill-nets (67% of total landings). Pike is also caught with trap nets in subdivision 31 (Bothnian Bay). In 2004, 30% of the catches were taken from SD 31, 32% from SD 27 and 15% in SD 25.

Sampling is weighted according to fishing method and expected landings in each subdivision. The annual sampling schedule consists of 15 samples (750 fish) in ICES subdivisions 25, 27, and 31 (Appendix VII). Simple random sampling is applied. Each individual will be measured for length and aged. The sampling scheme will be modified annually, depending on catch rates and fishing activities.

4. Module of evaluation of the economic situation of the sector

4.1 J. Collection of economic data by groups of vessels

Economic data on the fleet will be compiled within the minimum as well as the extended program.

Economic data on the fleet will be based primarily on two sources:

- register data from the Swedish Board of Fisheries (vessels, catches, landings and prices)
- information based on questionnaire and company accounts/income declarations from selected sample groups of vessel owners.

Minimum programme

For each segment data on the following parameters will be collected in accordance with annex XVII:

Description	Parameters	Source
Income	Total and per species	<ul style="list-style-type: none"> - sales notes (SBF) - logbook (SBF) - company accounts/income tax declarations (vessel owners)
Production costs	Crew Fuel Repair and Maintenance Other operational costs	<ul style="list-style-type: none"> - company accounts/income tax declarations - questionnaire (vessel owners) - price statistics on fuel
Fixed costs	Average costs	<ul style="list-style-type: none"> - company accounts/income tax declarations (vessel owners) - calculated costs on replacement value or insurance value
Financial position	Share of own/foreign capital	<ul style="list-style-type: none"> - company accounts/income tax declarations (vessel owners)

		- questionnaire (vessel owners)
Investment	Value	- company accounts/income declarations (vessel owners) - calculated insurance value
Prices/species	Value/quantities	- Logbooks (SBF) - Sales notes (SBF)
Employment	Number	- questionnaires (vessel owners)
Fleet	Number GT KW Age Gear used	- vessel register (SBF) - logbooks
Effort		- vessel register (SBF) - logbooks (SBF)

The fishing fleet will be divided into the data collection segments as defined in annex III of the regulation. The below economic segments will be identified:

1. Demersal trawlers < 12 m
2. Demersal trawlers 12 - 24 m
3. Demersal trawlers \geq 24 m
4. Pelagic trawl and seiner < 24 m
5. Pelagic trawl and seiner \geq 24 m
6. Fixed nets 12 - 24 m
7. Passive gears < 12 m
8. Vessels with a total value of landings < 78 800 kronor (\approx 8600 euro)

When selecting companies to be included in the sample group, segment 1 – 6 will be divided into subgroups based on catch composition (quantities/values). Simple random sampling will be used as a first option when selecting vessels in each stratum (subgroup). In order to attain statistically significant results the aim is to collect data from at least 30 vessels in each subgroup. All compiled data from the sample group will be processed with data on all catches and total values for different subgroups. For these latter data, the coverage is approximately 100 %. In all, segments 1-6 represent more than 95 % of total landed value.

In segment 7, vessels < 12 m using passive gear, the fisheries differ from region to region and are very heterogeneous in terms of type of vessel, gear and catch composition. The segment comprises catches of all kinds of species and the various fisheries show very different earnings between and within regions and also between companies. In addition, the companies are generally very small and the fishermen often have additional means of income, which makes it very difficult to get accurate economic figures for costs associated with the fishing activity. In order to distinguish vessels with low value of landings, costs and earnings will be presented for vessels

with a total value of landings above 78800 kr (\approx 8600 euro)² in segment 1 – 7. The vessels which are not able to fulfil the income requirement are presented in segment 8 where only data on value of landings, capacity and effort will be collected.

The data will be analysed in database programmes (Excel/Access) and a programme for data management and statistical analysis (SPSS).

Data will be presented as average per vessel as well as aggregated for each segment. Price information will be on a quarterly basis.

Extended programme

The following additional data will be collected:

Description	Parameter	Source
Income	Total and per species - monthly - stock - market category	- sales notes (SBF) - logbooks (SBF) - company accounts/ income tax declarations
	- subsidies	- company accounts/income tax declarations - fisheries structural aid database (SBF)
Production costs	Remuneration - vessel owner (profit) - crew	- company accounts/income tax declarations - questionnaire (vessel owner)
Prices/species	Value/quantities - monthly - market category	- logbooks (SBF) - sales notes (SBF)
Fleet	Sub-segments	- vessel register (SBF) - logbooks

The object is to differentiate the data regionally. The calculations will be based on compiled data in the minimum programme. Data according to the table will be collected for all segments of the minimum programme as well processed for another set of segments based on catch composition (in addition to type of gear and length of

² In order to extend a vessel permit the total value of landings during the previous year is required to exceed 78 800 kr (\approx 8600 euro).

vessels). The information on this other set of segments will make it easier to study the link between the market situation and the profitability for the various types of fisheries.

The segments of the extended programme:

1. Pelagic trawlers and seiners ≥ 24 m
2. Pelagic trawlers and seiners < 24 m
3. Shrimp trawlers
4. Demersal trawlers, cod ≥ 24 m
5. Demersal trawlers, cod < 24 m
6. Demersal trawlers, nephrop < 12 m
7. Demersal trawlers, nephrop > 12 m

8. Passive gears ≥ 12 m
9. Passive gears < 12 m, eel in the Baltic sea
10. Passive gears < 12 m, eel in Skagerrak and Kattegat
11. Passive gears < 12 m, cod in the Baltic sea
12. Passive gears < 12 m, other species in the Baltic sea
13. Passive gears < 12 m, other species in Skagerrak and Kattegat
14. Vessels with a total value of landings $< 78\,800$ kronor (≈ 8600 euro)

4.2. K. Collection of data concerning the processing industry

Minimum programme

The data collection will be based on official statistics (Statistics Sweden) which is the only way of producing reliable and accurate statistics with reasonable costs. The information from Statistics Sweden will be processed in order to be in line with the data collection programmes.

The Swedish processing companies are not classified into primary and secondary processing. A separation is not possible, as many companies operate both as primary and secondary processors. Naturally the industries could be separated according to their main occupation but it will require heavy costs and the benefits do not justify that.

Available information of the parameters included in Appendix XIX.

- **Raw material, total and per species:** The raw material in the processing industry is very diverse, ranging from round, fresh cod and herring to salted roe in barrels. The total value of raw material can be calculated from official statistics with a rather good accuracy but the volume in tons is practically impossible. The statistics does not distinguish, what is used for direct consumption and what is input into industrial processing neither in the export/import statistics, nor in the landings. In addition the raw material cost for the industry is calculated at enterprise level which means that the same raw material will be calculated more than once if the processing companies sell their output for further processing. In spite of these difficulties it should be possible to calculate the total use of raw material in the processing industry measured in monetary terms. The species are in

general rather well known but to some extent the raw material is substituted from time to time pending the comparative prices. The species calculated as round weight are not possible to calculate.

- **Income (turnover), total and per product:** The total turnover, also divided per NUTS 3 and 5 areas and into company size categories (number of employment), is available. Turnover per product is not available but consumer price index for the most important consumer items are available.
- **Production costs, total and per category cost:** All figures are available except packaging and the costs for obtaining that figure do not correspond to the benefits. Also it seems that the packaging costs between the different processing companies vary substantially. The booked values are available.
- **Investment (asset), historical, replacement and insurance.** The value of the bookkeeping is available which is the historical value minus the depreciation. This value should be very close to the insurance value but no exact parallel exists. The historical and replacement values are not available.
- **Prices/product, value, tonne.** The companies are very reluctant to give away any figures but in spite of that some figures are available but they are not reliable. In practical terms no reliable figures are available. The consumer price index for fishery products and for individual items is available.
- **Employment, numbers/FTE.** The employment is available as the medium number of employed. The FTE is not available. As the number of staff working part time is rather limited the figures presented are rather close to FTE.
- **Capacity utilisation.** Not available. A query to the industry gave unreliable results.

Extended programme

Data on income, labour, energy, raw material (value), other running costs, investment, employment, value added will be presented at NUTS 3 and NUTS 5 levels in accordance to Commission Regulation No 1639/2001 Annex Chapter IV K.2. (b). Data for regions with very low number of companies, however, cannot be presented separately.

Data at national level for different size groups of companies (employment) will also be presented. Companies will be divided into the following groups (based on employment): 0, 1-4, 5-9, 10-19, 20-49 and 50 people or more. No employed people means self-employed.

It will not be possible to present data for the parameters according to Commission Regulation No1639/2001 Annex Chapter IV K.2. (a). Further work at community level should be undertaken to identify the most relevant parameters before regular data collection is made in this field. In Sweden about 80% of the raw material, counted in monetary terms are imported from outside the EU. The trade conditions including the trade agreements, autonomous tariff quotas and the CN code, which also are parts of the CFP are more important than the conservation regulations. However for cod and herring these regulations are important. The connection between the regulations affecting the catching sector and the processing sector can only be made in qualitative not quantitative terms.

5. Co-ordination

Since 2004, one national co-ordination meeting will be held each year with participants from all institutes/departments involved in the Swedish Data Collection Programme. The purpose is to synchronise the application procedure and the Technical Operational Report.

In 2006, our staff will continue to be active in the international fora, working on improving age-reading, methods for calculating precision and design of surveys.

Participation in the Regional Planning Groups is also a priority.

6. Development of databases

In 2006 priority will be given to upgrade and restructure the databases at the Institute of Marine Research in Lysekil and the Institute of Coastal Research in Öregrund.

Problem description

The databases used by the laboratories have been developed during a long period. New requirements have resulted in a system that has been extended continuously and there are now new demands on input and output.

- The Data acquisition programme and Fishframe have raised the level and require more from the database model. This means that higher quality input to be registered is needed. Further, a better traceability in the data acquisition is mandatory.
- The users' demand for a registering capability closer to the source is not possible in the present system. A simpler and easier interface for data entry calls for a web based solution.
- The present system does not meet the latest requirements for relational based databases.
- Expertise in relational databases and database models is needed to query and generate reports.

Proposal

A new data model should be designed to accommodate the increasing demands from both internal and external parties. Future requirements dictate that the model must be flexible and adaptable. It must be simple and easily accessible.

- A web based application should be used for data entry and reporting.
- The output-data model must support data warehouse technology and integrate into the common data warehouse of the Swedish Board of Fisheries. Simplicity in reporting to Fishframe and Data acquisition is important.

Activities in the suggested solution

- Goal (modelling)
- Terminology (modelling)
- Process modelling
- Requirements analysis
- Database design and development
- Test
- Documentation
- Training

Goals

- Providing the users with a solution built on modern technology, supporting quick data entry and efficient reporting through a web based interface.
- Controlling data access through a role-based access system.
- The possibility of using the system outside the office for data entry and reporting.
- Improving the ability to do data entry closer to the source.
- All data changes traceable to time and user.
- Improved data quality accomplished by using a modern relational model with high security requirements.

7. Financial contribution by the Commission to the costs of the data collection programme

In accordance with Article 6 of Council Regulation (EC) No. 1543/2000, every Member State is entitled to receive a financial contribution from the Communities for the implementation of its national data collection programme. Details of these financial contributions are regulated in Council Decision 2000/439/EC.

The costs for 2006 are reported in detail broken down by the minimum and extended programme and grand total. Operating cost per day for research vessel ARGOS is calculated. Total costs for a survey include weekends. This means that a survey of 15 days at sea has costs for 20 days for ARGOS.

8. References

ICES 1994. Manual for Herring Hydro Acoustic Surveys ICES CM 1994/H:3

ICES 2000. Manual for the International Bottom trawl Surveys. ICES CM 2000/D:07

ICES 2000. Manual for the Baltic International Trawl Surveys. ICES CM 2000/H:02

Anon 2000a. Method handbook for the Swedish Board of Fisheries' Age Analysis Laboratories: the Marine Fisheries Laboratory, Coastal Laboratory , by the Freshwater Fisheries Laboratory 2000-07-01 Edition No. 3.



Anon. 2000b. Monitoring discarding and retention on fishing vessels towing demersal gears in the North Sea and Skagerrak. First Annual Progress Report. EC Project: 98/097

Anon 2003. Game and Recreational Fishery in Sweden – Pilot Study. Institute of Marine Research, Swedish Board of Fisheries, 5 pp.

1999. Herring surveys in the North Sea and west of Scotland (HERSUR II) EU Proj. No. 99/06

1998. International Baltic Sea Sampling Program II (IBSSP II). EU Proj. No. 98/024

2000. Economy of the coastal fisheries population. Swedish Board of Fisheries Report 2000:1

List of acronyms:

ACFM	Advisory Committee on Fishery Management
BITS	Baltic International Trawl Survey
DATRAS	Data Base Trawl Surveys
DFU	Danmarks Fiskeriundersøgelser
HAWG	Herring Assessment Working Group for the Area South of 62° N
IBTS	International Bottom Trawl Survey
PGCCDBS	Planning Group on Commercial Catch, Discards and Biological Sampling
WGBIFS	Baltic International Fish Survey Working Group
WGBFAS	Baltic Fisheries Assessment Working Group
WGBAST	Baltic Salmon and Trout Assessment Working Group
WGNEPH	Working Group on <i>Nephrops</i> Stocks
WGNSSK	Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak
WGPAND	<i>Pandalus</i> Assessment Working Group
WKSCMFD	Workshop on Sampling and Calculation Methods for Fisheries Data
WKSDFD	Workshop on Sampling Design for Fisheries Data

9. Appendixes I-XIV

Appendix I. Landings, discard estimates and sampling rules by species and area

Species	Area	Total EU TAC ¹⁾	Swedish TAC ¹⁾	Swedish TAC in %	SW landings in SW in 2002-2004 (tonnes) Ave.	Discard sampling (Y/T) ⁴⁾	Discard rates (weight)	Discard rates (numbers)	Sampling required (Y/N)	Sampling frequency rules ²⁾			Required sampling 2006		
										Number of samples per fished tonnes	Number of fish measured per sample	Number of fish aged per sample	Minimum number of samples	Minimum number of individuals measured	Minimum number of fish aged
Blue whiting	IIIa N	36 411	194	<5	119	T	<10%	<20%	N						
Cod	III d sd 22-24	24 700 ³	3 841 ³	15	14 903	Y	>10%	>20%	Y	1/200	50	25	19	960	480
Cod	III d sd 25-32	42 632 ³	9 077 ³	21		Y			Y	1/200	50	25	45	2269	1135
Cod	IIIa S	2 162	781	36	718	Y	>10%	>20%	Y	1/100	50	50	7	359	359
Cod	IIIa N	4 805	710	15	687	Y	>10%	>20%	Y	1/100	50	25	7	344	172
Eel	IIIa				208				N						
Eel	IIIb-d				260				N						
Flounder	IIIb-d				262	T	>10%	>20%	Y	1/100	50	50	3	150	150
Haddock	IIIa	2 988	350	12	273	Y	>10%	>20%	Y	1/100	50	50	3	150	150
Hake	IIIa N	965	73	8	40	Y	<10%	<20%	N						
Herring	III MU3 (30-31)	64 000 ³	11 529 ³	18	4 660	T			N						
Herring	III d sd 22-24	46 000 ³	8 184 ³	18		T			N						
Herring	III d sd 25-29+32	130 000 ³	39 350 ³	30	36 573	T	<10%	<20%	N						
Herring	IIIa	65 941	32 958	50	33 086	Y	<10%	<20%	N						
Herring	IIIa	60294	8 179	13	7 883	Y	<10%	<20%	N						
Mackerel	IIIa	23 080	4 758	20	4 655	T	<10%	<20%	N						
Norway Lobster	IIIa	4 533	1 192	26	941	Y	>10%	>20%	Y	1/100	200	N.A.	9	1800	
Norway Pout	IIIa N	173 000		<5		T	<10%	<20%	N						
Pandalid shrimps	IIIa N	5 519	2 107	38	2 066	T	>10%	>20%	Y	1/100	400	N.A.	21	8400	
Plaice	IIIb-d	3 388	202	6	106	Y	<10%	<20%	N						
Plaice	IIIa S	2 261	242	11	196	Y	>10%	>20%	Y	1/100	50	50	2	100	100
Plaice	IIIa N	9 532	434	4	150	Y	>10%	>20%	Y	1/100	50	50	2	100	100
Saithe	IIIa N	78 850	1 465	<5	1296	Y	<10%	<20%	N						
Salmon	IIIb-d	382 098*	129 317*	34	108 970*	T	>10%	>20%	Y	1/100	50	50	4	200	200
Sandeel	IIIa N	832 400	34220	<5	31 548	T	<10%	<20%	N						
Sea Trout	IIIb-d				31	T	<10%		N						
Sole	IIIa	455	14	<5	14	Y	>10%	>20%	N ⁵⁾						
Sprat	IIIb-d	216 664	75 722	35	75 276	T	<10%	<20%	N						
Sprat	IIIa	46 250	12 677	27	6 388	T	<10%	<20%	N						
All stocks	IV,V,VIId			<5					N						

¹⁾ Average during years 2002-2004

²⁾ As specified in Commission Regulation (EC) 1581/2004

* Numbers

** Tonnes

³⁾ TAC for 2005

⁴⁾ Y=Yearly / T=Triannual as specified in Commission Regulation (EC) 1581/2004

⁵⁾ Sampling not possible to carry out due to small landings

Appendix II. TAC, landings and sampling rules by species and area. Minimum Programme

Species	Area	Total EU TAC ¹⁾	Swedish TAC ¹⁾	Swedish TAC in %	SW landings in SW in 2002-2004 (tonnes) Ave.	SW landings (tonnes)			Sampling required (Y/N)	Sampling frequency rules ²⁾			Other member states landings in SW 2004 (tonnes)	Swedish sampling	Swedish landings in other MS 2004 (tonnes)
						2004	2003	2002		Number of samples per fished tonnes	Number of fish measured per sample	Number of fish aged per sample			
Blue whiting	IIla N	36 411	194	<5	119	155	130	73	N	1/1000	50	50	39		15 794
Cod	IIId sd 22-24	24 700 ³⁾	3 841 ³⁾	15	14 903	15 126	14 545	15 040	Y	1/200	50	25	988		99
Cod	IIId sd 25-32	42 632 ²⁾	9 077 ³⁾	21					Y	1/200	50	25		152	
Cod	IIla S	2 162	781	36	718	499	848	809	Y	1/100	50	50	28		5
Cod	IIla N	4 805	710	15	687	547	587	928	Y	1/100	50	25			44
Eel	IIla				208	220	190	215	Y	1/20	100	100			
Eel	IIlb-d				260	234	270	271	Y	1/20	100	100			
Flounder	IIlb-d				262	198	259	330	Y	1/100	50	50	11		3
Haddock	IIla	2 988	350	12	273	153	231	437	Y	1/100	50	50	10		54
Hake	IIla N	965	73	8	40	52	37	32	N	1/100	50	50	0		4
Herring	III MU3 (30-31)	64 000 ³⁾	11 529 ³⁾	18	4 660	5 483	4 045	4 453	Y	1/1000	100	100	3 973	Y	2 867
Herring	IIId sd 22-24	46 000 ³⁾	8 184 ³⁾	18	36 573	37 968	29 352	42 401	Y	1/1000	100	100		Y	1 938
Herring	IIId sd 25-29+32	130 000 ³⁾	39 350 ³⁾	30					Y	1/1000	100	100	18 600		
Herring	IIla	65 941	32 958	50	33 086	30 768	34 073	34 419	Y	1/1000	100	100	192		9 640
Herring	IIla	60 294	8 179	13	7 883	7 450	6 439	9 760	Y	1/1000	50	25	1		6 781
Mackerel	IIla	23 080	4 758	20	4 655	4 471	4 367	5 129	Y	1/500	100	100	11		452
Norway Lobster	IIla	4 533	1 192	26	941	902	893	1030	Y	1/100	200	N.A.	7	Y	10
Norway Pout	IIla N	173 000		<5					N	1/1000	50	50			
Pandalid shrimps	IIla N	5 519	2 107	38	2 066	2 145	2 035	2 018	Y	1/100	400	N.A.	577	Y	11
Plaice	IIlb-d	3 388	202	6	106	80	142	98	N	1/200	50	50			6
Plaice	IIla S	2 261	242	11	196	136	248	205	Y	1/100	50	50	4		1
Plaice	IIla N	9 532	434	4	150	174	142	136	N	1/100	50	50			4
Saithe	IIla N	78 850	1 465	2	1296	1083	936	1869	N	1/100	50	50	27		1460
Salmon	IIlb-d	382 098*	129 317*	34	108 970*	149 940	83 031	93 940	Y	1/100	50	50	27**		106
Sandeel	IIla N	832 400	34220	<5	31 548	32 885	22 476	39 283	N	1/1000	50	50			57
Sea Trout	IIlb-d				31	31	29	34	N	1/100	50	50	1		1
Sole	IIla	455	14	3	14	15	11	16	N	1/50	50	50			
Sprat	IIlb-d	216 664	75 722	35	75 276	78 675	73 638	73 517	Y	1/2000	100	50	25 251	Y	43 467
Sprat	IIla	46 250	12 677	27	6 388	5 682	8 399	5 084	Y	1/1000	100	100			2 500
All stocks	IV,V,VIId			<5					N						

¹⁾ Average during years 2002-2004

²⁾ As specified in Commission Regulation (EC) 1581/2004

* Numbers

** Tonnes

³⁾ TAC for 2005

Appendix III. TAC, landings and sampling rules by species and area. Extended Programme

Species	Area	Total EU TAC ¹⁾	Swedish TAC ¹⁾	Swedish TAC in % ¹⁾	SW landings in SW in 2002-2004 (tonnes) Ave.	SW landings in SW in 2004 (tonnes)	Other Member states landings in SW 2004 (tonnes)	Sampling frequency rules ²⁾			
								Sampling required (Y/N)	No of samples per fished tonnes	Number of fish measured per sample	Number of fish aged per sample
European whitefish	IIId					295		Y	1/100	50	50
Perch	IIId					103		Y	1/100	50	50
Pike	IIId					39		N	1/100	50	50
Pike-perch	IIId					30		N	1/100	50	50
Turbot	IIlb-d					33		N	1/100	50	50

¹⁾ Average during years 2002-2004

²⁾ As specified in Commission Regulation (EC) No 1639/2001.

Appendix IV. Sampling of European whitefish 2006.

Gear type	Quarter	ICES Sub-Division				Total
		27	29	30	31	
Gill-net	1	0	0	0	0	0
36-45 mm	2	0	0	2	3	5
bar length	3	0	0	2	3	5
	4	0	0	1	2	3
	Total	0	0	7	8	15
Gill-net	1	0	0	0	0	0
46-65 mm	2	2	1	1	0	4
	3	2	1	1	0	4
	4	2	1	0	0	3
	Total	6	3	2	0	11
Trap net	1	0	0	0	0	0
	2	1	0	3	4	8
	3	1	0	3	6	10
	4	1	0	0	0	1
	Total	3	0	6	10	19
	Grand Total	9	3	15	18	45

Appendix V. Sampling of Pikeperch 2006.

Gear type	Quarter	ICES Sub-Division		Total
		27	29 N	
Gill-net	1	0	0	0
> 45 mm	2	1	1	2
bar length	3	1	1	2
	4	1	1	2
	Total	3	3	6

Appendix VI. Sampling of Perch 2006.

Gear type	Quarter	ICES Sub-Division				Total
		27	29 N	30	31	
Gill-net	1	0	0	0	0	0
>38 mm	2	4	1	1	1	7
bar length	3	1	1	4	1	7
	4	1	1	0	0	2
	Total	6	3	5	2	16
Trap net	1	0	0	0	0	0
	2	0	0	1	3	4
	3	4	0	1	5	10
	4	0	0	0	0	0
	Total	4	0	2	8	14
	Grand Total	10	3	7	10	30

Appendix VII. Sampling of Pike 2006.

Gear type	Quarter	ICES Sub-Division				Total
		25	27	29N	30	
Gill-net	1	1	0	0	0	1
	2	1	2	0	0	4
	3	0	0	0	0	1
	4	0	2	0	0	3
	Total	2	4	0	0	9
Trap net	1	0	0	0	0	0
	2	0	4	0	0	5
	3	0	0	0	0	1
	4	0	0	0	0	0
	Total	0	4	0	0	6
	Grand Total	2	8	0	0	15

Appendix VIII. Sampling of Flounder 2006.

Gear type	Quarter	ICES Sub-Division			Total
		25	27	28	
Gill-net	1	2	0	0	2
	2	0	4	0	4
	3	2	6	4	12
	4	0	0	0	0
	Total	4	10	4	18
Demersal trawl	1	6	0	0	6
	2	0	0	0	0
	3	0	0	0	0
	4	4	0	0	4
	Total	10	0	0	10
	Grand Total	14	10	4	28

Appendix IX. Sampling of eel 2006.

Gear type	Quarter	ICES Sub-Division						Total
		20	21	23	24	25	27	
Fyke net	1	0	0	0	0	0	0	0
	2	3	1	1	0	0	2	7
	3	4	1	1	0	0	2	8
	4	0	0	0	0	0	0	0
	Total	7	2	2	0	0	4	15
Pound net	1	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0
	3	0	0	1	1	2	2	6
	4	0	0	1	0	1	1	3
	Total	0	0	2	1	3	3	9
	Grand Total	7	2	4	1	3	7	24

Agreement between the Danish Institute for Marine Research and the Institute of Marine Research, Sweden concerning collection of fisheries data in 2005

In accordance with the Data Collection Regulation (DCR) (Commission Regulation 1639/2001) Denmark and Sweden have agreed entering co-operation on collection of fisheries data. This agreement has been established due to common interests in the fisheries in the Skagerrak (Division IIIa North), the Kattegat (Division IIIa South) and in the Baltic Sea. Furthermore, substantial landings by Swedish flagged vessels take place in Denmark and therefore, in order to optimize the quality of the sampling programme, exchange of information and knowledge is necessary.

Agreement:

It has been agreed that if landings in a specific country are below 5 percent of the national quota for the flag country then the receiving country is not obliged to sample these landings but the flag country should instead compensate for the missing samples in the national sampling scheme. If there is a change in the situation, it is the responsibility of the receiving country to initiate changes in the sampling scheme.

Even though the landings do not justify a sampling scheme for a certain fishery according to the DCR, this fishery might be sampled anyway taking into account other issues.

Sampling of the following species has been discussed and agreed:

Plaice in the Skagerrak

It has been agreed that only Denmark will carry out sampling as the Swedish landings are below the threshold of 5 percent of the total TAC.

Plaice in the Kattegat

Denmark and Sweden will carry out sampling of their own landings of plaice in their own ports and no exchange of sampling foreign landings will be made in accordance with the DCR. Age reading calibration between Denmark and Sweden will be carried out on routine basis.

Cod in the Skagerrak

Denmark and Sweden will carry out sampling of their own landings of cod in their own ports and no exchange of sampling foreign landings will be made in accordance with the DCR. Age reading calibration between Denmark and Sweden will be carried out on routine basis. Due to the present status of the stock the sampling will be carried out according to the extended programme in DCR.

Cod in the Kattegat

Denmark and Sweden will carry out sampling of their own landings of cod in their own ports and no exchange of sampling foreign landings will be made in accordance with the DCR. Age reading calibration between Denmark and Sweden will be carried out on routine basis. Due to the present status of the stock the sampling will be carried out according to the extended programme in DCR.

Cod in the Baltic Sea

In relation to the change of management regime of the Baltic cod into a separate management areas of eastern- and western cod stocks, the involved countries will be observant of any change in the distribution of landings from the two management areas and will adjust the sampling schemes in relation to such change in landing distribution. The sampling scheme will be carried out in accordance with the DCR. Due to the present status of the stocks the sampling will be carried out according to the extended programme in DCR.

Cod in the North Sea

It has been agreed that only Denmark will carry out sampling as the Swedish landings are below the threshold of 5 percent of the total TAC. Due to the present status of the stock the sampling will be carried out according to the extended programme in DCR.

Haddock in Div. IIIa

It has been agreed that only Denmark will carry out sampling as the Swedish landings are below the threshold of 5 percent of the total TAC.

Saithe in Div. IIIa

It has been agreed that only Denmark will carry out sampling as the Swedish landings are below the threshold of 5 percent of the total TAC.

Sole in Div. IIIa

It has been agreed that only Denmark will carry out sampling as the Swedish landings are below the threshold of 5 percent of the total TAC.

Whiting in Div. IIIa

Only Sweden (70 tons), Denmark (651 tons) and Norway (779 tons) have shares in the TAC. The sum of landings of Swedish and Danish fishermen is below 10 percent of the TAC due to the market situation. Therefore, no sampling is done. On the other hand significant amounts of discard are obtained in some fisheries in the area. Discard rates of whiting and other relevant species will continue to be obtained.

Witch flounder in Div. IIIa

Even though this species should not be sampled according to the DCR, it has been agreed that Denmark will sample this species because of the importance of the landings and the stock as such, is expected to increase in the years to come. Therefore, it is regarded valuable by both Sweden and Denmark to sustain a sampling scheme of the species for possible future assessment. Sampling intensity will be as defined for the North Sea.

Norway Lobster in the Skagerrak

Denmark and Sweden will carry out sampling according to the DCR. It has been agreed that only Sweden will carry out sampling for other biological parameters. The Swedish sampling intensity will compensate for the missing Danish sampling.

Norway Lobster in the Kattegat

Denmark and Sweden will carry out sampling according to the DCR. It has been agreed that only Sweden will carry out sampling for other biological parameters. The Swedish sampling intensity will compensate for the missing Danish sampling.

Hake in Div. IIIa

The sampling scheme for hake in the area is included in the North Sea (IV, VI, VII, IIXa, IIXb) sampling scheme. Denmark will sample hake according to the DCR.

Salmon in the Baltic Sea

Samples of Swedish landings in Denmark will be collected on a regular basis in the fishing season (spring, autumn) from both driftnet and long-line fishery. Scales for age determination are sent to Sweden. The landings are regarded by both Sweden and Denmark to be of such value that the stock is sampled according to the extended programme in the DCR.

Special agreements have been developed for the following species (see appendices):

- Pandalus in Div. IIIa (appendix I)
- Herring in Div. IIIa (appendix II)
- Sprat in Div. IIIa (appendix III)
- Herring in Div. IIIb-d (appendix IV)
- Sprat in the Baltic Sea (appendix V)
- Sandeel in Div. IIIa and the North Sea (appendix VI)

Furthermore, it has been agreed that Denmark is carrying out age reading of Norway pout caught by Sweden from research vessel surveys as Denmark has the expertise in age reading of that species.

Signatures:

For the Institute of Marine Research

For DIFRES

Date:.....

Date:.....

Fredrik Arrhenius
Director
Institute for Marine Research

Jørgen Dalskov
National Correspondent
Danish Institute for Marine
Research

ANNEX 1

Species/stock: **Pandalus**

In area: **ICES Division IIIa**

In accordance with regulation EC (no) 1639/2001 countries that receive foreign landings are responsible to sample those.

In year: **2005**

Flag country: **Denmark**

Landings (2004): **553** (tons)

In receiving country: **Sweden**

This means that receiving country will sample this particular species/stock in accordance with the Minimum Programme (MP) / Extended Programme (EP) in (EC) No 1639/2001.

Programme level (MP / EP): **MP**

The sampling intensity should be in accordance with the stated programme level and sampling will be carried out in accordance with sampling alternative **3** as stated below.

Based on last year's landings the sampling effort for this species/stock would be:

No samples: **6**

No of age readings per sample: **0**

No of length measurements per sample: **400**

No of individual weight per sample: **0**

If landings decrease or increase the amount of samples will be adjusted accordingly.

Sampling alternatives:

Receiving country will perform sampling in one of the two following alternatives:

1. Receiving country will perform sampling in accordance with the sampling scheme (attached to this agreement) defined by flag country. Receiving country will then deliver raw-data (length, weight and information about the landing) and material for ageing, to the flag country.
2. Receiving country will perform sampling in accordance with their national sampling procedure. Receiving country will then deliver data as raised No/age within each strata.
3. The sampling method is described as follows:

Sweden obtains the samples by market sampling from landings. Denmark is responsible for submitting the data to relevant ICES WG and to the EC.

Measurement: mm class

Sample size: 400 individuals per sample

Data will be delivered to Denmark regularly and at latest 1 February 2006

Name of contact person in:

Receiving country:

Karin Frohlund (karin.frohlund@fiskeriverket.se or +4652318714)

Flag country:

Aage Thaarup (at@dfu.min.dk or +45 33 96 32 48)

Signatures:

For the Institute of Marine Research

For DIFRES

Date:.....

Date:.....

Fredrik Arrhenius
Director
Institute for Marine Research

Jørgen Dalskov
National Correspondent
Danish Institute for Marine
Research

ANNEX II

Species/stock: **Herring**

In area: **ICES Division IIIa**

In accordance with regulation EC (no) 1639/2001 countries that receive foreign landings are responsible to sample those.

In year: **2005**

Flag country: **Sweden** Landings (2004): **9,400** (tons)

In receiving country: **Denmark**

This means that the receiving country will sample this particular species/stock in accordance with the Minimum Programme (MP) / Extended Programme (EP) in (EC) No 1639/2001.

Programme level (MP / EP): **MP**

The sampling intensity should be in accordance with the stated programme level and sampling will be carried out in accordance with sampling alternative **3** as stated below.

Based on last year's landings the sampling effort for this species/stock would be:

No samples: **10**

No of age readings per sample: **100**

No of length measurements per sample: **100**

No of individual weight per sample: **100**

If landings decrease or increase the amount of samples will be adjusted accordingly.

Sampling alternatives:

Receiving country will perform sampling in one if the two following alternatives:

4. Receiving country will perform sampling in accordance with the sampling scheme (attached to this agreement) defined by flag country. Receiving country will then deliver raw-data (length, weight and information about the landing) and material for ageing, to the flag country.
5. Receiving country will perform sampling in accordance with their national sampling procedure. Receiving country will then deliver data as raised No/age within each strata.
6. The sampling method is described as follows:

Denmark obtains the samples by market sampling from unsorted catches, stratified by fishery (see below). Denmark will sample length, age and weight information. Otoliths should be stored in paper bags provided by IMR. The raw-data and the otoliths will be sent to Sweden for the age determination of the otoliths. A subset of the otoliths should be returned to Denmark for cross-

checking of the age interpretation. Sweden is responsible for submitting the data to relevant ICES WG and to the EC.

Measurement: 0.5 cm class, 1 g

Sample size: 100 individuals per sample

Fishery unit:

- **Mesh-size from 16 to 32mm**
- **Mesh-size > 32mm**

Data will be delivered to Sweden regularly and at latest 1 February 2006

Name of contact person in:

Receiving country:

Aage Thaarup (at@dfu.min.dk or +45 33 96 32 48)

Flag country:

Marianne Johansson (marianne.johansson@fiskeriverket.se or +4652318719)

Signatures:

For the Institute of Marine Research

For DIFRES

Date:.....

Date:.....

Fredrik Arrhenius
Director
Institute for Marine Research

Jørgen Dalskov
National Correspondent
Danish Institute for Marine
Research

ANNEX III

Species/stock: **Sprat**

In area: **ICES Division IIIa**

In accordance with regulation EC (no) 1639/2001 countries that receive foreign landings are responsible to sample those.

In year: **2005**

Flag country: **Sweden** Landings (2004): **2,500** (tons)

In receiving country: **Denmark**

This means that the receiving country will sample this particular species/stock in accordance with the Minimum Programme (MP) / Extended Programme (EP) in (EC) No 1639/2001.

Programme level (MP / EP): **MP**

The sampling intensity should be in accordance with the stated programme level and sampling will be carried out in accordance with sampling alternative **3** as stated below.

Based on last year's landings the sampling effort for this species/stock would be:

No samples: **3**

No of age readings per sample: **100**

No of length measurements per sample: **100**

No of individual weight per sample: **100**

If landings decrease or increase the amount of samples will be adjusted accordingly.

Sampling alternatives:

Receiving country will perform sampling in one of the two following alternatives:

7. Receiving country will perform sampling in accordance with the sampling scheme (attached to this agreement) defined by flag country. Receiving country will then deliver raw-data (length, weight and information about the landing) and material for ageing, to the flag country.
8. Receiving country will perform sampling in accordance with their national sampling procedure. Receiving country will then deliver data as raised No/age within each strata.
9. The sampling method is described as follow:

Denmark obtains the samples by market sampling from unsorted catches, stratified by fishery. Denmark will sample length, age and weight information. Otoliths will be mounted on glass plates. The otoliths will be age determined in Denmark and the otoliths and obtained raw-data will afterwards be sent to

Sweden for cross-checking of the age interpretation. Sweden is responsible for submitting the data to relevant ICES WG and to the EC.

Measurement: 0.5 cm class, 1 g

Sample size: 100 individuals per sample

Fishery unit:

- **Mesh-size from 16 to 32mm**

Data will be delivered to Sweden regularly and at latest 1 February 2006

Name of contact person in:

Receiving country:

Frank Ivan Hansen (fi@dfu.min.dk or +45 33 96 33 63)

Flag country:

Birgitta Krischansson (birgitta.krischansson@fiskeriverket.se or +4652318721)

Signatures:

For the Institute of Marine Research

For DIFRES

Date:.....

Date:.....

Fredrik Arrhenius
Director
Institute for Marine Research

Jørgen Dalskov
National Correspondent
Danish Institute for Marine
Research

ANNEX IV

Species/stock: **Herring**

In area: **ICES Division III b-d**

In accordance with regulation EC (no) 1639/2001 countries that receive foreign landings are responsible to sample those.

In year: **2005**

Flag country: **Sweden** Landings (2004): **18,600** (tons)

In receiving country: **Denmark**

This means that receiving country will sample this particular species/stock in accordance with the Minimum Programme (MP) / Extended Programme (EP) in (EC) No 1639/2001.

Programme level (MP / EP): **MP**

The sampling intensity should be in accordance with the stated programme level and sampling will be carried out in accordance with sampling alternative **3** as stated below.

Based on last year's landings the sampling effort for this species/stock would be:

No samples: **19**

No of age readings per sample: **100**

No of length measurements per sample: **100**

No of individual weight per sample: **100**

If landings decrease or increase the amount of samples will be adjusted accordingly.

Sampling alternatives:

Receiving country will perform sampling in one if the two following alternatives:

10. Receiving country will perform sampling in accordance with the sampling scheme (attached to this agreement) defined by flag country. Receiving country will then deliver raw-data (length, weight and information about the landing) and material for ageing to the flag country.

11. Receiving country will perform sampling in accordance with their national sampling procedure. Receiving country will then deliver data as raised No/age within each strata.

12. The sampling method is described as follow:

Denmark obtains the samples by market sampling from unsorted catches, stratified by fishery (see below). Denmark will sample length, age and weight information. Otoliths will be stored in paper bags provided by IMR. The raw-data and the otoliths will be sent to Sweden for the age determination of the

otoliths. Sweden is responsible for submitting the data to relevant ICES WG and to the EC.

Measurement: 0.5 cm class, 1 g

Sample size: 100 individuals per sample

Fishery unit:

- **Mesh-size from 16 to 32mm**
- **Mesh-size > 32mm**

Data will be delivered to Sweden regularly and at latest 1 February 2006

Name of contact person in:

Receiving country:

Frank Ivan Hansen (fi@dfu.min.dk or +45 33 96 33 63)

Flag country:

Carina Jernberg (carina.jernberg@fiskeriverket.se or +4652318718)

Signatures:

For the Institute of Marine Research

For DIFRES

Date:.....

Date:.....

Fredrik Arrhenius
Director
Institute for Marine Research

Jørgen Dalskov
National Correspondent
Danish Institute for Marine
Research

ANNEX V

Species/stock: **Sprat**

In area: **ICES Division III b-d**

In accordance with regulation EC (no) 1639/2001 countries that receive foreign landings are responsible to sample those.

In year: **2005**

Flag country: **Sweden** Landings (2004): **47,000** (tons)

In receiving country: **Denmark**

This means that receiving country will sample this particular species/stock in accordance with the Minimum Programme (MP) / Extended Programme (EP) in (EC) No 1639/2001.

Program level (MP / EP): **MP**

The sampling intensity should be in accordance with the stated programme level and sampling will be carried out in accordance with sampling alternative **3** as stated below.

Based on last year's landings the sampling effort for this species/stock would be:

No samples: **24**

No of age readings per sample: **50**

No of length measurements per sample: **50**

No of individual weight per sample: **50**

If landings decrease or increase the amount of samples will be adjusted accordingly.

Sampling alternatives:

Receiving country will perform sampling in one if the two following alternatives:

13. Receiving country will perform sampling in accordance with the sampling scheme (attached to this agreement) defined by flag country. Receiving country will then deliver raw-data (length, weight and information about the landing) and material for ageing to the flag country.

14. Receiving country will perform sampling in accordance with their national sampling procedure. Receiving country will then deliver data as raised No/age within each strata.

15. The sampling method is described as follow:

Denmark obtains the samples by market sampling from unsorted catches, stratified by fishery. Denmark will sample length, age and weight information. Otoliths will be mounted on glass plates. The otoliths will be age determined in Denmark and the otoliths and obtained raw data will afterwards be sent to

Sweden for cross-checking of the age interpretation. Sweden is responsible for submitting the data to relevant ICES WG and to the EC.

Measurement: 0.5 cm class, 1 g

Sample size: 50 individuals per sample

Fishery unit:

- **Mesh-size from 16 to 32mm**

Data will be delivered to Sweden regularly and at latest 1 February 2006

Name of contact person in:

Receiving country:

Frank Ivan Hansen (fi@dfu.min.dk or +45 33 96 33 63)

Flag country:

Birgitta Krischansson (birgitta.krischansson@fiskeriverket.se or +4652318721)

Signatures:

For the Institute of Marine Research

For DIFRES

Date:.....

Date:.....

Fredrik Arrhenius
Director
Institute for Marine Research

Jørgen Dalskov
National Correspondent
Danish Institute for Marine
Research

JOURNALFÖRING AV PIGGVARSFÅNGSTER 2005

Avtalsparter

Uppdragsgivare: Kustlaboratoriet, Ävrö 16, 572 95 Figeholm

Uppdragstagare: Leif Olofsson, Botvaldevik, 620 30 Slite
Organisationsnummer: 430206-323701

Avtalets omfattning, tidsperiod och pris

Avtalets omfattning framgår av följande specifikation:

Uppdrag	Tid	Ersättning exkl moms
Journalföring av landad fångst och bifångster i riktat nätfiske efter torsk (redskap 714). Vid varje vittjningstillfälle bokförs säl- och fågelskador och fångst av all icke landad fisk.	apr-dec	19 kr per vittjningstillfälle
Journalföring av bifångster i riktat nätfiske efter piggvar (redskap 725). Vid varje vittjningstillfälle bokförs säl- och fågelskador och fångst av all icke landad fisk. Längdmätning av minst 100 fiskar per sortering och månad (vid tillgång).	apr-dec	9 050 kr
Insamling för åldersanalys av 100 piggvarar per sortering inklusive undermåliga. Fiskarna fryses i plastpåsar märkta med sortering och fångstdatum.	jul-aug	Köpes till gällande dagspris + 540 kr för hantering

Kompletterande arbeten kan genomföras efter särskild överenskommelse till en kostnad av 185 kr/tim exkl moms.

Postadress	Besöksadress	Telefon	E-post	Telefax	Postgiro
Box 423 401 26 GÖTEBORG	Ekelundsgatan 1	031-743 03 00	fiskeriverket@fiskeriverket.se	031-743 04 44	1 56 92-7

Betalning

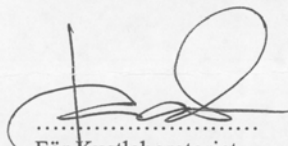
Fiskeriverket erlägger betalning enligt följande:

De olika delmomenten faktureras efter fullgjort uppdrag.
Uppdragsgivaren skall på faktura ange momsregistreringsnummer och att F-skatt åberopas. **Om utbetalning önskas till bankgiro, bank- eller personkonto skall bankens namn, adress och postgironummer anges på fakturan.**

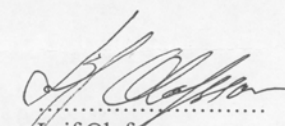
Parternas underskrift

Av detta avtal har två exemplar undertecknats och utväxlats.

Figeholm 2005-04-19


.....
För Kustlaboratoriet
Jan Andersson

Botvaldevik 2005-05-05


.....
Leif Olofsson

